

INDUSTRIAL WORLD

AND NATIONAL ECONOMIST.

DEVOTED TO HOME INDUSTRIES, SCIENCE, COMMERCE, FINANCE, INSURANCE, RAILROADS AND MINING.

Vol. III—No. 56.

THURSDAY, AUGUST 4, 1881.

\$3 PER ANNUM.

THE INDUSTRIAL WORLD AND NATIONAL ECONOMIST.

PUBLISHED ONCE A WEEK.

FREDERIC NICHOLLS, GENERAL MANAGER, TORONTO.

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Published for the Proprietor, at No. 10, Spadina Avenue, Toronto, Ontario, Canada. Price, in advance, per year, Three Dollars. Single Copies, Ten Cents. Remittances should be made by registered money order payable to F. Nicholls, Toronto, Industrial World.

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FREDERIC NICHOLLS,

INDUSTRIAL WORLD OFFICE,

TORONTO, Ont.

Minister of Finance at St. John.

THE NATIONAL POLICY VINDICATED.

BENEFICIAL RESULTS OF ENCOURAGING HOME INDUSTRIES.

This week we devote our editorial space to the publication of extracts from the speech of Sir LEONARD TILLEY, Minister of Finance, delivered at St. John, N.B., on Monday evening the 25th of July, in reply to the Hon. Edward B. Cox, in vindication of the National Policy.

THE SUGAR QUESTION.

Mr. Blake, who is without exception one of the ablest men in Canada, the ablest man in the ranks of the opposition—Mr. Blake put the case against the National Policy as strongly and effectively as any man living could put it. That being the case, let us consider the grounds he gave for the fears he endeavored to create in your minds. Mr. Blake says you may "look at your factories, with their chimneys rising towards the sky, and say 'See what the National Policy is accomplishing!' but if the masses have to pay dearer for the articles manufactured in them, what advantage is gained?" Let us consider whether this is a correct statement of facts or not. Mr. Blake said that sugar is a monopoly. He chose this point and develops it more fully than any other. He could not have taken a better illustration of the effects of the National Policy. Mr. Blake says it costs the country over a million a year in loss of revenue and increase of cost of sugar. He stated at Fredericton that Mr. Tilley acknowledged in Parliament that sugar costs more than it did before. I am prepared to state from experience, from evidence that cannot be refuted, and from public documents, which will be laid before Parliament, that sugar does not cost one cent more than before, and that not one cent of loss of revenue is entailed by the change of tariff. Mr. Blake said that the revenue collected—or he referred to it—the sugar was, in 1879 and 1880, \$2,028,000, whereas in the fiscal year previous it was \$2,534,000, and this he said showed a loss in the revenue of \$475,000 by the operation of the tariff. But what was the

fact? The tariff was changed in March, 1879, and during January, February and March previous people in business in Canada, knowing that the duty would be raised in order to afford the necessary protection, imported in those months one million dollars worth more than in the same months of the previous year. This swelled the revenue from sugar in 1878-79 and diminished it in 1879-80, because as much less sugar was imported in the latter year. The duty was not collected the second year because it had been collected the first. This fact I explained in Parliament, stating that \$225,000 of the duty collected in 1878-79 was on sugar not consumed until 1879-80, the average for the two years being \$2,290,000. I am now prepared to say, as Minister of Finance of the Dominion of Canada, that in the year which closed July 31st—the only one which affords a fair test of the effect of the sugar tariff on the revenue—instead of the average of the two years previous, in the first eleven months of the present fiscal year the duty collected on this article will reach \$2,290,000—and with the other months will reach \$2,400,000—greatly in excess of the revenue collected in the previous year. (Cheers.) Let us go a little further, and I am prepared and ready to call on every man in the business, every dealer in groceries throughout the length and breadth of this Dominion, and appeal to them if the price of sugar has been increased, but rather if it has not been greatly decreased. I am prepared to show, by indisputable evidence, that neither granulated, yellow nor common grocery grade sugars cost the Canadian consumer any more than if the old tariff was in force. I say that as a result of the numerous factories springing up throughout the land there has been great competition, and competition always ends in cheaper prices. (Cheers.) In last year, Mr. Blake said I had admitted that the price of granulated sugar had increased 25c per hundred weight, but he neglected to state that at the same time the price of refined yellow had decreased 10c to 14c. (Cheers.) He did not say a word about the yellow being less. But this year what do we find? The prices of both grades are less, and the purchasers get them at lower rates than if under the old tariff they came from the United States and Glasgow. If we get as much, and a little more, revenue, and the people get their sugar as low or less than before, then our position today is impregnable. (Cheers.) Owing to the raw sugar imported last year, one million dollars less were paid out than in the previous year. Instead of \$3,000,000 for sugar being sent out only \$4,000,000 was sent out of the country. And where is the other million? About one-quarter of a million went to the vessels bringing in the raw sugar. It restored a lost trade between Canada and the West Indies. Only 8 per cent of the raw sugar was brought in direct under the old tariff. And the refining of this sugar affords employment to 800 men—say 400 with families—representing at least 3,000 persons. And these 800 men are paid \$300,000 or \$400,000 for their labour, formerly paid to the people of Glasgow and the United States. And then there are required 450,000 casks for containing sugar, and our workmen received \$130,000 which would have been paid to the coppers and lumbermen in other parts of the world. Then 40,000 tons of Nova Scotia coal was consumed, being largely employed in the refining of this sugar. This coal cost \$100,000—this coal alone used in refining, which was not used before. Then the carting and hauling of the sugar gave to our people large sums, which were paid to those who had not employment before. We find that there is \$1,000,000 capital invested in these refineries, and consider the profit they make—and I trust they have a profit from their industry affording so much employment—and take this one industry alone and see its ramifications, the number of persons employed, and let these facts be fairly put before the people—and I think that it will be some time before the representatives of the people wipe out this great employment-giving industry and go back to the old condition of affairs. (Cheers.) During the past few years the return cargoes to the West Indies have been almost nil, only 6 per cent of all the sugar consumed, as I said before, coming direct. Let us see the indirect—say, the direct—benefits from it. When there were no return cargoes available—except molasses—how was it? When we wished to send out our fish and other exports, the ship owners said, "No, there is no return cargo, and so I must have a larger freight!" And who but the shipper paid that difference in freight? Therefore, we have this advantage. Forty thousand tons of shipping a year is what this trade brings to the ports of New Brunswick, Nova Scotia and to Montreal, and is not that something, the business giving employment to many who were not employed before? (Cheers.) I will make my statements as brief as possible, so as to give all the time possible to my colleague in the Government, who is a stranger here, but I feel I cannot do justice to myself without going into this question of sugar. We have heard our opponents say that the poor man's cotton and woolen goods were taxed higher.

Gentlemen, I know how that comparison can be drawn and the effect that can be produced by it. I want to answer that question, and I say that in some cases the price of the article has been reduced instead of increased. You talk about the coarser description of woolen goods that are consumed by operatives everywhere, and here they say there is sometimes 40 per cent imposed, while 20 per cent is imposed upon the finer goods that the rich man wears. I know under the old tariff they had the same duty upon the poor man's tea at 40 cents as they had on the rich man's at 20 cents. In the case of tea, which is not produced in the country, you had to pay that duty, but in the present case of woolen goods the returns show that at no time were Canadian woolen goods sold as low as they are to-day. (Cheers.) I will venture to assert that that description of woolen goods made from our own wool is now manufactured in the Dominion of Canada, and articles of woolen goods are sold in the Dominion cheaper than they could be imported under the old tariff. The factories in the Dominion have been increasing their capacity, and the result is these articles are being sold as low as before. Now, with reference to cotton goods. The cotton goods have a specific and a *ad valorem* duty. The result is that cotton is being sold to-day cheaper than under the old tariff. Factories are using everywhere, and I might repeat a statement made by a manufacturer whom you know and whom I will name (I mean Mr. Parks), that he is selling cotton thread at the same price as they are selling it in New Hampshire, and the people are consuming it at a price less the 15 per cent that was paid under the old tariff. (Cheers.) I know that Rome was not built in a day, and the merchants have now to order goods which are not manufactured here from the United States, but the day is coming when many, say, when most of these articles which they now have to order from abroad will be produced here. I am prepared to assert this, that there is not an agricultural implement that is not sold here as cheap, and 10 and 20 per cent lower, than under the old tariff. (Cheers.) Mr. Blake says your tea is taxed. The duty on tea is diminished, and he did not tell you that the reduction of the duty upon tea and molasses (an article he did not mention at all) would nearly pay for the duty collected on the cornmeal that is imported and consumed in the Dominion. And this duty on corn was imposed to protect our farmers who raised principally oats. Let me say the whole duty paid upon breadstuffs in New Brunswick, was \$76,600. Our soft coal cost us not a cent more than it did under the old tariff. I know it costs our friends in the west a little more. Some may ask why is it necessary to impose that duty? Let me say that the protection of this industry is enabling the Nova Scotia miners to produce and sell a thousand tons of coal a day more than they did in 1878. And so you may go on from one item to another. I don't hesitate to say that this policy has given additional employment to 14,000 people in the Dominion, or, taking their families into account, to 30,000 people that would not have had employment. This has been scattered among the grocery, dry goods merchants and every interest and every industry, including an improved home market for the farmer; it has increased the life and industry of the country, and it has enabled the people of the Dominion in two years to increase their deposits in the savings and other banks 181 millions. (Cheers.) It is a policy that has brought back many of our people and provided those now here with employment; a policy that has placed our country in a vastly better position than it was three years ago. Go where you will you will find money plenty; business men say more plentiful than ever, with the cash accompanying nearly every country order, in place of the old time long credit; and the farmers say that by reason of the increased population of the towns and work in the factories and foundries and shops that they sell more produce than ever and at better prices while they pay no more for what they consume. (Cheers.) My friends, our opponents have charged us with increasing the duty on the poor man's clothing, but I ask each and all of you to consider carefully if you have paid more for woolen or cotton goods? I see Mr. Blake says the poor man's wife pays 40 per cent on her print dress. To this I can reply that while we increased the duty, as a matter of protection, on all cottons made in Canada or that could be made, we only imposed 20 per cent on prints, or 21 per cent, above our predecessors, which would be a tax of not more than one or two cents on each print dress. (Great cheers.) But Mr. Blake forgot to tell you that while he charged 17 1/2 per cent on the print dress of the poor man's wife, he only imposed the same duty on the silks and satins of the rich. (Cheers.) We changed that and charged 30 per cent on the richer goods. It was changed in Parliament that our tariff must fall, either as a revenue or protective tariff. Well, gentlemen, we have received more revenue than we require, yet it has proved to be a thoroughly

protective tariff. (Cheers.) Mr. Blake said that we have taken two and a-half millions more than was necessary out of the people, and that we would use this surplus as a justification for increased expenditure but I am happy to be in a position to tell you that on the contrary, the expenditure will fall something like half a million dollars below the estimated expenditure, and the revenue will be a million in excess of the estimate, increasing our surplus to \$3,500,000. It could not be charged against the late Government that they had taken so much out of the pockets of the people as to leave a surplus. Mr. Cartwright, in 1874, asked for an increased tariff that would give three millions more than the old, and he then told Parliament and the country that it was necessary to have a surplus, as a series of deficits would destroy the credit of the country. Yet, now, because we have a surplus, we are charged with taking it needlessly out of the pockets of the people! Mr. Blake for me to tell his audience that in my brief speech I told Parliament and I told the country why we did not at the last session ask for a reduction of the tariff, and I will tell you why, gentlemen. From 1854 to 1864 we had a reciprocity treaty with the United States, a treaty which we considered highly advantageous to both countries. We waited thirteen years in the hope that it would be restored. Yet the moment it was repealed the Americans put a duty of 20 per cent on our potatoes and all our natural products. But we stayed our hand, we saw that it was a good treaty, and we acted liberally so as to set the Americans a good example. We waited, I say, for thirteen years, and we went further. We made advances for a new treaty, but they refused our overtures. Then we at last saw it was time to try the opposite course, but we said and provided in our tariff that whenever the Americans took off the duties on our natural products we would do the same with theirs. (Great cheers.) We did this, yet our opponents always forget to give us credit for it. What has been done during the thirteen years I have referred to? Was there any motion made in Congress to bring about the reciprocity that we desired? Not one. But what is the state of affairs now? Last year petitions were prepared in Massachusetts, signed by all the leading business houses, and sent to Washington, asking for relief from the effects of the adverse tariff in the Dominion of Canada. The business men of New York have done the same. Well, we did not go to Parliament and offer to take the duty off tea and coffee, pending the movements in the States. I said, the matter is now before Congress and may be in a position to enter into a treaty with them under the terms of 1854. If such should be the case, we would be in a position to ask them to grant us free entry into their markets, and we would do the same with them for certain products, which would involve a loss of revenue. If so, we would reduce certain duties, thereby reducing the revenue one-and-a-half or two million dollars. You may suppose from what Mr. Blake says that the surplus money was lost to the people and to the country. But such is not the case. It was taken to supply the deficits left by the late Government. (Cheers.) You need not be alarmed unless the money was required we would not use it. While Mr. Blake condemned the policy of the Dominion he seemed to consider that a surplus of three or four millions in Canada is not so much a larger surplus to the United States as great merit. But I assure you that the policy of protection is marching on with rapid strides. I must say that it was only after the more careful consideration of the interests of the whole Dominion that the tariff was framed. I know that you have suffered from the disastrous effects of the great fire, but I feel that the day is coming when there will be such a development of the manufacturing and industrial interests in these provinces that we shall be able to show, and that will be the greatest and crowning victory of my life, that in framing this policy we have acted in the best interests of the country; and what is more, that gentlemen who to-day believe that policy to be wrong, will then come to us and say, we opposed your policy because we thought it was wrong, but now from the evidence we have had we will sustain you in it. (Great cheering, lasting several minutes.)

EDITORIAL COMMENTS.

The reduction of the public debt of the United States last month amounted to \$10,000,000, against \$5,600,000 in July, 1880.

In another column we publish a statement of the population of Canada, as furnished by the census returns. The increase is 664,377.

It is estimated that no less a sum than \$17,250,000 of British capital is invested in home and foreign securities, the average rate of interest being 4 1/2 per cent. per annum.

During the month of June \$128,612 were deposited in the Post Office Savings Banks of the Dominion. The amount to the credit of depositors at the end of the month was \$9,208,226.77.

The United States Government is about to appoint a commission to visit the large Post Offices for the purpose of investigating the salaries, allowances and general administration of the offices.

The following is a summary of the condition of furnaces built and in blast on June 30, 1881: Total number of furnaces built in the United Kingdom, June 30, 1881, 951; total number of furnaces in blast in the United Kingdom, June 30, 1881, 562; decrease in the number in blast since March 31, 1881, 33; Furnaces blown out since March 31, 1881, 44; Furnaces blown in since March 31, 1881, 11; new furnace completed since March 31, 1881, 1, new furnaces being built, 8; Furnaces pulled down, 5.

The Railway Age says:—The Chicago city officials have undertaken the Herculean task of diminishing smoke in the city by means of an ordinance. Factories, tug boats, locomotives and all other producers of the clouds of black smoke which hover over that as all other great cities are notified that they will be arrested and fined if they do not suppress the nuisance. The ordinance has called out a number of inventors of patented contrivances for preventing smoke, but the authorities do not prescribe any device for the purpose.

The New York Herald, referring to the development of the industries of the United States, says:—"The cotton industry has been steadily advancing with rapid strides in mill capacity, consumption of raw material, and value of products. The amount taken from the crop by American mills has nearly doubled in the country at large and more than doubled in the south. The silk industry has tripled in ten years. The capital invested in the business has increased from six to nineteen million dollars, and the value of the products from twelve to forty millions. In the manufacture of iron and steel there has been a striking growth. The increase of twenty-five per cent. in the number of establishments does not represent the entire expansion of productive capacity that has taken place. In the weight of products there has been the remarkable advance of ninety-nine per cent, while the value has been increased from two to three hundred million dollars." And this state of affairs is the direct result of the policy of Protection.

New York Daily Vindicator:—"The future commercial policy of Great Britain is one of the uppermost questions of the day, and it is being vigorously discussed in the newspapers throughout England and her dependencies. The Leeds Intelligencer alludes to the growing determination on the part of the artisan and the operative classes to assert their opinion

that there is a price at which Free Trade, so called, becomes ruinously dear. The secretary of an operatives association, numbering forty thousand members, in four counties, has notified Sir Charles Dilke that, if the action of the Free Traders with regard to the French commercial treaty now under discussion is persisted in, the seats of M.P.'s of those counties would be in danger. This is a significant hint to an English politician, and one not likely to be disregarded. Free Trade was right in principle and was a demand of morality so long as it paid. Reverse that condition, however, and our English economists quite easily and naturally include new trade principles and revise their code of morality. With a nation of shopkeepers, the arguments of crumens are evidently the one that dominates all others.

Each English mill which arrives brings intelligence of the growth of the feeling throughout the country against on-sided Free Trade. The outgrowth of the agitation has been the organization of the National Fair Trade League. A cable despatch received yesterday says "the programme of the National Fair Trade League, which will shortly commence an active campaign against Free Trade in England, has been issued. The League demands that there be no renewal of commercial treaties unless terminable at a year's notice; that imports of raw materials for home industries be free from every quarter; that adequate duties be levied on manufactures of foreign States refusing to receive British manufactures in fair exchange, and that the same be removed in case any nation agrees to admit British manufactures free of duty; that a very moderate duty be levied on all articles of food from foreign countries, the same being admitted free from the colonies and dependencies which are prepared to take British manufactures in reasonably free interchange. The last paragraph further explains objects to be attained by the League and is principally aimed against America." The despatch also says that the protection movement already receives encouragement from the Conservative leaders. Present prospects are that this question will be one of the prominent subjects of discussion at the next general election, unless in the meantime the nations which have adopted a protective policy fall back upon Free Trade, of which there is not much likelihood at present.

From an exchange we learn that the Industrial League of America held its second annual meeting for the election of officers and the transaction of other important business, at its headquarters, rooms 87, 88 and 89, No. 102 Washington street, on Thursday, the 21st inst. Joseph H. Brown, President of the Association, tendered his resignation by letter, addressed to the Secretary, on account of his removal to his former home at Youngtown, Ohio, having disposed of his large interests in the Joseph H. Brown Iron and Steel Company of South Chicago. His resignation was accepted with profound regret by the League, and a committee appointed to draft resolutions expressive of the estimate placed on his services in behalf of American industry, and of his patriotic devotion to the cause of Protection, and to report the same at the next meeting. The Secretary presented an interesting and instructive report of the work of the League during the past year, affording great encouragement to continue the labour of educating the public mind in the principles of sound political economy in defence of all the industries of the country through the dissemination of economic literature. A. W. Kingland, the late Treasurer of the Association, was elected President, in place of Mr. Brown, and the following gentlemen were also elected: Vice-Presidents, T. P. Jones, O. W. Potter, David Bradley, C. F. Gates, Charles H. Smith, A. A. Carpenter. Treasurer, the Hon. F. W. Palmer. Secretary, John F. Scanlan. Corresponding Secretary, David H. Mason. Agent, John A. Norton.

"The tariff," says the free trader "prevents people from buying abroad, as proof of which see the figures which show our imports for the year closed were much greater than for several previous years." "The tariff," says the protectionist, "causes an immense increase of home production, in evidence of which see the crowded factories in every city and town of the Dominion; but the people are so prosperous under protection that they consume the largely increased product, and buy more foreign goods than before."

NATIONAL INDUSTRIES.

(The Industrial World will be pleased to receive news from its readers in all parts of the country, for publication in these columns. It will take but a few minutes time and a postal card to acquaint us with what is going on in your neighbourhood, and we will always find room for all legitimate communications, which must be accompanied by the writer's name as a guarantee of good faith.)

HAMILTON INDUSTRIES

(Continued)

AITCHISON & CO.

Manufacturers of sashes, doors blinds, etc. 84 Main street west, have somewhat increased their shop, but do not pay greater wages. During the time since 1878 they have added a little machinery. Sales are about the same, as also are collections, and the price of manufactured goods. The new tariff has increased the cost of raw material—lumber.

MALLOY & MALCOLM.

carriage manufacturers, 9 Park street north, have increased their working force, and have also increased the wages paid. They have increased both their buildings and plant, have larger sales and better collections. Prices for manufactures are a little higher. The new tariff makes the cost of raw material a little higher. The firm is satisfied with the new tariff, provided it is changed a little. At present the tariff on vehicles in parts is 25 per cent, but if the vehicles are completed and in running order the duty is 25 per cent. This gives, they claim, the United States manufacturer an advantage, as they send finished vehicles to this country, while what the Canadian makers want is the vehicles in pieces. If the tariff were made equal on whole carriages and carriages in part it would be much better. The firm don't care whether it is 25 or 35 per cent so long as both are equal.

ROBERT CHISHOLM.

builder, 113 McChab street north. Three years ago Mr. Chisholm did mason work in conjunction with building, but has now discarded that branch of business. On these businesses he employed a greater force than he does at the present time; but in the line of carpenters he has twenty-five more now than on the same branch at the former period, business having greatly increased. Wages have also risen, now being \$1.75 where \$1.50 was the average price. The new tariff makes the cost of raw material slightly higher. The prices charged by Mr. Chisholm for his product are less than formerly, but the volume of business is greater. Being asked the question as to whether he was satisfied with the tariff, Mr. Chisholm leaned to the affirmative side; but firmly held to the belief that both political parties were awfully infected with rogues, and no matter which side was in power, the public coffers suffered badly.

ALEX. GARTSHORE.

founder, Stuart street west. In the foundry there are about fifty men employed, an increase of 25 per cent. from three years ago. Wages have similarly increased, in some instances advancing as high as 30 per cent. Sales of the product of the establishment have largely increased, and customers pay much better. The price for their product has materially advanced. Iron and coal are the only articles of raw material which are affected by the new tariff, being slightly higher in price. Since the passage of the National Policy new markets have been opened, thus increasing the volume of business. Is fully satisfied with the change in the tariff, but thinks bonuses should be allowed makers of pig iron and the duty reduced; also would be glad to see the duty taken off anthracite coal.

THE HART SMERY WHEEL CO.

Hunter street, commenced operations in the early part of 1880, and from their experience since that time the following statement is deduced: At the commencement they procured from Detroit persons well versed in the business, who soon imparted to the others engaged a practical knowledge of the business, after which they were returned to their former places of employment in Detroit. Since the start on a small scale the business has day by day increased, until now seven times as many hands are engaged as formerly. Wages are also higher, in most cases rising 50 per cent. The sales are growing larger day by day, and the facilities for manufacturing this class of goods are being increased to fill the growing wants of the consumer, while the charge for their product is greatly lessened. As to the effect of the tariff on their trade, the company are fully satisfied with its workings. They have a protection of 74 per cent, which to a great extent deters American competition, and at the same time their goods are of better quality than those furnished on the other side of the line.

THE VIRGINIA TOBACCO COMPANY.

In a vast and growing city like Toronto, teeming as it is with workshops that give employment and support to thousands of skilled workmen, anything that can be said or written about our various manufactures cannot fail to be of interest to the community at large. It is surprising how little is really known about the extent of the works or the vast amount of business carried on in this city by even the residents of Toronto themselves. With the object of giving to the

public some idea of the extent and value of our manufacturing industries, several of the larger establishments have been visited, and short descriptions of each will be given in turn. The first place visited was the factory of the Virginia Tobacco Company. Their factory is located on the north side of Wellington street one door west of York street, overlooking the lake, and in close proximity to the Union station and the principal shipping places. The building is substantial and complete in every respect, one hundred feet long by sixty wide, and four stories high above the basement. The raw leaf is first conveyed to the top floor on an elevator, where it undergoes the process of shaking and stemming after which it is stemmed. An extensive apparatus for drying the leaf is one of the most important features of the manufactory, and an original idea of one of the firm, and found absolutely necessary for the successful manufacture of fine tobacco in this climate. In this apparatus the leaf is kept for nearly an hour at a heat of 160 degrees. It is then run down a chute to the third floor, where the bulking and drying rooms are situated. On this floor are also the machinery for cutting the fine cut chewing tobacco, an immense machine with knives running at the rate of 1,200 revolutions per minute. The tobacco is fed into these knives by a system of rollers that compress it tightly, thus enabling the knife to make a very fine cut. On the second floor the tobacco that is to be used in plugs is cut by machinery into the proper size and shape, after which they are placed upon racks, and removed to another drying room, on the left side of this floor, the temperature of which can be regulated by means of heating coils supplied with steam. The cut tobacco is also prepared and packed on this floor. The machinery by which it is cut is a most ingenious contrivance, invented by a workman in the establishment, and the only one of the kind ever manufactured. It is self feeding, and by an ingenious mechanical contrivance the feed can be set to any desired length, and the machine stopped at any given point. On the first floor is the press room. Here, after the tobacco is moulded and wrapped, it is subjected to a hydraulic pressure of 400 pounds to the square inch. This gives the tobacco the solidity and firmness which is one of the chief characteristics of the V. T. Co's goods. The plugs are then packed in boxes, and again pressed, in fact the whole process is one of pressure and drying. Adjoining are the stamping, branding, and shipping departments, while the offices and bonded warehouse occupy the front of this floor. In the basement are the boiler and engine, the press for packing the stems, and the store rooms where the raw leaf is kept. The stems are packed in hogsheads and shipped back to Richmond, where they are ground up and manufactured into snuff and coarse tobacco for the German trade. A noticeable feature about the whole establishment is the extreme regard for cleanliness that prevails throughout. Some idea of the extent of the business carried on may be got from the fact that of the seventy-five hogsheads of raw leaf imported six weeks ago, only ten now remain. The tobacco is sent in all directions; side by side may be seen cases marked for British Columbia and Jamaica, for Manitoba and the Maritime Provinces. About ninety hands are now employed, and the managers want twenty-five more as quickly as they can be procured. This is one of the industries fostered by the National Policy. In reply to a question, Mr. Miller, the Secretary and Treasurer, said: "This establishment was run prior to 1878, but was a losing speculation. The Americans underbid us in our own market. After the advent of the present Administration we took up the business. We now have the market with fair competition, and we make a profit"—Toronto Evening News.

The Campbellford woollen factory is almost completed; the machinery, including ten sets, is arriving, and it is expected that the mill will be ready for operations about the 1st Sept. next. The parties engaged in the enterprise of manufacturing pulp from sawdust have returned to Ottawa from the West; they report that all the machinery in the only factory in Canada has been secured, and there is a probability of the early erection of buildings and beginning of the manufacture. The by-law granting \$3,000 to Messrs. Kettlebrun, Ross & Sharp, to aid them in establishing a boot and shoe factory in Walkerton, Ont., having been carried by a majority vote of the ratepayers, there is talk of starting a factory for the manufacture of shoemakers' lasts in the same place, providing that the custom of the new shoe factory can be secured. The by-law binds the shoe firm to give steady employment to from 30 to 50 persons. Manufacture of wool and of cotton will be among the more important articles in the approaching Provincial Exhibition. The prizes for these industries are offered this year half by the manufacturers and half by the merchants. Some of our manufacturers are preparing to figure in these competitions to advantage, and it is expected that all the woollen and cotton factories in Canada will send samples of their goods.—La Patrie.

The new manager of the Valleyfield Cotton Mills, Mr. R. M. Hobbs, has arrived at Valleyfield, and entered upon his duties. As the successor of Mr. Whitaker, who for a long time managed

the Valleyfield factory with conspicuous advantage to all concerned, Mr. Hobbs would seem to be the right man. He is an American and was long superintendent of the mills at Hildeford, Mr. J. B. Hesse mills owned by Peppercall & Co. are among the most extensive in America running 20,000 spindles. The Valleyfield mills run 37,000 spindles.

For over a week past the preliminary surveys for the projected double track on the G. T. R. have been in progress between here and Trenton, the work being done by two engineers from the office of the chief engineer. Mr. Hughes has just finished the inspection of the Trenton iron bridge, from which he will prepare his estimate of the cost of altering the iron work of the bridge to give room for the double track. Mr. James Grant will inspect the stone work of the bridge on Monday and make an estimate of the cost of altering that portion of the structure.—Belleville Intelligencer.

Another paper mill, intended to be the largest in the Dominion, seems likely to be established in Campbellford, Ont. At a meeting of the company in Toronto, held about a fortnight ago, the choice lay between Cornwall and Campbellford. The power along the Trent river is unequalled in that part of the Province, and this will doubtless weigh with the projectors. A local paper at Campbellford says: "Oceans of water power, plenty land, a convenient locality, good railway accommodation, cheap site, low taxes, etc., are matters which we trust the directors will see are to be bettered by no place in the Dominion."

The Washburn & Moen Manufacturing Company, whose headquarters are at Worcester, Mass., and which has branches in Chicago and elsewhere, has through their counsel, Messrs. Lacoste, Globensky and Blailien, taken out an action against Messrs. H. R. Ives & Co. for \$20,000 damages, against the defendants' infringement of their patent for manufacturing barbed fence wire. The plaintiffs allege that during the last year and a half the defendants have manufactured and disposed of 1,000 tons of the description of wire they have patented at a net profit of at least half a cent a pound, representing a loss to them (plaintiffs) of \$11,000, and that they have been damaged otherwise to a sufficient extent to raise the amount to the sum sued for.—Star.

Between St. John and other places, there is understood to be \$120,000 subscribed in stock for the new cotton mill enterprise. Only \$30,000 is now needed, and that ought to be raised in a few days. The prices at which the stocks of cotton mills are quoted and the dividends which they declare leave no doubt as to the profit of such an investment, under such assistance as Mr. Parks could give to the concern. Mr. Walker, of the eminent English cotton machinery house, is here now supplying several American mills and one or two Canadian, and it would be well if he could get an order immediately for each plant as requires to be imported. It could then be made concurrently with the erection of the building.—St. John Telegraph.

The first general meeting of the stockholders of the Globe Works Company, of London, was held at the offices of the works, corner of Adelaide and Dundas streets, yesterday afternoon, when Messrs John F. Mahon, James A. Mahon, William Woodruff, M.D.; Benj. Cronyn, John H. McMechan and John M. Laidlaw were elected a Board of Directors. At the first meeting of Directors, held shortly afterwards, John F. Mahon, Esq., was elected President, and James A. Mahon, Esq., Vice-President; John B. Laidlaw, Esq., Secretary, and John H. McMechan, Esq., Inspector of Agencies. We are informed that it is the intention of the company to shortly make considerable improvements in their works, by adding to their present commodious buildings, and by increasing the machinery and plant, and otherwise extending their business.—Hamilton Spectator.

The Hudson Cotton Mills at Hochelaga continue to turn out their due share of work. Little can be added in respect to their since last writing, save that the new additions will be ready for occupation almost immediately. The factory entire, when completed, will run in the vicinity of 68,000 spindles. In this connection it is proper to remark that the row of cottages in progress of erection for some time past by the Hudson Company in Hochelaga for the employees are completed and ten entered. These cottages, twelve in number with five rooms in each, are admirably adapted for their purpose, combining comfort and healthfulness with such a rate of rental that the employee tenant can hardly fail to be satisfied. So successful has this, the company's first essay at house building for their factory hands, been that twelve more cottages are to be erected forthwith.

Lord Elphinstone was in the city yesterday and, in company with Hon. Isaac Burpee, had a conference, on behalf of the New Brunswick Land and Lumber Co., with the Attorney General and the Provincial Secretary respecting the opening up of colonization roads. The company intend building a road through their land for a distance of 30 miles, and ask the Government to extend it through the land still held by the Crown. This latter road would be about 50 miles in length. Should this proposition not be favoured by the Government, the company ask that they

may be allowed to continue the road through the Government land, and to pay them a fixed rate per mile or a fixed rate per acre. The Attorney General has referred the matter into consideration of a meeting, which will be held in about a fortnight.—St. J. News.

On Wednesday afternoon Messrs H. Smith, Mayor, and Mr. G. A. Grant met Mr. Barber, the President of the new paper mill company, and had a conference with him and some of the other promoters of the company at Toronto. The deputation laid before the advantages offered by one town or site for the mill, and Mr. Barber's proposition regarding freight rates demanded great attention, as by accepting his offer it is estimated that the company will save from \$18 to \$20 a day, a considerable item. The clubs of the representatives met with such success that the same evening Mr. Barber, Trout, of the Monetary Times, one of the most active promoters of the new establishment, and Mr. A. B. Tower, a merchant from Holyoke, Mass., accompanied them to Peterborough. This morning the party, accompanied by a few others, drove around town and inspected the many available sites offered. They selected two, one at Hilliard's and the other near Otonabee bridge, as suitable. As the company intend to manufacture superfine paper, the water for which is to be imported from France and Germany, it is necessary to have a supply of pure fresh water of about 2,000 gallons per minute be furnished. This, we understand, can easily be supplied at a slight expense. The export left on the 10:30 train for Washburn, where he is to inspect the site offered there. He will report to the managers a few days, when the mill will be located finally and the work commenced. In the course of a week or ten days, as everything here is suitable, it only remains for the owners of the water power to act in a liberal spirit, a thing we feel sure are prepared to do, and Peterborough will stand an excellent chance of securing a very desirable industrial establishment.—Peterborough Review.

PHILADELPHIA CORRESPONDENCE.

(From our own Correspondent.)

PHILADELPHIA, August 1st. A further improvement of prices in the eastern iron markets has taken place within the past week. The iron outlook is full of promise, margins are widening, and the volume of business for future delivery grows each week. Last week was one of unusual activity, and next week promises to bring a great volume of business. Commerce is as though they had taken more of an alarm, and yet, when spoken to in regard to the great activity, they merely say that stocks are run down, and a great deal of work is on hand, and therefore they have bought more freely. The iron market has started out on an upward tendency which may not be arrested for months. Prices may not be as even for two years to come or perhaps longer as they are now. Buyers have caught the belief more or less, and hence the wonderful activity on all sides. Foreign advances indicate an eventual restriction of output. That means higher prices. To have gone on making iron then, would have depreciated the value of all stocks and the current output, result which must be avoided by restriction then; we have no such organization or means of keeping posts, and hence cannot regulate production to market requirements. Eventually we will have the industry is now in a transition state, and there is no legitimate price. Every grade and kind of iron has been improving except pig, and late last week that began to show strength. During the past two weeks very large transactions have taken place at within safe limits, and hence an improving tendency is the outcome. Eastern furnaces are oppressed and are working at no profit. Labour has been advanced twice. Coal is unusually high, ore is high, freight is high, and besides they have to compete with ballast pig. The output is cheaper ore and coal or in an advance on the other side. Both are likely to lead. Extraordinary efforts are being made in the direction of ore and coal development to the north and west of us. In foreign markets we have this season of lowest prices has been passed. Exports to the United States are chiefly of steel rails, Bessemer pig, and steel ingots. Last week orders were being very large amounts were placed for fall delivery at New York and other ports for the above products. Business is weakening, and sales are falling at \$23.50. Steel mills have advanced for all deliveries. Stocks in iron are advanced. Railroad requirements are in excess of expectations. Most all are repairing and replacing, and there are a multitude of small orders, and use coming in from day to day, and prompt delivery. These orders are at stiff figures. Prominent rail makers give information that next years output will be far in excess of this year's, that the several months' work is expected. The recent advance will check order plans, for a while. Iron rails are in this activity, and orders exceeding 10,000 tons were placed last week at a little in advance of June quotations.

turned into rails at... the price of land is... in the price of land is... with few buyers at that...

in the price of land is... with few buyers at that... Meanwhile France leads more strongly than ever to become an importing...

The statement shows that the value of the importation of ordinary grey and white cottons decreased \$40,000, or nearly one-half, while the importations of those classes of cottons not yet manufactured in Canada was largely increased...

Table with 2 columns: Item and Value. Includes Bleached or unbleached, Printed, painted or colored, Jeans, denim, and cloth, Clothing or wearing apparel, All other.

There was thus a decrease of \$21,370 in the value of manufactured cottons and cotton goods imported into the Dominion from the United States in 1878, as compared with the fiscal year 1877...

OUR AUSTRALIAN TRADE

Mr. H. S. Carson Woods, senior member of the firm of Woods, Walker & Co. of Sydney, Australia, was in the city today and was seen by a Witness reporter...

CANADIAN AGRICULTURAL PRODUCE AT DERBY.

One of the interesting features of the miscellaneous exhibits at the Royal Agricultural Show was the stand containing the produce from Canada. It consisted of samples of wheat, barley, oats, rye, peas, etc., from Manitoba, and also some fine specimens of wild and cultivated grasses...

THE IMPORT OF COTTONS

The Globe, discussing the bearing of the tariff on the cotton trade, says: "The Protectionist journals, in their anxiety to lick the boots of the wealthy cotton lords, have hastened to assure the people of Canada that the home supply of cottons is fast overtaking the demand. How can this be when the importations of cotton goods stand as follows:—"

Table with 2 columns: Year and Value. Includes 1870, whole year; 1878, whole year; 1881, eleven months.

It importations are increasing at this rapid rate, how can the manufacturers be overtaking the home demand? The impression sought to be created by this paragraph is that the National Policy has failed to promote the manufacture of cotton goods in Canada. It would be a sufficient answer to that insinuation to point to the new mills which have been erected since 1879...

Table with 2 columns: Item and Value. Includes Bleached and unbleached, Printed, painted or colored, Jeans, denim, and cloth, Clothing or wearing apparel, All other.

That's a very good plan... Yes. A good plan would be for a Canadian ship to be fitted with a Hell-Coleman refrigerator. She could then bring frozen fish to Australia, and be certain of a cargo of frozen meat to London...

BRINGING THE FIRST TEAS.

Rival Steamships Close Competition for 13,000 Miles. There is a steamship race every year from China to England, the prize being the glory and profit of putting the first cargo of the new crop of tea into the London market...

The Glen line of Chinese steamships has been long in existence. The name of its vessels bears with the syllable Glen. It is owned by Mr. Gregor, Gow & Co. of London. Mr. Gregor is also largely interested with his partner in the firm of R & C Gow of Glasgow, owners of the State line transatlantic steamships...

The Lord of the Isles arrived at Singapore at 4 p.m. June 13. Eighteen hours afterward—that is, at 10 o'clock on the morning of the 14th—she sailed away for the Indian Ocean and Red Sea. The Glenartney arrived at Singapore at 11 o'clock on the night of the next day, June 16. She got in her coal in eight hours, and was off at 7 o'clock the next morning, just one day and twenty-one hours after the Lord of the Isles. This was a gain of half an hour more than a day made in crossing the China Sea and taking coal at Singapore. Both steamers had the same course through the Indian Ocean, the Red Sea, the Suez Canal, the Mediterranean, and across the Atlantic.

The crew of the Lord of the Isles complain of encountering a west-south-west monsoon in the Indian Ocean, with a strong head sea, but they arrived at Suez at 10 p.m. on July 6, and entered the canal the next day at 7 1/2 o'clock a.m. Neither vessel had sighted the other in the long voyage across the Indian Ocean and up the Red Sea, and neither knew with certainty that the other was not ahead. In fact, the Glenartney arrived at Suez at 1 o'clock p.m. on July 7, just fourteen and one-half hours behind the Lord of the Isles, having made up one day and six and one-half hours since leaving Singapore. Both were in the canal at the same time, and each heard of the other there.

At this point the Captain of the Lord of the Isles received telegraphic instructions hurrying him up. He got away at 8 minutes past 3 in the afternoon of the day of his arrival, just 5 minutes after the Glenartney arrived. The Glenartney could not get away until 5 o'clock the next morning, and thus started on her voyage across the Atlantic 13 hours and 55 minutes after the Lord of the Isles, having lost 4 hours and 23 minutes by her detention at Gibraltar.

The two vessels at Gibraltar had travelled 9,000 miles of their 13,000 miles voyage from China to New York, and each had a straight course before it. Each vessel encountered on the night of the 23rd a strong west-south-west gale, which lasted for 24 hours. There was a heavy, confused sea. Before and after this storm the weather was generally fine, but with fogs and rain at intervals.

When the Lord of the Isles passed the bar at Sandy Hook it was 9 1/2 o'clock on the morning of July 29 (Friday). Her crew did not know whether the Glenartney was hundreds of miles behind them, or whether she was lying at her pier in this city. In the distance up the harbour was a steamship whose pipe seemed to be red with a black top, and whose forecast was stowed with square sails like the Glenartney's. But it was not the Glenartney. That steamship did not arrive at the bar until about six o'clock the next morning, 21 hours and 15 minutes after the Lord of the Isles.

The Glenartney, however, did not take the time when she passed the bar. She passed the Lightship, about 10 miles from the bar, at 7 1/2 a.m. on Saturday. It is considered very remarkable that two steamships should keep so near each other on so long a voyage. The Glenartney had three days altogether of thick fog on the Atlantic. The two vessels are rigged alike, and are about the same length. The smokestack of the Lord of the Isles was whitened nearly to the top by the sea which dashed over her in the Indian Ocean. Her time from Yokohama to Sandy Hook bar, including stoppages and the passage through the Suez Canal, was 67 days 18 hours and 45 minutes. The sailing distance is reckoned in round numbers at about 14,000 miles. Her stoppages on the passage took up to 10 days and 3 hours, and she was 1 day and 5 hours in the canal. This leaves not quite 54 days of running time in open water, and gives an average rate of nearly eleven miles an hour, supposing the distance to be 14,000 miles. The rate of the Glenartney must have been about the same. This average was made, it must be remembered, in spite of the fog, heavy seas and opposing gales that occurred on the voyage, and it should also be remembered that they were freight steamships, and not to be compared in the matter of speed with transatlantic passenger vessels.

The Lord of the Isles passed the bar 62 days, 13 hours and 15 minutes after she left Amoy with her cargo on board. The Glenartney arrived at the Lightship 69 days, 17 hours and 15 minutes after leaving Amoy with her cargo—New York Sun.

CANADIANS IN CHICAGO.

For many years past Chicago has been the home of a large number of young men of Canadian birth. Last year it was resolved to form a Canadian Club. On the 12th of November the Club was organized, and on the 17th it was incorporated according to the law of the State of Illinois, with Mr. NATHAN T. FRYMAN as President, Dr. M. B. OSBORN and BENJAMIN ZISOOK as Vice-Presidents, Mr. WALTER M. JACKSON as Secretary, and R. STURGEON as Treasurer. In the charter and by-laws of the club, a copy of which has been sent us by the Secretary, we learn that the object contemplated in the organization was for the purpose of forming a nucleus around which gentlemen of Canadian antecedents or affiliations could gather to renew and cultivate former associations and recollections, to their mutual pleasure and advantage. It is pointed out that former citizens of almost every country, including the several States, having formed representative associations in Chicago, and that Canadians having been almost the sole exception to the rule, members have been sought, not only by many cogent reasons, which readily suggest themselves, but also by example, the necessity of their organization. The conditions of membership are Canadian birth or parentage, or five years' residence since majority in the Dominion of Canada, a reputable standing and good moral character. It is provided that until the number of members shall have reached one hundred, the fee of membership shall be \$10, and after that time \$25, and an annual fee of \$10. It is pleasing to note that although residing in a strange country, the members of the Canadian Club of Chicago have not forgotten their native land. We all remember how when, in 1856, a portion of the Canadian border was menaced by a band of ruffians, organized by a fraternally composed of characterless scamps, who plundered their dupes of their hard-earned wages, the sons of Canada in Chicago gave practical evidence of their desire to fight for her defence in the hour of danger. Evidently foreign residence has not now chilled their home patriotism; and we regard the organization of their club as additional evidence of their attachment to Canada. We hope for the success of the club in the future.—Citizen.

Montreal bakers have raised the price of the 4 lb. loaf two cents.

The price of cheese ranged from 11c to 11 1/2c at Belleville on Saturday.

The electoral campaign in France has commenced with great vigour.

The receipts at Halifax Custom House during July amounted to \$26,775, an increase over the receipts of July 1880 of \$25,672. The Island Revenue receipts showed an increase of \$2,087.

Trichinella has made its appearance on a large scale in a number of German villages, but not in consequence of eating American pork. In Hettstedt, in the region of the Mansfeld Mountains, a butcher who had killed two hogs had only one of them submitted to the usual official inspection, and now the result of selling the pork that was not examined is that nearly 150 persons are terribly ill, with few chances of recovery. In this same village trichinella appeared in an extremely virulent and fatal form in 1863, a large number of persons dying of it, and it is said that systematic study of the disease, and the collection of statistics in connection with it, took their start there. At the same time reports are published concerning a wedding that was recently solemnized in the village of Altfalter. Nearly two hundred guests from various parts of the surrounding country are of the blood and liver sausage that were served there, and they have, with few exceptions, been prostrated. Among the sick are the bridal couple.

SPRIT OF THE COMMERCIAL AND INDUSTRIAL PRESS.

A FREE TRADE FALLACY EXPOSED

(Chicago Journal of Commerce)

A new illustration of what is charged to be the inconsistency of the Protectionists is found by the Free Traders in the changed relations of Alsace and Lorraine to France. When these two provinces formed part of French territory, they constituted a large fraction of the greatest iron producing department of the country, and they enjoyed the full advantages of free trade with all the other provinces; but, so soon as they were annexed to Germany, as a consequence of the war which ended the rule of Napoleon, they were excluded from freedom of exchange, and their formerly welcome products treated as competitive, inimical and injurious, by being placed under the ban of the tariff Protectionists are asked, in tones of astonishment, why the pig iron of Alsace and Lorraine, which is the same pig iron as ever, is not just as capable of supplying the wants of French consumers now as before, and why so important a commodity should be cut off from its previously free admission to every part of France. If Free Trade was beneficial at first, why has it become detrimental at last? We will answer by making a supposition. So long as a man's legs are part of his own body, his blood circulates through them; its veins, arteries, muscles, bones, have intimate relations with them, and they obey the volitions of the person will. But if one of the legs should be cut off and could be attached to some other body as to grow there, and so as to become an integral part of that other body, its veins, arteries, muscles, bones, and obedience to will power would be transferred to that other body, and free exchange of every sort would forever cease, and properly cease, between it and the body from which it had been severed. Or, take an illustration from inanimate nature. A slip is cut off from a fruit tree and grafted upon a different fruit tree, where it grows and becomes part of that tree. From that time forward there cannot ever more be free exchange between that slip and its parent source. New affiliations and relations have arisen out of the altered circumstances; the old community of reciprocities is broken up and destroyed. There is no inconsistency in the case cited by the Free Traders. Every distinct organism represents a separate and an independent set of interests, bonded together in unification by their mutuality. It is because they are in sympathetic and responsive union—because each has an affinity for all of the others—because they are in friendly and permanent combination—because they are parts of an individual whole that they cannot safely or properly share the free interchange of their functions with outside interests. The universal law which governs all organized existence is free exchange within, but protection against without. We cannot look anywhere that we do not find this law in full operation among plants or animals; and when we see the contrary in any community of human beings, and to the extent of the practice of the contrary, we discover that violation of law which cannot fail to tend to evil consequences. In the bark of trees and in the fur of animals, we perceive the principle of defence against injurious outside influences. Individual man shows it by providing clothing for his body and shelter from the inclemency of the seasons. Nations exhibit it in navies, forts, armies, and tariffs. The bark, the fur, and the arsenal do not operate against what is within, only against what is without. Within, however, in each case, there is free exchange between all the different parts of the homogeneous organism—from the lowest point of the roots to the topmost point of the highest leaf; from the centre of the heart to the farthest end of the fur; from one nook and corner where the people live to every other nook and corner. When this law is violated, as in the United States under the Articles of Confederation, or as in France before the day of Colbert, or as in Mexico at the present time, by placing the custom houses and levying the import duties on the borders of component states or component provinces, thus impeding free exchange within the limits of the organism itself, sluggishness of national wealth and tardiness in the growth of wealth must be expected, even if no worse consequences should ensue. To obstruct the freedom of internal exchange in that way would be as foolish as to reduce the breathing power, slacken the action of the heart, and decrease the circulation of the blood, in a healthy human body.

Now, let us return to the case of Alsace and Lorraine. These provinces in their separatist condition have lost their once homogeneous relation to France. She cannot pass laws for governing them; she cannot impose taxes upon their inhabitants; she cannot receive from them any representatives in her legislative branches; she cannot summon them from their witness, and compel the attendance of these, in her trials before the courts; she cannot draft their able bodied men into her armies to defend herself against either foreign or domestic violence; she cannot exact from their people the performance of any of the obligations of French citizenship. All these things she could do when these provinces formed part of her territory; but now the privilege to do these things lies in the power of Germany

alone, and may be exercised for the hurt of France, whereas they formerly could be exercised only for her benefit. With interests and obligations thus severed and transferred—with allegiance and citizenship gone from France to Germany—the equality in franchises and the homogeneity in relations which used to exist between Alsace and Lorraine and the other parts of a common country have been destroyed. The two detached and divorced provinces have become total aliens to the commonwealth of France, no longer entitled to be placed on a dead level of political affiliations with the provinces remaining to France, hence no longer entitled to be placed on a dead level of commercial affiliations with those provinces. Severance from political reciprocities carries with it severance from commercial reciprocities, in accordance with the universal law of organisms—free exchange within, protection against without. Should Alsace and Lorraine ever again become an integral part of France, subject to her laws and one with her in destiny, the right of free exchange would be restored, but it cannot be properly or safely allowed until then.

FREE TRADE MISREPRESENTATION.

(Western Manufacturer.)

The entire argument in favour of Free Trade in the United States, at present, seems to be based upon misrepresentation or downright falsehood. We have exposed not a few of these misrepresentations, and shall continue to do it, as occasion may require. Here is a case in point. The leading Free Trade organ of this city, in an article referring to what it calls a "retaliatory" protective policy threatened by Great Britain and France, and the effect such a policy will have upon the trade of those countries, says: "In all this the United States have an immense interest. We, it is true, have but a slight interest in the foreign protection to manufactures. This country, with all the facilities of being the great manufacturing nation of the world, practically abandoned that business, indeed, voluntarily abandoned any export of manufactures from the United States." We must confess the above paragraph is rather blind and meaningless, as it was evidently intended to be, that the misrepresentation might be more complete. For instance, we are told that "this country, with all the facilities of being the great manufacturing nation of the world, practically abandoned that business." What "business" is it that we "practically abandoned?" The inference, of course, is that we "practically abandoned" the business of manufacturing. But when did we "practically abandon that business," if that is what is meant? Evidently we have not abandoned the manufacturing business, because the first step toward that end would be the adoption of the Free Trade heresy. Our own history from the beginning of the government up to the adoption of the present protective policy, in 1861, proves this, for in every instance in which, through the adoption, temporarily, of the protective policy, our manufacturing industries have obtained a fair start, a return to the Free Trade heresy has compelled us to "practically abandon" the manufacturing business. The only reason Great Britain has for so persistently urging us to abandon the protective policy and to adopt the Free Trade heresy, and the only possible inducement she has to subsidize American editors and speakers to urge the same course, is her belief that such a course would be a practical abandonment of the manufacturing business on our part, and the turning it over, almost exclusively, to her.

The object of the misrepresentation of the Free Trade organ above quoted is evident. If it can induce the belief that we have already "practically abandoned" this business of manufacturing, there would, of course, be all the less reason why we should hold on to the protective policy, the only object of which is to enable us to successfully carry it out. That organ evidently presumes very far upon the ignorance or want of intelligence of its readers and the public at large if it expects such a palpable misrepresentation to pass unchallenged, or to be so far acquiesced in as to be admitted as a basis for a radical change of a well established system of political economy. That such was and is its expectation is evident from the fact that a week later it returns to the same line of argument, and it says: "Notwithstanding our inexhaustible supplies of coal, and of iron, and in fact of the raw material of nearly every branch of manufactures, together with our means of transportation, our commercial policy has been directed to suppress manufactures, except for a limited market." It is hardly necessary to say that the very reverse of this is true. Our commercial policy has been to build up manufactures, and to develop and utilize our inexhaustible supplies of coal, and of iron, and in fact of the raw material of nearly every branch of manufactures, and that not "for a limited market," either. No country on the face of the globe furnishes a more extensive market than the United States, with its fifty millions of free, intelligent, and comparatively prosperous and thrifty people. No other people under the sun are so universally and so generally consumers of manufactured goods. Here are no large classes of pauper, serfs or dependents, labouring all their lives for a bare subsistence. The writers of Great

Britain are correct when they insist that the markets of this country, before the adoption of our protective policy, were enlarged and enabled us to manufacture for ourselves, were worth more to that country than all the world beside. It is not then "a limited market" that our manufacturers aspire to supply, when they seek first to manufacture for the home market rather than for foreign markets. A market that absorbs over eight billions worth of home manufactured products annually in addition to many millions worth imported cannot be justly or truthfully styled "a limited market. Nor does Great Britain so consider the market of this country, as our free trade contemporary very well knows, for she would never so stultify herself as to make so desperate an effort and spend so much money to recover "a limited market." This, then, may be taken as more misrepresentation for the purpose of belittling our manufacturing industries, and inducing people to believe that they are of little account and hardly worth preserving, in the face of the effort that is being made for their destruction by Great Britain and her Free Trade allies in this country.

That this is the object and plan of our Free Trade contemporary is further evidenced by the following additional extracts from the articles from which we have quoted above. Following the first quotation, in which it is declared that we have "practically abandoned" the business of manufacturing, and "voluntarily prohibited any export of manufactures from the United States," the writer continues: "But we have other interests. We produce food upon which other nations are largely dependent. They may be the cotton, the breadstuffs, and the provisions, and the petroleum, and the oil cake, and the cotton seed olive oil, which they receive, but can they do without them?" And then in the subsequent article from which we quoted above, the same idea is again advanced in the statement:—"To the extent of our export trade, the United States figures among nations as an agricultural and not a manufacturing State. Our export trade is mainly agricultural, and, except cotton and oil, may be said to be of articles useful as food." The evident object of this continual depreciation of our manufacturing industries will be magnifying the importance of our agricultural products to induce the belief that if we should adopt a policy which, it is not even denied, would destroy the former, it would be of but little account so long as we should retain the latter. This is but another phase of the misrepresentation to which we have alluded. We do not depreciate the value of our agricultural industries, nor the importance of our exports of agricultural products. But it is really our manufacturing industries that has given them their great importance. The home market furnished by our immense manufacturing interests for more than nine-tenths of our products of the soil, at remunerative prices, is what have stimulated agricultural production and made our farmers the most independent and prosperous of their class in the world. Another point to be considered is, that while we freely admit the importance of our export of agricultural products, we do not believe that we can safely count upon an indefinite expansion of that trade. If the entire capital and labour of the country were devoted to the agricultural industries, we could not count upon any corresponding increase of our export trade in those products. As our Free Trade contemporary correctly says, "articles of food are purchased of us to meet the deficiency in the domestic supply of the countries to which we sell." That deficiency may be greater or less, according as the season is more or less favourable, but it is in no respect dependent upon the greater or less product of this country. For the past three or four years—the deficiency in the domestic supply of the countries to which we sell—has been unusually large, owing to a series of unpropitious seasons, creating, of course, a maximum demand for American breadstuffs and provisions, and yet we have been able at all times to supply that demand from our normal product, while fully meeting the increasing demand for domestic consumption consequent upon the immense growth of our manufacturing industries. Not a dollar of capital nor a single labourer has it been necessary to draw from those industries to meet that increased demand for agricultural products. What folly then to talk of abandoning our protective policy and with it our manufacturing industries, because our export trade in breadstuffs and provisions, cotton, petroleum, oil cake, cotton seed olive oil, etc., has been greater than in manufactures!

The agricultural industries of this country have been established ever since the landing of the pilgrims on Plymouth Rock, and the settlement of Jamestown, and they have never had the drawback of competition, or hostile legislation of the old world, to discourage their establishment or retard their growth. In our colonial days, the laws of the mother country were so strict against the prosecution of mechanical industries that any branch of manufacturing was necessarily carried on in secret, in caves, and in hidden places, as counterfeiting has to be carried on at the present day. At the same time agriculture was encouraged in various ways—by prizes and rewards for extra crops of various kinds. Great Britain, even at that early day, had evidently conceived the idea of utilizing the new world as a granary from which

the food supplies for her mechanics and manufacturers at home should be drawn, that thus it might be made a contributor to her mechanical greatness and not a competitor for the same honours. And she has not yet given up that idea. From the conclusion of the revolutionary war that made us one among the nations of the earth, she has never for a moment relaxed her efforts to prevent the establishment and building up of manufacturing industries here, while using all her arts and strategies to induce us to be content with the lot of an exclusively agricultural nation. How well she has succeeded may be judged from the fact that it is only within the last twenty years that we have fairly made a beginning towards supplying the demand for domestic consumption in any single line of manufacture. Is it any wonder, then, that our export of agricultural products should exceed that of manufactured goods? It is charged that our "commercial policy has been directed to suppress manufactures, except for a limited market." How does this charge comport with the fact that notwithstanding Great Britain has for centuries stood at the head of iron and steel producing nations, and that the iron and steel industry is her pride and boast, we have within the past year even surpassed her in the magnitude of our production in that industry? Does that look as though "our commercial (or any other) policy had been directed to suppress manufactures except for a limited market?" Is it a "limited market" that absorbs an amount of iron and steel greater than the entire product of Great Britain, in addition to the millions of dollars' worth imported from that country? On the contrary, "our commercial policy has been directed to foster and build up the most comprehensive system of manufactures, and to encourage the largest production in all branches compatible with the safety and success of newly established industries. That their products do not yet figure so extensively in our export trade as our Free Trade contemporary seems to think desirable, is attributable solely to the large demand for home consumption and to the comparatively short period since their practical establishment. The building up of a system of manufactures capable of supplying a domestic demand amounting to seven or eight millions in value, with a surplus of export of any great extent, is not the work of fifteen or twenty years.

One more extract from the articles above quoted from, and we have done with them. In the concluding paragraph the writer says: "The evil effects of the subsidy (protective) policy are shown by the difference between the ever increasing agricultural productions of this country and the limited production of manufactures." Here we have more misrepresentation. In the first place, the protective policy is not a "subsidy" policy, and the term is used simply because in the minds of many persons there is a prejudice (probably justly against it. For instance, there is prejudice against a subliminal press, a class of newspapers in this country which accept a bribe or a fee from foreign manufacturers or their representatives to advocate a policy which they know is inimical to the best interests of their own country, and solely for the advantage of the foreign manufacturers and the foreign country which pays the subsidy. A subsidy policy, then, is the policy pursued by one nation when it gives an individual or individuals of a competing nation to advocate a policy or course of action which will favour the interests of the former and correspondingly injure those of the latter. It is not strange, therefore, that there is a prejudice against a "subsidy policy," which is sought, by misrepresentation, to be turned against our protective policy, which is an entirely different thing. A protective policy is a course of action pursued by a nation wholly within its own jurisdiction and solely for the best interests of its own citizens, with no view of interfering in any way with the interests of any other nation. It is, therefore, a perfectly proper and legitimate policy which no other or foreign nation has any reason to complain of, or any right to interfere with. In the next place there is misrepresentation in the expression, "the difference between the ever increasing agricultural productions of this country and the limited production of manufactures." The facts are, that since 1860 the value of our manufactured products has considerably more than doubled each decade; the total increase in value for the ten years from 1870 to 1880 was considerably over four billions of dollars. Whether this comes up to "ever increasing agricultural productions of the country," or not, we have not the figures to show, but we may safely assert that it is not far behind, and in the ordinary acceptance of that term cannot be called a "limited production." But we must remember it has been but a few years, comparatively, which our manufacturing industries have had in which to grow to those immense figures, while our agricultural industries have been steadily growing for over a century. If our protective policy has developed within these few years such an immense production of manufactures, where are the "evil effects" to which our Free Trade contemporary refers? It is certainly not in the "limited production of manufactures." Nor can we charge the "commercial policy" that has built up a system of mechanical industries almost wholly within the past twenty years, whose products have increased during ten years past over four billions of dollars, with having been "directed to

suppress manufactures." We lay it down upon the misrepresentation of agriculture, and even a total failure of the Free Trade organ has been necessary to employ to combat against the protective policy. In the light of this exposure, we do not think any disinterested person will doubt the point has been made. And we doubt not, it will be repeated in some other form, perhaps in a few days, some people believe that frequent repetition of a falsehood will finally cause an unthinking to accept it as truth.

MANUFACTURES AND AGRICULTURE

(Hamilton Spectator)

Almost without exception the manufacturers of Hamilton and Dundas express their satisfaction with the National Policy. It is not to be assumed that there is anything new or startling in this disclosure. The Free Trade press has been affirming for a long time that the N. P. was in the interest of the manufacturers solely, and the wonder is rather that any of them can be found to dispute its beneficence than that so many should affirm it. Our design, then, in soliciting reports from the manufacturers was rather to get the data whereby to estimate the value of the N. P. to them and to their employees than to demonstrate a truth already accepted on all hands. It is difficult of course to estimate with any approach to precision the value of the N. P. to our manufacturing interests. Manufacturers do not not with the exact figures respecting their business to be published. Few men care to expose their exact position to their rivals or even to the general public. We must, therefore, content ourselves with such figures as can be published and with estimates. Of 66 firms interviewed by our reporters so far, 45 report that since the spring of 1879 they have increased their buildings or their manufacturing plant. This is in addition to the considerable number who have begun business during that time; 8 have made an increase, and none have reduced their manufacturing appliances. In many cases the machinery has been doubled and in very many cases large, handsome and expensive buildings have been added. The number of men employed have been very largely increased. Forty-five firms employ more hands than they employed under the old tariff, to the same number, and none fewer. A few have three or four times as many as formerly; seven has doubled their force. A prominent manufacturer, well acquainted with the city, estimated the other day that the various industrial establishments of the city now find work for fully a third more hands than they needed three years ago. And many more would be employed if the man could be found. Forty-seven firms pay higher wages than formerly to their employes. One reports the increase at 25 per cent; two at 30 per cent; one at 25 per cent; and the rest who quote particulars at all range from 10 to 15 and 20 per cent; of increase in the rates paid their employes. Only 9 firms pay the same rate of wages as in the spring of 1879, and not one pays less. It will be seen that if the N. P. benefits the manufacturers their employees come in for a share. Thirty firms report that their raw material costs them more than formerly. 24 say it costs them about the same. This is a matter which deserves serious consideration. The protective system demands that the raw material for manufactured goods shall be admitted at the lowest price consistent with the demands of the revenue. How much of the increase reported is caused by the duties imposed and how much is due to the rise of values in our own and in foreign markets, it is not possible just now to determine. Many of the articles are those over which we have no control whatever, as cotton for example, on which there is no duty. Some of these are duties produced at home, which are dearer on account of the increased export demand, as lumber. Some are dearer by reason of both the new duties imposed and the higher price abroad. It might not be correct to say that the census within that class, for it is not in any means certain that there is a great difference in the price of iron in Canada than in Scotland. But the question of the cost of raw material to manufacturers is one of great importance, and it is right that all needless burdens upon it should be removed. The cost of the manufactured product to the consumer has undergone no material change. 14 firms report that they get more for their goods than formerly, 12 that they get less, and thirty that they have had a change in their prices. If the increase in the cost of raw material from extraneous causes be allowed for, we believe that goods manufactured in Hamilton and Dundas are sold at lower prices than in 1878, notwithstanding the higher tax paid.

Mr. George Jessup has given the Wesleyan University, Middlebury, Vt., \$100,000 to endow free scholarships. Besides \$100,000 previously offered on condition that a like amount be contributed by the friends of the institution. It is customary among fashionable people in London to publish their will as marriages and deaths. The Philadelphia will be likely to read the 14th column in the London Spectator closely hereafter. They have been bequeathed \$50,000 each by the late Alfred D. Jessup; but those bequests are held on the remote contingency that his three daughters, two of whom are married, and one is about to be, all die childless.

TORONTO PRICES CURRENT.

Table of Toronto prices for various commodities including Groceries, Flour, and Hardware.

Table of prices for Oils, Paints, Hides and Skins, and other goods.

Table of prices for various types of Wheat and other agricultural products.

WEEKLY REVIEW.

Toronto, Aug 31, 1881.

This is holiday time, and business generally is reported dull.

Stocks—In common with all other businesses, the holiday season has affected this market also.

Hardware—There is nothing new to report this week, prices remaining firm.

Your correspondent would here state that many merchants, both in this business and others, complain that they receive unreasonable and unfair treatment at the hands of the customs officials here.

Wool—Values to sell for combing fleeces remain unchanged.

Leather—Business is fair and looking up, with the commencement of manufacturing the next season's supply of boots and shoes.

Produce—The breadstuffs market has ruled very quiet and steady during the past week.

The Bank of France is now practically on a silver basis.

Salisbury Review—It would seem probable that the nucleus of a comet is neither a solid or a gaseous body, but a more cluster of discrete meteoric particles through which the earth might pass without experiencing any effect.

Some curious statistics of suicides are published in a German paper, from which it appears that, contrary to the general belief, the number of suicides in London is relatively much less than in the other European capitals.

The notion that the Casar is immured in dismal fortresses is erroneous.

Articles through which the earth might pass without experiencing any effect beyond that of a startling shower of shooting stars, and that the head is composed of gases evolved from these interiors under the combined action of the sun's heat and the rarefaction of space.

THE WOOL HOUSE. WINANS & CO., 13 Church Street Toronto.

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HAMILTON COTTON COMPANY, HAMILTON, ONT.

CASTORINE MACHINERY CO. TORONTO.

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Exceptional advantages to Traders, Export and Import. F. J. MACKAY.

RAILWAY MATTERS.

THE CANADA PACIFIC RAILWAY

We take the following from a report of an interview between a committee of the directors of the Canada Pacific Railway. It is important as dealing with the question of the interest of the company to draw traffic on to the Canadian line instead of diverting it to the American system.

Ald Monkman informed the representatives of the company that there was some anxiety here lest the company should make their road through the southern portion of the province a feeder to the St. Paul & Pacific line.

Mr. Sticksen replied that the C. P. R. Co. did not own an inch of land in Minnesota. There were certain directors of the one company who were large shareholders in the other, but they were far from owning it.

Mr. Hill said there could be no competition between the two companies. Instead of the traffic being toward the south, he did not see why, if the C. P. R. Company adopted reasonable rates, shipments should not be made by this road from Grand Forks.

Mr. Hill answered that it was in contemplation to extend the main line from Winnipeg in a north-westerly direction so as to intersect the present line very much farther to the west than the present junction at Stonewall.

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THE SOUTH-WESTERN RAILWAY.

A Times reporter this morning interviewed E. A. C. Pew in regard to the prospects of the South-Western Railway. Mr. Pew appears confident of the success of the enterprise with which he has become closely identified, and states that the work will be commenced to-morrow, one thousand men having been advertised for.

Mr. Pew represents that in order that an independent outlet may be had for the citizens of Winnipeg by way of the South-Western Railway, a company has been organized in New York to build a branch line from Casselton to the Northern Pacific to a point at or near Rock Lake on the International boundary.

Mr. Pew has been instructed Mr. Ryan, solicitor of the South-Western, to prepare a notice for the next Canadian Official Gazette, asking Parliament to amend their charter so as to permit of the continuation of their line to the Rocky Mountains, and to change the name of the road from the Manitoba South-Western Colonization to the Manitoba & South-Western Railway of Canada.

In view of the great advantages to be derived from the speedy construction of the road and the location here of the proposed industrial and other workshops of the road, Mr. Pew feels that the people of Winnipeg should not hesitate to accord him and the financial friends he represents all the material support in their power, and give them such assurance as will enable him to guarantee the stockholders as to the safety of embarking their capital in the enterprise.

Under the reconstruction of the company just effected, the absolute control and management of the affairs of the South-Western have passed the hands of Mr. Pew and his associates. The financial arrangements are of such a character

as to enable the Directors to complete the road independent of either the sale of bonds or other fluctuations of the money market—Winnipeg Times

SOME RAILROAD INFLUENCE

A newspaper paragraph states that during the first six months of 1881 nearly two thousand miles of new railroad has been constructed in the United States. This is in excess of the laying of track on new railroads reported at the corresponding time in 1880, and nearly three times as much as was constructed in the first six months of 1877.

The magnificent road building of the Romans was proof that Roman civilization in introducing a new instrument of civilization and creating a new epoch in the history of mankind. But what shall be said of railroad building in the United States—this modern instrument of civilization—this modern instrument of civilization that is today even knocking at the doors of Cortes in Mexico? Time was (and only a few years ago) when Great Britain fairly claimed a similar triumph with Rome in the matter of introducing a new element in civilization. Fifteen years ago the English were the great railroad masters of the modern world.

The first railroad mania in England occurred in 1826. In that year parliament passed 29 bills authorizing the construction of many miles of road. This mania very much resembled the railway movement now taking place in the west and south-western sections of the United States, only the British lines were necessarily shorter than American lines. The following year witnessed a crash in the business in England, and the shares of the best companies became unsalable in 1845, however, most of the great lines had proved a success. In that year the railway mania broke out with redoubled violence; railroads appeared an El Dorado. Some railway shares were on an average 100 per cent. premium. Then a collapse came in 1846. For 10 years after this the construction of railroads in Great Britain progressed at the rate of nearly 400 miles a year. In 1865, 13,000 miles had been opened. The business in England had resolved itself into five epochs, viz: the period of experiment, the period of infancy, the period of mania, the period of competition and the period of contractors' lines and companies' extensions.

The financial history of English railway constructions has been substantially repeated in the United States. In our own country too, as in Great Britain, France, Italy, Spain and Germany, the convergence of its railway lines has much to do with the character and political state of the country, and demonstrates our federal independence by the number of the centres of our railways. For instance, New York, Boston, Philadelphia, Baltimore, New Orleans and San Francisco have been made the chief commercial centres of the country by the net work of railways covering the country. Chicago, St. Louis, Cincinnati and Buffalo have been made the great distributing points of the country, while the chief cities of the south have asserted their power as the leading depots for the reception and handling of the cotton, tobacco and rice products. And last, but not least, the railway network of the country has made New York the monetary and political metropolis of the Nation.—Lumberman's Gazette

RELATIVE RISKS OF RAILWAY TRAVEL

A few weeks ago, when a traveller was murdered on a railway train near London and thrown out of the car while the train was passing through a tunnel, a great ado was made, especially in American papers, with regard to the insecurity of travellers in the English cars. The plan of confining two or three, or at most half a dozen, travellers in one car, out of reach and hearing of their fellow travellers on the train, and unprotected by conductors or other train men, was unparagonably criticised and ridiculed. For the sake of a degree of (undesirable) privacy any traveller, it was said, was liable to find himself coupled up with a murderer like Muller or Lefroy, or in case of a lady, with a brute like Valentine Baker. The opportunity thus afforded for robbery, murder, or outrage was declared to be impossible with American cars, and remarks derogatory to the common sense of Englishmen were freely indulged in because they would not give up their system for ours.

The recent robbery of a train of cars on a Missouri road by a bold and well organized gang of desperadoes gives the English press an opportunity to retaliate in kind. A prominent London paper says:—

"The American cars seem specially made to invite this kind of outrage. With the English system such a wholesale raid is impossible. In any case one carriage alone could be robbed here before the passengers and officials could organize resistance. As there is no example of such an event in our railway history, we may assume that the difficulties and dangers are so great as to deter even the most daring criminals.

The actual danger of murder or robbery is far less on English lines than on American.

In this view of the case our English friends are as much at fault as the American critics of the English system were. The conditions under which the two systems are operated make a fair comparison of the relative security to life and property afforded by them quite impossible, while the parity of violent crime under both systems shows that the risk to the traveller in either is amazingly small. Indeed, considering the large numbers of persons always in transit by rail, both in this country and England, the rare occurrence of crime on the road must be accepted as proof either that travelling is exceptionally conducive to morality, or else that, whether car compartments are large or small, railway travel affords fewer facilities for the commission of serious crimes than the ordinary conditions of social life. The murder of people in church during divine service is a more frequent occurrence, if criminal statistics are worth anything, than like crimes on railway trains, but that affords no basis for a comparison of car seats and church pews as aids to crime.

It is pretty certain that under ordinary conditions of travel no ill disposed person would choose a public car on an American railway for individual murder or robbery with any reasonable hope of escape, as Lefroy and Muller did in England. It may be equally true that an organized raid upon a train of cars on an English road would be prevented or made unsuccessful by the plan of the cars and the distribution of the passengers. But such a deterrent effect would be much less certain were the train to be run over a long and sparsely settled route, such as was taken advantage of by the Missouri train robbers. Such crimes are no more attempted in the neighbourhood of our large centres of railway communication than they are on roads leading from London or Liverpool, and it would seem that the surroundings of the roads and the more frequent stations are more influential in preventing train robberies in the East, as in England, than anything in the construction of the cars or the make up of the train. Given equal time for the work, we are inclined to think that fewer men would be required to capture and go through a train of English cars than one of American cars, while the robbers' chance of meeting serious resistance on the latter would be much the greater. But this question of comparative immunity from attack plays a very insignificant part in determining the choice of large or small compartments, compared with popular customs, popular habits of thought with respect to privacy or promiscuity, the varying hazard of undesirable social contacts while travelling, and all that sort of thing. The English have their prejudices as Americans have theirs, and matters of this sort are more apt to be decided by prejudice than by the calculation of infinitesimal risks to life or property.

THE AMERICAN RAILWAY CAR—SERIOUS FAULTS

The honorous man of the New York Times thus discourses:—

The chief fault in our railway cars is the reversible seat which exerts upon women in order that the passengers shall not be compelled to ride backward on at least half the trains, the lack of the seats must be made to turn over. This enables any woman who enters a car early to turn over the lack of the seat in front of her and to attempt to occupy four seats. It has been estimated that 61 per cent. of all our women at a prey to this degrading passion. A woman may be naturally unselfish and even self-sacrificing, but if she once yields to the temptation to turn over the lack of a seat she is certain to become in a very short time selfish and rude to a degree that to anyone but an experienced traveller would seem incredible. With a parcel, or a small hand bag, or even a pair of gloves placed on the seat before her, such a woman will try and retain her four seats, though a dozen men and women may thereby be compelled to stand in the aisle. Of the influence of this pernicious habit upon the woman herself there can be but one opinion. It changes her whole character. It breeds in her a selfishness which she carries into every part of her daily life. It renders her callous to the sight of suffering and fits her for the commission of any crime which she imagines may minister to her self-indulgence. Of the women now in state prison, ninety-seven in every hundred began their downward career by turning over the lack of seats in railway cars. Upon the men who witness this sort of railway outrage the effect is to cause them to lose all confidence in women and to regard the whole sex as unprincipled, selfish, and dishonest.

In the English compartment car there are no seats the lack of which can be turned over. No woman is thus tempted to monopolize four seats, for it is perfectly understood that a passenger is entitled only to one of the six or eight seats in his or her compartment, and the spectacle of three third men standing up in a railway carriage and vainly waiting for a seat, her parcel or glove from one seat, her removal from another, and her hand bag from a third is unknown. An Englishman may be murdered twice in seventeen years in a railway carriage, and perhaps once in that period he may wish that there was a bolt cord within his reach. When, however, he

thinks of the American saloon cars, with their reversible seats and the appalling demoralization which they cause both in men and women he will cheerfully accept the presence of murderers and the absence of bolt cords and cling to his compartment carriage.

RAILWAYS AND THE PEOPLE

Mr. Edward Atkinson, the statistician in which he marshals a long array of statistics to prove that railway consolidation has greatly increased the wealth and lightened the burdens of the people. He claims that something over \$1,200,000,000 have been saved to the country by the consolidations which have created the through lines to the west. Mr. Atkinson's statistics are partial and do not tell the whole truth. He forgets that with the consolidation of roads and consolidation of competition the competition that was scattered became concentrated along a few lines, and thus became even more potent than before, but suppose this competition to be removed by further consolidation. Suppose the New York Central, the Erie, the Pennsylvania and the Baltimore and Ohio railroads should consolidate, then competition would cease and low freight and fares would cease with them. Consolidations, like other great agencies, are potent for good and for evil. The natural selfishness of men makes the evil preponderant, unless self interest in some form counteracts the evil tendency. But if it be true that consolidating them all into the hands of the Government might become a question before the people. Railroad consolidations have lowered freights, because there was consolidated competition; but how would it be with consolidation that should wipe out competition?—N. Y. Shipping List.

Table showing traffic returns of the Great Western Railway of Canada for the week ending 22nd July, 1881. Includes passengers, freight and live stock, mails and sundries, total, and corresponding week last year.

Mr. Baker despatched a large train of ox-carts westward on Saturday laden with supplies for Bracket, Chute & Co., C.P.R. contractors. The goods were consigned to Brandon and different points west. Mr. Chute is in Brandon at present perfecting arrangements for the transportation of supplies to the western distributing post which is established on their additional track about fifty miles west of the above named place.—Marquette Review.

In France, during the year 1880, 603 miles of railways were completed and opened for traffic, making a total in the country at the end of the year of 14,740 miles, besides 1481 miles of private railways in miles, etc. In the same time 57 miles of light railways were opened, making a total of 1,356 miles of roads of that class. Algeria had 715 miles of railroad in operation at the end of 1880. The expenditures for new railroad construction by France in 1880 were nearly \$53,000,000—nearly \$5,800,000 for roads the substructures of which are constructed by the State, more than \$6,800,000 for completing lines which the State has undertaken to construct wholly on its own account—the rest for lines which are to be built wholly by corporations.

It is reported that the greatest difficulty is experienced by those who are constructing railroads in the West in obtaining labourers. There is not only a scarcity of white labourers, but a sufficient number of Chinese cannot be found to meet the pressing demand. On the Atlantic and Pacific road Indians are being employed and paid at the rate of \$2 per day. On the line of construction of the Northern Pacific road, the scarcity of labouring men is even greater than on lines in course of construction in the south-west. This company is prepared to build several hundred miles of new road, but its operations are retarded by inability to obtain labourers, and to overcome this a commissioner is said to have been sent to China to arrange for procuring labourers from that country.

Work on the P. W. & N. W. railway is being vigorously prosecuted. The survey began the day after the turning of the first soil, and a party in charge of Mr. W. G. Delainvalle have located several miles. Construction was commenced on Monday morning, and the first mile of the grading is already completed. The grading is under charge of Mr. J. McNaughton, a live railroader of over 20 years' experience. Messrs. H. S. Hutten and D. Rodger have the contract for the locating, the construction, and equipment of the road, and Mr. Rodger, who is now residing here, assures us that the trains will be running to stations this fall. The contractors have secured offices in Mr. J. A. Little's building on Manitoba street, and an advertisement in today's issue calls for men and teams to work on the railway, to whom the highest wages will be paid.—Marquette Review.

From advance sheets of "Poor Manual for 1881," covering statistics of the railroads of the United States for 1880, we learn that the total number of miles of railroad in the United States at the close of the year was 93,671 miles, indicating new construction during the year aggregating 7,174 miles. Of this mileage only

84,225.38 miles was operated. The capital account of these railroads is divided as follows: Capital stock, \$5,433,177, funded debt, \$2,825,193,430, other debt, \$162,800,000, total, \$41,900. The cost of the equipment aggregated \$1,100,000,000. The gross earnings reported for the year aggregated \$915,401,931 against \$912,309 in 1879. The net earnings were \$255,193,430, against \$240,000,000 in 1879. Earnings were divided into freight and passenger in the following proportions, viz: freight, \$147,653,003; passenger, \$147,653,003. For the first six months of the year they were divided as follows: Freight, \$186,670,108; passenger, \$186,670,108. Of the total mileage of 93,671 miles, 12,589 passenger cars, 47,860 freight cars, and 47,860 miles of freight

Some idea of the comparative accident to incident of the various classes of railway men may be obtained from the following extract from the last report of the Ohio Railroad Commissioner, Hon. J. Robinson. The average number of persons employed annually by railway companies in Ohio during the last year has been 25,034. The total number of employees killed and injured during the period has been 3,610. The average number of employees killed and injured each year is 276.9, i.e., 1.10 per cent. of the total number of employees killed or injured each year. This percentage of injured, much higher among that class of employees whose employment is in the vicinity of trains. One employee killed or injured every 31.5 hours in including all classes of employees. The employees are divided in about the following percentage: Superintendents, 20; clerks, 450; mechanics, 15,000; telegraph operators, 3; train dispatchers, 60; conductors, 380; engineers, 580; firemen, 6; brakemen, 8,000; station masters, 1; wipers, 180; station agents, 380; section men, 1745; flagmen, 645; labourers, 17; other employees, 620. About nine-tenths of the accident to employees fall upon conductors, engineers, firemen, brakemen, station masters, section men, flag men, and labourers. They constitute about 95 per cent. of the whole number of employees. About 40 per cent of the accidents to employees fall upon brakemen. Out of 16 persons killed and injured on the Baltimore and Ohio and Chicago Railroads during the year, 13 were brakemen.

A remarkable feat of railroad building will be the line from Portland to Dallas, Or., when it is finished. Much of the roadway must be blasted in the face of lofty precipices, or drilled through no less unyielding rock, and every foot is a struggle with nature. About ten miles below Dallas is a bed of basaltic rock rising abruptly 500 feet from the Columbia river, above which the road is to pass. Men suspended by ropes 150 feet over this will drill and blast the solid rock, their work being attended by the greatest danger. The largest blast on the line thus far has been at a point ten miles above the falls, a mass of rock 165 feet high, 16 wide and 70 thick at the base, containing more than 40,000 cubic yards of rock removed by the explosion of twenty pounds of Judson powder, equal in force to 20,000 of black. Three tunnels from 300 to 550 feet long, are now being drilled, steam or compressed air being used in the work. At two points a new and phenomenal difficulty is encountered, the mountain settling or sinking at the river at the rate of about 12 inches a year, and the trouble will not cease until the finishing of the road. In displacing the mountain side is covered with small, broken stones, which slip with every movement below, and walls of heavy rock have to be built high up on the cliff to check the descent. Trestle work and bridges will also have to be erected along the line. The maximum grade is 26 feet to the mile, and there is hardly a mile of straight track at any stretch. Notwithstanding these difficulties, and the fact that the road was located only a year ago, the Oregon Railway & Navigation Company expect to have the line of 86 miles finished this year. It will cost \$3,000,000, or nearly \$42,000 a mile.

Collector Robinson is credited with the idea that probably there will be no more of subordinate officials in the New York Customs House at the outset of the administration.

At Argostoli, or Cephalonia, where Lord Dufferin lately touched on his way to Constantinople, is a well worked stream flowing from the sea. An Englishman discovered that the water always ran one way, and built a mill which has made his fortune. It is hard to find where the water disappears in the earth, ultimately went, and, among other experiments with that end, poured oil on its surface, but its course remains a mystery.

At the London Zoological Gardens there is an elephant which eats the out of your hat. Lord Northbrook's First Lord of the Admiralty heard of this, bought a hat, placed it on his hat, and graciously presented the dish to the elephant. It happened to be the wrong elephant and one whose education had been neglected for he took the hat and bit it to shreds, and munched them contentedly and the inextinguishable laughter of the onlookers.

Mining News.

ALL BELFON'S COAL TRADE.

(Taken from the Trades Journal.)
The average number of cutters employed in the various mines of Cape Breton last year was 601. The number at present is over 1,000, which is a most remarkable increase. The output this year will be the largest on record. As likely to be interesting to a number of our readers, we give below an approximate of the number of miners employed at the various mines in Cape Breton, and the estimated output, and other points of interesting information.

SYDNEY MINES.

The works at Sydney Mines, belonging to the General Mining Association, are the most extensive of the Island. The number of pairs of cutters at present employed is between one hundred and twenty and one hundred and thirty. The mine can be worked to the capacity of about one thousand tons per day, though the average daily output may fall considerably short of that. The price of coal is 6 cents per ton for clam coal. A large proportion of the coal raised is shipped by steamers, the trade by sailing vessels having greatly declined.

BRIDGEPORT MINES.

Under Mr. Bellon's management, doing a large business. There are close on 80 pairs of cutters employed. There are 30 blocks of company houses, having a neat and comfortable appearance, and inhabited by about seventy families. The population of Bridgeport was estimated at about five hundred. The output of coal from the mines is about 450 tons daily, an output of 500 tons has been obtained, but that quantity is exceptional. With proper "bank head" and screening facilities the output could be greatly enlarged. The "lift" is a remarkably short one, being only eighty-five feet from bank level to bottom. The screen lars are close, thus being no cut coal at present made, the smaller coal being shipped with the round, and only the slack extracted. Active work at this colliery did not commence this year until May, there being only a little overground work performed in April.

RESERVE MINES.

About two miles from Bridgeport are situated the Reserve Mines, now under the management of Mr. Kennelly, of the Sydney & Louisburg Coal & R.R. Co. These mines are next in importance to the Sydney Mines, employing at present between 85 and 90 pairs of cutters, and with a capacity of about six hundred tons per day. The coal is reached by slopes about 2,000 feet in length. The rope used in hoisting the tubs is the smallest we have seen employed for the like purpose, being only 1 1/2 in diameter. It is a steel rope without a hemp core, and is capable of sustaining a great strain. No fewer than twelve boxes are hoisted each trip, and the weight of the tubs and their contents is little, if anything, short of eleven tons, a weight sufficient to test the quality of a 1 1/2 inch rope with hemp core. There is a very bad curve between the slope mouth and the bank head, which detracts greatly, on account of the friction, from the power of the hoisting engine, which runs slowly. A double shift is employed. The coal is carried over a railway nine miles long to Sydney, where it is shipped from the company's pier. The Lornay and Emery mines, owned by the same company, are at present idle, but all the houses at the former place are occupied by the Reserve workmen. There are some prospects of the Emery being put into operation again.

LITTLE GLACE BAY MINES.

Three miles from the Reserve is situated the Stirling Colliery. The works at the "hoost," and the harbour pit are idle. There are comparatively few men employed at the mines. The falling off is attributed to a too conservative management. There are at present no more than 30 pairs of cutters employed, and the output is consequently small. There is a considerable amount of coal on bank.

CALEDONIA MINES.

A mile from Little Glace Bay are situated the Caledonia Mines, which, this year, are doing a pretty fair business. There are about 48 pairs of cutters employed steadily, the output of coal being two and three hundred tons, according to the way one looks at it. If slack is coal, then we would say the average output is nearer the latter than the former quantity. The lift from top to bottom is 185 feet. The time occupied in hoisting is about 20 seconds, one box only, with a capacity of 25 cwt., being taken on a trip. The ventilation of the mine is said to be first rate. The coal is forwarded by a railway, two miles long, to Big Glace Bay, where it is shipped.

THE BLOCK HOUSE MINES.

In former years were distant about eleven miles from Little Glace Bay, but modern science has reduced the distance to five miles, having thrown a bridge over the "gut" and built a road through the woods. The coal in the Block House mines is pretty well run out, and there are few miners employed compared with former years. At present the number is forty-two. There is a rumour that the proprietor, Mr. Bellon, intends sinking a shaft considerably to the dip, in order to catch, not only the present seam, but a vein of good quality said to be in proximity to it. The Block House, like the other C. B. mines, has been rushed to fill orders.

THE GONDIA MINES.

are but a short distance from the Block House and are managed and owned by Mr. Archibald. The number of pairs of cutters at present employed is forty-eight, and the output is estimated at from 250 to 300 tons per day. About five thousand tons of coal were placed on bank last winter of which about one thousand tons only now remain, which will very shortly be filled away. Quite a number of the miners at the Gondia are old residents and veterans at mining. The proprietor, Mr. Archibald, has a good name among his workmen, which we trust will be long retained.

LINGAN MINES.

are a little out of the way and are the least extensively worked at present of any of the collieries, if we except Little Glace Bay. There are only about 30 pairs of cutters this year, the majority of whom are new residents, quite a number of the old hands having left this spring to find remunerative employment at the neighbouring mines.

THE ONTARIO MINE.

At Big Glace Bay has been leased by Mr. Burchell, and is shipping a remarkable quantity of coal in proportion to men employed. The number of pairs of cutters is fifteen. This mine will likely be more extensively worked in the future and proper machinery procured.

A NEW PROCESS OF EXTRACTING SILVER.

According to the *London Mining Journal*, an important advance has been made upon the methods of Augustin & Zierengel for the extraction of silver by the wet process. It is the process of J. F. N. Macay, of Charapoto Ecuador, which the journal pronounces to be much more effective than the older methods.

This process relates to the use of cupric chloride and sodic chloride in solution, for extracting the silver, lead and copper from ores containing all or any of these metals in chemical combination with sulphur, or, in the case of silver, with chlorine as well as sulphur, or in case of copper, with chlorine and oxygen (cupric oxychloride), whether these sulphides (or chloride, or oxychloride) may be chemically combined or mechanically mixed with other mineral in a simple or complex matrix. When cupric chloride cannot be obtained to commence the process with, it may be prepared by mixing together in solution 1,000 parts by weight of cupric sulphate crystallized, and 409 parts by weight of sodic chloride. The chemical reaction which takes place yields cupric chloride and sodic sulphate; or cupric chloride may be made by digesting black cupric protoxide and sodic chloride in sulphuric acid, whereby cupric chloride and sodic sulphate are formed. Also, by digesting black cupric oxide in hydrochloric acid, whereby water and cupric chloride are formed. The cupric chloride may be made by either of the above methods, or by any other method, either in the presence of the ore to be treated or separately, but he prefers to make it separately. He also makes it in the presence of the ore when he treats stannite, or instead of stannite he uses pure cupric oxychloride, and treats it in the same way, according to the process for making colcothar and cupric chloride, which he has likewise patented.

It is explained that when lead ores are to be treated, and cupric chloride has been prepared by either of the two first ways mentioned, the sodic sulphate formed must be decomposed by adding a solution of calcic chloride, whereby calcic sulphate and sodic chloride are formed. The calcic sulphate being insoluble is separated by decantation or by filtering off the liquid. Thus a solution of cupric chloride can be obtained free from any sulphate. In treating any other ores the sodic sulphate does not interfere with the process, although he still prefers to decompose it and separate the calcic sulphate which is produced. Rain water should be used for the solutions of the salts of copper and sodium, and for washing the residues. Where rain water cannot be obtained, water acidulated with a little hydrochloric acid may be used, care being taken when treating silver ore to remove all trace of acid from the residue before treating it with the sodic hypsulphite solution. For milling purposes he uses a kind of arrastra or tabona, so constructed that no metallic part shall be exposed to the action of the cupric chloride, and consisting of a circular base plate of granite or other hard stone cemented together and encircled by a water tight rim, stone millers being made to rotate upon the base plate.

According to the first method, the ore is ground and passed through a sieve, having by preference 120 meshes to the linear inch. It is then well covered with a strong solution of cupric chloride and sodic chloride in an iron pot glazed inside. The mixture is concentrated to a pulp by heat. About five parts of cupric chloride are used to one part of sodic chloride. The thick pulp is ground in the arrastra (for so it may be called), which is kept heated by live steam being blown in. This operation continues about two hours, after the pulp is transferred into a leaching wooden vat provided with a wooden stirrer, and is submitted to a distinct process according as the ores under treatment are silver, copper, lead or complex ores. Silver ores treated by this process for the silver only generally occur in nature as sulphide or as chloride of silver, pure or

mixed with native silver or with gangue. When sulphide of silver ores are under treatment, two molecules of cupric chloride, by giving two atoms of its chlorine to the sulphide of silver forming silver chloride, will have been converted into cuprous chloride, the sulphur being liberated. The cuprous chloride and some of the silver chloride are kept in solution by the cupric and sodic chlorides in solution. In the leaching vat the liquid of the pulp is filtered off, and the residue is washed two or three times with a solution of sodic chloride in order to carry off the cuprous chloride left with the residue after the first filtration. Then the washing of the residue is continued with hot acidulated water until no more copper salts remain in solution (which is ascertained by testing with ammonia) and afterwards with plain water to remove all free acid. After the residue has been washed, as stated above, and when entirely cold, he proceeds as in Von Patern's process—that is, treating the residue with a cold dilute solution of sodic hypsulphite in order to entirely dissolve the silver chloride which has been left with the residue. The stirrer should be kept in motion during the whole of the above operations. After all the chloride of sulphur has been dissolved, the hypsulphite solution is filtered off, and the residue is repeatedly washed with cold water until all traces of the sodic hypsulphite (which holds the silver chloride in solution) have been extracted from the residue, which contains sulphur and the gangue or matrix.

The silver chloride held in solution by the sodic hypsulphite solution is transferred into an earthenware or iron pot glazed inside and boiled with pulverized sulphur in the proportion of about seven parts of sulphur to one part of silver, until all the silver of the silver chloride has been precipitated as silver sulphide, leaving in solution the sodic hypsulphite unchanged and ready, after being diluted, to be used again. Mr. Macay ascertains when all the silver chloride has been converted into sulphide by a simple process of testing, which he describes. The sodic hypsulphite is then separated from the silver sulphide by filtration, and the insoluble silver sulphide washed. The silver chloride held in solution by the sodic hypsulphite can also be precipitated by any soluble sulphide, as, for example, sodic sulphide instead of with sulphur, whereby sulphide and sodic chloride are produced. The sodic hypsulphite is filtered off, and he proceeds to wash the residue, composed of silver sulphide, as before stated. When the silver is precipitated from the hypsulphite solution in this way by any soluble sulphide, care must be taken not to put an excess of this last reagent or to neutralize this excess, because if an excess be present the sodic hypsulphite solution will not be fit for use again until it has been freed from any soluble sulphide, which can be readily done by putting more silver chloride into the solution to exhaust the excess of the soluble sulphide. As an alternative process, the residue from the leaching vat, instead of being treated with a cold dilute solution of hypsulphite of sodium, as in Von Patern's process as already mentioned, may be treated, as in Zierengel's process, with strong hot brine, in order to dissolve the silver chloride, from which solution the silver instead of being precipitated in the form of sulphide, may be precipitated in the metallic state by metallic iron, whereby ferrous chloride is at the same time formed.

The final step is the reduction of the silver sulphide to the metallic state, which is thus effected: When sufficient silver sulphide has been collected, it is boiled with cupric chloride and sodic chloride, evaporated and in some cases ground in the arrastra; the silver chloride produced by this reaction, after being freed of all copper salts, is next dissolved in a hot saturated solution of sodic chloride, which is separated from the sulphur by filtration. The sulphur is dried and pulverized to be used again, and the silver chloride in solution is precipitated by metallic iron, whereby metallic silver and ferrous chloride are produced. The metallic silver (cement silver) so formed, is melted into ingots, and the ferrous chloride is kept for producing colcothar and cupric chloride, with cupric oxychloride according to another invention. With regard to the treatment of the filtrate from the leaching vat residue, Mr. Macay explains that the filtrate from the leaching vat and the two following brine washings are collected together and boiled with the metallic copper to decompose the chloride of silver which is held in solution therein and precipitated in the metallic state. When all the silver has been precipitated, the liquid is filtered off, and treated as next hereafter mentioned, and the precipitate is washed first with hot brine and afterwards with very weak acidulated water, to free it from any copper salt, and this precipitated cement silver is then melted into ingots as usual. As to the last mentioned filtrate, the excess of metallic copper remaining after the silver is precipitated is removed from the liquid, which is to be sufficiently diluted with the acidulated water washings that have been used in the leaching vat to precipitate the cuprous chloride, which comes down in the form of a white crystalline powder, leaving in solution cupric chloride (when this salt has been used to excess), and chloride of sodium, which are filtered off from the cuprous chloride, and are ready to be used again for treating fresh ore. The other washings of the leaching vat, which contain very dilute cupric chloride (when this

salt has been used in excess) and chloride of sodium are concentrated by any economical means, and used again for the chlorination process. As regards the cuprous chloride precipitate, he first exposes it to the action of the atmosphere in a very thin layer until it has been converted into a cupric oxychloride by the oxygen of the air. He employs the cupric oxygen so obtained in the production of colcothar, according to his special process, whereby the cupric oxychloride is at the same time converted back into cupric chloride for use again in the treatment of ores. Mr. Macay mentions that silver which is found as a mineral in combination with chloride is almost entirely insoluble in a hypsulphite solution or in brine, but is rendered directly soluble therein when the ore is treated according to the process above described for silver sulphide, which process can, therefore, be equally well employed for chloride of silver ores.

The improved process, as already mentioned, is applicable to the treatment of copper, lead, and complex ores, as well as silver, but these modifications need not at present be referred to. As applied to treating silver ores, the chief novelty of Mr. Macay's process, considered as a whole, consists in treating the raw ore direct without the use of mercury, which is very expensive. It has also been seen that he avoids the necessity of roasting, and that it is a regenerative process—the reagents required in one part of the process being reproduced in another part, and Mr. Macay has now added some further improvements in details, by the use of which the filtration, hitherto very difficult, can be done in three hours, indeed, to such perfection he has brought this branch of his process, that even when the filtrates are in a state of impalpable powder, he can effect the five filtrates in three and one-half hours. The whole process appears to have much to recommend it, and is likely to come largely, if not exclusively, into use, wherever silver ores are worked.

FATAL ACCIDENTS IN MINES.

From the reports of Her Majesty's Inspectors of Mines which have recently been presented to Parliament it would appear that the year 1880 was a fatal one to those who follow the dangerous calling of burrowing under ground for that mineral wealth which withal is so indispensable for our comfort and our existence in this variable climate. The total number of fatal accidents during 1880 was 491, and the total number of deaths occasioned thereby was 1,402. These figures show an increase, compared with the previous year, 1879, of 54 in the number of fatal accidents, and of 365 in the number of lives lost. The total number of persons employed in the mines of the United Kingdom was 537,841. Of these 484,933 were employed under the Coal Mines Regulation Act, and 52,908 under the Metalliferous Mines Regulation Act. During the year 1880 there was one fatal accident for every 599 persons employed, which is exactly the average for the seven years 1874-1880. The number of deaths, however, showed a sensible increase, there being one person killed on an average for every 383 persons employed, whereas the average for the seven years already referred to was one death for every 445 persons employed. The great proportion of fatal accidents in mines occur in the coal mines. Of the 1,402 persons killed in 1880, 1,318 were employed in coal mines, and the proportion of deaths to persons employed was one in 368. For each fatal accident 198,119 tons of mineral were raised, and 222,509 tons for each death by accident. During 1879, for every death by accident, there were 490 persons employed, and for each fatal accident 185,390 tons were raised, and for each death 145,400 tons. It is gratifying to note that the death rate from accidents in mines is decreasing. The average for the ten years 1871 to 1880, was 4 0/25 to every 1,000 persons employed in coal mines, the average for the ten years 1861 to 1870 was 3 3/28, and the average for the last ten years, 1871 to 1880, was 2 3/33. These figures furnish conclusive proof of the efficacy of the more stringent regulations which the Legislature has very wisely imposed on those responsible for the proper regulation of coal mines and for the security and protection of the work people employed in them. Something more, perhaps, has yet to be accomplished, for it is an melancholy reflection to think that there are on an average nearly four lives lost every day throughout the year in the coal mines of the United Kingdom. The year 1880 was an exceptionally fatal one, a heavier death rate from accidents being recorded for that year than for any of the eight years preceding, with the exception of 1878, when the total number of deaths recorded in any one year since the passing of the Coal Mines Regulation Act in 1872 was in 1876, when the total number of persons killed was 933. The following is a comparative statement of the output from the mines under the Coal Mines Regulation Act for the last two years:—

| | 1880. | 1879. |
|------------|-------------|-------------|
| | Tons. | Tons. |
| Coal | 141,987,460 | 133,720,363 |
| Fireclay | 1,828,820 | 1,455,075 |
| Ironstone | 11,984,726 | 9,267,765 |
| Slate, &c. | 891,119 | 765,647 |

The Eagle Head Copper Mine, C.B., is soon to be operated again by a Halifax company.

Returns of the Sherbrooke gold fields for the month of June, 1881.—Labour, 2,444, quartz, 584 tons, gold, 212 oz. 15 dwt.

There has been more shipping in the port of Caledonia, C.B., than has been seen for the last seven years. Work, as a matter of course, is steady.

A company, it is currently reported, is being formed in France, with a capital of \$10,000,000, for the purpose of developing the mining resources of Canada. Efforts are being made in Paris to interest capitalists in the scheme.

Under the management of Mr. Burchill, the Ontario mine, at Big Glace Bay, is shipping a considerable quantity of coal. Quite a number of coal cutters are employed, and it is expected that operations will be conducted more extensively from this out.

The Reserve coal mine, Cape Breton, is running full blast, but still cannot supply the demand. The French slope, which has been unused for years, has been opened up, cleaned out, and leading places double shifted, to make room for more men.

The new Inverness Oil Co. are about to commence boring operations at Middle River, and have also put down a well on the farm of James McLean, East side of Lake Ainslie, a quarter of a mile south of where the Cape Breton Co. are now drilling. Indications at some of the older wells, it is said, are quite encouraging.

Any person visiting the mining districts of this country now, must notice the great contrast these districts present to that of the past five or six years. Everywhere there are evident indications of prosperity. New buildings are going up, and the old ones are being repaired and improved. Notwithstanding the output of coal daily, the demand at many of the mines is greater than the supply, and the miners are kept to work on extra time.—*North Sydney Herald.*

There are more men now employed in the Cape Breton mines than at any period during the last seven years. The numbers of pairs of cutters at Sydney mines is about one hundred and twenty; at Bridgeport, between seventy-five and eighty pairs; at Caledonia mines, thirty-seven pairs, and at Little Glace Bay, thirty pairs. We have not yet learned the numbers at Cow Bay. The output at Bridgeport is about a hundred tons of large coal daily. At the Reserve mine, it is a little over that. The demand for coal is greater than the supply, so that at the Reserve a night shift is employed. The managers of the coal mines regret that more coal was not banked last winter. The general opinion all over the Island is that the revival in the coal trade is due in a great measure to the National Policy.—*Trades Journal.*

Of the British imports of copper for the year 1880, the quantity of ore was 100,420 tons, 22 per cent. of which was from Newfoundland, 16 per cent. from British South Africa, 15 per cent. from Venezuela, and 13 per cent. from Italy. The regulus was 45,035 tons, of which Spain sent 44 per cent. and Chili 33 per cent. Evidently Newfound land possesses from a geological to Swansea some great advantages, but the profitable nature of the ore is of more consequence; as the mining districts are out of the way for any vessels that might take charters with outward freight, the ships seeking ore cargoes must be much in the position of vessels in the lumber trade and must come out in ballast. A vigorous development of the copper ore of the Island of Cape Breton and of the peninsula of Nova Scotia proper would on the contrary give large returns for the same quantity of ore, as we have such facilities for offering charters to ships that have brought freight from the east and seek return cargoes. This fact should not be admitted from the calculations of value of a Nova Scotian copper mine.—*Mining Record.*

England's expenditure in 1880 for beer, spirits and wines is estimated at £127,275.

A Roumanian engineer has invented a new description of torpedo boat, which is capable of manoeuvring under water for twelve hours at a time. It is able to act at depths of from a hundred feet in rivers to seven or eight hundred feet in the sea, and through the agency of screws to rise or sink noiselessly, and either suddenly or gradually by successive stages, and can move or manoeuvre in any direction. The illumination of the vessel is internal, and enables the officers upon her to see for a distance of a hundred and thirty feet under water. Upon the surface of the water the vessel is managed and manœuvred as any ordinary boat.

While all the world now-a-days knows of the torpedo, invented and named by Fulton as a machine to blow up ships, comparatively few know that it takes its name from a fish of marvelous electrical properties, which was anatomized by the famous surgeon John Hunter. The torpedo is found in the Mediterranean, the Bay of Biscay, and the southern English and Irish waters. The ancients employed it as a therapeutic agent. It is believed to use its extraordinary powers to benumb a big enemy or to capture a smaller fish. It loves to lie in sand, in which it will bury itself by flapping its extremities, throwing the sand over its back. Tread on it then and you will be prone in a moment. It is sometimes sold for food in French markets.

MONTREAL PRICES CURRENT.

Table of Montreal prices current, categorized by Groceries, Syrups, Spices, Fish, and Liquors. Includes items like Flour, Sugar, Coffee, and various oils.

Table of Montreal prices current, categorized by Boots and Shoes, Druggs and Chemicals, and Iron and Hardware. Includes items like boots, medicines, and various metal goods.

Table of Montreal prices current, categorized by Leather, Raw Furs, and Weekly Review. Includes items like leather goods, furs, and a general market summary.

IRON AND HARDWARE—The market for iron has now assumed a more decided tone and the advance in price has become marked. We again move up our prices all round, as will be seen by reference to our prices current list.

LEATHER—There is a market for leather for best No. 1 and 2, and 3rd kind would be freely sold. In the descriptions of leather there is a market, and prices are not changed.



NOTICE.

TENDERS will be received by the undersigned until Twelve o'clock (noon) on SATURDAY, the 23rd AUGUST, for the lease of the Union Suspension Bridge...



Notice to Contractors.

SEALED Tenders addressed to the undersigned, and enclosed in a Tender for Public Works, will be received until FIFTEEN O'CLOCK on the 23rd August next...

NOTICE.

Persons who intend tendering for the above Works are hereby notified that the amount of the cheque to be transmitted with their tenders is Three Thousand Dollars...

MISCELLANEOUS.

THE CENSUS.

The following is an unreviewed statement of the second census of the Dominion of Canada, showing the population of each province and each census district, also a comparative statement showing the population now and at the completion of the first census in 1871.

Table with columns: POPULATION, Census of 1871, Census of 1881, Increase of 10 years, Rate of Increase per cent. Includes data for various provinces and districts.

REVISED STATEMENT OF POPULATION BY DISTRICTS.

The districts marked by an asterisk are for trifling parts estimated. Those marked thus (?) are wholly estimated.

Table listing population by district for various provinces including Prince Edward Island, Nova Scotia, New Brunswick, Quebec, and Ontario.

Table listing population for various cities and towns in Ontario, including Toronto, Hamilton, and London.

Table listing population for various cities and towns in the Province of Ontario, including Guelph, Brantford, and Windsor.

THE N. P. AND THE COAL INDUSTRY IN NOVA SCOTIA.

Says the Springhill, N.S., Trades' Journal, which represents the interests of the mines: "There is great activity at all the coal mines in Cape Breton, with but one exception, that being Little Glace Bay. The Little Glace Bay Company, having refrained from making contracts, are not doing a rushing business, but at all the rest of the collieries there is an activity which has not been paralleled for the last seven years. So great is the demand for coal that at some of the mines a night shift is employed, while at all the mines the bosses are doing their utmost to induce the men to work long hours. Notwithstanding these efforts the output is nearly one-third less than what is required to give the vessels anything like a reasonable despatch. There were seven large barks at Port Caledonia last week, all waiting for coal, a sight that has not been witnessed since the August gale of 1870. In fact, the rebound the coal has taken this year is surprising even to those who expected great things of the N.P. In the course of a trip through the Island, we only met one man who was not inclined to give the N.P. the greater part of the credit for the unusual bustle at the mines. Almost all the miners, and the majority of the farmers and traders in Cape Breton are loud in their praise of the protective policy of the present Government. The price obtained for coal is not so remunerative as might be desired, but we are inclined to the opinion that the coal masters are in a great measure to blame that such is the case. We have heard of a case in which one of the managers was about to close a contract at a high figure, when another manager slipped in, and offered to fill the contract at a less price, when the first manager in order to secure the contract, was forced to come lower still."

CANADIAN PACIFIC RAILWAY.

Montreal, 3rd.—The following questions were disposed of at the meeting of the Board of Directors of the Canadian Pacific Railway, just closed in this city:— 1st. The approval of the location to Moose Jaw Creek. 2nd. The continuation of the location of the survey to Fort Colquhoun, and the line itself to be completed next season. 3rd. The location in conformity with the Winnipeg by-law of the Winnipeg and Pembina Mountain Branch, and provision for its immediate construction. 4th. The immediate location and construction of the Assiniboine Branch from a point twenty miles east of Brandon, and northwesterly towards the Little Saskatchewan, Fort Ellis, Riding Mountain, and Touchwood Hills. 5th. Immediate location and construction of the Saskatchewan Branch from a point near the Great Forks of the Qu'Appelle, extending in a north-westerly direction. 6th. Immediate location and survey of the Souris Branch, extending from Brandon south-westerly towards the Souris and Turtle Mountain district to within twenty-four miles of the international boundary, and then westward parallel to such boundary to the 104th parallel of longitude. 7th. The granting of leases for elevators and warehouses at nominal rents. The subject of the most effectual means of confining the sales of agricultural lands, as far as possible, to actual settlers was considered, but was not finally disposed of. The construction of freight and passenger stations, offices, work-houses and stock and cattle yards

The following is a comparative statement, according to the figures in the census of 1871 and that just completed, of the populations of most of the towns and new cities in the Provinces of Ontario and Quebec. In the cases of the towns it has not always been possible to find the comparative figures, as many of them were not incorporated in 1871 and were not separate census districts. This is also the case in regard to the city of Hull, but it will be seen that that city now contains three-fourths of the then population of the whole township:—

Table comparing population of various towns and cities in Ontario and Quebec in 1871 and 1881.

within the city of Winnipeg as soon as the city by-law shall have finally passed, was decided upon.

FAIR vs. FREE TRADE.

New York, Aug 2.—The Herald's cable says: "I have received advanced notice of the programme of the National Fair Trade League which will shortly commence an active campaign against Free Trade in England. The League describes itself as formed 'to promote trade with the colonies and dependencies, on a principle of reasonably free interchange, and to agitate for such fiscal readjustment as shall prevent the products of foreign states which refuse to deal with Great Britain on a basis of fair trade from undue competition with the products of home labour.' The first private conference of the League was held at the Westminster Palace Hotel in May last, and was attended by influential representatives from various districts of Great Britain and the colonies, including merchants, bankers, shipowners, members of Parliament, and manufacturers of iron, steel, cotton, silk, worsted and woollens, of all shades of political opinion. After numerous meetings the executive committee have formulated the policy which is to be carried out. Its marked features are the following:— First.—That there be no renewal of treaties unless they be terminable at a year's notice, so that no entanglements of this kind may stand in the way of adopting such a fiscal policy as the interests of the empire and the action of foreign nations may render needful. Second.—That the imports of raw material for home industries shall be free from every quarter in order that Great Britain may compete in the sale of her manufactures. Thirdly.—That adequate import duties be levied on the manufactures of foreign states refusing to receive British manufactures in fair exchange, and that the same be removed in case any nation agrees to take British manufactures in fair exchange, and that the same be removed in case any nation agrees to take British manufactures in fair exchange. Fourth.—That a very moderate duty be levied on all articles of food from foreign countries, the same being admitted free from the colonies and dependencies which are prepared to take British manufactures in reasonably free interchange. The fourth paragraph is supplemented by a number of sub-paragraphs, further explaining the objects to be attained by the league, and principally aimed against America, as may be judged from the following extracts setting forth what the objects of the league are:— First.—To develop the resources of the British Empire, and to determine the flow of British capital, skill and industry henceforth into our own dominions instead of into foreign protective states where it becomes a force commercially opposed to us. Second.—To transfer the great food growing industries which we employ from protective foreign nations who refuse to give us their custom in return to our own colonies and dependencies where our goods will be taken, if not duty free, yet subject only to revenue duties, which are almost unavoidable in newly settled countries, and probably not equal to one-third of the protective duties levied by the United States, Spain and Russia. Third.—This meantime would do equal justice to the classes interested in agriculture, who are entitled to the same treatment as those who are connected with manufactures, and who are now subjected to the unfair competition of produce raised upon virgin and untaxed lands by a wasteful system of agriculture, which restores nothing to the soil and is thus equivalent to a bounty. The issue of this important document may be regarded as the opening of the protective campaign in England. Already the movement receives encouragement from the leaders of the Conservative party, and there is good reason to believe that at the next general election an effort will be made to rally the working classes to the Conservative standard on the cry of 'protection for English agricultural and manufacturing industries.'

CHURCH FAIRS AND NEWS-PAPERS.

He was a manager of a church fair, and one morning he walked into the newspaper office and said: "Want an item this morning?" "Of course," said the editor. Whereupon the visitor laid the following note upon the table: "The ladies of the street church will give a festival at their vestry hall next Friday evening. Literary and musical entertainments will be provided, and a supper will be served to all who desire it. The ladies in charge of the affair have had much experience in such matters, and are sure to provide a good time. The admission will be only fifteen cents, and it is certain that no one can spend that amount to better advantage. Be sure to go and take your friends."

When the editor had read it he said: "Oh, I see, an advertisement." "No; not an advertisement. We prefer to have it go in the local column," replied the manager. And, seeing that the editor looked sceptical, he continued: "It will interest a great many of your readers, and help a good cause; besides,

we have spent so much money getting up our entertainment that we can't afford to advertise it without increasing the price of the tickets. In such a matter as this we ought to be willing to help each other."

"Well," said the editor, "it goes into the local, I suppose you would reciprocate by reading a little notice in your church next Sunday."

The visiting brother asked what notice, and the editor wrote and headed him the following:—

"The Weekly Chronicle for the coming year will be the best and cheapest family paper in Maine. Its proprietor has had much experience, and has all the help which a large outlay of money can procure. His paper has a larger circulation than any other published in the country, and is to be furnished at only \$2. It is certain that no person can spend that amount of money to a better advantage. Be sure to take the Chronicle and subscribe for your friends."

The manager hesitated and hesitated, and then said solemnly that he doubted whether it would be judicious to read such a notice, but suggested that if it was printed copies of it might be distributed at the door of the vestry on the evening of the entertainment.

"Yes," said the editor, "but it would attract more attention in the middle of the sermon. It will interest a number of your congregation and help a good cause; and besides, so much money is spent upon the Chronicle that I don't see how the owner can afford to print handbills without increasing the subscription price. In such a matter as this we ought to be willing to help each other." The gentleman saw the situation.

An epidemic disease of a peculiarly deadly nature, which carries off cattle and horses by the thousand, and claims its human victims yearly among the population of the capital, has made its appearance in more than one district of the provinces of St. Petersburg and Novgorod, and is spreading with alarming rapidity. Horses, which after land, are the most valued property of the peasants, are dying by the score, and many cases of illness have occurred among the population of the infected villages. The local authorities are helpless, owing partly to the want of efficient doctors and veterinary surgeons, and partly to the fatalistic tendencies of the peasants, who, trusting all to Providence, refuse prevention, and sell in the neighbouring villages the skins of the beasts that have died of the disease.

In the St. Louis Post Office is employed a man with a phenomenal memory. He was taken on to the mailing division about eighteen months ago and given the lowest position. He has several times been promoted on account of his good record, and at his last examination gave evidence of his close application and phenomenal memory. It is customary for the examiner to name the post offices in a certain amount of territory, and require the examiner to give the location. In this case the employee was examined on the post offices of Missouri, of which there are 1,790. He did not need to be questioned, but without prompting named every post office in the State and the county in which it is situated, and without missing or mistaking a post office or a county, and did this in thirty minutes.

Prof. Barrett tells in Nature the story of a family in Derbyshire, every member of which is able to read thoughts committed to paper without seeing the paper, or touching or even seeing the writer. A scientific committee is about to investigate the facts, or alleged facts, for which he answers. The family is that of a Nonconformist minister, the Rev. Mr. Croery of Buxton. He answers for it that there is neither deception nor conjuring; the children do get "intuitions" which enable them—how they do not know—to guess what other people are thinking about. Meanwhile the *secus* who have hitherto investigated what is called mind-reading declare it to be simply muscle-reading. Few people can so control their muscles as to hide the facts which an intelligent "reader" wishes to discover. It is interesting to remember in this connection that the most impressive of modern statesmen, whose face was a mask, could not prevent himself from revealing emotion in the twitchings of his hands.

It seems clear that the Fenian agitators must elect what line they will take. They cannot at once take credit for the destruction of the *Illustrated*, as a result of their judicious management of the "skiffing" feud, and disavow any knowledge of the shipment of infernal machines from this country. They either are, or are not, pirates, and as such enemies not only of England, but of the human race. As no war has been declared by any country against England, and as Ireland has not formally rebelled against England, any acts attacking or threatening the lives or property of Englishmen as such are of course acts of private war, the legal definition of which, if the acts of war are committed on the high seas, is piracy. If any Irish agitators are proved to have shipped the infernal machines alleged to have been received in Liverpool, they will assuredly be punished to the extent of the law, which at present is very inadequate; and it would be entirely safe to leave their cases to a jury composed of twelve American citizens of Irish birth.—Y. J. Weid.

THE METAL TRADE.

THE BRITISH MARKETS.

(Cor. of American Manufacturer) Our preceding prices of which in respect of Staffordshire I communicated information last week showing an average drop of 3s. 5d per ton in bar iron, are further indicated in the returns made known on Thursday touching the quarter's average prices of Cleveland pig iron. These set out that the average selling price of No. 3 for the quarter ending June 31 was 3s. 2d, a decline of 2s. per ton on the preceding quarter. This reduction carries a drop of 2 1/2 per cent in the wages of the blast furnace operatives, and of one farthing (half a cent.) per ton in wages of the ironstone miners. Compared with a year ago the price just ascertained is a drop of 4s. 5d. The miners having fallen upon a period of successive reductions are pushing the usual course—they are threatening to strike, and have given the required six months' notice for the termination of the sliding scale agreement at the close of the year. Yet these reductions in price have not enabled our iron masters to keep up the scale which prevailed when rates were lower. The Board of Trade Returns for June and the six months of this year respectively, available for yesterday, show a reduction in the exportation of iron and steel in the first half of this year compared with the first six months of last year to the extent of 17.47 per cent. Nearly 12,000 fewer tons of pig iron were sent from our stores in June than in the corresponding month a year ago—our total exportation of that commodity having reached last month only 140,337 tons; but it is significant of the improvement still maintained upon the depression of two years ago that last month we sent away 70,000 tons more than in June, 1879, or slightly over twice the aggregate exported at the earlier date. We are selling more bar iron now than either a year or two years ago, since one month's exportation has reached 25,973 tons, against 19,969 tons in 1880, and 15,898 tons in 1879. Our shipments of railroad permanent way material, though a diminution upon the year, are yet a very large increase upon the two years, the figures standing at June, this year, 92,548 tons; June, 1880, 100,332 tons, and June, 1879, 49,992 tons. And such is the enterprise in railroad building shown in the leading British colonies that an early falling off in the business in rails that we are now doing is not anticipated.

The treaty of commerce with France is at present further off than ever. Both sides of the Commission have gone to their respective governments, leaving a wider breach between them than existed before the negotiations were begun. To-day the temper of the British trading lion is more ugly than before. In the French Chamber on Wednesday night the bill for extending the treaties of commerce for three months was passed to allow more time for negotiations, and M. Tirard, the Minister of Commerce, said he hoped that England would accept the principle of specific duties, which the French government was not open to compromise. A more injudicious utterance at this stage of the negotiations no Minister who does not want to knock over the whole thing would have made. If M. Tirard thinks that this style will prevail with the Englishmen of the present generation he is greatly mistaken. The old contempt for a little Frenchman's petty vapouring is reappearing, and a little more of it would provoke John to metaphorically lift the toe of his top boot and kick him, his wines and his treaty into the channel. Directly a man talks of "no compromise" on any point of debate with John he has begun a game at which he will quickly find that two can play. Earl Granville's remark on Thursday night, in the House of Lords, was England's official reply through her Secretary of State for Foreign Affairs to the bluster of the French Minister of Commerce the night before. "If (said he) our commercial relations by treaty are to be put on a worse footing than now, it would be infinitely better to have no treaty at all." If the French commissioners return with no more pliable instructions than these with which they first came, it would be better they should stay at home; for John will find it hard to be civil with them, and shopkeepers who have French goods in stock will have to flee vigorously if they are to get them off—for in every district it will be deemed only a mark of self respect to "Boycott" commodities of French manufacture. But M. Tirard has a trump card to play. What it is is yet to appear. By-and-bye it will transpire that the emphasis of his unwise utterances should be looked for in the words "on this point," meaning that there exists a point upon which France, having tried it on with her neighbour and finding it would not do, intends to compromise. The Premier of England, speaking on Thursday night in the House of Commons at about the time the Foreign Secretary was speaking in the House of Peers, said that "at present the projects that were being discussed were regarded as confidential at the request of the French commissioners." No French Ministry, as I have remarked in a previous letter, can afford to leave office without being able to announce that there is a fair prospect of their closing a treaty with England, with whom Frenchmen are doing a growing trade, while the trade of England with France is declining. Spain and Italy, neither of whom is on good terms with France just now, would find it comparatively

easy to negotiate a good trade with England if France should continue to pose in the "no compromise" attitude. In the event of a rupture only very favourable negotiations between France and the United States, calculated to give the United States such advantages you can take from amongst those we now enjoy are tactics which will prevail upon John to feel for his patriotism through his breeches pocket. The chief feature of the week in Scotland has been the receipt of a communication from the pig iron makers of the North of England formally suggesting that the output should be curtailed at least ten per cent. The determination to send this memorial was arrived at at a meeting of nearly all the pig makers in the North of England, held on Tuesday, who proposed to reduce their own output to a similar extent. This pending the reply from Scotland they postponed definite action. This movement has had the effect for the moment of slightly strengthening prices, and yesterday in Glasgow a fair business was done, and the market closed at 47s as sellers' cash price. One month price, 47s 4d to 47s 1 1/2d. The Continental demands falling off, and the United States are only taking small quantities of pig iron necessary for ballasting large emigrant ships now trading. The shipments during the first half of this year have been less than a year ago by about 108,000 tons, while it is calculated that the total increase in stocks may be about 150,000 tons. Manufactured iron is firmer. In some instances makers are declining to accept orders except at an advance of 2s 6d per ton for plates and angle bars. In the Cleveland district the subject that has engaged most attention this week, as in Scotland, has been the proposed reduction in output. The heavy increase in stocks, which I showed last week, notwithstanding shipments of pigs during June amounted to 91,577 tons—which was nearly 16,000 tons more than in May, and 9,400 tons more than a year ago—has been the final event which has determined pigmakers upon their present course. Notwithstanding that last year's make was the largest ever known, the production during the first half of this year has exceeded that of the first half of 1880 by 161,322, the total make having been 1,360,000 tons. Yet the exports from Middlesbrough during the six months already past were 434,000 tons or 53,000 tons less than in the corresponding period of 1880. The stocks at the end of the half year just closed were 421,326 tons, whereas at the same period of 1880 they stood only at 253,743 tons. In South Staffordshire traders are waiting for the quarterly meetings which come off in this town next Wednesday and in Birmingham on the following day. At those meetings a change is likely to be made in the prices of either the crucial descriptions of manufactured iron or pig iron. The marked bars are likely to be redeclared at £7 to £7 12s. 6d., and all mine pigs from £3 for hot blast sorts. But certain unmarked finished iron, and especially sheets, which are now the principal product of South Staffordshire, may be expected to rule somewhat higher than at last quarter day. Most of the sheet makers have already filled their order books up to September next, and for any other orders they firmly demand an advance of from 2s. 6d to 5s. At the gatherings of the trade this week it was not possible to get from the sheet makers any quotation for singles below £7 10s. Doubles were £8 6s to £8 10s, and latens £9 10s. to £10. Hoop and strip makers reported themselves active. Ordinary merchant hoops were quoted at £6 5s to £6 10s, at the works, and gas tube strip at £5 15s. to £5 17s 6d. Unmarked bars vary from £6 10s. to £6 5s., and common bars from £6 to £5 15s.

marked improvement in demand, that old lots that sold below the market are now cleared off, and that there is now no trouble to obtain full market figures. Indeed, in one office we were informed that for a certain kind of iron they had got 80c per ton more than they did last week. Nevertheless, but little, if any, improvement is expected in prices. They are now about as high as they can go without encountering English competition. The iron that is being bought is not on speculation, nor for stocking, but for early consumption. It is to be delivered in August, September, and October—mostly in the first two months—and is to cover orders on the books of the mills. Consumers express an unwillingness to anticipate their wants, saying they prefer to trust the future. Since in England stocks are increasing and prices declining, they feel warranted in pursuing this course. On the whole, the present condition and prospect of the pig iron trade are much better than they have been for many weeks. Neutral gray forge from native ores is quoted at \$21 50, 4 months, and do from Lake Superior ores \$22.50. No. 1 foundry is quotable at \$25, 4 mos., and No. 2 at \$23.50. Manufactured iron—There is a wonderful demand for manufactured iron, and some of the mills are obliged to reject orders. They are unwilling to accept them for delivery very far ahead at current prices, and are too busy to fill them for early delivery. The prices of last week are fully maintained, and are perhaps a little stiffer on kinds for which demand is largest. The request is active for all kinds, but more particularly for plate sheet and tank bars may be quoted at 23 1/2 to 24 for well assorted orders; No. 24 sheet, 4c; tank 3 1/2 to 3 5/8, C. I. No. 1 plate 4 1/2 c homogeneous steel do. 4 1/2; hoops 2 1/2 to 4 1/2 c, as to size—all 60 days, or 9 per cent off for cash. Rails—A meeting of the Association was held on Wednesday. The attendance was pretty good. A comparison of notes elicited the fact that stocks were rather light and the demand fairly good. The \$27.75 rate was reaffirmed. Wrought Pipe and Tubes—There has been no quotable change in prices since last week. The works continue extremely busy. Discount on gas and steam pipe, 65 to 67 1/2 per cent, and on boiler tubes 45 per cent. Oil well casing is still 75 cents net, and tubing 21, net. Steel Rails—There has been quite a change in the market within a week. A largely increased demand has set in, and prices are very firm and advancing. For prompt delivery they are quoted from \$60 upwards. For delivery next year \$58 is still quoted. Railway Supplies—Spikes 2 1/2 per pound; spikes bars, 2 1/2; track bolts, 3 1/2—all thirty days. Steel—There is still plenty of business at the steel works, and consequently their usual mid-summer stop for repairs and stocktaking was made as brief as possible. Prices are unchanged, which we quote as heretofore. Best quality refined cast steel, 11 to 12 cents per pound, as to quantity purchased; crucible machinery steel, about 7 cents, and Bessemer and open hearth do at 5 1/2 to 6 cents; Bessemer open-hearth spring 4 1/2 to 4 3/4 cents, and do. plough 4 1/2 to 4 3/4 cents. Old Rails—There has been some advance in these, but we are not advised of any transactions here. Scrap Iron—Consumers' paying prices are as follows: No. 1 wrought \$26 1/2 to \$27 per net ton, and railway machinery scrap \$27 1/2 to \$28.50. Old car-wheels \$25 1/2 to \$27 per gross ton. The price of old wheels is generally regulated by the price of Bessemer pig iron, which is now largely used for the same purpose that wheels are.

THE LONDON MARKET.

The following were the closing prices in the London metal market July 8, 1881.—

Table with columns for metal types (IRON, STEEL, COPPER, LEAD, ZINC, BRASS) and prices in £ s. d. and ¢.

UNITED STATES MARKETS.

Pittsburg. Pig Iron—Commission merchants make a much more cheerful report this week. They say that during the past week or ten days there has been a

Philadelphia. A careful review of the situation in hour of writing develops the following: There has been a marked general improvement in the entire market. Prices have hardened and demand has developed to unusual proportions. Interest is centering on pig iron. A large number of transactions took place, involving in the aggregate an amount far in excess of any week for over two months. The better brands are pretty well sold ahead, and within a week the leading buyers have ordered full stocks at prices which are understood to be about those ruling last month. The activity, it is believed, will continue until quotations are advanced as much as they can be under foreign competition. Makers are already expressing an unwillingness to allow the full requirements of consumers to be placed at the present low prices in view of the increasing demand and the improving tendency of bar and other finished iron. There has been an accumulation of stocks, and this fact has helped to keep prices down. These stocks are disappearing, at least by constructive entries, and leading furnacemen said yesterday that prices would certainly improve for the current make. The fear of a little surplus exercises a depressing influence on the market. Everybody prefers to work on contracts and thus be sure of marketing the production. A few lots of mill iron sold at \$22 this week, but \$20 50 is the general price. Mill owners are covering requirements for safe limits and makers are meeting wants for 30 days rather than selling, as they have been all along willing to do, for three or four months. Under these favourable surroundings a buoyant feeling exists, and makers and brokers are looking forward to heavier business at from 50c to \$1 better prices. The importation of iron is less feared now than a few weeks ago, because of the favourable indications from the other side, which, while not very promising of

immediate results, afford hopes that a better outcome is probable. No. 1 foundry has been sold quite freely at \$24, though some brands bring \$25, and on the other hand sales have been made at \$21 50. XX iron has been active at \$21 50 to \$22, but the preference is for mill iron at about \$20 50. Negotiations have been renewed for English iron of the better grades, but so far no business has been closed. Bessemer pig is quite firm at \$24, but so far could be learned the bids were limited to \$23. Buyers are fairly supplied by purchases of large lots made two months ago at \$22 to \$23, hence the dullness now. The holders of English have been trying to sell, but are too stiff in their views. It is not probable that business will be done at present prices. The cast pipe men are supplied, and there are still considerable bonded stocks here. A large lot of steel ingots, said to be 5,000 tons, were ordered this week at 26 1/2 at tide. Manufactured Iron—Unusual activity prevails in all departments, and the mills everywhere in Eastern Pennsylvania are oversold. Last week's action of the merchants' association was a surprise to buyers, yet it was result which might have been foreseen. In fact iron was selling at stores at 2 1/2 before the advance was formally made on Wednesday. It had been in contemplation for two weeks, and other markets were closely watched. Mill price is still 2 1/2, but even this is an advance which, though small, is very acceptable to the manufacturers who have been fighting their way for a year between \$20 pig and 2 1/2 bar. The advance will smooth the way for a while, and may perhaps lead to even better prices. A further advance has been urged, and should the promised foreign activity continue, it may be made. The rush of business justifies it. The mills are overcrowded, and buyers are trying to cover future requirements, but cannot on account of orders that are ahead. The mills are supplied for not less than three months, and every day adds to these undertakings. Steel Rails—The activity mentioned in steel rails is increasing, and construction companies are closing up contracts for winter and spring delivery. Mills represented here are overcrowded and are engaging their next year's production as quickly as they care to, at the reduction made a few weeks ago. Bonded rails are still held, but the supply is small, and orders for shipment cannot be placed to much advantage, except for south-western delivery. Sales have been made of about thirty thousand tons within a few days at prices varying from \$60 to \$65. Buyers are closing up contracts for all they want this year, and are buying abroad largely. Iron Rails—Several orders for iron rails were placed this week, but the total amount could not be learned. Prices have an upward tendency. Sales reported were made at \$46.50. There is a good deal of inquiry and business done in light sections. Old Rails—There were a few small lots sold at \$26 this week, one lot of 500 tons, tee, foreign, were placed to-day at that figure. Prices point downward. Buyers are not in the market except for bargains. Scrap—Although there is plenty of scrap in the market, prices are quite firm and mill owners are buying freely. Prices remain steady, especially for good lots. Steel—The mills are sold far ahead. Orders have dropped off during the past two weeks, but notwithstanding this, prices were advanced for grades in most general use. Manufacturers look forward to a very active fall trade.

New York.

Pig Iron, American—There has been no decided change in the general appearance of the market during the past week. Buyers are evidently beginning to realize that the situation has improved materially at late, however, while those commission houses which have shown very "bearish" proclivities are changing their tune somewhat, and even acknowledge that the late improvement promises to be maintained until the closing of navigation at least. That point has not been reached where consumers show anxiety to lay in very extensive supplies, but it is evident that the buying is more liberal than for some time past, and, furthermore, that scarcely any stock is in the hands of parties who are likely to be forced to sell. Certain prominent members of the trade, who have the best facilities for deriving information on the subject, claim that the consumption the present year will be even greater than that of last year. This fact, coupled with the reduced production, is made the basis for anticipating a good trade during the remainder of the year, at remunerative prices, providing, of course, that the markets abroad do not undergo a change that might result in foreign iron being shipped in large quantities at prices below those now current. One firm claims to be able to secure No. 1 X Heading and No. 1 X English in almost any quantity at \$23, but adds from this there is no one rating under \$23.50, except for very inferior brands, while the majority of holders are reported as refusing less than \$24 to \$25 for first class iron. For No. 2 foundry iron \$22 to \$23.50 are the general prices, though as low as \$21.50 is occasionally heard of. Some brands of gray forge have been sold at \$21, but about \$20 is the more general price, and, as well, the lowest quoted, except on a few lots of inferior brand. There have been sales of 200 tons each of No. 1 X Thomas and Cran at \$25; 3,000 tons No. 1 X, various brands in lots, at \$23.50

to \$24.50, and 1,000 tons of No. 1 X, and gray forge, on private terms. Scotch—The buying application has been quite liberal, and a quantity of it to arrive have met with most anxious selling to their relative cheapness compared with the prices demanded in the market. The weeks sales were fully 1,500 tons, mostly in the first class of iron, and at the time of the market looks quite firm. The prices generally quoted are about \$22 for English, \$22 to \$23 for Scotch, \$22.50 for Birmingham, \$22 to \$23 for Northumberland, and \$23.50 to \$24 for English. For the ordinary grades of Middlebrough prices remain about the same, while the demand is felt, though mainly for small quantities. No. 3 gray brings \$18.50 to \$19, and No. 4 \$17.50 to \$18, when wanted. About 1,000 tons are represented in the sales report. Bessemer has undergone no change in importance. Good brands are still quoted at \$24.50 to \$24, with the demand fair, but no extensive transactions noted. Steel Rails—It is stated on very good authority that fully 5,000 tons of American have been sold the past week at \$25 to \$57 at tidewater, for next year's delivery. The mills have now a good supply of orders in hand, and for the time being are not quoting prices except where there is a probability of business. About 5,000 tons of foreign have been sold at \$61 ex-store. Lots for future delivery are quoted at \$61, while \$56 is now looked upon as the lowest possible price. Iron Rails—No extensive transactions come to notice, though a good deal of business is said to be under way. Heavy section American, it is now affirmed, cannot be secured at less than \$47 to \$48 at mill, while foreign are quoted up to \$45 to \$46, laid down here, with holders very firm. Old Rails—Holders seem to be insisting upon prices above what consumers are able to pay in face of the low price current for new rails, and business is consequently restricted to moderate lots that may be needed for immediate use. The prices to-day were about \$24 to \$25 and \$27.50 for double heads. Scrap Iron—Prime lots of wrought are not very abundant, and dealers name \$25 to \$29 as lowest prices for the same. There is a fair article that may be had at \$26 to \$27, while down to \$23 is quoted for inferior. The demand is fair and sales reaching 1,000 tons have been reported during the week at \$25 to \$26.50 for vessel and store.

THE COPPER MONOPOLY.

The completion of a large transaction in Lake Superior copper, whereby the product of the mines for nearly six months has been sold to consumers at a fixed price, is an opportune time for again calling attention to the position of the country with respect to this metal, with the object of showing in what direction our interests as a large producer are to be found for the future. Within the past year a great deal has been said on the subject of "monopolies," and the question as relating more particularly to railways and transportation has received full discussion. In all its bearings upon the development of the almost unlimited resources of our soil and industries; but among the many instances of this tendency to concentrate and control none has become more offensive in the assertion of its power than the Lake Superior copper monopoly. As a producer of copper, Chili and Spain have up to the present held the most important places as sources of the world's supply, but the development of the mineral resources of our Western territories give promise that in the near future this country will enter the list to compete for this important trade and to be in a position to furnish from its ample deposits of it, a cheap and desirable quality. The mining of copper in the Lake Superior region was practically commenced about the year 1850, although some of the mines had been previously worked, and in this year the annual production of all the mines did not exceed 2,000 tons. This has been gradually increased until last year over 25,000 tons were taken out of the mines in that locality. At the beginning of production did not equal the demand for consumption, but with the assistance of a prohibitive tariff upon foreign imports the mines, from being financially weak and comparatively feeble, have grown to wealth and importance, and we find that during the first six months of the current year the Calumet and Hecla, the richest and most powerful of the group, has distributed to its shareholders \$1,000,000 in dividends or over \$18,000,000 since it was organized in 1867. Within recent years this company, which may be taken as representing all the mines in the Lake Superior locality, for it is a veritable "trust," has virtually controlled the copper trade of the country, and by its grasping and dictatorial and domineering assumption of power, has done much to retard the development of the rich deposits of copper ore in other localities, but more especially at the extreme west and on the Pacific slope. Acting upon its policy of ownership of the copper trade, it has either directly or through its agents, has been accustomed for a number of years to assemble at stated periods the prominent manufacturers in a sort of pool or combination, to whom it has dictated the price at which they would be supplied with the raw material during the ensuing three or four months as the case might be. The mining companies

POSTAL TIME TABLE.



POST OFFICE, OTTAWA.

ARRIVAL AND DEPARTURE OF MAILS

Table with columns: Mails, Delivered, and times for various routes like Eastern - Montreal, Quebec, etc.

Registered matter must be posted half an hour previously. Office hours from 9 a.m. to 4 p.m.

therefore, projects below the water line, and this peculiarity of his design enables him to have large engine room, to get great capacity with shallow draught, and to give his vessel favourable lines.

Naval architects are not apt to look with favour on any marked departure from the ordinary principles of ship construction, and therefore Capt. Lundborg's proposed vessel is likely to find adverse critics among them.

SHORTENING THE VOYAGE ACROSS THE ATLANTIC.

The principal steamship lines are from year to year adding to their fleet vessels of greater tonnage and higher engine power, in order to shorten the time of the voyage across the Atlantic.

The City of Rome, for the Inman line, for instance, was launched last month, and is the largest ship in the world, with the exception of the Great Eastern.

Now, however, designs have been made by a Swedish naval architect for a new kind of Atlantic passenger steamer, which shall attain a speed of from twenty to twenty-one knots an hour, and make the voyage across the Atlantic in six days.

The ship proposed by Capt. Lundborg, the Swedish engineer, is to be 500 feet long by 74 feet broad, and to be propelled by four compound engines, capable of developing together 22,800 indicated horse power.

POSTAL TIME-TABLES.

POST OFFICE, MONTREAL.

Montreal, July 5, 1890.

DELIVERY MAILS.

Table with columns: MAIL, CLOSING, and times for routes like Ontario & West, Quebec Eastern Provinces, etc.

LOCAL MAILS.

Table with columns: MAIL, CLOSING, and times for local routes like Beauharnois, L'Assommoir, etc.

UNITED STATES.

Table with columns: MAIL, CLOSING, and times for routes to Boston, New York, etc.

GREAT BRITAIN, ETC.

Table with columns: MAIL, CLOSING, and times for routes to Canada, Germany, etc.

WEST INDIES.

Table with columns: MAIL, CLOSING, and times for routes to New York, Havana, etc.

There was intimidation everywhere and even fraud in Sophia. Soldiers and officials were dressed as peasants to the suburbs and sent to vote; that I saw myself.

There was intimidation everywhere and even fraud in Sophia. Soldiers and officials were dressed as peasants to the suburbs and sent to vote; that I saw myself. And I saw even greater wonders, namely, about nine hundred voters, certainly not more, going to the poll, and afterwards four thousand eight hundred votes were found to have been recorded.

RAILWAY TIME-TABLES.



Canada Central Railway.

CHANGE OF TIME.

On and after MONDAY, 24th JUNE, 1890, trains will run as follows: Western Express Train, making direct connection with Grand Trunk Highway for Toronto and all points West, arriving in Toronto at 11 p.m.



ST. LAWRENCE & OTTAWA RAILWAY.

CHANGE OF TIME.

On and after THURSDAY, 10th JUNE, 1890, trains will run as follows: For the East, West, South and North-East, 11:15 a.m.

Q. M. O. & O. RAILWAY.

CHANGE OF TIME.

Table with columns: Mail, Express, and times for routes like Montreal, Quebec, etc.

[Local trains between Hull and Aylmer.] Trains leave Hull End Station seven minutes later.

GENERAL OFFICE, 13 Place d'Armes Square, TICKEY OFFICE, 15 Place d'Armes and 25 St. James St., Montreal, and opposite the St. Louis Hotel, Quebec.

INTERCOLONIAL RAILWAY.

SUMMER ARRANGEMENTS, commencing 1st JUNE, 1890.

Table with columns: Mail, Express, and times for routes like Montreal, Quebec, etc.

DOMINION TRADE REGISTER

INDUSTRIAL DIRECTORY.

AGRICULTURAL IMPLEMENTS
A. S. WHITING MANUFACTURING CO.
WILLIAM VALE MANUFACTURING CO.
ANILINE DYES
EMIL THIBREY & CO.
BRASS WORKS
H. N. FABBA & CO.
BRIDGE BUILDERS
T. J. BRIDGE CO.
CAPS AND FURS
J. JOHNSTON.
CARPETS
PETLEY & CO.
COTTON BROKERS
M. WRIGHT.
COTTON MILLS
DUNDAS COTTON MILLS CO.
HAMILTON COTTON MILLS CO.
JOHN MACKAY.
EDGE TOOLS
R. T. WILSON.
ENGINES AND BOILERS
U. C. MORRISON.
THOS. WILSON.
ENGINEERS AND MACHINISTS
JOHN FENSON.
ENGRAVERS, ETC.
JOHN FLEMING & SON.
FILES
THOS. GRAHAM.
FREDERICK HAUSCH.
FILE & SPRING CO.
G. OITRAM & SON.
FURNITURE
OSHAWA CABINET CO.
AMERICAN BRACKET CO.
TESS & CO.
JAMES WRIGHT & CO.
GLASSWARE
HAMILTON GLASS CO.
GLOVE MANUFACTURERS
W. H. STORBY & SON.
HAMMERS
HENRY H. WARRIN.
HUBS, SPOKES AND BENT GOODS
F. W. HORN & SON.
INKS
F. P. DALLEY & CO.
IRON WORKS
CANADA SCREW CO.
COWAN & CO.
DOMINION BOLT CO.
H. R. IVEY & CO.
HAMILTON BRIDGE & TOOL CO.
McKECHNIE & BERTRAM.
THE OSHAWA MALLEABLE IRON CO.
OLMSTED & SON.
KNIFE WORKS
THE WHITMAN & BARNES MANUFACTURING CO.
KNITTING MILLS
S. LENNARD & SONS.
LASTS, DIES, ETC.
CHAS. CHILDS.
LEATHER BELTING
DOMINION BELT AND HOSE CO.
ROBIN & SAILER.
ORGANS AND PIANOS
WM. BELL & CO.
DOLTON & SMITH.
DANIEL BELL & CO.
DOMINION ORGAN AND PIANO CO.
S. R. WARREN & SON.

ORGANS AND PIANOS

WM. BELL & SON, 10 Adelaide St. East, Toronto.
HEINTZMAN & CO. 117 King St. West, Toronto.
WOOD POWER & CO. 100 Queen St. West, Toronto.
PAPER MANUFACTURERS
CANADA PAPER CO. (Limited) 61, 63 & 65 St. Paul St.
DOMINION PAPER CO. 87 St. Peter St.
JOHN FISHER & SONS, Dundas.
LINCOLN PAPER MILLS CO.
WM. BARBER & BROS.
SAW MANUFACTURERS
R. H. SMITH & CO.
SIURLY & DITTRICH.
SEWING MACHINES, ETC.
W. WILKIE.
SCALES
CANADA SCALE WORKS.
C. WILSON & SON.
HOWE SCALE CO.
SPICES, ETC.
R. D. VAN DE KARR & SON.
STEREOTYPES, ENGRAVERS, ETC.
P. DYER & CO.
STOVES
WM. CLENDENNING.
TELEPHONES
HOLT TELEPHONE CO.
TRIERS
BUTTER & CHEESE TRIERS.
WIRE WORKS
B. GREENING & CO.
MAJOR & GIBB.
TIMOTHY GREENING & SONS.
WOODEN GOODS
C. T. BRANDON & CO.
J. R. McCLAREN, Jr.
WOOLLEN MANUFACTURERS
J. ROUTH & CO.

PETROLIA WEEKLY OIL REPORT

Petrolia (Ont.) ... \$0.17 per gal.
London ... 0.18
Toronto ... 0.19
Ottawa ... 0.21
Montreal (P. Q.) ... 0.21
Quebec ... 0.22
Hull, etc. ... 0.22
St. Johns ... 0.22
The above are wholesale prices per Imperial gallon at which refined oil is sold by the car load, the price per single barrel is generally from 1c to 2c above these figures.
The latest refined oil quotations in New York market are as follows:—
Cargo lots for export 110° burning test by the Saybold tester, 9 1/2c
Refined oil for the New York City trade, in lots of 50 to 100 barrels, 100° flash test by the Tagliabue pyrometer, 9 1/2c
Refined oil of 150° burning test, 10 1/2 to 15c, according to brand. This is the kind of American oil usually purchased for the Canadian market, and is coming into general use in the United States.
Cases of refined oil for export, 110° burning test, cargo lots, 11 1/2c to 12 1/2c, according to brand.
PETROLEUM PRODUCTS
Lubricating ... \$2.00 @ \$3.00 per bbl.
Gasoline ... 1.50 @ 1.75
Oil ... 1.25 @ 1.50
Lamp Oil ... 1.00 @ 1.25
Wax (refined) ... 0.05 @ 0.10
OUR PETROLEUM INTERESTS
The total production of crude petroleum in this region for the year ending June 30th was 837,780 barrels. The average price for the year was \$1.65, and the entire production is estimated as having yielded \$1,364,837. This will give our readers some idea of the importance of the petroleum industry to the county of Lambton and the Dominion at large. Present appearances would indicate that the production for the current year will far exceed that of last year, and will reach at least one million barrels. A healthful sign in the trade is that the demand for all the by-products of petroleum, paraffine, oleo, naphtha, etc., is constantly increasing.
In the Pennsylvania region the total yield for the month of June is put at 2,377,860 barrels, being a daily average of 79,262 barrels, an increase over the month of May of 2,059 barrels per day. The total stocks on hand on 30th June amounted to 24,411,191 barrels. Notwithstanding this immense over production and rapidly increasing surplus, contrary to all expectation, the certificate market advanced 1/2 cent per barrel during the past week, and exhibited a firmness which it has not manifested for some months previously. As our market is controlled by the American, should this advance continue we may reasonably look for a rise on this side of the line.
The refineries are all fitting up and making preparations for a brisk fall trade. Messrs. P. Gleason & Bro. have thoroughly overhauled their refinery, and are now running it to its full capacity. The Imperial Oil Company have made considerable improvements, and expect a good demand for all they can turn out. The capacity of their works is about 3,000 barrels. The P. C. & O. T. Company have made some important extensions and improvements in their premises, necessitated by the increasing demands of their business. The Consumers' Oil Company have their works nearly completed. They have erected a spacious treating house, larding house, warehouse and cooper shops, all built at a distance from each other sufficient to reduce the danger of a general conflagration in case of fire to a minimum, and connected by about 200 feet of large overhead piping. The buildings are all neatly painted, and present a handsome appearance. They

THE MONEY MARKET.

Table with columns: BANKS, Capital paid up, Rest, Dividend last 6 months. Includes entries for Dominion Bank of Commerce, Bank of Montreal, etc.

TORONTO STOCK REPORT.

Table with columns: NAME, Capital sub-scribed, Capital paid up, Rest, Dividend last 6 months, Closing Price June 15. Includes entries for Dominion Gov't stock, County (Ontario), Toronto, etc.

DEBENTURES, &c.

Table with columns: NAME, Interest Payable, Where Payable. Includes entries for Dominion Gov't stock, County (Ontario), etc.

MONTREAL STOCK REPORT.

Table with columns: NAME, Capital sub-scribed, Capital paid up, Rest, Dividend last 6 months, Closing Price June 15. Includes entries for British North America, Canadian Bank of Commerce, etc.

PETROLEUM.

THE BRITISH MARKET.

ARTHUR BROWN & CO'S PETROLEUM REPORT.
London, July 3rd 1881.
Refined Petroleum Oil—Values have again declined during the past week, both on this side and in the States, the result being that a very large forward business has been transacted. Prime and Standard White Pennsylvania on spot sold at 7d per gallon down to 6 1/2d August 6 1/2d to 6 1/2d, Sept. Dec 7 1/2d to 6 1/2d. Import price for large cargoes direct to London about 6 1/2d.
Today's market closes steady, 6 1/2d to 6 1/2d spot, 6 1/2d Sept. Dec.
Naphtha—Firm.
Coal Oil—Neglected.
Turpentine—Has been very steady at 32s to 32s 3d spot, month 31s 3d to 31s 2d, August 31s 3d, Sept. Dec. 31s 3d to 32s 3d with a fair business doing. Today's market closed firm, 32s 1d on spot. The stock at the wharves to-day is 9,457 barrels, landings during past week, included in stock, 4,493 barrels, and deliveries 1,558 barrels.
PETROLEUM OIL
Prices of N. York, London, etc.
Stock this day, Landed last week, Delivered last week.
COAL OIL
Prices of N. York, London, etc.
Stock this day, Landed last week, Delivered last week.

OUR PETROLEUM INTERESTS.

are building a new 500 barrel still, and are only awaiting the arrival of a new agitator, when they will commence operations. Their works are the most complete in the district. All the latest improved appliances for the proper distillation of the oil in an economical manner have been utilized by them, and they are confident of their ability to turn out stock second to none in the Dominion. Captain Woodward is firm in his determination to keep abreast of the times, and has materially increased his appliances for the manufacture of his specialties. Mr. J. Millan intends making some additions to his already extensive refinery. As soon as the brick arrives he intends erecting two more large stills. These works are complete in every particular, and are now running full blast. Extensive shipments of refined and paraffine oils, etc., are being made to Montreal (where the produce of this refinery is chiefly sent) every week. The other refineries are all preparing for a "boom" in the trade this fall.
About seventy new wells have already been put down this season, the most of which are moderately productive, and two or three recent strikes have proved wonderful yields. The Lawyer well still keeps up a remarkable production. O'Palmer has struck a well on the old Lawson farm, near the C. S. R. which started off with 75 barrels, but now appears to have settled down to steady business at about 20. On lot 12, Hilli Co. F. A. Fitzgerald & Co. are down 400 feet striking a good show, they put in a pump, and pumped fifty barrels in five hours. She soon dried up on that strain, however, and they are now drilling deeper. P. W. Keck has struck a 2 barrel well in East Kad. J. H. Fairbank's

are building a new 500 barrel still, and are only awaiting the arrival of a new agitator, when they will commence operations.

venture for is good 2 barrels. W. McAlpine has struck a 2 barrel well on lot 10, con. 12. Mr. C. McKenzie finished with about a barrel on Wednesday evening. Kainsberry & Co. have finished with a good show on the Elliott farm. J. & J. Kerr have struck a 3 barrel well on lot 10, con. 12. Their last well on lot 1, 13th con., is good for one barrel. In addition to these there are about twenty-five new ventures in various stages of progression.—Petrolia Advertiser
Germany has nearly 400,000 shoemakers and cobblers, or nearly ninety to every 10,000 of her population. This is a larger proportion than in any other country except Italy and England. Italy takes the lead of all, then come, in the order named, England and Wales, Germany, Belgium, Ireland, Denmark, France, the United States, and Sweden. It is a curious circumstance that while Italy should have within a fraction of 100 cobblers to 10,000 of the population, and cold Sweden less than eight.

Germany has nearly 400,000 shoemakers and cobblers, or nearly ninety to every 10,000 of her population.

Hill Michaels, a woodcopper, is now incarcerated in the Nevada county jail awaiting trial for an attempt to murder a Chinaman. When brought to prison he said to one of the convicts, "I guess that boathen will die, so the best thing I can do is to play crazy." Then he set up a loud howling, and for several days and nights he made the prison a pandemonium with his affected wild ravings. Now he is confined in a straight-jacket for he really is a maniac. His attempt to appear mad had such an effect upon a mind already weakened by habitual intoxication, that his mental faculties were thrown into a senseless whirl.

THE DRY GOODS TRADE.

NEW YORK ADVICE.

London.—There has been a further... play of full stocks during the week... very large quantities of orders have been received from both local and out-of-town jobbers for the most desirable makes of dark prints, light prints, and fancyes...

Eastern carpets were introduced into Europe some time during the twelfth century, but they were very costly... The only Indian carpets we have ever seen in this country were a thick soft kind made in Masulipatam.

One of the commercial agencies reports an increase of about fourteen per cent. in the number of failures in the United States for the half year just closed, as compared with the same portion of 1880.

INSURANCE MATTERS.

LIFE INSURANCE.

Life insurance is a necessity of our advanced civilization. The progress of the race is indicated by the facilities desired to protect the helpless against suffering and poverty.

can be removed. If the national banks can and must give security, dollar for dollar, to the full amount of their circulation, why should not life insurance companies give the same for their reserve fund?

THE DANGER OF EXPANDED CREDITS.

One of the commercial agencies reports an increase of about fourteen per cent. in the number of failures in the United States for the half year just closed, as compared with the same portion of 1880.

A HISTORY OF CARPETS.

The use of tapestry and embroidered cloths as a covering for furniture and the floors of rooms is of great antiquity.

RIVAL AGENTS OF LIFE OFFICES.

The last number of the Australasian Insurance and Banking Record has the following, which will be read with interest on this side of the water.

cord best which brought to bear the greatest amount of vituperation against its rival. If such a state of matters were allowed, where would it end? There must be a limit beyond which a person cannot go without paying the penalty of his indiscretion. The conclusion of the Judge, a summing up is so important that we reproduce it here. Speaking of the attempt to injure an insurance company not being an ordinary common slander, he said that such a course might ruin a vast number of innocent subscribers, who depend upon it as a help to themselves in ill health, or to their widows and families in case of their death. There might be less to blame if the statements were made recklessly and with anger, but they seem to have been uttered deliberately and with the express purpose of doing injury to the company. Therefore, I must give the plaintiffs not nominal but substantial damages—very substantial damages. I think £1,000 would be extreme; but I venture to say that if a jury were to give £1,000 in respect of the three libels, I, as Judge, would not reduce it by a penny, as it should go forth to the world that this libel has not the slightest warrant.

If this action does nothing more, it will we think, make the agents of life insurance offices more careful in the future as to the statements they make about other offices than their own. We trust that, as it has been the first, it will also be the last action of its kind. There is plenty of room in this portion of the wide world for the agents of the different offices to follow their business in an honourable and legitimate way, without endeavouring to procure proposals by misrepresentation and slander. The occupation of a life insurance agent is an honourable calling, success in which can be reached by energy and perseverance without stooping to any disreputable tactics. While each agent strives his best for the office he represents, it is quite possible for the competition to be carried on in a fair and proper spirit, each and all acting for the greater extension of one of the most beneficent schemes of thrift which has blessed the world.

We are glad to observe that at the trial there was no suggestion made, nor evidence offered, that the society employing Mr. Barker was cognizant of or approved his reprehensible method of pushing his business as a canvasser. As we have already said, the lesson is a salutary influence for good.—*Investigator*

LIFE INSURANCE IN THE UNITED STATES.

The preliminary bulletin issued by the census bureau covering the returns made by the 69 life insurance companies doing business in the United States, for the year ending December 31, 1879, is one of the most important as well as the most satisfying documents ever given upon the subject.

It appears, among other things, that in the 69 companies now doing business, the liabilities to policy holders in 1879 were \$365,863,883, with an "American 4 1/2 per cent." reserve after deducting reinsurance of \$354,989,935 and assets of \$442,729,187, or \$78,800,303 in excess of liabilities. The assets are made up over one-third, \$184,753,106, of loans on real estate, one-fourth, \$115,302,677 of stocks and bonds, and one-seventh, \$63,826,691, in real estate, put in at its cost value. The depreciation on assets, including these and other items, is placed at \$3,483,260 on a total of \$426,492,340, less than 1 per cent., and this depreciation must be much less now than when these returns were made 18 months ago. The total disbursements were \$76,089,138, of which half, \$33,609,712, was in policy payments, less reinsurance, and the income was \$63,388,857, \$57,615,102 received from premiums, etc., and \$5,773,755 interest, profits, etc. The companies closed the year with \$6,807,701 claims outstanding, of which \$1,300,223 were resisted; about 3 per cent. of the total amount paid to policy holders. Aggregated as an entirety, the insurance companies in the country met in 1879 about one-tenth of their total liabilities, and of this fraction they resisted payment of 3 per cent. The companies also paid out \$9,906,333 for surrendered insurance to the amount of \$62,214,851 and 35,793 lapsed policies representing an insurance of \$10,791,189. On the other hand, cash premiums to policy holders were \$12,229,887. Agents absorbed \$3,871,574 of the disbursements, a tenth as much as was paid on policies; officers, \$2,193,755, and travelling expenses cost half as much more. In all, expenses foot \$13,176,000. The life insurance business has, also, its peculiar phases, and is subject to fluctuations the same as any other business. An analysis of the figures shows, in the matter of policies written and terminated and extended through the previous 10 years, that while in 1870 171,590 policies were written representing \$17,955,773 in insurance, the number gradually shrunk to 98,405 in 1874, covering \$172,544,233 in amount, and in 1879 had risen to but 122,865, representing \$187,049,113. Less change took place in the policies terminated, which remained from 106,950 to 120,000 a year.

Twenty-seven barrels of gasoline, recently left at a railroad station in the United States, were accidentally fired, supposed to have been by a spark from a locomotive, and a serious explosion and fire took place. Thirty persons, principally firemen, were injured, and much property damaged. Gasoline, benzine,

and all that family of destructive, should be carefully secured against fire, and cautiously avoided by all not compelled to handle them, and even those handling them should act as if in the presence of imminent danger, which they really are, while so occupied benzine, kerosene, and their relatives, have made heavy draughts on insurance funds, and are likely to continue these operations. Underwriters are not sufficiently restrictive in respect to that class of fire risks, as would appear from the fact that, from whatever cause, whether it be downright willfulness, ignorance of the danger, or competition—a desire to grant favours to secure business—companies go on granting permits to store and use these things, just as if the permits involved little else than the trouble of making the endorsements. We hear of many such permits, and desire to caution underwriters against such loose practices. No truly conservative underwriter will freely grant such permits, or in any way trifling with, or unduly encourage those very troublesome, hazardous customers, Benzine, Gasoline & Co.

A book recently published in England, entitled, "How to Detect the Adulterations in Food," shows that everything is badly mixed, or say thoroughly well mixed even to the oatmeal, the Scotchman's "staff of life." One would think that life was short enough, and sufficiently embittered with the ills that flesh is heir to, even at its best, without this wholesale poisoning process being in operation to cut off man before his time. Life companies should take the matter in hand, and if they adopt the principles and plans in vogue with the fire companies, in protecting (?) their interests, they will see to it that they assured do not patronize any shops that deal in adulterated articles. They will also insist upon a complete system of sanitary measures to be enforced in all towns and cities, and do business nowhere else. They should take charge of the streets, yards, etc., and keep them clean, as was expected of the life companies this spring in New York, when the city was in a disgracefully filthy condition, and the citizens all but demanded of the companies to cleanse the city, just because filth induces disease and death, and the companies are interested in the rate of mortality. The reasoning is logical from that standpoint, and is the parallel to that insisted upon by the fire companies, with this difference in favour of the life companies, viz.: death is certain—a certainty that no action of the companies can remove—and secures to them a continuance of business. But continuance of business the fire companies are trying all means possible to limit or destroy, in their endeavours to remove every cause of fire. When the problem is fully worked out the result will be—their own extinction. "You cannot have your cake and eat it."

With a view to the efficiency of the volunteers, the London Times suggests marching matches as well as shooting matches.

The *Liberator* (London) says:—"The poverty of the poor clergy would be hard to bear in any case, but what must be the feelings of a poor curate when he hears of such a living as that of Wimborne, Essex, the net income of which is £650 a year, while no duty whatever is required from the holder? It has been a sinecure for more than 400 years, and for the most part has been bought by ladies for family purposes. It is also a donative—i. e., the right to present is absolute, and any clergyman, whatever his character, can be presented, in spite of all the bishops in England. This living was lately put up to auction, and, not being sold, the price is reduced from £6,700 to £5,500. It is an investment simply—we cannot say pure and simple.

The five French academies which compose the Institute have awarded the prize of \$4,000 given every year for the work or discovery most worthy of honour or most useful to the country that has been produced during the preceding ten years. This prize, founded in 1859, is awarded on the recommendation of each of the five academies in turn; and it has been remarked that the recipient is invariably a member of the body that makes the award. This year it was the turn of the Academie Française, which chose M. Desire Nisard, author of the "Histoire de la Littérature Française," which originally appeared in 1844-49. A new and revised edition, however, has been published within the prescribed period of the past ten years. In 1861 the nominee of the Academie Française was Talera, and in 1871 Guizot.

Many people must have been surprised (says *Life*) at the comparatively small amount which the personal estate of the late Mr. Sothorn realized. The will was sworn under £10,000, a small sum truly for a man who has often made his £600 a week on the boards. The chief reason for this was the inordinate extravagance of "Lord Dundreary." When he was making money fast he simply sprinkled it about like water. His house in Harley street, his rooms at the Mt. Manser Hotel, his carriage, horses, hunters, at Market Harborough all were simply perfect, and this class of establishment makes a hole in £30,000 a year. It is well for the memory of Sothorn that his will has been published for there were many ugly rumours afloat that his children had been left penniless. This, however, is not the case, for when all debts are paid there will be sufficient to give the children £3,000 a piece, if not more.

SCIENTIFIC AND PRACTICAL.

TOTAL ECLIPSES THIS CENTURY

In an interesting article in *Life* particulars are given of twelve total solar eclipses which will occur during the remainder of the present century.

First—1902, May 17. The most accessible portions of the central line will be in upper Egypt and the extremity of the Peninsula of Sinai. The central eclipse of the Asiatic coast near Shanghai.

Third—1881, May 6. The line of totality falls in the Pacific Ocean. Eclipse lasts six minutes.

Third—1885, Sept. 8. Visible in New Zealand soon after sunrise.

Fourth—1880, Aug. 29. Totality lasts six minutes and twenty-seven seconds. Central line passes across the Atlantic and over South Africa. Duration of eclipse when it reaches African coast four minutes and thirty-eight seconds. This eclipse is a repetition of that of 1808, Aug. 8, and will recur in 1904, Sept. 9, in mid Pacific, and 1922, Sept. 21, visible on east coast of Australia, where the duration will be about three and a half minutes.

Fifth—1887, Aug. 19. Eclipse begins in 11° 39' east and 51° 38' north. It will be most favourably observed in Asiatic Russia, but some fifty miles north of Moscow the total eclipse will continue two minutes and thirty seconds, with the sun at an altitude of 17°. At Berlin the sun will be totally eclipsed immediately after rising. On Lake Baikal totality will continue about three minutes and thirty-eight seconds, with the sun near the meridian.

Sixth—1889, Dec. 22. The greater duration of totality in this eclipse falls upon the Eastern Atlantic, but where the central line meets the African coast in Angola (about 10° 6' south) it continues three minutes and 35 seconds, with the sun at an altitude of 56°.

Seventh—1892, April 26. Almost entirely an ocean track on the South Pacific; an impracticable eclipse.

Eighth—1893, April 16. Probably the most favourable eclipse occurring before the end of the century. On the west coast of South America, rather less than a degree north of Coquimbo, totality will continue three minutes, hence the central line traverses Brazil, passing off the continent near Clara, and here the sun, near the meridian, will be totally eclipsed four minutes and forty-four seconds. After traversing the Atlantic it enters Africa close to Bathurst, where the total phase is about four minutes; thence through Central Africa to a point west of Khartoum.

Ninth—1894, Sept. 28. Either a sea track or a passage over inaccessible regions, except that the eclipse may ultimately be found total in the Seychelles. The central line begins in the middle of Africa just north of the equator, leaving that continent near the Juba river and ends near Macquarie Island.

Tenth—1896, Aug. 9. The central line enters Norway, near Tana, in Finmark, and in 28° 46' east, and 70° 31' north, the duration of totality is one minute and forty-three seconds. Near the Amoor river totality continues two minutes and thirty-eight seconds. The total eclipse may be observed also in the northern parts of Yesso, Japan. This will be a recurrence of the eclipse of 1806, June 16, observed in this country by Bowditch. Its last recurrence was on July 29, 1878, the central line passing down the Rocky Mountains.

Eleventh—1899, Jan. 23. This eclipse may be well observed in Hindostan; totality will continue about two minutes and six seconds.

Twelfth—1900, May 28. The central line begins in the Pacific in 48° north, traverses the south-east portion of the United States, from Louisiana (not far from New Orleans) to Norfolk, on the Atlantic coast, and at the point where it leaves the American continent totality begins about 8 1/2 minutes, and continues one minute and forty seconds. Crossing the Atlantic, upon which the greatest duration of totality falls, it enters Portugal, near Ovan, where the total phase continues one minute and thirty seconds. The eclipse may be well observed in Portugal and Spain. It will be a recurrence of that of May, 1882.

ELECTRIC PHOTOGRAPHY.

In able hands—for no artistic process can rely wholly or mainly on the improvements and facilities afforded by science, the application of the electric light to photography is of vast importance, and the stride which has already been made in adapting magneto-electricity to such purpose, by Mr. J. E. Myall, at his newly appointed art studio, No. 104 New Bond street, can best be estimated by its results. There are a combined softness and brilliancy unattainable by any other method hitherto collated in the service of photographic portraiture. In truthful definition, roundness, or what is technically called "modelling," and the seizure of a momentary expression, which gives to the best likenesses its most magical charm, the pictures taken by Mr. Myall's new process surpass all previous achievements of their kind. To enable the operator successfully to attain such effects of perfectly distributed light and shadow as are apparent in recent works produced by Mr. Myall, a far greater illuminating power than has hitherto been gained was necessary. The machine, which he had mounted on a deep bed of concrete,

to insure the utmost steadiness, produces a light of the enormous power of 12,000 candles, or more than double that to which former mechanism could pretend. Its prime motor is a 10 horse power gas engine, such as M. Jamin recently demonstrated to be of perfect effect in the diversion of the electric current. To balance the resistance of such a volume of electricity as is here brought into play, the most delicately adjusted machinery, of one ingenious and original, is employed, and an absolutely pure and steady arc of light is obtained, of a quality most advantageous for chemical collation. One cable having been used with such brilliant and complete result, two more have been attached to the Gramme machine, so that three separate studies will now be available on the commodious premises on the corner of Grafton street. The advantages of an intense and carefully distributed electric light in photography are too obvious to need any elaborate indication. Sunlight varies continually, and the time of sitting must therefore depend on the judgment and experience of the operator, who, if he be not a thoroughly skilled artist, will too often depend on mere guesswork. Night or day, in the blaze of midsummer and in November's fog, the electric light is invariably the same; and the period of exposure is not only reduced to a minimum, but is decided by calculation as certain as it is simple. After all, as we have intimated, the artist's eye and hand are still requisite to pictorial character in a portrait. Facilities such as these which Mr. Myall has scientifically added to his artistic resources would lead an indifferent practitioner further away from his chance of tolerable success. It is when the highest practical operations of physical laws are directed with a just appreciation of their value that they conduce to the real benefit of art.—*London Daily Telegraph.*

BRUSH ELECTRIC WORKS.

The Brush Electric Company's Works, occupying six acres of ground on Mason Street, Cleveland, at the crossing of the Cleveland & Pittsburgh Railroad, are the largest electric works in the world. The buildings first erected, and which consisted of a main machine shop, 265 by 122 feet with proportionate large boiler room, blacksmith shop, spanning oven, carbon factory, tool, carpenter and tin shops, have since had important additions. The machinery used is of the most perfect description. The engine driving it is 400 horse power. In the boiler room are three enormous boilers of Ohio steel. They were built by the Variety Iron Works and the Cleveland Steam Boiler Works. The carbon department proves one of the most interesting to visitors. Here are furnaces in operation for the carbons. Provision is made for thirty-six furnaces, each of a capacity of 10,000 carbons, capable of turning out 75,000 carbons per day. The plant for the grinding, mixing, molding, pressing, plating and packing is on a corresponding scale. Three powerful hydraulic presses are in use. Such is the pressure of orders that a new machine shop 410 by 100 feet and an iron foundry 265 by 100 feet is to be added. Some of the material is now on the ground. The buildings are to be of brick and one story in height, thus securing the highest amount of solidity and entire freedom from vibration. With the completion of the buildings they will be capable of affording accommodation for 1,500 men, and of turning out from \$8,000,000 to \$10,000,000 worth of work per annum. On a separate piece of land, facing the works, a laboratory has been erected in which Mr. Brush will pursue his investigations. Mr. George W. Stockly is the business manager of the company and Mr. N. S. Parsons the superintendent.

A Roumanian engineer, Trajan Theodoroo by name, has invented a new description of torpedo or submarine boat, whose peculiarity is that it is capable of manoeuvring under water at twelve hours on a stretch. It is able to act at depths of from 100 feet to rivers to 700 or 800 feet in the sea. It is able, through the agency of screws to rise or sink noiselessly, and either suddenly or gradually by successive stages, and can move or manœuvre in any direction. The illumination of the vessel is internal, and enables the officers upon her to see for a distance of 150 feet in the water.

The process for working tridium, invented by Mr. John Hollaad, of Cincinnati, O., is described in the *Scientific American*. After the metal is brought to a high heat and phosphorus added, it is cast into any desired form, and the phosphorus is removed finally by heating the metal again in a chalk bath. Professor Dudley, in a lecture on this metal, gave some interesting particulars. It is like steel in appearance, but is as early as hard as the ruby. Acids cannot injure it nor can rust consume it. As the negative carbon in the electric arc it was used for sixty hours without any loss in weight or change in form. This metal is so refractory that it cannot be hammered into shape when hot, and it resists the file. When in the way above stated it is moulded into the form, as near as may be, of the article required, it is ground or cut to the finished state by copper disks, revolving at a high velocity, on which emery and water are poured.

Another new application of electricity as a motor has been experimented on at Paris. M. G. Trouve, a well known electrician, has devised a method of applying the electric current to the propulsion of a boat, and so far the results have been eminently satisfactory. The experiments have been made on the Seine on several

occasions with a small boat, propelled from two to six persons. M. Trouve's electric motor consisted of a Siemens motor which by a simple but ingenious arrangement is made to transmit its power to a three-bladed screw at the stern of the boat. The motor itself is fixed on the front of the motor, which it follows in its movements, as does also the screw. It weighs less than five kilograms, does not require more than five kilowatts, and is so adapted to any boat that there seems no reason whatever why it might not be so modified as to be applicable to vessels of much larger dimensions than that experimented on. M. Trouve adopted the Neta in 1839 by Jacob, but which had so many drawbacks as to be practically useless.

The *Chronique Industrielle* gives an abstract of a paper by a French engineer, M. Mongey of Bray-sur-Seine, where the author shows the benefits to be derived from a system proposed by him for distributing cold air through a line of pipes to private consumers. Some such system has been suggested before, but the author under consideration differs from it in the fact that the projector proposes to compress the air to a greater degree (five or six atmospheres) and to cool it before sending it through the pipes to the various points of distribution. At these points the opening of a cock, by allowing the air to escape and expand, will distribute throughout cellars, living apartments, or wherever else it may be needed, a pure cold air capable of preventing fermentation or putrefaction of organic matters, and of rendering the atmosphere of stores, manufactories or dwelling houses refreshing during the most sultry days of summer. The air thus compressed may also be used, like steam, as a motive power. As for the proposed mode of distribution, that is essentially the same as now employed for supplying steam heat to consumers in Lockport, N.Y.

Bitumen appears in nature as an accidental mineralogical accident, under the most diverse and often most inexplicable conditions. It is found sometimes in the native state, sometimes mixed with clays, sometimes as the cement of conglomerates, sometimes as impregnating limestone. The last combination produces the mineral commonly called asphalt. When the bitumen contained in any of these substances is chemically isolated, it appears always as a nearly identical substance, in composition consistency and appearance, except that the empyreumatic odor that characterizes it may become alliacious in volcanic countries. Asphalt is doubtless one of the most considerable and valuable of the forms in which bitumen appears. It is a fine black stone, naturally and closely impregnated with that substance. When a specimen is examined under the microscope, each grain of it appears to be immersed in a pellicle of pure bitumen, by which it is cemented to the adjoining particles. It is thus a species of very fine grained bituminous conglomerate. When a lump of this rock is heated to a temperature rising from 175 to 212 degrees, the pellicle of bitumen is melted, the cohesion of the asphalt is destroyed, and it crumbles into dust. If it is taken while it is still hot, or if it is heated again after it has become cool and strongly compressed, the particles will adhere again, and the stone will recover, after cooling, precisely the consistency and appearance it had originally. The employment of compressed asphalt for pavements is founded on this property.—*Leon Hales, C.E., in Popular Science Monthly for August, 1879.*

At a meeting of the Society of Engineers, held recently in London, in the society's hall, Victoria street, Westminster, Mr. Charles Horsley, president in the chair, a paper was read by Mr. A. C. Kugert on "The Prevention of Smoke." The author, in choosing the title of "The Prevention of Smoke" instead of "The Consumption of Smoke" gives it as his opinion that smoke once produced by the atmosphere and while being carried by the air cannot be consumed, as every particle is surrounded by a thin film of carbonic acid. When however, smoke is condensed as soot, heat will liberate the carbon from the acid, and then the former will burn rapidly. If this theory is found to be correct, carbon cannot destroy the germs of disease floating in the air. For the consumption of smoke many ingenious elaborate inventions are on record, but not yet adopted on account of expense and complexity of mechanism. A simpler apparatus is therefore required. To prevent smoke, the cold air must not be allowed to come in contact with the gases arising from green coal, and for this purpose the furnace is, as to be divided into two parts. The fire door is removed from the boiler, and a box fixed on the front. On each side of the box rails are placed inside, on which a plate or shutter may rest, which can be pushed forward or backward as required. When pushed forward it passes within the boiler and draws over the fire bars some eighteen inches, thereby cutting off the draught, and prevents the condensation of the gases arising when fresh coal is put on, thus preventing smoke and the cooling of the boiler. A still simpler apparatus can be made with the same results if the opening of the door admit a higher box. The shutter can be cast together in one piece at an angle of about 130 degrees to hang within the box on two pins or bolts, thus forming a swinging shutter. A rack is attached to the front of the shutter to regulate the movement. The advantages of this apparatus are: The cooling of the boiler is entirely avoided, the gases are consumed so that smoke is prevented, and there is a saving of from 1 to 2 per cent. of heat and coal.

LUMBER TRADE.

BRITISH MARKETS.

(Timber Trades Journal) Messrs. Churchill & Sims... of 19 tons that the goods fetched a fair market value...

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(Timber Trades Journal.) The arrivals for the week ending the 13th are unimportant... We notice amongst the recent arrivals a cargo of deals, etc. ex Mary K. Campbell...

rather less than it was last, on account of the persistence with which the proprietors of the forests hold their wood at prices too high in proportion to the ruling prices of stocks in France... Lumber shippers in Ottawa have been notified by their agents in New York...

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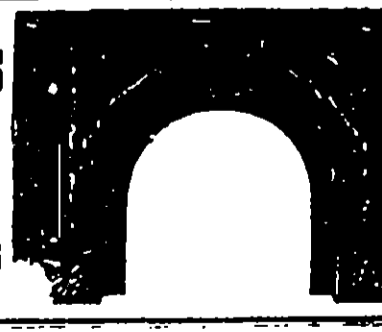
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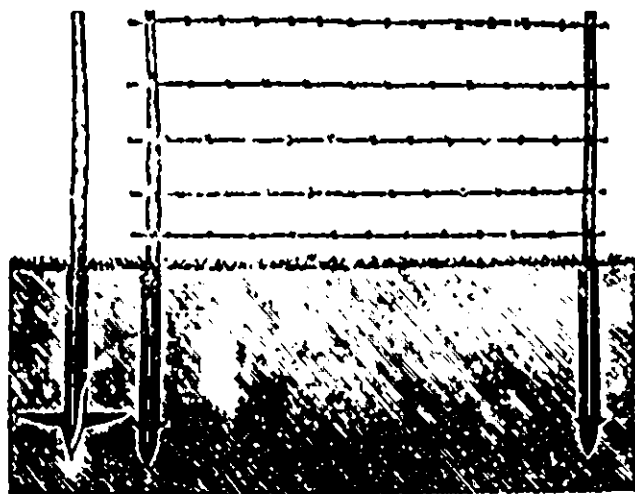


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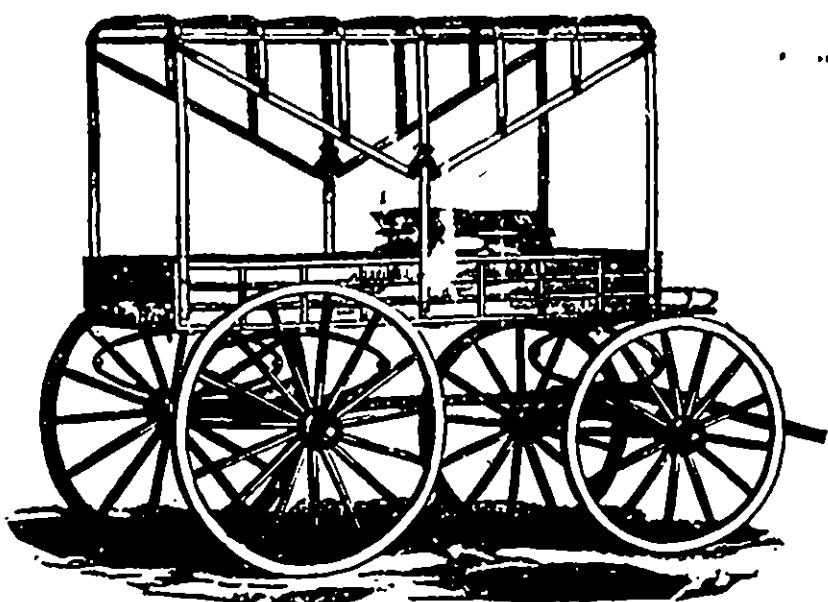
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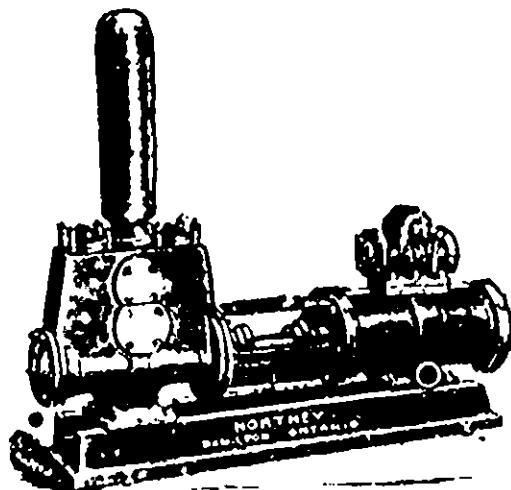
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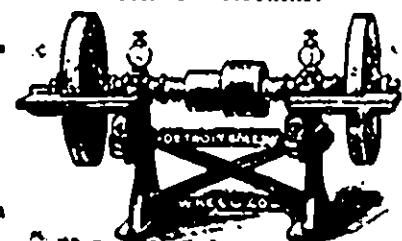
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