

# INDUSTRIAL WORLD

AND NATIONAL ECONOMIST.

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

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TORONTO.

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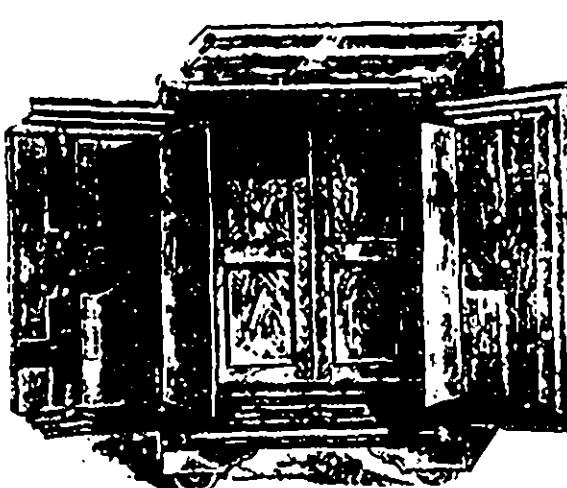
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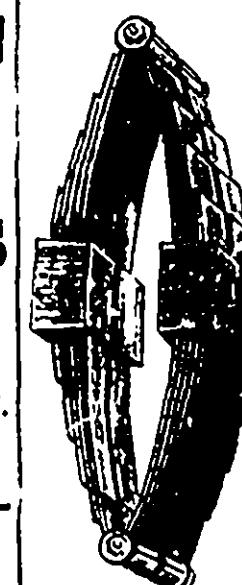
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MONTREAL.

## NORTH WEST DEVELOPMENT.

The settlement of the North-West is making satisfactory progress. From this fact we learn from many quarters. A correspondent writes to the *Winnipeg Times*, pointing out the wonderful development that has been made during each of the last three years. Having come out as far as Rapid City recently he says that three years ago there was scarcely any settlement west of that place. Now, however, he points out, a distance of thirty-five miles west there is scarcely a vacant homestead to be had, and the class who have settled in that section of the country are generally well to do. We cannot do better than quote from the correspondent—“There are a great many English and Scotch settlers in that part, all of whom came into the country with plenty of the needful to start farming in a very comfortable way. In the course of my first day's travel, I called on a friend of mine, a Scotch settler, who had arrived here with his family last fall, but who had previous to that come out to this country from Scotland, located his homestead, and returned home the same winter, and immediately set about to prepare for taking his departure with his family from ‘Auld Scotia’ for the Canadian North-West, and now he is comfortably settled on his farm, just three miles east of Oak River, on section 12, township 14, range 21 west. We took a walk around his farm. He was very particular in showing me everything that he had accumulated since his arrival. Mr. Stewart has to show for his few months labour in this country probably as much as any other settler in the North-West. He has thirty acres of crop, fourteen acres of oats, twelve of wheat, and the remainder in barley, all of which was coming on finely, and showing good signs of a very large yield. In addition to what land he has under crop, there is in the same field forty acres of ‘breaking,’ all this he will have ‘broken’ and ready for the seed as soon as the snow is off in the spring. Mr. S. has also twelve head of cattle, three horses, five pigs, a good stock of poultry, and one wild turkey. He has a large frame house built regardless of expense, stables and sheds built in a square from 50 feet by 50 feet, sixty tons of hay in the stack, a well of good water under his kitchen—which is a plain evidence that Mr. Stewart considers comfort as necessary as money. His farm, I believe, is, in appearance, one of the prettiest in this whole country; is laid out, as it were, in three ridges, sloping beautifully from top to valley, with a large ravine flowing through the centre, furnishing a never failing supply of water, and pasture for many head of cattle the summer through.” The rest of the correspondent's long letter is replete with similar information, illustrative of the progress of the settlement of the country. If Mr. L. DOOCAN, of *Truth*, and the other society journal assailants of Canada generally and the North-West in particular, could see the country for themselves and learn the exact state of affairs from practical observation they might be induced to see the folly of endeavouring to create prejudice in the minds of intending agricultural emigrants. The testimony of those who have left the “old country,” and have made their home in the far-off North-West will at any time far outweigh the misrepresentations—possibly the paid for misrepresentations—of *Truth* and the *World*; and it is gratifying to know that such testimony can be had in abundance. For many years the Western States have had almost a monopoly in England in the matter of being represented as a desirable country for the British agriculturist with a little capital who may not be satisfied with his condition at home. Now, however, a change has set in. Canada has acquired one of the most magnificent and fertile territories in the world, and general attention is being directed to it. The British press, we are pleased to note, is advocating the claims of the colonies as against those of foreign countries, and are pointing out the desirability of British emigrants going to British colonies rather than to a foreign country to become subjects of an alien flag. We do not believe in the policy of giving exaggerated accounts of the resources and fertility of the country. The truth in the case of Canada's great North-West is sufficient; and if it only be generally disseminated desirable results may be anticipated. While the representations of visitors are valuable, and the circulation of information by agents of the Government cannot fail to do good service, no testimony, after all, is so conclusive and acceptable as that of men who have come from the Mother Country and never settled on the land. If they are satisfied with the change, if they do not find the climate too rigorous, if they have demonstrated that the soil is remarkably productive, no more eloquent and powerful testimony can be obtained, and such testimony should be widely circulated. There is every reason to believe that with the rapid progress of Pacific Railway construction and the sale of lands, the influx of population into the North-West during the ten years will be up to the highest expectations of the most sanguine believers of the great future in store for that important portion of the Dominion.

## PRODUCTS OF MANITOBA.

The annual report of the Minister of Agriculture for the Province of Manitoba for the year 1880, furnishes some valuable information regarding the productive qualities of that Province. The average yield of wheat per acre from 1877 to 1880, inclusive, was as follows:

	1877.	1878.	1879.	1880.
bushels per acre.	20 bush.	21 bush.	20 bush.	20 bush.

It is pointed out that, in comparison with the above, the following are the average yields of some of the principal wheat growing States of the neighbouring Republic:

	Minnesota	Wisconsin	Pennsylvania	Massachusetts
bushels per acre.	17	16	15	15

The average yield of oats in Manitoba was as follows:

	1877.	1878.	1879.	1880.
bushels per acre.	37 bush.	40 bush.	36 bush.	37 bush.

The comparison between the Canadian North-West and the North-West of the American States is as follows:

	Canadian North-West, average	Minnesota	Iowa	Ohio
bushels per acre.	37	37	29	23

The following is a comparative statement of the barley production of our North-West and that of some of the American States:

	Canadian North-West	Minnesota	Iowa	Wisconsin	Ohio	Indiana	Illinois
bushels per acre.	40	23	21	21	19	19	17

In regard to peas the report says that the general complaint of farmers in Manitoba is, that the soil is so rich that the vines grow too rank, and are, therefore, not productive. The average yield during the four years named was 32, 34, 32, and 33 bushels per acre. Little rye has been grown in the Province, but products above that it can be grown to advantage. The average yield per acre was, in 1877, thirty bushels; in 1878, thirty bushels; 1879, forty bushels, and 1880, forty bushels. The yield of potatoes varied very much, according, as the report points out, to the nature of the cultivation, the ground in which the seed was planted and the date on which it was put in the ground. The average yield per acre was 1877, 304 bushels; 1878, 398 bushels; 1879, 302 bushels; 1880, 318 bushels. In order to show the yield in particular localities we make a few notes from the report, the figures representing the number of bushels per acre—

Locality.	1877.	1878.	1879.	1880.
High Bluff	30	30	30	30

Portage la Prairie	400	400	350	300
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Nelsonville	400	350	400	425
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High Bluff	30	30	30	30
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It having been frequently stated that corn could not be raised successfully in the Province, the reports of a number of farmers are furnished to disprove the statement. Mr. G. V. FITZGERALD, Ridgerville, writes “I have raised corn in the garden successfully.” Mr. F. T. BRAZIER, Livermore: “The hardy varieties of corn do well.” Mr. J. D. STEWART, Cork Creek: “I have raised a small quantity of corn, which has succeeded.” Mr. J. J. VINCENT, Headingley: “Corn grows very well.” Mr. Andrew NEESON, Stonewall: “I have raised good garden corn. It ripened wonderfully.” Mr. ERIC DAWSON, High Bluff: “I have raised some corn this year, which looks well.” Testimonies are furnished to prove that hay, or a superior quality, can be raised all over the Province. The following analysis of the soil of Manitoba, by Dr. MACADAM, Lecturer on

Chemistry in the University of Edinburgh, is furnished—	
Magnesia	1.00
Organic matter containing nitrogen equal to ammonia	1.00
Silica	1.00
Phosphates	1.00
Carbonate of lime	1.00
Carbonate of magnesia	1.00
Alkaline salts	1.00
Oxide of iron	1.00
Silicate of potash	1.00
Silicate of soda	1.00
Alumina	1.00
	1.00

The soil is reported as being very rich in organic matter, and contains the full amount of the fertilizing matters found in all soils of a good bearing quality.

In regard to the health of the Province, out of 147 statements received from farmers not one was adverse. Regarding the effect of winter weather upon cattle the experience of resident farmers disposes of the erroneous statements that have been published. We select a few from many testimonies. Mr. HAYWOOD SWAN, of Morris, says: “Cattle do not suffer more than in other parts of Canada.” Mr. GEORGE CAIRNS, of High Bluff: “The winter is not severe on animals.” Mr. JAMES STEWART, Meadow Lake: “Cattle thrive well in winter.” Mr. JAMES ALEXANDER, Stonewall: “Animals do well in winter.” Mr. R. E. MURRAY, Cook's Creek: “It animals are properly cared for they do not suffer from cold.” Mr. ERIC DAWSON, West Lynn: “Although last winter was exceptionally cold, stock wintered well.”

The contents of the report should be widely circulated. The information supplied is valuable, and if generally disseminated at home and abroad would do much towards removing the mistaken impressions which have been formed in regard to the country, while those who have endeavoured to make out that the productive qualities of the North-Western States of the Union are superior to those of Manitoba and the Canadian North-West will find their representations disproved.

## THE REVENUE.

The following is a comparative statement of revenue received by the Finance Department from 1st July to 30th September during the years 1880 and 1881—

	1880.
Customs.....	\$1,732,623
Excise.....	1,236,208
Other sources.....	1,124,600
	\$3,093,431

	1881.
Customs.....	\$5,503,515
Excise.....	1,387,625
Other sources.....	1,278,815
	\$8,069,938

Increase over 1880..... \$1,061,206

## INSPECTION OF HULLS.

Under a law at present in force, a law that is, we are glad to say, strictly carried out, the boilers of all steamboats on our inland waters are examined from time to time. No steamer is allowed to engage in traffic without a certificate from the examining officer, certifying as to the soundness of the boiler and machinery. This is an excellent and proper arrangement so far as it goes; but it does not go far enough. Why insist on an inspection of the boiler and machinery and neglect the hull which holds them? What would be the use of the best steam engines that were ever made when placed in a rotten bottom that might fall to pieces before the first puff of wind? Our great lakes and rivers are not pools and creeks. Those who sail thereon have to face all the dangers of the ocean, and it is therefore the duty of those in authority to protect the travelling public in every possible way. This has been a sad year on our lakes and rivers, as many know to their grief. We have all had occasion to mourn over a personal or a general calamity, and in nearly every instance, as we now know, the calamity might have been averted by the exercise of care and caution. If we inspect the boilers of steamers, why not inspect the hulls? Why should not the Government appoint capable and experienced men to examine the body of every vessel on our lakes and rivers? None should be allowed to sail without a certificate as to her soundness. So far as goes the law is good, but it should go further.

A report on the products of the French Celluloid Company has been drawn up by Mr. VINCENT. The author states that celluloid must be preserved from any great elevation of temperature, even for a short time, in order to avoid the conditions which may produce very serious accidents, and, with a further view of insuring safety, he says that only limited quantities of it ought to be stored up. He found that cold mineral acids have but a very slight effect on it, but that hot nitric and sulphuric acid destroy it very quickly. A mixture of alcohol and ether will rapidly destroy it, even in the cold. The nitro-cellulose, which is the basis of celluloid, tested, it is added, is prepared from cigarette paper.

Human life is too precious to be risked in the daily things that are now on our waters. We have about us the widow and orphan of those who went out on our lakes and never came back. They went down in rotten ships. This can, in a measure, be prevented. Let the hulls of all ships be inspected by competent men. It is well to look after the boilers, but let us look after the hulls at the same time.

## EDITORIAL COMMENTS.

It is estimated that the production of beet root sugar in Europe this year will be, by countries, as follows:—Germany, 570,000 to 600,000 tons; Austria, 475,000 tons; France, 375,000 tons; Russia, 225,000 tons; Belgium and Holland, 30,000 tons.

It is announced that a sum of over \$20,000,000 is now lying in the United States Treasury waiting for the holders of past due and called bonds to ask for it. On this amount it is represented about \$10,000,000 is for matured bonds, on which interest accrued at various dates from before Jan. 1st, 1877, to July 1st, 1881. The other \$10,000,000 is for called bonds on which interest will come October 21st, but which, with interest to October 21st, will be paid on presentation.

The constitutional situation in the United States at present is unique. It is thus stated by a prominent journal:

“Mr. Arthur having become President of the United States, the office of Vice-President and President of the Senate becomes vacant. To-day there is no Vice-President and no President of the Senate. The Senate ought to have chosen a President pro tem. at its special session last spring, but it neglected the duty. The situation, therefore, is peculiar, and in a certain contingency would be most unfortunate. If President Arthur should die, there would be no one to take his place. The President of the Senate is the officer dedicated to succeed him as acting Executive, but there is no President of the Senate. The Speaker of the House is the next in succession, but there is also no Speaker of the House, because the new House of Representatives chosen last fall has never met and organized. Congress does not meet in regular session till the first Monday in December, seventy-four days hence. In the event of President Arthur's death in this state of things, therefore, the Government would be without a head—no President, no Vice-President, no President of the Senate, no Speaker of the House, no organized Congress. What would follow we do not care to conjecture.”

The French Government having consented to the further prolongation of the commercial treaty between England and France for three months from the 8th of November, general satisfaction is expressed in England, and the hope is entertained that the new negotiations may result in the framing of a new treaty which will be acceptable to both countries. A correspondent of the London Standard, writing from Paris on the subject, says:—“Contrary to its first interpretation of the law, the French Cabinet has agreed to the demand made by England with regard to the prolongation for three months of the treaty expiring on the 8th of November next. On the other hand, the British Government has accepted the principle of the substitution of specific for ad valorem duties, which it originally regarded as disastrous for English commerce. As regards cotton and iron, it has consented to an average duty, provided, however, that it does not entail for inferior qualities the payment of higher duties than those specified in the present treaty. This concession has not been made by the English Cabinet without any compensation. With regard to wool, it has obtained an exemption to its concession. Concerning specific duties, England has also demanded and obtained the same exception in favour of cutlery and hardware.”

Building operations are actively prosecuted. Two hundred and eighty-five new buildings were started during September. Labour of every sort is sought and wages are quietly advancing. Combinations of labourers are being formed in a great many branches.

A new underground telegraph wire is being laid through Market street, and the city will soon be possessed of early increased and greatly needed telegraphic facilities.

A new electric light company has been organized here known as the Martin Electric Light and Power Company with a capital of \$1,000,000. Some of the wealthiest men, financially, in the city are in it, and they have possession of several valuable patents. The wire will run under the streets.

Another grand enterprise is an elevated railway system to cover the city at a cost of several million dollars. Much hostility has been worked up against the horse car system because of its fares and the political ring behind it. The public is ready for the road, and all the steel has been taken.

The Pennsylvania R. R. elevated road will be running to the centre of the city by January 1st.

Shipping interests are flourishing.

Several new vessels have been launched—a 400 ton iron steamer for Galveston is one of the last. The yards are crowded.

Bank loans declare a million and quarter over last week. The drain of currency to the interior is met by frequent purchases.

A feeling of uncertainty exists which cannot be defined. Short supplies have reduced exports. The value of gold has been partially arrested. The enormous investments of capital will be lost. The enhanced cost of living has made strikes profitable. If demands for higher wages are not granted, if cost of production is enduring, heavy importations will be the result. A boom, especially in iron, gas,

## PHILADELPHIA.

From our own Correspondent  
Philadelphia Improvement... At Latest Market Quotations.

Philadelphia, Pa., Oct. 4th.—The material little wares hitherto the common authorities care not heating their drums as loudly or displaying as many banners as we are doing along the great parallel, but as in big broad work is to be done between Montreal and Winnipeg. The right is now for position, for location, for best bidding and turn-backs and leveling out.

The tunnelling of the St. Lawrence, the projected construction of the St. Lawrence Canal, the proposed connection of United States roads, the proposed extension of elevator capacity, etc., indicate that the trunk lines in the States will have to do more than they are able to retain their percentage of trans-bound traffic.

The railroad will be drawn largely from Lake and Mississippi to the Atlantic. Garrett, of the Baltimore & Ohio, wants to know of Vanderbilt who \$100,000 of dividends must be given in a useless effort. The answer to the question shows both the strength and the weakness of the railroad problem.

The Bremen mills are inclined to further business. They are still prefer to contract at \$65 and be sure of \$65, than to defer negotiations until next spring with the risk of obtaining \$150. I bring you a report that during the week just past, for several hundred miles of projected roads up to two hundred, reference to the railway gap, gives a general idea of the economic requirements. If things keep on as they are, rates will go to \$65, instead of falling, as they ought, and eventually will, to \$50, or even \$45. The eleven companies do not care to sell any further ahead. They have left such ample capacity available which to meet transient business. The world's rail capacity cannot make fast enough to meet the wants of buyers. All railroads projected are to be produced.

At no time was it more necessary than at present that the governmental affairs should be properly administered. Capital has more at stake. Lack of wisdom in those who know little else but an idle might precipitate conditions which would destroy confidence and jeopardize the safety of investments. Business interests demand permanency. Political changes do no good, except to remedy supposed wrongs. Twenty years ago it was said to let politicians have pretty wide control. It is not so now. Business interests must control the acts and policy of the Government, and keep politicians where they belong. Congress can do nothing without consulting the banking interests.

The manufacturing interests are combining in order that they can exert similar influence on Congress and use their great power to the work of realising free trade movements. There is too much of politics in Government and too little of business. More attention will be given to this matter. The Government of

as will be disastrous. Prices have reached a point beyond which importation can no longer be profitable. British capacity can greatly increase and if exportation reaches a possible portion of this now the quantity is increased and our market becomes more flooded. This is the situation today. Two dollars a ton produces for American pig iron, but the foreign product costs less. A ton furnace can make a little more, but it wastes fuel from \$22 up to \$25, but consumers have an even less possibility, and buy mainly from Canada at \$23 or \$24. The up-to-date heat keeps production at minimum due to consumption requirements of consumers. The rolling mills are in operation, but the product is limited by the heat. Very few contracts will be accepted for some time to come. Mill rates are nominally 2%, store rates 1% less, with an upward tendency. In fact, and tank iron and structural iron rates have been an increase of orders and a advance in prices. Shapes run from 20¢ per pound, with slight concessions when buyers can wait their turn the railroad requirements continue to be heavy, last week's transactions have been the latest for several weeks. The demand for wrought pipe and cast pipe is very active. English iron is dull and prices very low. Large transactions in steel rails, both foreign and domestic, were had at \$39.75. Next year's orders are placed at \$34, and some parties are taking delay in hopes of a decline to

Foreign rails were ordered for Southern delivery at \$24, among which were two orders, one for 8,000 and one for 2,000 tons. Inquiries are under consideration for narrow gauge rails, and \$150 each. Old rails are weaker than at last report, and it is quite probable a further decline will take place because of the entire absence of buyers from the market. Sellers ask \$28 for feet and \$31 for doubles, and bids are about at \$27.25. Two large transactions in steel ingots were closed for 13,000 tons at \$44. The iron mills are taking only a few small orders. Scrap of all kinds sold well all week at all sorts of prices between \$10 and \$20, the latter price being best No. 1 selected scrap. There is more or less talk of a further upward tendency, but the better sentiment of the iron trade does not favour any fluctuation. The cooler weather will allow a much larger output, and this will meet great demands, and restrain the boomish tendency of prices. Meanwhile car-grams are carefully studied.

#### EXHIBITIONS AND FAIRS

Halifax, N.S., 20th.—The rush of visitors to the city has ceased, the exhibition has closed, and to-morrow Halifax will return to its proverbial sleepiness. The attendance at the show to-day was small. Exhibitors have been busy all day removing their property, and to-night nothing remains behind.

Quite a pleasant little party collected in the press room towards evening, and the presence of Prof. Lawson, manager of the exhibition having been secured. Mr. W. J. O'Brien, representative of C. W. Williams' Sewing Machine Manuf., during occupancy of Montreal explained the object of the gathering, namely, to be at the following testimonial to Prof. George F. Caron, P.D., manager of the exhibi-

tion.

Halifax, Sept. 20th, 1851.  
Dear Sir.—We the undersigned exhibitors feel that the success which the enterprise has attained is in a great measure due to your untiring energy, and we wish to take this opportunity of expressing our high appreciation of your able management. While we must admit that your task was a difficult one, we are also pleased to state that you have met each obstacle with a determination to surmount it. This you have succeeded in doing most admirably. We tender you our most heartfelt thanks for your able assistance and courtesy, and sincerely hope that you may long be spared to preside over many exhibitions.

The address was signed by about 300 exhibitors. At conclusion of the reading of the address, Mr. George L. Layton of the "John Telegraph," and Mr. J. W. Dawson, "Master of the Halifax Chronicle," supplemented it by tendering the thanks of the "Press" for the uniform courtesy extended to the representatives not only by the manager but by the secretary, McKernan, the committee and the assistants.

Professor Lawson made an appropriate reply.

Mr. A. Gillis of St. John, representative of the Waterous Engine Works, Bradford, Ontario, followed him, endorsing the remarks made by the other speakers.

Two hon. Messrs. Fraser, Wedderburn and Young, of the New Brunswick Government, were entertained at dinner at the Halifax Club, Halifax, yesterday by the members of the Nova Scotia Government. The former Government during their visit had an extended conference with the Nova Scotians on the subject of the abolition of the Legislative Councils of the two provinces, no issue was arrived at.

Montreal, 20th.—The agricultural fair held here was a success in every respect. The entries were larger than last year. The attendance was about 20,000.

Port Hope, 20th.—The agricultural exhibition was held here yesterday and today, and was fully up to the average shows of former years, with the exception of fruit and root crops, although they were good, rendering the dry summer.

Hamilton, 20th.—The second day of the West Wellington Agricultural Show was a fair success. The display of all kinds of

farm stock was very good, but the goat and grain exhibit was less than previous years. A large crowd was in attendance this afternoon.

Vankleek Hill, 21st.—The annual agricultural show for the County of Prescott was held here on the 21st instant. The exhibits this year were more numerous and of greater variety and better class than at any exhibition previously held in the county. The best order prevailed on the grounds, and the weather being fine, visitors had an enjoyable day. Orders were submitted by a man named William Chalmers, who was in charge of a station. He was struck on the chest by the fore foot of the horse. Two of his ribs were broken, and it is feared there is other injury.

Belleville, 21st.—The annual show of the West Hastings Agricultural Society and the Belleville Horticultural Society, will open to-morrow. The entries are more numerous than usual.

Brussels, 21st.—The cattle fair was held here to-day. There were a good many fine cattle for sale, but only twenty-five changed hands, which were bought by local buyers. There is a good chance for drivers.

Sarnia, 21st.—The West Lambton fall show opened to-day, and will be continued to-morrow. This being the opening day the attendance was small, but, with favourable weather to-morrow, there should be a large turn out.

St. Thomas, 21st.—Though the weather was cold and unpropitious, the Southwestern Counties fair grounds were full of activity from early morning. From what can be seen in passing round, the show promises to be a success.

Newmarket, Ont., 21st.—The North York Fair now being held here is very good. The weather being cold has militated against a large attendance of visitors to-day, but the grounds and palaces are illuminated to-night.

Drayton, Ont., 21st.—The Peel and Hespeler Agricultural Show, held in Drayton to-day was a fair success. The display of all kinds of farm stock was very good. A large crowd was in attendance during the day.

Whitby, Ont., 21st.—The South Ontario County agricultural exhibition closed to-day. The attendance on the grounds numbered between 4,000 and 5,000 people. The character of the exhibition in every class was excellent.

Stratford, 21st.—The fall show of the West Middlesex Agricultural Society opened here to-day. The number of entries is now about 1,400, and will be increased to-morrow when the live stock will be on the grounds.

Kingsville, 21st.—South Essex County Fair opened here to-day. Although the weather was very unfavourable there was a good attendance. The root and fruit department is not as good as in previous years, but other things are, especially stock and grain.

Flora, Ont., 21st.—The Huron fair held to-day did not equal the average. The various exhibitions being held the week, added to the continual decline up in the berths at home by perambulating bus & leave, but the poorer class to bring & good beef was scarce. Prices ranged from 4c. to 8c. with few sales.

Welland, Ont., 21st.—The annual exhibition of the Welland County Agricultural Society opened to-day. The competition in live stock, especially horses, promises to be lively, and should the weather continue fair, a large attendance may reasonably be expected on the two remaining days of the show, which will last till Thursday afternoon.

Guelph, 21st.—The Central Exhibition opened here to-day. The number of visitors was small and there was nothing to be seen, for everything is as yet in a state of confusion. To-morrow will be the great day of the show, when the live stock will be in the field and the driving and riding takes place. A large number of visitors is expected.

Napanee, Ont., 21st.—The Lenox fair opened here to-day. The attendance was not large, as exhibitors are busy putting articles in position. There was competition for special prizes for horses, for trotting teams in harness, and the place is filling up fast, and there is every prospect of a most successful exhibition if the weather is favourable.

Walkerton, 21st.—The Northern Fair opened here to-day with a good attendance of visitors and exhibitors. There are over 2,000 entries this year, which is a considerable advance on previous years. The cattle and sheep on the grounds show a marked improvement, roots are splendid, but fruit is poor. The ball exhibit is fair. A display of Australian products attracts a good deal of attention.

Bradford, 21st.—The annual fall show under the auspices of the West Gwillimbury and Bradford Agricultural Society was held in this village on September 21st and 22nd. The show of stock to which we justly pride ourselves was very good, but the other department did not come up to former years. The attendance on both days was good, on the second day about 2,500 being on the grounds. The general impression is that if the smaller agricultural societies would amalgamate and have one large show, more benefit would be derived and a better turnout be made.

Winnipeg, 21st.—The Provincial Exhibition opened to-day with about 1,500 entries. The weather is promising and a successful exhibition is predicted. Staple products, grain, roots and vegetables are prominent features. The Canadian Pacific Railway land bureau pyramid is a prominent attraction of the fair. Trains run at reduced rates and are expected to bring visitors to-morrow and next day from all the Provinces. Live stock, implements and machinery are in Dufferin Park, and the exhibit in the music pavilion.

Gorrie, Ont., 21st.—The Horticultural show held here to-day was a decided success, beating any local show in this vicinity in grain. The display was excellent.

Lindsay, Ont., 21st.—The Exhibition to-day was a great success. Yesterday was cold and cheerless, and the attendance

was 1,000, but to-day eclipsed all previous gatherings.

Wallaceburg, Ont., 21st.—The fourth annual exhibition of the Chatham, Huron and Sombra Union Agricultural Society was held here yesterday and to-day. On the whole, it was quite a success.

Newmarket, Ont., 21st.—The closing of the North York show to-day quite equalled expectation, and was pronounced a grand success. About 5,000 people were on the grounds, and much interest was manifested in the stock show.

Burke, 21st.—The West Simcoe Agricultural Society held its annual exhibition in the drill shed and town park grounds yesterday and to-day. It was a great success.

The show of stock was far in excess of that of former years.

Napanee, Ont., 21st.—The second day of the Lenox Agricultural Fair had bright but weather. There was an immense attendance of visitors, many in excess of other years, and the exhibition in all its departments was a pronounced success.

Tavistock Oct., 21st.—The Fall Show of the East Zorra and East Hope Agricultural Society was held to Tavistock to-day.

The attendance was quite large, and the entries amounting to about 800, were considerably ahead of last year.

Goderich, Ont., 21st.—The West Huron Fall Show opened here to-day and will be continued to-morrow. The attendance was small, but, with favourable weather to-morrow, there will be a large turn out.

Godwin, Ont., 21st.—The Godwin Agricultural Fair was held at Godwin to-day, and was very successful. The Hon. A. P. Garson was present, and addressed the exhibitors and visitors.

Beaverton, Ont., 21st.—The Thorold Agricultural Society held their annual fair here to-day, notwithstanding the severe cold weather a much larger crowd than usual were in attendance. The number of entries was not quite as large as last year.

Stratford, Ont., 21st.—The second day's show of the West Middlesex Agricultural Society was an undoubted success. The weather favoured a large attendance, and as a result, the adjoining township turned out in force. The gate money collected was the largest in the history of the Society.

Stratford, Ont., 21st.—The Agricultural Show opened this afternoon, but the attendance was small owing to the extremely cold weather. This evening the ball was opened to the public, and there was an average attendance. The exhibition is better than usual. Cattle, horses and other live stock will be shown until to-morrow.

St. Thomas, Ont., 21st.—On this the second day of the Southern Counties Fair, the weather was cold and the wind propelling, but it did not deter thousands of people who had got their minds on visiting the fair from coming to the city. The crowd grew greater every hour, till, at 2 o'clock, there must have been 10,000 people on the grounds. The Credit Valley train from Toronto arrived at the Guelph Southern Railway Station at 12 M.P.M., with His Honour the Lieutenant-Governor and suite, Mayor McNaught and several aldermen. Among others on board the train were the Hon. A. McCallum, sheriff of Wentworth; Mr. Wm. Thomson, ex-president of the Northern Railway; Mr. J. J. Wilbrow, president of the Toronto Industrial Exhibition. On arrival at the grounds, an address was read by the president of the Association, and also one from the City Council by his Worship the Mayor, to both of which His Honour replied.

Hamilton, Ont., 21st.—The attendances at the fair to-day was very good. The air was clear and bracing, in fact a little too bracing for some, and though the sun was shining brightly, overcoats were in demand. The exhibits were all in their proper places, and arranged so as to be seen to the best advantage. Visitors began to arrive early, but it was not until about noon that a very great number of people were in attendance. The 1st Hussars' Band arrived about noon, and played some selections during the afternoon. The band attracted attention and was the center of observation during the time it was making music. There is no doubt about the band being one of the very best in the Dominion, and it is in many respects a worthy rival of our own 13th. The school children began to arrive immediately after dinner, and made things lively for everybody. The agricultural machinery was in motion, and in the portion of the grounds devoted to this department the hum of the motive industry was quite a prominent feature of the exhibition. One of the greatest attractions is the afternoon was the fireman's bicycle race, in which Moodie, of Hamilton, won first prize, and A. McLean, 2nd. The horse racing was surrounded all the afternoon, and the display of animals was magnificent. The judges have about completed their labours, but the returns are slow to come in.

Atlanta, Ga., 21st.—The Cotton Exposition opened to-day. Thousands were present.

#### OTTAWA EXPORTS

The following is the declared value of exports from this port to the United States for the quarter ending the 30th September ult., obtained through the kindness of Col. Hoblitzell, the courteous American Consul:

Woolen lumber	... ...	\$1,270	21
Eggs	... ...	4,012	21
Pork hams	... ...	1,107	14
Railway ties	... ...	6,121	14
Laths	... ...	397	14
Phosphate rock	... ...	4,931	13
Dimension timber	... ...	1,071	13
Beets	... ...	2,577	13
Raw hides	... ...	211	12
Preserved bay	... ...	1,7	12
All other articles	... ...	431	10
Rollers, effects	... ...	2,622	0

#### MOVEMENTS OF THE FISHERY FLEETS

The receipts of cured codfish from the Maine fishing ports have commenced, five cargoes of 2,000 lbs. having come to hand since our last issue. The Gloucester fleet are meeting with fair success in the haddock and mackerel fisheries, but the Georges Bank continue to bring in light fares. In addition to the receipts mentioned above and below the St. Lawrence fleet landed about 10,000 lbs. haddock and 17,500 lbs. hake, and 100 lbs. herring have been received from shore, and 875 lbs. hake, and 600 boxes herring from Newfoundland. The past work

We now give the following fishing arrivals at this port since our last issue.

	Cod.	Hake.	Mackerel.
Grounds	1,000	1,000	1,000
Western Bank	6,000	1,000	1,000
Grand Bank	1,000	1,000	1,000
Bay Fundy	1,000	1,000	1,000
Headland	1,000	1,000	1,000
Shore	2,250	1,000	1,000
Bank Islands	—	—	—
Total	21,250	5,000	5,000

For the corresponding week of last year there were 105 arrivals, with 2,215,000 lbs. of codfish, 242,000 lbs. halibut, and 9,710 lbs. mackerel. Last week we report 669 arrivals, with 1,000,000 lbs. codfish, 41,000 lbs. halibut, 25,000 lbs. flounders, 1,740 lbs. mackerel, 95 gills hake, 32,000 lbs. herring, 31 casks fish oil — Copy Ann. Advertiser.

Actual small farmers settlers, who are raising the most crops of wheat in the world, ranging from thirty to forty bushels to the acre. One turn out fifty to sixty bushels, potatoes, 350 to 400 bushels to the acre. These farmers, of course, are making money, and look to Winnipeg for their supplies, for the tariff shuns the United States traders out. Winnipeg has railroads leading from it in three directions, and before another year will be increased to at least six. It is no trouble to build railroads in Manitoba. It is as flat as the sea. Architecturally speaking the city is doing poorly, most of the houses are plain, ordinary looking frame buildings, notably the buildings of the Hudson Bay Company, which are mostly of St. Louis pressed brick. This city is an example of the help of railroads, its taxable wealth doubled in one year after the railroads came. It has gained 8,000 inhabitants in one year and from present looks like St. Louis of the North looks as if it might run the great St. Louis of the South.—Correspondent St. Louis Republican.

#### HOLLOWAY'S MUNIFICENCE

Who is he that has not heard of Holloway's pills and ointment? By the sale of his wares, the success of which was brought about by judicious advertising in every language in which newspapers are printed, Mr. Holloway has accumulated a large fortune. He is a philanthropist, and already has given away immense sums for charitable purposes. His latest expenditures have been connected with the establishment of a college and sanatorium in the vicinity of London. The former institution has been built in memory of Mr. Holloway's late wife, and is intended for the higher education of women. Exclusive of fitting the college has already cost £250,000. It will accommodate 300 students, and each student will have two rooms to herself. In the constitution of the college it is provided that "No professor will be required to submit to any test concerning his or her religious opinion." The founder declares that, "having witnessed the hand of God in all things, it is his earnest desire that the religious teaching of the college should be such as to impress most forcibly on the mind of each student her individual responsibility and her duty to God. Students will have the right to attend the services of the Church of England, or of any other denomination which their parents or guardians may desire." The dome of the college is to be that of an orderly Christian household, with a daily simple

## SPIRIT OF THE COMMERCIAL AND INDUSTRIAL PRESS.

### THE WELLAND CANAL ENLARGEMENT

(Montreal Herald, Sept. 21.)

A week ago to-day the enlarged Welland Canal was opened for navigation without noise or ceremony. We believe that all the contemplated improvements have not yet been completed; but, as far as they have gone, they are still useful for letting vessels the largest also used on Lake Erie pass into Ontario and vice versa. A few years ago this improvement would have attracted a great deal more of attention; and it would, no doubt, have been of far more consequence to the commerce of the continent than it is to-day. Nevertheless, it is a great step in advance, and, as between American and Canadian waterways, ought to give us great additional advantages over DeWitt Clinton's wonder-working ditch, to which New York owes so much of her prosperity. It is probable, indeed, that there are vague expectations which were not likely to be realized, even if the problem of transport from the West had remained as it was fourteen or fifteen years ago. Of course there is not, and has not for a long time been anything to prevent a respectable-sized vessel, quite large enough for safety on the ocean, to pass from Chilago to any European or other Atlantic port. This trip has been made more than once; but in spite of the boasting of those concerned, there has not been such repetitions of the voyage as would seem to indicate that it had really been profitable. Nor will it be rendered more so by the opening of the enlarged Welland, because, though that will create an enormous navigation, fit for all but the very largest ships of modern build, and extending from the heads of Lakes Michigan and Superior to the foot of Ontario at Kingston, it does nothing for the distance between Kingston and Montreal. Nor is it likely that much can be done; for though, no doubt, various obstacles may be and will be removed, it seems practically impossible to procure a much greater available depth of water. The difficulty is this, that between Kingston and Montreal you not only have to canalize, in order to get over the old portages, and to remove bars, boulders, etc., from particular places, you have to excavate the bottom all along except where you find an accidental hole. There seems then to be every prospect that notwithstanding the vast expense of inland waters and the thousands of miles of coast which will be made available without breaking bulk to very large vessels, Kegaton must be the eastern limit of their voyages. That this is so from geographical causes is probably of less importance than it would have been had not mechanical reasons brought us to the same conclusions; but it seems doubtful whether, even if very large sailing ships—it may be different with steamers—could pass through the St. Lawrence canals it would pay so to pass them. The business of the great lakes requires an equipment so much more expensive than that which is wanted for a river and canal large that the interest and wear and tear on the costly rig would go far to pay the expense of the transfer, especially if it be true, as we have heard, that the condition of grain is much improved by being turned over once in the voyage. Be all this as it may, it is evident that the opening of the enlarged Welland must be regarded by the best judges as an epoch of great importance in the history of the Western grain trade. Various opinions have been put forward by our American competitors as to its effect on the future of that business. Some writers have given Canadians credit for a wise enterprise in pushing the enlargement of the canal, and while they admit the gain it gives us in the rivalry they have expressed nothing but good feeling and friendship. Others appear to think the continent made exclusively for Yankees, and write in an ill-natured spirit, half-near, and half-scold, as if we committed treason in endeavouring to turn our own position to the best account, while others again gratify their readers by demonstrating that the enlargement is and must be a failure. Whatever view they take, however, the virility of the discussion proves that none of them regard the event with indifference. But there is a view of the affair other than that obtained by a comparison of the Welland and Erie canal routes, which may not be so satisfactory as that one to us as Canadians. It is probable that we are about to have an enormous addition to the exportable volume of American breadstuffs supplied by our own North-Western territory. So far as this is to be water borne, it will first touch water on Lake Superior, and will hardly be carried round from thence by barge, either by ship or rail. It will, we may fairly expect, come by our own routes, whether by ship or car, and the tendency to do so, especially by ship, will be largely facilitated by the improvement on the Welland, especially so long as there is no railway connection between Thunder Bay and Lake Superior. But it seems to us that the true problem as to the effect of the enlarged Welland upon the trade of the country is to be found, not in any question between the Welland and Erie, but in that between the vessel and railway. The employment of steel for rails, instead of iron, has quite changed the condition of the carrying trade, and it may be that unless something can be

done to reduce the balance, the rail will carry the bulk of merchandise which has to be removed to market. The most natural trend to progress would probably not be without right such a change as would render our vast water ways as least for the purposes of commerce. But the world does not stand still for the sake of sentient natures, and it is in this direction, we confess, that we look with the most apprehension for a revolution which may eventually render useless our enormous investments in canals and other river improvements.

### A LAND OF PROMISE

(The Shareholder.)

It is singular that a people as intelligent and practical as Canadians were so slow in recognizing the incalculable value and importance of their possessions in the North-West. Their conduct presents a strong contrast to the action of the Americans, who pushed their settlements into the Western States at a comparatively early period in the history of that country, and long before any railways were constructed there. It is true the Americans had no Hudson Bay Company to place obstructions to their settlement, as was the case formerly in Manitoba and the North-West. Happily this great drawback to the filling up of our territory has been removed, and instead of being an enemy to Anglo-Saxon settlement the Hudson Bay Company is now entering into a keen competition with the Canadian Pacific Railway and the Government to draw settlers to the country. From the marked progress the company has made under the direction of Mr. C. J. Brydges, its able and experienced land commissioner, they have no reason to fear their powerful rivals. By the sale of \$300,000 worth of land last year, and probably more this year, it is evident that competition is doing more good than harm. It is true they will have to meet a keener opposition from the great railway company in the future than they have met from the Government in the past, but it is evident from the zeal and energy Mr. Brydges is displaying that he is resolved to keep ahead—if he can. Since he was appointed to his present very responsible position, Mr. Brydges has left nothing undone to make himself personally acquainted with the vast territories in which the company he represents is so largely interested. This summer, as in former years, he has made an extensive tour through the finest and most promising portions of the "fertile belt." We were greatly impressed lately in reading the report of his trip, as given to that useful modern institution, a newspaper interviewer. It is from such practical and intelligent observers as Mr. Brydges only that a clear view can be obtained of the value of the magnificent Canadian territory that has recently been opened up to settlement. After describing the wonderful fertility of our new possessions and the ease with which this land can be cultivated, Mr. Brydges summarizes his valuable observations in the following pertinent manner:—Having been over a large portion of this country—the North-West—I am satisfied that the district bounded on the east by the Red River, as far north as Lake Winnipeg, on the west by the 102nd degree of longitude, and on the north by a line drawn from the foot of Lake Winnipeg to strike the 102nd degree of longitude, contains an enormous quantity of excellent land, the great bulk of which is capable of cultivation. In that area of country, and especially the southern part of it, there is already a very large amount of grain being produced, and I can have no doubt that any railway lines which penetrate into that country will not only be of enormous advantage to the settlement and growth of the country, but will be profitable to those who find the money to build them. I have come back with a very vivid and strong impression of the value of the country which I have passed over. It has far exceeded my expectations that I had been able to form." Upon every part of his route Mr. Brydges remarks that he saw "extensive fields of magnificent wheat." All this is valuable testimony coming from a man so well known and respected in Canada as Mr. Brydges, who would not even be suspected by his enemies, if he had any, of exaggeration for any purpose whatever. But these are not the opinions of Mr. Brydges alone, but of every intelligent individual who has visited the North-West. After returning lately from a trip in that country, and traversing a considerable portion of the same territory Mr. Brydges had been over, the Hon. Peter Mitchell corroborates, in the *Toronto Mail*, the statements regarding the fertility of the country and the bountifulness of the crops as described by the land commissioner of the Hudson Bay Company. Heretofore, the greatest drawback to the settlement of the North-West has been undoubtedly the want of means to transport the produce of the land to market. It is to the credit of Sir John Macdonald's Government that they have always laboured with undaunted perseverance and against strong opposition to remove this obstacle, and now that the Canadian Pacific Railway Company has the matter in hand and is carrying out the work with such extraordinary rapidity there will be little to complain of on that score in future. Not until is the Company building the main line to the Pacific with astounding progress, but it is also simultaneously constructing branch lines to open up the country in all directions, so as to leave no part without railway communication. There is not a single

portion of the vast area comprised in the "fertile belt" that will not in another year have the iron horse running through it such progress in railway construction as to have compete in the North-West is without parallel, even on this continent, when such marvellous achievements in that direction are recorded. For the information of those who may contemplate trying their fortune in the North-West, we may state that many venturers before railways or settlement were thought of in that section of the Dominion, the writer travelled through the territory from Manitoba to the Rocky Mountains. In his progress he examined it carefully and obtained most valuable knowledge regarding its capabilities for settlement from Hudson Bay employees who had spent their lives in it. Since that time everyone who has gone over the country and published his observations, has more than confirmed the favourable views we entertained regarding it, and gave expression to in the press nearly twenty years ago. Since our visit to the North-West we have travelled extensively over the United States, from the Atlantic to the Pacific, and we can safely say there is no part of the Union, east or west, in an agricultural point of view, at all comparable to the great valley of the Saskatchewan, extending over a thousand miles, and the other parts of the territory lying contiguous to it. We have only a word to say regarding the climate, and that is, it is claimed to be, and we believe it is, the healthiest in the world. Scotchmen, who spent half a century in the territory in the Hudson Bay Company's employment, and whom we met in all sections, from Emerson to the Rocky Mountains, assured us that it was extremely healthy. Unlike the great agricultural states, the south-west and west of Texas, Kansas, Iowa, Illinois, and others, malarial and other epidemic diseases are unknown in it. True, the winters are cold, but never so cold as to prevent outdoor work, and it is a fact that all the freighting and travelling of the Hudson Bay Company in former days were done in the coldest winter months. It is also well known that Indians live to a very old age throughout the territory. We have ourselves seen aborigines who were represented to be on the verge of one hundred years old. This surely establishes the healthiness of the country. We have only to say, in conclusion, that the crop statistics collected and published in the *Herald* here this week, show how wonderfully productive the land in the North-West is. These return far more than bear out all the favourable representations which have heretofore appeared in the press of the Dominion regarding our Land of Promise.

### THE ARCHITECTURE AND SURROUNDINGS OF MANUFACTORIES

(Chicago Industrial World.)

Manufacturing institutions should be built with especial reference to their cheerful internal and external appearance as well as to their pleasant surroundings. When it is remembered that the shop or the factory is practically the home of the operatives, the importance of this suggestion must become apparent. Some build factories or works with the sole view of providing a shelter for their workmen or a place where work may be turned out, thinking little and caring less about the comfort or happiness of the men whom they intend to employ therein. It need not be said that such manufacturers are not likely to obtain the best results from the expenditure of their money for wages, and that they are not likely to obtain and keep the best of workmen. To ignore the taste, the comfort or the happiness of the workmen when erecting a building in which he is expected to spend the greater portion of his days, is, to say the least, a short sighted policy; for other things being equal the workman would naturally go where he found the best accommodations, and the happiest surroundings. This is not a mere speculative theory, as some might suppose. Men do not lose their taste, nor their enjoyment of pleasant associations or surroundings merely because they are engaged in some of the industrial employments. While a man might perform his duties in a dark, dingy, uncomfortable place, it does not signify that he would do so longer than he was obliged to. Possibly he might do his best work under such adverse circumstances, but he would be a very conscientious workman if he did. There is something in an airy, bright, cheerful workshop that not only creates an air of contentment, but inspires the labourer to do his best work. This is no new idea. Our best workshops are planned and made with a view to the comfort and happiness of the workmen, as well as the convenience and facility for turning out the work. On into many of our New England manufacturing towns, enter the shops, view the grounds, and note the liberal expenditure for beautifying them, and making them homelike, and one cannot but be impressed with the thought that a life amid such scenes is far more agreeable than to be housed in some cold, forbidding, barn like structure, whose only redeeming feature is that it contains room for the business to which it is devoted. Institutions in particular where skilled labour is employed, should be made an attractive as possible, because this kind of labour at best is hard to get and hard to keep, and manufacturers are fortunate indeed when they can secure it for a long period. Skilled workmen are very particular about where they work,

and are exceedingly restless, if required to work amidst scenes and surroundings that are ungenial. In earlier days our western manufacturers learned that it was a difficult matter to get skilled operatives to come out here and a still more difficult thing to induce them to stay after they were here. That was in the days when our manufacturing institutions were in their infancy, and were not the inviting, cheerful places that many of our best works now are. To make a workshop a pleasant, cheerful, homelike place does not necessitate an exceedingly large expenditure. A factory may be elaborately furnished and yet not possess the desired qualities of cheerfulness. Where the nature of the business admits the rooms should be high and well lighted. If painted, they should be bright in colour, rather than dark, unless the business requires that they should be otherwise. The arrangement of the machinery and the work should be such as to give the workman the best light and the most convenient means of performing his duties. A little care of the yards in front of a shop, a little patch of flowers here, a winding walk well gravelled there, and a handsome fountain kept playing in the day time, might not entail much expense and yet the sight of these during the spring, summer and autumn months would be of incalculable value to the men who are engaged at work in the shop.

Men tenaciously cling to their positions in shops like these. Life is pleasant to them, and they are content to spend their days there. They are willing to build their homes and rear their families in towns where such works are located, and they are ambitious to do their best in order to keep their position, and to stay among such congenial scenes. The builder of factories and shops, then, who selfishly or parsimoniously neglects to make his works attractive and inviting is pursuing a poor policy. True, he may save a few dollars in the first cost of his building, but he will lose in the long run, by the restlessness of his employees, their dissatisfaction and his inability to get them to perform their best labour. There, doubtless, are exceptional cases where from the very nature of the work the plainest and simplest structures are all that are required, and yet even here much can be done to improve the appearance, and at the same time facilitate the operations of the business.

Aside from any tender considerations for the workmen, we believe it can be demonstrated that it pays to construct manufactories on the principle herein suggested. Improvements of the nature here spoken of are permanent; they increase the value of the works, and become a part of the freehold, and in case of sale or exchange, count for their full worth. Besides, the owner of such works cannot fail to take a justifiable pride in their construction, and especially when he realizes that the benefits of his expenditure will be shared in by himself, the public and his employees.

### FREE TRADE

(Chicago Industrial World.)

The New York Free Trade Club has begun the publication of a periodical appeal called *The Free Trade Bulletin*. At the head of the first column stands this motto and this question: "Free speech, free press, free soil, free men! Why not Free Trade?" Because what has come to be styled in the discussions of the day, and in the demands of the anti-protectionists, as "free trade," is the instrument, not of freedom, but of slavery. The adjective "free" does not necessarily dignify, improve, enoble, purify, or sanctify anything to which it can be applied. Good men and women reprobate the general use of liquor on election days as a vicious and corrupting device for influencing voters; yet the intoxicant so used is styled "free liquor." We may, therefore, repeat the *Bulletin's* appeal, with the following variation: "Free speech, free press, free soil, free men! Why not free liquor?" We answer, as before, because it is the instrument of slavery, not of freedom. Again. Indiscriminate love, or love of one man for many women and of many women for one man would debauch society; yet this sort of love is advocated by a class of persons who call it "free love." Once more we may vary the *Bulletin's* appeal thus: "Free speech, free press, free soil, free men! Why not free love? Because it is the instrument, not of freedom, but of slavery. Trade is not really free by chaining to it the epithet free. Free Trade no more glorifies or establishes freedom than a pure fraud emblemizes and establishes purity. Free men under Free Trade between nations are put in bondage, losing their freedom by becoming the slaves of trade. If trade is made literally free by coupling the two words, why is there so much talk in England about "one-sided free trade," and "fair free trade?" Whatever is truly and properly free cannot be one-sided, and must be fair; yet these descriptives are employed to designate that very system of Free Trade which we are asked to copy, and which we are told is an beneficial in itself that England cannot afford to surrender it, even although it should be rejected by all other countries.

It is a very shallow and uncandid use of logic to base an argument in favour of a doctrine upon the ambiguity of a word in its different conceptions. The *Bulletin's* appeal is only one of those carefully phrased propositions—one of those fallacies and non sequiturs—which are continually used on by unprincipled and dishonest persons upon the thinking as first class truths. In those words, pungent, scathing, uncharitable, making war for the weak, the name of the right, which are apt to dangerously impress such unprincipled minds as are accustomed to independent thought. This impudent statement—this broad bluster, this coarse and effect—appears to be in with the *Man-hater* school of political economists. Thus, some years ago, the *Free Trader*, then the organ of the New York Free Trade League, so eloquently flattered beneath its title that "Free Trade is the International Law of the Almighty." Free, its sponsors discovered that they had only an empty form of words in a way of expressing any intelligible thing, and so took down their sign in a spirit of disgust over its rhetorical monum. The new form of words is quite empty, inconsequential and popular, as the old.

Out of Free Trade—British Free Trade—is claimed to come a great benefit in the shape of cheapness to consumers. But this very cheapness is obtained through the flightful and indescribable stinting honest labour of its reward—grinding the bones of the poor. It goes into the workshops and dwellings of the toiling millions in Free Trade England—of the spinners, weavers, tailors, shoemakers, batters, potter, puddlers, locksmiths, printers, nailers and so on to the end of the list—we learn that they are scantily paid, miserably fed, miserably sheltered, miserably clothed, and almost hopeless. The privation, misery and debasement constitute the price given for the law of cheapness. To secure it, multitudes of industrious men, women and even children are driven through the doors of poverty and suffering into premature graves. Do you see that cheapness threads of degraded labour are woven into its texture. Look at those wretched huts. They were forged by a set-to-tear-old girl at wages of sixpence per day. Examine that silk offered at a bargain. Every yard of it contains a spot of want and sorrow. A squall home represented in those cheap stockings and a brutalized life takes the low price of those imported shoes. What groans and lamentations would arise from this Free Trade cheapness, could speak; what tears flow from it, could weep; what miseries envelop it as with a pall, could it manifest its importunities; what foul delusion make hideous, could its hidden reality be brought into view. Monstrous evils, gigantic wrongs, greedy oppression, aschreasted labour are among the pillars which support this tainted system of cheapness. Helpless, undefended, traduced, degraded, plundered toll its foundation stone. It is permeated throughout with a spirit of injustice which benefits the consumer by robbing the labourer. It impoverishes one not to the end that another multitude may be able to earn money. It takes away heart, hope, and self respect from one class that another class may thrive. I claim that such a system is in any sense allied with freedom, or even can be drafted into the service of freedom, may be made in any way tributary to the cause of freedom, is a libel on truth, mockery of reason, and an affront to common sense. Trade conducted on such false principles is alien to everything which we esteem as moral, as an adjunct, and a descriptive of real trade, is mendacious, insulting and repulsive, being forced into mongrel connection by which the genuine mercantile is prostituted, while the system of trade is neither dignified nor acquitted. Is its unnatural association, "free," the white sheep that rubs against the black pot, "trade," and gets smirched?

When vast issues are at stake, the cannot be too much care in the use of language. John C. Calhoun built up the whole superstructure of the doctrine of the right of secession, from which sprang our civil conflict, upon that fundamental but erroneous proposition that the organic law of the Union is a constitutional compact among sovereign parties, without any common judge, each having an equal right to judge for itself of the intention as of the mode and measure of redress. The keystone of this dangerous proposition was the word "compact." That memorable discussion between Webster and Calhoun, in the Senate of the United States, on the nature of our government, turned on the question whether or not the constitution was a compact. If not, then the claimed right of secession had not even a shadow to stand upon. We have to watch similarly adroit formulas of phraseology creep in to strangle Protection, and a bigoted view particularly to be trace since it is seldom found in the real truth.

The Sandwich fish hatchery is undergoing extensive repairs for the fall we. Some 200 glass jars are taking the place of the ones formerly used, into which eggs will be placed next month.

A local potentate on the west coast Africa, styled King JaJa, wishing to extort the trade of the Qua Qua tribe from the market, sent an expedition against the people who opposed his views, after a short and sanguinary war he secured his prisoners, killed their best and had their skulls utilized in the garnishment of his palace.



## RAILWAY MATTERS.

## THE NORTH-WEST ROOM

## Interviews with Sir A. T. Galt and Mr. Northcote, M.P.

Montreal, September 29.—Mr. George Stephen, the president, and Mr. Northcote, M.P., director of the Canadian Pacific Railway Company, returned to the city to-day from their trip to the North-West. The *World's* correspondent had a few "intimate" conversations with Mr. Northcote this afternoon, and he expresses himself as highly pleased with our new territory, which he has just visited for the first time. After a long stay in Winnipeg, Messrs. Stephen and Northcote went to Brandon, to which place the railway is now running. They were amazed to see so many houses and stores erected in that place, and with the general progress towards making a city where there was not a single dwelling in June last. The country all along the route is fast filling up with settlers, and the prospects for traffic on the railway are exceedingly cheering. The crops everywhere throughout the territory are reported to be remarkably fine.

**RAILWAY CONSTRUCTION,**  
both on the main line and branches, is being rapidly pushed forward. The only drawback to greater progress arises from the absence of sufficient labourers, although the company is paying two dollars and a quarter per day for ordinary hands. The north-western branch from Winnipeg, it is expected, will be finished to the junction with the St. Paul, Minneapolis and Manitoba Railway this season. Next year the company looks forward confidently to building between two and six hundred additional miles of the main line, besides extending their tranches. Several English gentlemen are now examining the North-West, some with a view to promote colonization on a large scale, and others to buy land to settle their sons or friends on. Mr. Stavely Hill, M.P. for Staffordshire, a large capitalist, may be included in the former, and Mr. Hawkins, M.P. for Leicestershire, and Mr. Locock Webb, Q.C., in the latter category.

**WORKS ON LAND SPECULATORS.**  
The railway company is taking every possible safeguard to prevent the land being taken up by speculators, and they retain the power in their deeds of sale to set aside hereafter all transfers where the party buying has not complied with the regulations respecting settlement and cultivation, especially the latter. This is the settled policy of the company, and it will be strictly carried out in all cases. Mr. Northcote has obtained a good knowledge of the North-West, is delighted with its fertility, and speaks of its adaptability for settlement in terms of high praise. Every exertion will be made in the United Kingdom through co-operation with the Government emigration agents and otherwise to induce

**A steady stream of emigration** hereafter. He thinks, however, the best emigration agents will be the successful farmers who are settled on the prairie lands, and who will let their good fortune be known by letters to their friends at home. Mr. Northcote will leave for England next week via New York, where he and Mrs. Northcote will pay a round of brief visits to friends before their departure for home.

**SIR ALEXANDER GALT'S VIEWS.**  
Sir Alexander Galt returned from the North-West a few days ago, but has been visiting Quebec, Ottawa and Quebec in succession since his arrival, and he was not accessible here until to-day, when the *World's* correspondent solicited his opinion regarding the new country, he had visited. Sir Alexander was very busy, and had very little time to spare even for a conversation on so important a subject, and I therefore refrained from plying him with many questions, which no doubt would have elicited interesting information for the readers of the *World*. In general terms the Canadian High Commissioner to England said that what he had seen of the North-West gave him a far higher opinion of its adaptability in every respect for settlement than he had ever been led to form from the glowing accounts he had previously read or heard about it. He had travelled 260 miles north-west of Winnipeg to Fort Ellis in the interior, and returned on the line by the Pacific Railway, and he was charmed with the general features of the country, the fertility of the soil, and its

**WONDROUS RIVER RIVER.**  
In all parts where the land was cultivated the wheat and other grain, as well as the root crops he described as simply magnificent. The crops of all kinds surpassed anything he had ever seen before. Such a splendid country he thinks must soon fill up with settlers, more especially now that it will be intersected with railways in all directions. He thinks instead of deferring emigration to Ontario and the eastern townships of this province from going to the North-West they should be encouraged to go there. They are just the right class of pioneers for that new country from the valuable experience they have gained in making their present homes. Tenant farmers from Great Britain and Ireland, he thinks, would at first do as well to buy farms in these settled provinces, where the transition from their former experience would not be so great at first as in going into the

North-West. In all his travels Sir Alex. under never met a gambler in any city or country. It was literally, he said,

## A word of conclusion.

All over everyone seemed to be split, either with their present condition or if they were new comers with their future prospects. Winnipeg he thinks a wonderfully progressive city for its age, and he gives it as his candid opinion that it will overtake it. It does not

## SCENES TORONTO.

In the race for population and wealth, Sir Alexander intends returning to England at as early a moment as he can possibly settle up some business he has here. The opinion he has formed from actual observation and experience cannot fail to be otherwise than of infinite advantage, not only to the North-West, but to the whole of Canada, for the interests of the Dominion are now indissolubly bound up in the pooling and general development of our new empire in the North-West. Before parting with the High Commissioner your correspondent asked him if it were true he was anxious to return permanently to Canada, as was generally represented. "Well, you may say it is true I love Canada and greatly prefer living in it to stopping in England," were the last words he uttered as he passed into the Canadian Pacific railway office on St. James street, the interview having occurred as he walked there from his private office on the same street.

**The traffic returns of the Great Western Railway of Canada for the week ending Sept. 23rd 1881, are as follows:—**

Passengers .....	\$12,336
Freight and live stock .....	61,160
Mail and sundries .....	4,124
Total .....	\$80,620
Corresponding week last year .....	113,485
Decrease .....	32,865

The Union Pacific and Central Pacific railway companies continue their threatening demonstrations against each other. The former is pushing surveys for the extension of its Utah Southern branch toward California with evident earnestness, and the Central Pacific has nearly completed a survey for an extension of its main line from Ogden to the Missouri river, a distance of some 900 miles by a route about 100 miles north of the Union Pacific. It is stated that a feasible route has been found by the way of the South Pass, and Vice-President Huntington says that the road will be built if the Union Pacific continues to build its connection with Ogden. The Central Pacific has ordered 60,000 tons of steel rails from England, and if necessary the road could be constructed very rapidly. Meantime the California Pacific, which is expected to form the western connection of the Union Pacific, seems to be actually in progress. With the opportunity held out to the Union Pacific of an independent line to San Francisco, and the fact that it will also, ere long, have a line of its own to Oregon, giving two routes to the Pacific, it does not seem probable that this company will be dissuaded from its present undertaking by the arguments of the Central Pacific. Two leads have already been discovered which appear to be rich in the precious metal and there is every reason to believe that several other leads will shortly be found.

**G N W TELEGRAPH COMPANY.**

Toronto, Sept. 29.—A meeting of the Directors of the Great North-Western Telegraph Company was held yesterday in the head office on the corner of Wellington and Scott streets. Ernest Williams, President, was in the chair, and there were present also Messrs. William Gooderham, A. S. Irving, James Headley, and Hon. William McDougall. Mr. Hector Cameron, solicitor of the Company, was also in attendance. Among the business transacted was the giving of an order to the treasurer to pay \$41,250 to the shareholders of the Montreal Telegraph Company, being the first quarterly payment of the guaranteed dividend. It was announced that the line from St. Vincent, Man., to Winnipeg, Man., (20 miles) would be shortly acquired from the Western Union, and will be rebuilt, thus affecting satisfactory connection with the North-West. Arrangements are also being made for the perfection of facilities of communication between Central Ontario (Brickville, Belleville, etc.) and Central New York. A quadruplex line is being laid direct from Montreal to New York, and a similar means of communication will soon be added from Toronto to Chicago.

In about fifty towns the consolidation of the two old institutions, the Montreal and Dominion Telegraph Companies, necessitated the dismissal of a number of employees, operators thus thrown out of employment being in majority overseas, where they will be transferred to positions in the United States, where there is an unusually active demand for labour of this class. It was reported that the increased rate from 20 to 25 cents for ten words had been met by the public without serious objection. "In fact," said Mr. Wilson, when spoken to upon the subject, "the people know that the service can be better performed now than before, and therefore the increase is rather popular than otherwise."

The revenue from the Windsor waterworks for last year is estimated at \$16,000, and the expenditure on account of their at \$16,250, which includes \$2,000 for interest.

A correspondent of the *Malvern Mining Journal* writing from Montreal, under

## MINING NEWS.

St. John in gold was shipped from Vicksburg, Miss., recently.

The *Malvern Mining Journal* says the iron ore interests of that region are in want of a method to crush and clean low grade ores.

Mr. H. Weston has discovered in the neighbourhood of Rock Creek, B.C., a quartz ledge which will yield \$140 of gold to the ton. He intends to form a company.

There are almost weekly discoveries of ore in the neighbourhood of Tweed, Ont. William Oliver has just discovered that his farm and those adjoining are underlaid with beds of iron. Silver is also found, but in what quantity is not known.

The coal shipments from the port of Pictou for week ending Sept. 13th, 1881:

Halifax Co.	1,273
Acadia Co.	2,630
International Co.	1,007
Vale Co. ....	5,315

Col. Dan Murphy, of Nevada, is probably the largest private land owner on the continent. He has 6,000,000 acres of land in one body in Mexico, 60,000 in Nevada and 23,000 in California. His Mexican grant he bought four years ago for \$200,000 or five cents an acre.

Manganese mining is becoming one of the most profitable industries of Hants County. None Walton about forty men and boys are employed at the work and the price it is selling at is about \$130 a ton, while in former years, before its value was known it only brought \$20 a ton.

Mr. H. Walton quarried at his granite quarry, Spoon Island, Queens Co., a block of granite, measuring 65 feet in length, 20 feet wide, 11 feet thick, apparently without a flaw. This granite is considered equal to the Aberdeen granite. It weighed 1,101 1/2 tons.—*St. John Globe.*

There are at present nine collieries in active operation in Cape Breton, giving employment to about 1,000 cutters. The output this year will be the largest on record. The total amount of coal raised in Nova Scotia in 1880 was 1,023,710 tons. That of Old Blues Sydney was 110,000 tons. The yield this year, it is said, will be about 120,000 tons.

We have been handed some specimens of coal taken from a seam discovered by the Rev. Father McPherson, at French Vale recently. The indications are most promising, it being alleged that the newly discovered seam is some seven feet in thickness. The quality of the coal is what is called anthracite coal, which we think is the first of the kind found in Cape Breton.—*Ez.*

Messrs. Dunbrack and MacCallum arrived in town Saturday morning from Killig River, East Halifax, with another lot of very rich gold specimens. They report the most encouraging indications on the property which they are prospecting. Two leads have already been discovered which appear to be rich in the precious metal and there is every reason to believe that several other leads will shortly be found.

The silver miners in Gloucester Co. appear to have "struck it rich." Bathurst advised to the *Star* yesterday that the latest reports from Nigadoo Silver Mines are very encouraging. The shaft has been deepened during the past week and the vein of galena is getting larger and richer. The stockholders are very much elated at their prospects. Samples are being prepared for the Halifax Exhibition.—*St. John Sun.*

A company consisting of several leading capitalists has been formed for the purpose of developing the iron mines of Loyalston, in Gwynneth County. The mine has already been tested and the ore has proved to be of excellent quality. Arrangements have been made by the new company to begin the prosecution of the work on an extensive scale. Mr. J. B. Moore is President, and Mr. H. S. Poule, Vice-Director.—*St. John Chronicle.*

The St. John *Telegraph* says the stock of iron ore raised during the winter of the mines of the Woodstock Iron Works is completely used up, the furnace consuming more than was anticipated. The company have a number of men at the mines raising ore and are having it hauled with teams. Their stock of charcoal is running low, which will have to be renewed. The company have shipped a quantity of pig iron to Londonderry, N. S., to be worked up into car wheels. It requires a good grade and this charcoal iron is said to be the best for that purpose.

There has been a very large influx of French capital into the Province of Quebec during the past year. Two Credit Foncier companies, both with large capitals, are already at work, and with the prospect of more French capital being invested in our mines, there is no doubt that mining in Canada, and the sale of mines, will not be such a slow business as it has been heretofore. It is reasonable to expect that within a year from this time in the phosphate region alone will assume very large proportions; and I venture to prophesy that enterprising Americans will find here a field either for steady mining or speculation that they will find difficult to equal elsewhere.

A correspondent of the *Malvern Mining Journal* writing from Montreal, under

date of Sept. 8th says: With the exception of a sale of some land in a test to a new French company near Vicksburg, there has been very little phosphate property changing hands of late. At no time has there been any great activity in sales, but the special dollars we have experienced, at least at this point, may be attributed to the number of people out of town during the hot weather—to the report that at least one other French company will enter the field in a short time, which has had the effect of raising the views of holders of undivided lots—and the fact that two parcels (for 7,000 acres in all), in the heart of the township of Templeton will be offered at auction early next month and it is expected that this will be a fair test of the value of property in the phosphate belt.

Phosphate is readily saleable at \$17 per ton, and over, delivered at East Templeton, or other points along the Q.M.O. & O. Railway which gives a very large profit in working a large bed. Seven dollars (\$7) is an outside estimate for mining phosphate in eight, and cartage to the railway or Ottawa river. The freight to Montreal is generally \$1. Some of the mines being worked partly on English account, the phosphate does not change hands, but the average minor profits taking his cash on this side to taking the risk of the many contingencies which may reduce the proceeds of his account sales. The freight to England has varied from 8 to 15 shillings per ton, 10 shillings being about the usual rate. The output this year will show a considerable increase over that of last year, but it is impossible to give any figures in connection with it, so many small mines are being worked in inaccessible parts of the country, from which the phosphate can only be carted over winter roads.

## SCIENTIFIC AND PRACTICAL.

## THE BRITISH ASSOCIATION—FIFTY YEARS' SCIENTIFIC PROGRESS.

The fiftieth annual meeting of the British Association for the advancement of Science opened at York on the 31st of August. The retiring President, Professor Ramsay, president at the commencement of the exercises. The new President, Sir John Lubbock, delivered the inaugural address on a peculiarly fitting subject, "The Principal Scientific Events of the last Half Century." The first meeting of the Association was held at York in 1831, and it was in the "stern fitness of things" that its jubilee should be celebrated in the same city. In the commencement of his address Sir John Lubbock referred to the early history of the Association. The original meeting was held on the 21st September of the year named, and it had its origin in a letter addressed by Sir David Brewster to Professor Prout, Secretary of the York Philosophical Society. The following is a list of places where the Association has met since its organization, and the names of the eminent men actually chosen President:—

Year.	Meet.	President.
1831	York	Lord Fitzwilliam.
1832	Oxford	Dr. Mackie.
1833	Cambridge	Professor Sedgwick.
1834	Edinburgh	Dr. T. M.赖斯.
1835	Babylon	Dr. Lloyd.
1836	ristol	Lord Lansdowne.
1837	Liverpool	Lord Burlington.
1838	Newcastle	Duke of Northumberland.
1839	Birmingham	Rev. W. Vaughan-Trevor.
1840	Glasgow	Marquis of Bute.
1841	Plymouth	Dr. Powell.
1842	Manchester	Lord Ilchester.
1843	London	Lord Rosebery.
1844	Cardiff	George Peacock.
1845	Cambridge	Mr. John Herschell.
1846	Bathampton	Lord Bodehill.
1847	Oxford	Dr. K. M. Ingles.
1848	Swansea	Marquis of Pembroke.
1849	Birmingham	Rev. T. B. Robinson.
1850	Edinburgh	Sir David Brewster.
1851	Leeds	Professor Airy.
1852	Bath	Mr. William Hopkins.
1853	Liverpool	Lord Harrowby.
1854	Glasgow	Duke of Airlie.
1855	Chichester	Dr. C. M. W. Jeaffrey.
1856	Durham	Dr. Lloyd.
1857	London	Professor Richard Owen.
1858	Oxford	Prince Albert.
1859	Manchester	Lord Wrottesley.
1860	Leeds	Mr. William Fairbairn.
1861	Cambridge	Professor Willis.
1862	Newcastle	Mr. William Armstrong.
1863	Bath	Sir C. Lyell.
1864	Birmingham	Professor Phillips.
1865	Notttingham	Mr. W. H. Grove, Q.C.
1866	Dundee	Duke of Buccleuch.
1867	Norwich	Dr. J. D. Hooker.
1868	Exeter	Professor Blasius.
1869	Liverpool	Professor Huxley.
1870	Edinburgh	Dr. W. Thompson.
1871	Brigton	Dr. W. Carpenter.
1872	Bradford	Dr. A. W. Williamson.
1873	Belfast	Professor Tyndall.
1874	Bristol	Mr. John Hawkhurst.
1875	Glasgow	Dr. Andrew.
1876	Plymouth	Dr. Allan Thompson.
1877	Dublin	Mr. Wm. B. Boulton-Wood.
1878	Sheffield	Dr. G. J. Adams.
1879	Swansea	Professor A. C. Ramsay.
1880	London	Sir John Lubbock.

Sir John Lubbock remarked that the history of the Association was the history of science for the last fifty years. His address was an elaborate one, and occupied closely-printed columns of the *Yorkshire Post*. It embodied a review of the following subjects, which have occupied the attention of scientists more than a century ago: the Origin of Species; Embryology, the Relations between Animals and Plants; Botany; the Theory of Spontaneous Generation; the History of Man; Geology, Glaciers; the Progress of Paleontology; Geography; Coal Islands; the Abysses of the Ocean; Astronomy; Spectrum Analysis; the Discovery and Progress of Photography; the Art of Lighting; Duplex and Quadruplex Telegraphy; the Telephones and Microphones; Mathematics; the Progress of Chemistry; Mechanics; and Agriculture. His conclusions were as follows:—

tank, and while the record of the progress of late years is such as to afford gratification at the achievements already made, we have every reason to believe that, notwithstanding all the knowledge of the present day, it is but the A.B.C. of the great scientific alphabet which has yet to be learned.

#### END OF R.R.D. PICTURES OF ALPHABETS

A recent communication to the French Academy of Sciences announces a new method of taking photographs in colour, which although it is not a solution of the prime problem for photographing how to photograph nature in her own hue, is at least some mechanical approach to it. It is the invention of M. Ch. Cros and J. Carpenter, and consists in taking three separate photographs of the red, yellow, and blue tints, then combining them. Three negatives of the object are first taken, one through a screen of orange liquid, one through a screen of green liquid, and one through a screen of violet liquid. The varying opacities and transparencies of these negatives indicate the relative quantities of red, yellow, and blue tints in the object. The proofs are taken on plates of glass, coated with coagulated albumen, which has inhibited dichromate of ammonia. A transparent negative, or first photograph, is applied to one of these, and exposed for some minutes to diffused light, so that the transparencies and opacities for the negative shall imprint themselves on the sensitive albumen. The proof plate is then plunged into a colouring bath, and in the parts protected by the opacities of the negative, the colouring matter spreads and fixes itself. By repeating this operation with the three different negatives the three colours are combined on one glass plate, and a fair imitation of the original is the result. Of course, for the image obtained through the green screen the colouring bath is red; for that through the orange screen, blue, and for that through the violet screen, yellow. The same screens and pigments serve to reproduce all sorts of polychromes. The screens hitherto used are glass vessels filled with solutions of chloride of cobalt, chromate of potash, and sulphate of copper. When the electric light is used the screen is put before the lamp, so that the object will be illuminated by a monochromatic light and photographed in the ordinary way.

#### THE CALORIFIC POWER OF COAL GAS.

At a recent meeting of the British Association of Gas Managers, Mr. F. W. Hartley read a paper on the "Calorific Power of Coal Gas," in which he gives the results of a number of carefully conducted experiments. He took a Bunsen burner with four  $\frac{1}{2}$  inch tubes as a standard, inasmuch as the results it gave were higher than those realized with any other. The inflated calorific power, after correction for barometric pressure and the temperature, ranged from 365 to 392, the water being raised from various temperatures between 40 and 60 degrees up to 210 or 211 degrees, and the average result being 382 units per cubic foot. Under similar conditions, and using each burner in such manner and with such rate of consumption as was found to give the highest effect, a cluster of six 11 bushel burners gave results equal to 98 per cent of the standard; an 8 tube Bunsen, 92 per cent; Wallace's solid flame, 97 per cent; a common oiling article, which is called the "Egyptian," 91 per cent; another known as the "Deposé," 83 per cent. One which is much vaunted as excelling all others by its very modest construction, gave 93 per cent; and a larger one of the same kind, 87 per cent, with the accompaniment of a detectable smell if the rate of consumption were increased, to a very trifling extent. Taking the average of the results realized with the best and with all the many gas stove burners tested, we have 360 units indicated as the power of the gas per cubic foot in raising water to 210° or 211° F. It, as Mr. Hartley believes, the real power of the gas employed was, on the average, 380 units, or 47 per cent of its heat were lost. The experiments made agree perfectly well with those made by Mr. Lewis Thompson with the gases of several companies in the years 1852-3; the average results of his experiments being 374 units per cubic foot.

#### BOILER SCALE AND ITS REMOVAL.

It is absolutely essential to the successful use of any boiler, except in pure water, that it be accessible for the removal of scale, for though a rapid circulation of water will delay the deposit, and certain chemicals introduced into the water will lessen it, yet the only certain cure is a periodical inspection, and mechanical cleaning. This may, however, be rendered frequently necessary, and the use of very bad water more practical by the use of some preventives. The following are a fair sample of those in use, with their results:

Water containing bicarbonate of lime in solution may be caused to deposit a considerable portion of the same by simple heating to 212°, which drives off a portion of carbonic acid, and reduces the bicarbonate to the insoluble carbonate. This principle is the basis of a larger number of heaters and "lime scalders," but it has no effect on other impurities. The addition of milk of lime or metallic zinc has a similar effect, and they have been used with suc-

cess in waters charged with bicarbonates of lime. But the sulphate of lime may have no action, and tends to both backs and walls, sand, slate, brick, wood, etc., the effect being water softening carbamate of lime, which may be removed by the action of the lime, and the remains to the iron, and it is this compound. It also, like the other larger towns distillery shape, has been used with success, as far as I am concerned by means of the water in which they contact, but there is even more difficulty to the iron than to the sand, while the sand is better treated with sulphate of lime when it is present.

All plant-thermostats containing organic matter are to be avoided. M. Bildarda's observations show that they help rather than hinder incrustations. Barium chloride and milk of lime are used with good effect at Krupp's works in Prussia, for water impregnated with gypsum, soda, ash and other alkalies are very useful in waters containing sulphate of lime, by converting it into a carbonate, and so forming a soft scale easily cleaned. But when used in excess they cause foaming, particularly where there is oil coming from the engine, with which they form soap. All such substances are objectionable for the same reason.

Petroleum has been used of late years in water in which sulphate of lime predominates. As crude petroleum, however, sometimes helps in forming a very injurious crust, the refined only should be used. Rogers' tannate of soda is probably the best preparation for general use, but in water containing much sulphate it should be supplemented by a portion of carbonate of soda.

#### PNEUMATIC CLOCKS.

Although the elasticity of atmospheric air has been known for centuries, it would seem that it is only in comparatively recent times that advantage has been taken of that property in utilizing air pressure for practical ends.

The use of compressed air for numerous purposes, from the driving of heavy machinery to the transmission of delicate signals, has, however, of late become very general, and the latest application with which we have been made familiar is that of distributing time to a system of clocks from a central or principal time keeper. The first attempts to transmit the time by means of compressed air were made in 1866 by Messrs. Popp and Reisch, two Austrian engineers, who, however, were then unsuccessful. After a further investigation of the subject and many disappointments they were enabled, on the 23rd of February, 1877, to inaugurate, in Vienna, the public service of the pneumatic distribution of time, although at their expense. In the following year the inventors exhibited their system at the Paris Exhibition, where it attracted considerable attention, a silver medal being awarded to them for it. The manifest utility of the system induced the municipal authorities of Paris, in November of the same year, to grant permission to Mr. Popp to lay down pipes in the sewers of the first, second and ninth arrondissements of that city for the pneumatic distribution of time, although at their expense. In the following year the inventors exhibited their system at the Paris Exhibition, where it attracted considerable attention, a silver medal being awarded to them for it. The manifest utility of the system induced the municipal authorities of Paris, in November of the same year, to grant permission to Mr. Popp to lay down pipes in the sewers of the first, second and ninth arrondissements of that city for the pneumatic distribution of time, although at their expense. In the following year the inventors exhibited their system at the Paris Exhibition, where it attracted considerable attention, a silver medal being awarded to them for it. 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## MONTREAL PRICES CURRENT.

## GROCERIES

Apples, fine fruit	10
" " " good	10
Brueggen, first extra	10
" " " seconds	10
Bread, the French	10
" " " fine extra	10
" " " choice	10
Bread, medium	10
" " " dust	10
Eggs, choice	10
" " " best	10
Sugar, the finest	10
" " " fair to good	10
Cotton	10
Tweakers, young fls., first extra	10
" " " fine	10
" " " fourth	10
Coffee	10
Cape Chiles, old government	10
" " " ordinary	10
Jamaica	10
Guayana	10
Plantation Ceylon	10
Java	10
Marraboo	10
Mocha ..	10

## ALUM.

Barbados	10
India	10
Colloidal	10
Granulated	10
No. Diamond A	10
Grocers' A	10
Montreal Yellow	10
Potashico	10

## AMBER.

Diamond Drip	10
" Imperial	10
Lord Lorne (nominal)	10
Blue Amber	10
Royal Imperial	10
Star Amber	10
Standard	10

## BALSAM.

Parahadoes (Imp. gallon).	10
Cardenosa	10
Carribigal	10
Filtered, bals.	10
Filtered, pan	10
Macassar	10
Porto Rico	10
Upper House, bals.	10
Upper House, pan	10
Trinidad	10

## BACI.

Almonds, hard shell	10
" " soft	10
" " Jordan shelled	10
" " sweet	10

## Brazil nuts

Carrasque, new	10
Dodge, golden	10

## Dodge, black

" " black	10
" " black	10

## Flax, Flaxseeders

Malaga maize	10
" boxes	10

## Hemp

Primer, Primes, boxes	10
" heads	10

Raisins, black raisins	10
" London layers	10

## Raisins, blue

Old Louis Muretels	10
" Layers	10

## Raisins, reddest meat

" red	10
" blackest	10

## Raisins, blue

" blue	10
" berries	10

Sultanas	10
" Vireos	10

Walnuts, Greenish, pecan	10
" Pecan	10

Spicca	10
" Grated	10

Africa Glazier	10
" Allspice	10

Cardamom	10
" Cloves	10

Jamaica Ginger, bleached	10
" unbleached	10

Marco	10
" Nutmegs	10

Nutmegs	10
" Pepper	10

Pepper, white	10
" Black	10

Rice	10
" Parboiled	10

Tea	10
" Ceylon	10

SALT.	10
" halves	10

Eureka, bags	10
" halves	10

" quarters	10
Factory Filled	10

FISH.	10
" Cod, fish	10

Herring, Labrador	10
" Canoe, No. split	10

Lake Superior White Fish,	10
" Salmon Trout</td	

## LUMBER TRADE.

## UNITED STATES MARKET

(New York American Star)

In the Albany market no large sales are reported, but in the aggregate quite a large amount of business has been done. The receipts have been fair, mostly Michigan pine. The exceeding lowness of the water in Canada is interfering very much with shipments from here, and the same cause is curtailing the production of spruce and hemlock in the mills in the North.

The receipts by canal at Albany from the opening of navigation to September 1 were:

	Feet	Feet
Barrels and Sacks, &c.	25,129,000	27,20,50
Barrels, M.	1,200	1,000
Woods, &c.	1,000,000	1,000

Freights from Bay City to Buffalo and Cincinnati \$2.50 per M. feet; from Saginaw, \$1. From Tonawanda to Albany, \$2.25. From Oswego to Albany, \$1.50 to \$1.60. An advance in Ottawa freight is shortly expected. From Ottawa to Albany, by boat, \$3 per M. net. River freights are steady.

Cedar railway ties are being shipped from Port Hope for the use of the New York Central Railway.

A mammoth tree cut down in Lewis County, Ky., recently, and believed to be three hundred years old, produced 3,162 feet of lumber and twenty-five cords of firewood. It was sixteen feet in diameter and one hundred and twenty feet high.

The schooner Mary Willey arrived at Portsmouth, N. H., on the 2nd Sept., from Baugor with 80,000 feet of long lumber and 250,000 shingles, and sailed the same day for Isles of Shoals, where the lumber is to be landed.

The schooner Susan Stetson arrived at Portsmouth, N. H., the 23rd ult., from Penobscot, Me., with 111,000 feet of hard wood lumber for the new coal pocket here.

The continued low grain freights on the Lakes have determined many owners of large sailing vessels employed in that trade to send their craft for lumber and salt. "Several grain carriers, notably the big three-and-a-half schooner Michigan," says the Chicago Tribune of Monday, "left yesterday evening for Bay City and East Saginaw for cargoes, it being more profitable to go to those ports light, load lumber there for Lake Erie ports, and then go to Buffalo for coal for Chicago than to take grain from here direct to Buffalo at the railroads rates now offered by shippers. It is very likely that the river will be clear of vessels suitable for grain carrying by the middle of the week. There is a good demand for vessels to carry both ore and lumber, and the majority of larger craft, especially sail, will undoubtedly be transferred to these trades, unless there is an immediate and material advance in grain freights."

## TRADE WITH CHINA.

Consul General Denby, at Shanghai, draws attention to the trade in pine lumber which the west coast of this country has had with China and might continue to have. In 1877, 2,000,000 superficial feet were imported, and 8,200,000 in 1878, but since then the arrivals have almost ceased, apparently because the mills in Oregon and Washington find the San Francisco market so conveniently near. This may do for the present, but he thinks China should not be entirely neglected, or when a market there is sought it will be found to have been already appropriated. Timber is getting continually scarcer in China, particularly the softer kinds, because the Chinese, with an improvidence quite like our own, have been for centuries cutting away at their forests without much attempt either to preserve or replenish; hence the timber districts are almost entirely exhausted, except in some of the southern provinces and in the remote west, far inland. Japan has of late years supplied large quantities of soft wood, but after fifteen years of reckless chopping without replanting the Japanese authorities have interfered in alarm; moreover, the timber is inferior, short and quite full of knots. Next to the Russian Sea Provinces and Amoor country, where exporting timber is prohibited, Oregon and Washington will be China's nearest and best place of supply for soft lumber. In 1878, 10,346,648 superficial feet of soft planks were imported into Shanghai, worth \$524,000; 43,958 feet of hard and fancy woods for cabinet makers, and a few other items, making a total of \$988,000. Cargoes should be divided about equally between plank and timber.

## DARBY TIMBER MARKET

Barrie, Ga., Sept. 2, 1878.

## X-CASE

	\$ per ft.	per ft.
100 average	\$1.00	1.00
70	75	75
50	60	60
30	50	50
100	25	25
120	40	40
130	50	50
140	60	60

## X-PLATE

	\$ per ft.	per ft.
100 average	\$1.00	1.00
90	75	75
70	60	60
50	50	50
30	30	30
100	20	20
120	30	30
130	40	40
140	50	50

## X-NEW YORK

	\$ per ft.	per ft.
Clear pine, according to thickness and length	\$1.00	1.00
Selected pine	25	25
Spiling	20	20
Shingles	20	20
South American Shingles	20	20
West India Shingles	15	15

The following is a list of tons of lumber at Atlantic ports:

Port	Length	Width	Thickness	Tons
Baltimore	100 ft.	12 ft.	10 in.	1,000
Boston	100 ft.	12 ft.	10 in.	1,000
Charleston	100 ft.	12 ft.	10 in.	1,000
Galveston	100 ft.	12 ft.	10 in.	1,000
Havana	100 ft.	12 ft.	10 in.	1,000
Hoboken	100 ft.	12 ft.	10 in.	1,000
Montevideo	100 ft.	12 ft.	10 in.	1,000
New Orleans	100 ft.	12 ft.	10 in.	1,000
New York	100 ft.	12 ft.	10 in.	1,000
Nicaragua	100 ft.	12 ft.	10 in.	1,000
Philadelphia	100 ft.	12 ft.	10 in.	1,000
Port Royal	100 ft.	12 ft.	10 in.	1,000
San Juan	100 ft.	12 ft.	10 in.	1,000
Savannah	100 ft.	12 ft.	10 in.	1,000
St. Louis	100 ft.	12 ft.	10 in.	1,000
St. Paul	100 ft.	12 ft.	10 in.	1,000
St. Thomas	100 ft.	12 ft.	10 in.	1,000
St. Vincent	100 ft.	12 ft.	10 in.	1,000
Tampa	100 ft.	12 ft.	10 in.	1,000
Treasure Island	100 ft.	12 ft.	10 in.	1,000
Veracruz	100 ft.	12 ft.	10 in.	1,000
Yucatan	100 ft.	12 ft.	10 in.	1,000

There has been a downward tendency in random lumber during the past week, owing to want of demand, the well stocked with lumber. We quote as follows:

Port	Length	Width	Thickness	Price
Galveston	100 ft.	12 ft.	10 in.	\$1.00
Baltimore	100 ft.	12 ft.	10 in.	75
Boston	100 ft.	12 ft.	10 in.	75
Charleston	100 ft.	12 ft.	10 in.	75
Galveston	100 ft.	12 ft.	10 in.	75
Havana	100 ft.	12 ft.	10 in.	75
Hoboken	100 ft.	12 ft.	10 in.	75
New Orleans	100 ft.	12 ft.	10 in.	75
New York	100 ft.	12 ft.	10 in.	75
Nicaragua	100 ft.	12 ft.	10 in.	75
Philadelphia	100 ft.	12 ft.	10 in.	75
Montevideo	100 ft.	12 ft.	10 in.	75
Port Royal	100 ft.	12 ft.	10 in.	75
San Juan	100 ft.	12 ft.	10 in.	75
Savannah	100 ft.	12 ft.	10 in.	75
St. Louis	100 ft.	12 ft.	10 in.	75
St. Paul	100 ft.	12 ft.	10 in.	75
St. Thomas	100 ft.	12 ft.	10 in.	75
Tampa	100 ft.	12 ft.	10 in.	75
Veracruz	100 ft.	12 ft.	10 in.	75
Yucatan	100 ft.	12 ft.	10 in.	75

Michigan white pine deck plank, \$10 per M. Michigan oak deck plank, \$50 to \$12 per M. Michigan Wale plank, \$25 per M. Ohio Wale plank, \$7 per M. Ohio ship plank, 55 per M.

White Pine Building Timber, \$22 to 27 per M.

Wholesale prices in car lots New York.

## BLACK WENGE

Quality	Per foot
No. 1 2 inches and upwards	\$1.00
" 3 " " "	85
" 4 " " "	80
" 5 " " "	75
" 6 " " "	70
" 7 " " "	65
" 8 " " "	60
" 9 " " "	55
" 10 " " "	50
" 11 " " "	45
" 12 " " "	40
" 13 " " "	35
" 14 " " "	30
" 15 " " "	25
" 16 " " "	20
" 17 " " "	15
" 18 " " "	10
" 19 " " "	5
" 20 " " "	2.50
" 21 " " "	2.00
" 22 " " "	1.50
" 23 " " "	1.00
" 24 " " "	0.75
" 25 " " "	0.50
" 26 " " "	0.35
" 27 " " "	0.25
" 28 " " "	0.15
" 29 " " "	0.10
" 30 " " "	0.05
" 31 " " "	0.03
" 32 " " "	0.02
" 33 " " "	0.01

## CANADIAN NOTES.

Low water on the Ottawa and its tributaries continues to be the cry.

The timber slides on the Ottawa are at last being repaired. Not before it was needed, as they have long been in a very dilapidated condition.

The American barges, being light draught, can still get through the canal, but the Canadian barges are unable to pass, and the shipments to Montreal and Quebec are reduced to a minimum.

Heavy shipments of timber by rail continue. During the last month over 400 car loads have been shipped from Mackay's to Quebec, and a daily train of seventeen cars is to leave during the coming month.

During the present season 6,200 culls of square timber, comprising 101,653 pieces, passed through the Chaudiere slides. This is double the amount that came through last year. There still remain stuck in the Upper Ottawa eight rafts aggregating 730 culls. The quantity of saw logs that arrived during the season is far in excess of the quantity of square timber, but the full returns have not yet come in.

As timber gets scarce in Canada, the forests of British Columbia will be looked to for supplies. The timber there consists chiefly of pine, with considerable quantities of fir, spruce, cedar and redwood, and a small supply of white oak, hemlock and maple. The trees of this region show luxuriant growth. The yellow fir frequently attains a height of 250 feet; pine, 125 to 150 feet; silver fir, 150 feet; white cedar, 100 feet; white oak, 70 feet; black spruce, 60 feet. Cedars have been found to measure 63 feet in girth, with a height of 120 feet. The pine trees are of two varieties, "sap" and "overgrown." The "sap" tree yields 6,000 to 8,000 feet of lumber, and the "overgrown" 2,000 to 15,000 feet.

Prof. Bucke, of Ottawa, in an essay read at London, Ontario, on the occasion of the Provincial Exhibition held there lately, referred to the immense destruction of forest areas by the early settlers of the country. At that time it would have been ridiculous if the proposal to save the timber had been made. No such of the timber interest as second only to that of agricultural in this country. The annual revenue derived from the timber lands of Ontario

## THE METAL TRADE.

## THE ENGLISH MARKETS

1000 of August 25—1880.

Birmingham, Sept. 14th.—On account of iron and steel during August according to the above report, the tonnage shipped this week to the United States. Last year we shipped 1,471 tons. So that this August compared to last year, as we have exports hereover 1,471 tons. This is an increase of nearly 22 per cent., and the reason is an improvement in value of about 12 per cent. On this basis total only one-third went to the United States. For of the total 1,471 tons the same you took was 1,142½ tons. These figures encourage ironmasters to believe that there is springing up a more active trade to the United States. For your take this August exceeds that of August last year by 50,682 tons, or about 4 per cent. Two years ago your take was only 64,230 tons. In fact, the total this August was better than in any other month during the year. The part borne in our aggregate shipments by hoops, sheets and plates is a very important inconsiderable one. They bulked 1,115 tons this August as against 10,910 in August last year. The improvement, again, is owing in part to imports from the United States. This August we sent 7,058 tons, a year ago, only 1,057 tons; and two years ago the fractional amount of 374 tons. Steel and iron rails are so mixed in transport that it is next to impossible to obtain any accurate data concerning each separately. Such as has been obtained, however, I now give. Only about one-seventh of the rails shipped have been in iron, and a good three-fifths of these are sent to your side. It is computed that the value of the iron rails we sent you was £33,594 as against £26,592 in August, 1880, and that the value of the steel rails we sent to the United States was £150,000 as against £84,120 in August, 1880. During the past two months the exports of rails of both descriptions to the United States have increased a total of 56,816 tons, against 51,156 tons during the corresponding period in 1880, and only 5,929 in 1879. The total value of iron and steel exported to all our markets during this August was £53,311, and during August, 1880, £53,085. The total value of steel rails was £287,572 as against £214,811 in August, 1880. The newly established trade with the United States in steel beams appears to be rapidly extending. The shipments of this product to your side during the last two months have ton had 26,460 tons, against 2,086 tons in 1880, and only 896 in 1879. Sheffield beams have not contributed to augment exports of that class of metal. The August returns of your consul in New York also show a falling off in the bloom trade with transatlantic markets. Nor is the Sheffield industry in steel generally (excluding rails) in much better case. The statistics show that although the value of steel exported to the United States was £10,884, yet this was a decrease compared with July last of over £5,000, and compared with a year ago of nearly £15,000. But your aggregate purchases from Sheffield are increasing. The cut cry sent to your side last month was worth £23,182. Rails and other articles not specially mentioned brought the total export for the month up to £120,700. These figures show an increase of about £25,000 on the previous month, and of £33,000 as compared with August of last year. With the great falling off in the heavy steel trade of Sheffield, which I have indicated, there is no room for surprise either that large firms therabouts should be contemplating removal to the seaboard, or that the localities which have hitherto been dependent upon such prices should be in considerable consternation at the prospect. Both these features are now observable in Sheffield and are the themes which, inter alia with "Fair Trade," otherwise reciprocity, are this week seriously discussed throughout the business circles of Sheffield. I spoke last week of the cutters' feast in Cleveland and of the favour with which references to "Fair Trade" were received. The practical outcome thus far has been the formation of a Sheffield branch of the "Fair Trade League," and I am assured that numbers of leading manufacturers have allowed their names to be placed upon the roll.

The raw iron market is this week in a fit of a flutter. Cleveland's turn has now come in the game of cross purposes which has recently been in progress between that district and Scotland. Scotland, you will remember, rejected Cleveland's addresses in July last, and though she may well have expected such an issue, yet of course Cleveland was hurtful. Whether another influence has operated or whether repentance has come about is open to doubt. But certain it is that Scotland is now making overtures to Cleveland. The chief Scotch pig makers met on Wednesday, and now upon paper are alleged to have virtually accepted the terms which before they purposed—namely, to blow out say one-sixth of the 111 furnaces making G. M. II iron, subject of course to Cleveland doing the same. But there is a certain extent of haze about the whole business. The Ayrshire miners who last year, after striking, were silenced by the putting out of furnaces in Scotland, are equally uncertain. They are troubled alike upon the wages and also the hours question, and threaten soon to be again upon the warpath. This, it is assumed, has led to

the altered part of the Glasgow trades.

In South Staffordshire iron masters report that in spite of the check which new business has received by the recent bad harvest reports, that still continue well employed. It is believed that the cessation of buying will not be long continued, and therefore vendors hold firmly to former rates. On the whole, production is somewhat less active than it was a fortnight ago, and orders are turning out more rapidly than they can be supplied. Market bars are 43 lbs. od. for those of Earl Dudley, and 27 lbs. for those produced by other branded houses. Shaped plates rolled by the same manufacturers are 41 lbs. per ton in advance of bars. Medium and common quality bars are selling more freely than the best qualities, the former at 15 lbs. per ton, and the latter at 15 to 15½. Better plate makers are unable to report any improvement, and price a range from 15 to 21 and 2½ lbs. Galvanizers announce that they are well occupied on Australian, South American, the Cape, Indian and Canadian account upon corrugated sheets. But the Australian market is in a less satisfactory condition than it was some little time since, makers quote £14 10s. per ton for 24 W.G., packed in bundles delivered in London, £6 10s. for 26 W.G., and £18 10s. for 28 W.G. Less valuable qualities are of course abundant at easier rates. Sheets for galvanizing still command about £7 15s., but inferior qualities, adapted to nail cutting purposes, may be had as low as £7. Hoop iron is quote at £6 10s. Angles and girdle plates are in large request at present by the local producers of constructive ironwork, and prices of these descriptions are relatively strong—angles being quoted at £6 15s.

In Birmingham complaints of business are still very general among factors and manufacturers who depend to any considerable extent upon the home trade, but the reports are somewhat more cheering since the break in the recent disastrous weather. It is in the large towns, however, that there is most activity just now, more particularly in furnishing ironmongery, metallic bedsteads, coal vases, trays, etc. The manufacturers of builders' hardware generally are in anything but a flourishing condition. In the shipping department, orders, though neither so large nor so urgent as they were a month ago, are on the whole more regular and abundant than on home account. Demand has slackened somewhat on account of the Australian colonies and the Cape, but there is a strong current of trade still with the River Plate and other South American States, as well as Canada. Fancy goods, saddlers' ironmongery, and leather ware are in well sustained demand, both for the States and the Dominion. Guns are still in brisk request for the United States, and this demand is the instigator of the trade. Cheap guns cannot be turned out fast enough to satisfy the requirements of the United States importers, but for guns of a superior class the American demand is limited. Hammerless guns are, however, selling fairly well in the States, as well as in India.

## THE LONDON MARKET.

The following were the closing prices in the London metal market Sept. 9th, 1881:

IRON.

	f. d.	f. d.
Bars, Welsh (in London)	9 11 0	9 11 0
Bars, Swedish (in London)	9 10 0	9 10 0
Bars, Midlandshire (in London)	8 11 0	8 11 0
Nail rods (in London)	6 0 0	6 0 0
Mr. U.M.B. f.o.b. Clyde	2 7 10	2 7 10
Rails, Welsh (at works)	8 5 0	8 7 0
Rails, North of England (at works)	5 5 0	5 10 0
STK.		
Barremer rails (at works)	4 0 0	4 10 0
English spring	11 0 0	12 0 0
Swedish (in kg.)	14 10 0	15 0 0
Swedish (in faggots)	13 10 0	14 0 0
COPPER.		
Cheathing and sheets	73 0	73 0
Flat bottoms	78 0	77 0
Toughcast	61 10 0	65 0 0
Best selected	66 0	68 0
Burn, of P.C.C.	66 0	66 10 0
TIN (per ton).		
English pig, W.D.	15 10 0	16 10 0
English sheet	15 12 0	16 0 0
English red	15 15 0	16 0 0
English white	21 12 0	21 10 0
English patent shot	17 10 0	18 0 0
Spanish pig	14 10 0	15 0 0
TIN (per ton).		
English fagot	57 0 0	58 0 0
English bars (in barrels)	56 0 0	59 0 0
English red lead	57 0 0	59 0 0
Banca	50 0 0	52 0 0
Straits	91 15 0	92 0 0
TIN PLATE (per box).		
Charcoal, I.C. 1st quality	1 7 0	1 7 0
I.C. Coke	0 13 0	0 14 0
SPALTER (per ton).		
English (Swansea)	16 10 0	17 0 0

The Salt Lake Tribune claims that Utah possesses the biggest iron mines and most extensive coal deposits on the face of the earth. It is somewhat singular that Nevada, lying between California and Utah, and possessing largely the characteristics of both, does not contain a coal mine or a reliable coal formation, while coal exists in quantities in both California and Utah.

Careful experiments with locomotives have proved that a brick arch in the firebox, as well as a boiler plate within the smoke box, are both very economical appliances. They save coal and prevent throwing fire. It has also been found by experiment upon one of our leading railroads that 84 per cent. of the heat produced by combustion is put directly into the boiler, and can be accounted for.

## MISCELLANEOUS.

## THE ENGLISH TRADES UNION CONGRESS

The delegates to the annual Trades Union Congress assembled in the number of St Andrews Hall, Newman street, Oxford street, London, on the 11th inst. There were present delegates from Manchester, Salford, Bolton, Blackburn, Liverpool, Burslem, Preston, Rochdale, and other parts of the country.

On the first day of the Congress the

government system of the country on a home rule working. The report dealt at length with the work of the committee on the question of factory and workshop inspection, the Employers' Liability Act 1880, and its proposed amendment, the extension of the Summary Jurisdiction Acts, the Patents of Invention Bill, the reform of the poor laws, Impersonation for Debt Bill, and other matters. In closing the report, the committee noticed an improvement in trade since last Congress. Although the trade was not a great one, and in some industries scarcely perceptible, yet they believed it to be solid, and the prosecutor still greater and more permanent progress. The most fortunate branches of industry were those connected with the shipbuilding trades. They had been fully employed, and in many cases, had secured an advance in wages without much contention. They believed the staple trades of Lancashire to be much firmer than they were twelve months back. The coal, iron, and building trades were still amongst the greatest sufferers from continued depression. The first two industries were undoubtedly the victims of over speculation, and it was a matter of doubt whether the great means of production established a few years ago in these trades would ever again yield such a return for capital invested as their promoters expected. The Welsh steam coal trade had, they believed, experienced a great improvement, and wages had consequently risen in that district. The building trades were always the last to experience a revival of trade. There were many reasons for this. A not unimportant part of the trade depended upon voluntary subscriptions—church and chapel buildings and parishes, extension of factories and workshops and other business premises were subject to prosperity in the staple trades. The reduced circumstances of the lower middle classes had considerably checked the speculative building trades, though in this branch there had been a sufficient number of wretchedly constructed houses erected during the last ten years to employ a considerable part of the coming generation in what he feared would, in many instances, prove vain attempts to keep them on their foundations. They feared also that was not the only branch of the trade of the country in which durability had been sacrificed to cheapness. This scamping of work and cheating the purchasers was not the fault of the artisan; it was his misfortune. The properly trained and highly skilled workman was the first to suffer by this shameful process. When circumstances pressed him into this circle of competition he had to undergo a second apprenticeship to acquire this slight of hand system.

On the second day the secretary having read the minutes of yesterday's proceedings, the chairman delivered his address. He urged that their attitude ought not to be one of defiance any longer, except in so far as their labour charter might be attacked, either directly or by the mischievous ingenuity of the lawyers. An attitude of defiance, though necessary, was liable to become selfish and narrow. They ought to aim at those great measures of reform calculated to benefit the nation, not at the expense of other countries, but, on the contrary, being advantageous to them and to mankind. They were prepared to demand that no obstacles should be placed by Parliament, or the ruling classes, in the way of their complete industrial independence. But they had not a fair field and no favour, and that is what they must have and mean to have. In the first place they were not willing to tolerate any reversion to the old nonsense of protection. Other obstacles more real, and therefore of a more serious kind, pressed upon industry. First of all, there were artificial laws which hampered industry, and of these none were more important than those relating to the land. After what had passed this year in regard to Ireland, they could not be silent upon the subject in reference to England and Scotland. Next, and perhaps most important of all, was the question of whether they were going again to tolerate this country waging war against other people for the sake of increasing or perpetuating our empire. What interest had workmen, whatever interest had the people of England in carrying on war for the sake of empire? If their position as workmen was one of independence they ought to recognize the independence of other workmen, and of other nations. It was not merely that these wars did not add injury to the poor and to the working classes by the actual misery they caused by increasing the instability of industry and employment, which was unstable enough without any addition, but these wars were profoundly demoralizing to the country engaged in them and were crimes of the worst kind. It ought to be distinctive of their political action that it dealt with no party; that it had no ambitions of class or country; that it had no jealousy of the workmen of people of other countries, that, on the contrary, they wished them success in their industrial attempts, and in their efforts to raise themselves socially, morally, and politically. The old economic doctrine of one country prospering by the ruin of another, or competition and the rising of one set of people by the destruction of another, was not held by workingmen.

The discussion of the Parliamentary Committee's report was next proceeded

with Mr. Williams' amendment

of the Employers' Liability Act.

Mr. Fairbairn hoped the Parliament at

any time during the ensuing year

would press upon the Government the

necessity of a resolution on the law of the

workmen, that workingmen were

entitled to the benefit of their own industry,

from which they were to be protected by

black lists. In another speech, he

urged that the law could not be

very strict, but still sum-

A long discussion ensued on the oppressive dues on timber in the port of Dublin. Eventually, the Report of the Committee was adopted.

On the third day the Congress discussed

the question of the reform of the magistracy. Mr. A. Blinman proposed "To

the effect that the magistracy be

abolished and the police force be

placed under the control of the

local authorities." The motion was

carried by a large majority.

On the fourth day the Congress

discussed the question of the reform of

the Poor Law.

Mr. Crompton (clerk of Assize to the Chester and North Wales Circuit) urged that it

was just and proper administration of justice

was even more important than the quality

of the laws themselves, and that a

congress had never shut their eyes

to the fact that the administration of justice

in this country had for many years been most unsatisfactory.

The congress had never made any inde-

cise attack upon what were called

the unpaid magistrates.

In his experience, the worst court was that presided

over by a stipendiary.

The true solution

that lay before them was the recon-

struction of the court by the combi-

nation of both paid and unpaid.

He considered the paid lawyer

as the worse, and the unpaid as the

better.

He considered the unpaid as the

worst.

There should always be a profes-

sional element as well as an unprofes-

sional element.

Petty sessions should give cheap,

local and efficient justice to the poor.

He should propose to extend the juris-

diction of the Court of Petty Session to

all cities and boroughs of contract under £10.

There was no reason against it

except that the tribunals were incor-

porate to administer justice; but the in-

</div

made that the trailer unions of the city was with a certain interest outside and to-day a desperate attempt was made to prove that association and sympathy were now pervading the country. It had to wait until only fifty members, & then do so, as long as they were true to themselves, without being bullied and controlled by other interests.

## THE NORTH WEST.

The special correspondent of the writing is camp on the plains west of Humboldt, on the 1st of August, 1881. To-day we travelled through a beautiful gently undulating prairie country, which the grassy stretches were thickly intersected with little clumps or "buttes" of sand for about fifteen or sixteen miles, and then reached the first telegraph station which we have come upon since leaving Portage la Prairie. It was of little use to us, however, for while we could write and communicate with Battleford and some other points west of us, the wires were down between Humboldt and Winnipeg, and they were not likely to be up again for some time. As a consequence I was unable to send off anything in the shape of a telegram. It seems that there was no attempt made to keep the line open a summer, and that the rise in Lake Manitoba has placed some miles of it quite under water. Of course the route will have to be changed, since the northern route for the railway has been abandoned, and should it be brought down so as to take in such settlements as Brandon, Rapid City, Morden, Shoal Lake, Fort Ellice, Qu'Appelle, Touchwood Hills, Prince Albert, Duck Lake, Fort Carlton, and thence on to Battleford and Edmonton, it would be of some use to the settlers, Government officials, Hudson Bay Company's people, independent traders, and the inhabitants of the country generally.

In starting for our afternoon journey we were obliged to take along a supply of wood sufficient for cooking supper and breakfast, as

## THE NORTH PLAINS.

before us was some thirty miles west, with not a solitary clump of trees to be seen. At Humboldt was a trading station the party made more than the usual midday halt there, and, as a consequence, only seventeen or eighteen miles were made this afternoon. Here we found Mr. Dowd, my camp waiting for us. Some excellent shooting was had before dark, but soon afterwards the air became exceptionally cold, almost frosty in fact. The country through which we have driven this afternoon is a rich, rolling, but treeless expanse. I do not think I saw a square foot of land to-day that was not rich and even exceptionally productive; but, of course, a first settling a country where they have so much to choose from, farmers will next select for settlement such localities as Touchwood Hills, the valley of the Qu'Appelle, and prairies where "bluffs" are found in sufficient numbers and extent to guarantee a supply of log or at least poles for buildings and firewood for a few years at all events rather than settle on a rich but treeless and unsheltered claim. The time is close at hand, however, closer than people generally suppose, when farms to be unsheltered prairie will be eagerly sought after, when the extension and elaboration of the railway system shall have brought the coal of the North Saskatchewan to the doors of the farmers in this fertile region. It will not greatly matter whether a settler has a few clumps of young poplars on his farm or is ploughing every square foot of a treeless plain. Many a reader will scoff at such a head incredulously and set me down as an enthusiast, just as other men who have told the truth about this wonderful region have been disbelieved, but I am quite willing to be set down as an enthusiast on this subject and bide my time. The people of Ontario and the people of Winnipeg are galazing a nearly adequate idea of the grand possibilities of Manitoba as a great farming province, but Manitoba's relation is next to the great fertile North-West is about that of a postage stamp on the corner of a letter. I am now nearly or quite five hundred miles northwest of Winnipeg, and since leaving it I have not seen an acre of land wholly unfit for cultivation. Fully ninety-nine per cent. of the territory I have seen since leaving Winnipeg will ultimately become productive farming land. As a rule the soil of the North-West Territory is not quite so deep and heavy as that of Manitoba, but from what I have seen of it I should say, that it was equally as productive if not more so, and that it will be much more easily drained and of a warmer nature, for instead of the sticky, fine-grained blue clay of Manitoba, it has a subsoil of clayey gravel and sand.

## A WARNING.

Now I earnestly hope that what I have written in my journal to-night may not be the means of sending up here helpless wanderers without means and abilities. They who have hitherto failed in everything they have undertaken. I give this word of warning, not merely a sincere commiseration for the class alluded to, but because such people do every new country incalculable harm. They read or hear of a new country that commutes well they think that they can do more than tell them, as if they have everywhere else, and without passing to consider whether they have about them anything to tell them for success in the country to which they are going or not. They are once away off. They are, of course, there, as they have elsewhere, and they are the first to hurry home a bit having had a pretty hard time in a region which has no positive use for groups of settlers of any sort, and of course they cannot return the country in any measured terms. But the worst of it all is that

"as a rule, only those men who make failures in a new country who go back to make any report concerning it. The successful men remain in it, and their testimony concerning it is never heard. On the other hand, great weight is attached to the testimony of those who leave the country for the sake of its improvement, but as there was

taken as those of men who have spent one or two or three years in the country and who are supposed to know much more about it than men who have but travelled through it. In the expense part of it, showing themselves astute resources and capabilities. The grumblers may have spent the whole time. When a presented case, it is the traveler has gone from one end of the country to the other. The grumbler has traveled more fully on his own experience, while the traveler does not feel compelled to obtain the opinion of every individual, and yet in spite of all the great weight attached to the word of every man who makes a statement in a new country. The people of the older provinces to which they have returned are apt to come to the conclusion that the new country must be bad because "every one who comes back from there tells the same story," but perhaps, if they could see the country for themselves, and bear the evidence of their own eyes, they would form very different opinions.

## THE GOVERNOR-GENERAL'S TOUR.

Winnipeg, Sept. 1st.—We have arrived at the trip of the Governor-General and party from Battleford to Fort Calgary, where they arrived on September 1st. The journey across the plains, so seldom undertaken, was successfully accomplished, though it took longer than was expected. Half-breeds and an Indian acted as guides and took a more southerly direction than was anticipated, and, as no trail existed, the long grass and occasionally bad water were very trying to the horses. Soundings Lake was reached on the 2nd. The weather was very cold for the next two days, with several degrees of frost at night. Recent traces of buffalo were found on the Sub, and on the 7th a herd of thirteen was seen, when a hunt was quickly put up and three bulls were killed. On the same day Red Deer River was crossed, and was fortunately low enough to ford, thus saving much time. The river runs through a deep ravine at the spot, which was so steep on the south side that the wagons had to be hauled up singly by double teams. One baggage wagon parted, but no damage was done. Until the high table land, a storm of wind and rain, lasting twelve hours, was encountered after a long day's march. Many of the horses suffered from the effects of cold and rain the night before. Blackfoot Crossing was reached, Friday evening, the 19th of September, 2,100 Blackfeet and 450 Sarceau were encamped here, and His Excellency held a council early next day, the old chief, Crowfoot, being at the head of the Indians. About eighty of these were mounted, and went through a small field-day. In many respects they seemed to be a more organized tribe than any yet seen. They left Blackfoot Crossing the same evening. Next day, about twenty-five miles from Calgary, His Excellency was met by Lieut.-Col. Irvine and Capt. Cotton, who brought some fresh horses, and by one o'clock today the party was camped within full view of the snowy peaks of the Rocky Mountains. A portion of the plain traversed in the long journey of 340 miles, though hardly fitted except at intervals for agricultural purposes, seems almost without exception adapted for grazing. For some days the route traversed was 30,000 feet above the level of the sea, and thickly intersected by creeks and gullies. The conduct and exertions of the Mounted Police escorts and drivers, under Lieut. Col. Herchmer, are beyond praise.

Colera has been broken out at Judith among the pilgrims bound for Mecca.

The conference at Cologne on the law of nations has passed resolutions against assassination being regarded as a political crime, and in favour of the metric system of weights and measures. It has also recommended the maritime powers to call an international conference to devise a common system of signalling at sea. A common form for bills of lading was proposed as the basis of an international law of freightment.

Mr. Parnell will do what he can to weaken the Ministerial hold upon the constituencies, and the Government will have hard work to counteract his influence. They can only do this by bringing forward a vigorous measure of English and Scotch land reform, and if they decide on that they will have to overcome obstacles in comparison with which the resistance offered by the Lords to the Irish Land Act was as nothing.

Telegraphic blundering and indecision brought about a scare at Accrington, in England, recently. A despatch received at the Mechanics' Institute saying the Earl of Edinburgh was dead. As no such title was known, somebody in charge altered "Earl" to "duke," and the news spread far and wide that Her Majesty had lost her second son. The death intended to be announced was that of the Earl of Gainsborough.

Twelve royal ladies have been invited from the Queen's Park, Windsor, to the City Remembrancer's Office, bearing the customary presents of venison from the Queen to the City Magistrate, the Sheriff, and high officers of the Corporation of London. They were distributed as follows.—The Lord Mayor, four; the Sheriff, three; the Recorder, one; the Chamberlain, one; the Town Clerk, one; the Common Sergeant, one; and the Remembrancer, one.

At the Chepstow, England, Petty Sessions, Harriet Pittichard, an old woman whose husband had been ill for a long time and in receipt of parish relief, was charged with stealing two eggs, valued at two-pence. The case having been proved, the bench told the prisoner that person. There are not many survivors of those who made herself liable to three months imprisonment, but as there was

nothing previously known against her, they sentenced her to seven days with hard labour. The severity of the sentence is condemned in the London papers.

Two women have been made Doctors of Natural History at the University of Rome. One of them, Caroline Maggiorelli, is said to be bonbonnette, pretty and 12 years of age. She draws a moderate stipend specially contributed by the Province of Mantua. The other lady, L'Avogelina Settini, is also 12, of modest but self-possessed appearance, and the owner of charming eyes and chestnut hair. The Ministry of the Interior has granted a stipend of 600 lire (about \$120) to each of the ladies to encourage them in the prosecution of their studies.

Prince Frederick of the Netherlands, whose death was lately announced, was one of the soldiers of Waterloo. During the battle he was stationed with 18,000 men to cover the Duke of Wellington and protect Brussels in case any sudden turn that way should be made by Napoleon. There are not many survivors of those who made himself liable to three months imprisonment, but as there was

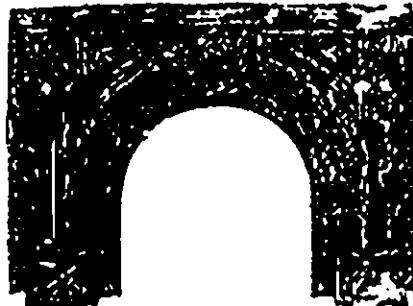
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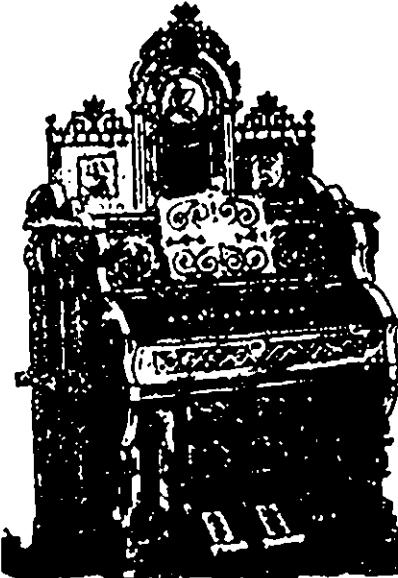
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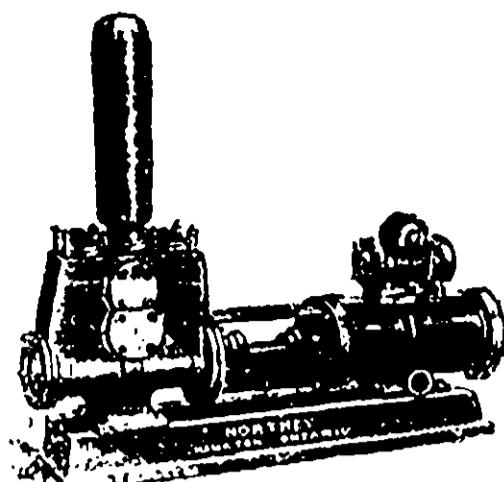
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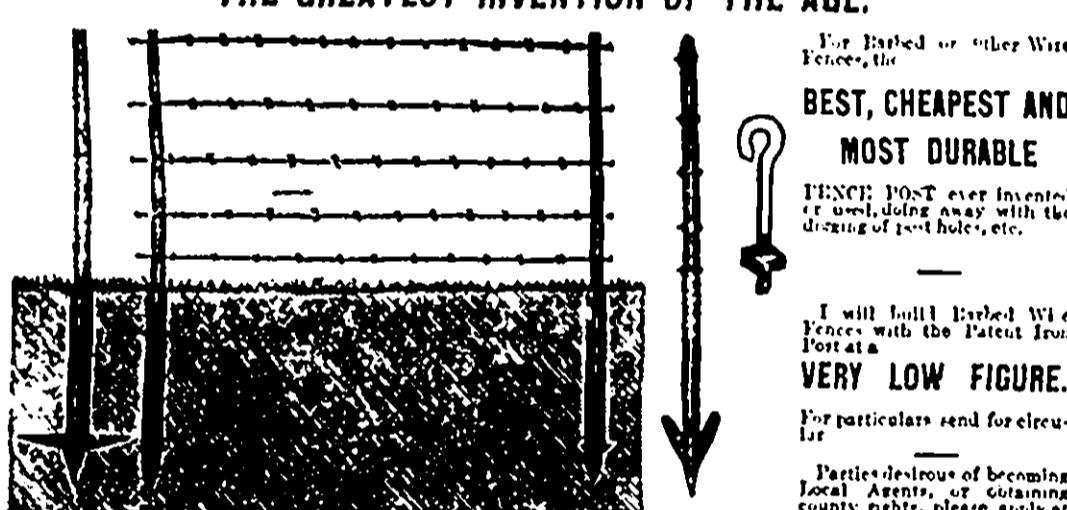
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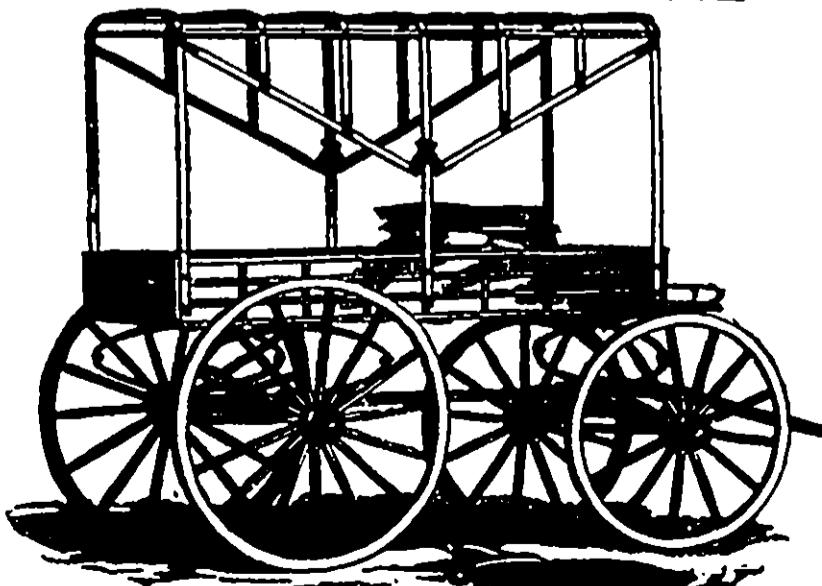
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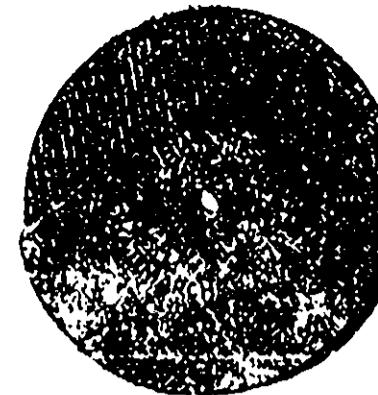
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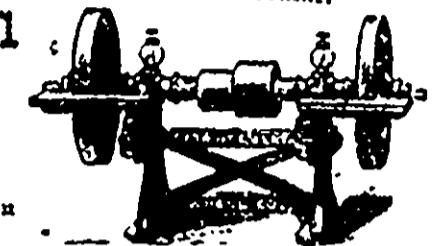
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