

INDUSTRIAL WORLD

AND NATIONAL ECONOMIST.

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

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THE
Industrial World
AND NATIONAL ECONOMIST.

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FREDERIC NICHOLS, General Manager,
TORONTO.

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For the United States,
\$3.00 in advance, per year, Three Dollars.
Remittances should be made by registered
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Manager, INDUSTRIAL WORLD.

TO ADVERTISERS.

The INDUSTRIAL WORLD, on account of its
large and general circulation, commends itself
as an advertising medium for all who seek
the best with manufacturers and the whole-
sale trade. Its advertising rates are low when
compared with those of other leading scientific
and industrial publications. (Cost of rates
and a specimen.)

Changes in advertisements should be ordered
to reach the office by Tuesday morning to
allow time for the preparation of the paper on
Wednesday.

TO CORRESPONDENTS.

The department "National Industries" is
set apart for the unrestricted use of those who
desire to place their views on interesting
subjects before their brethren in the trade.
Nothing in the nature of an advertisement
will be printed in this department.

The publisher will be obliged to all who will
send him a series of news or late occurrences,
and such will be printed in their appropriate
places.

All editorial communications to be ad-
dressed to

INDUSTRIAL WORLD OFFICE,
Drawn 1010, Ottawa, Ont.

Business letters, inquiries and adver-
tisements, to be addressed to

FREDERIC NICHOLS,
INDUSTRIAL WORLD OFFICE,
TORONTO, Ont.

TEES, COSTIGAN & WILSON
TEA IMPORTERS

AND

WHOLESALE GROCERS

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HONOUR MEDAL, BERLIN, 1878.

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Supplied either Direct from the Factory at OREFELD, Germany,
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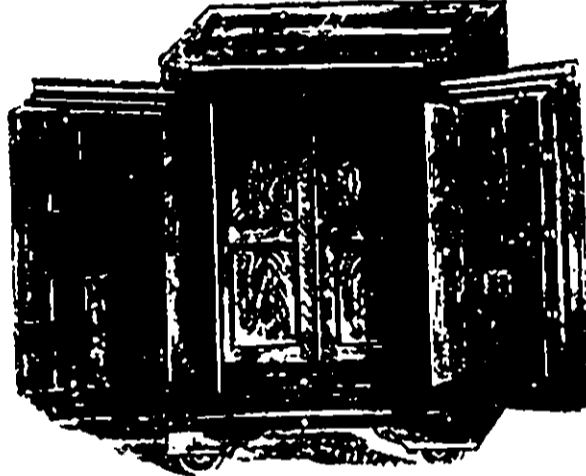
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Fire Proof Safes

WITH INSIDE BOLT WORK,

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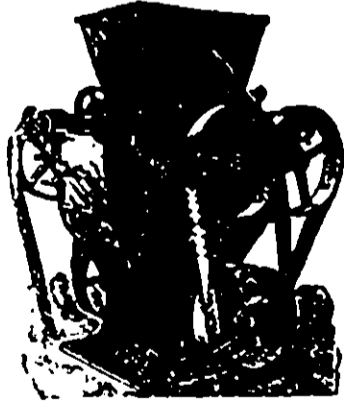
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GRAY'S PATENT NOISELESS ROLLER MILL.

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Weyman's Patent Porcelain Roller Frame. Over 500 now in use. Send for
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MILLER BROS. & MITCHELL,

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Sole Importers for Dominion of Canada.

Also manufacturers of best quality Milling Machinery. Milling and Contractors' Plant, importers of best Steel Wire
Ropes, etc.

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MERCHANT OR PIECE GOODS DYERS IN SILK
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GENTS AND LADIES GARMENT DYERS. SILK
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121 Sparks Street London

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The only place in the Dominion where all classes of work
can be guaranteed equal to the best houses in Europe.

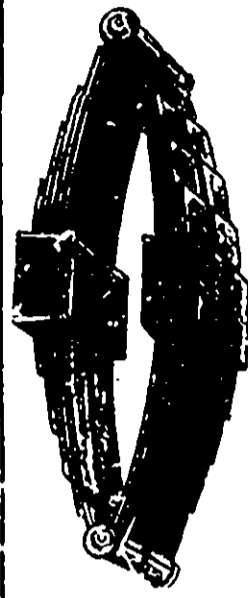
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our Offices.

Dominion Belt and Hose Co.

James D. McArthur
(MANAGER.)

LEATHER BELTING (Oak Tanned),
LACE LEATHER, FIRE ENGINE
HOSE, ETC.

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SPRING**

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SUPERIOR HAND CUT
FILES AND RASPS
RAILWAY and
Carriage Springs.

SPIRAL SPRINGS
A Specialty.

ALL
WORK
Guaranteed.

PRICES
and
DISCOUNTS
on
APPLICATION.

SOLE MANUFACTURERS
For the Dominion of Canada of the
PATENT CONCAVED ELLIPTIC SPRING
Now in general use. 2 1/2 per cent saving over any
other spring used.
DON'T FAIL TO EXAMINE OUR EXHIBIT.

CHARLES MARTIN

25 & 27 St. Peter St.

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FINE COLOURS & PAINTS

ANILINE DYES,
BRONZE POWDERS,
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METAL LEAF,
MIRROR PLATES,
PLUMBAGO,
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TINFOILS and CAP-
SULES,
DYE STUFFS,
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GEMS,
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124 & 126 Queen St.,

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Shops visiting either Montreal or Toronto
are respectfully invited to call and examine our
stock, which is now complete in every depart-
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Never before have we had such a
large and beautiful assortment of

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Glassware,
Photograph Albums,
Net and Wood Frames,
Toilet Cases,
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Boxes,
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Cabinets,

Toys,
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Mechanical Toys,
A great variety),
Drums,
Guns,
Swords, etc., etc.

JEWELLIES
In every department at

A. Nelson & Sons

Manufacturers and Importers.

Montreal House, | Montreal House,
121 ST. PETER ST. WEST | 89 TO 63 ST. PETER ST

THE FAIR TRADE MOVEMENT

The following is the full text of the resolutions adopted at the recent Fair Trade Convention held in London, England—

Whereas peace, industry and freedom of trade encourage commerce and increase the wealth of a nation, the wisest policy as well as the most advantageous, is that which tends most to develop the practice of these guiding principles. Unfortunately, a policy the very reverse of this has been adopted and is acted upon by all countries except Great Britain, not excepting even the principal colonies and dependencies of the British Empire.

1. That the distress at present existing among the working classes of this country calls for immediate redress, and that the Government should forthwith take into consideration the restrictions placed upon trade by foreign powers and adopt measures calculated to give greater freedom to British commerce, and thus increase and develop the resources of the Empire.

2. That the members of this conference engage to co-operate, irrespective of party politics, in the most strenuous legitimate efforts to induce the governments and legislatures of Great Britain and her colonies and dependencies to enter into negotiations for the abolition of all tariffs in restraint of free trade throughout the Empire, and, if need be, for the creation of an Imperial fiscal or custom union as far as possible in accordance with and confirmatory of the principles of universal Free Trade.

3. That, considering the vast and constantly increasing importance to England of her colonies and dependencies, and of her colonial trade, and that these colonies and dependencies, unlike those of France and of the United States, are entirely unrepresented in the Imperial Parliament; considering, also, that commercial and political treaties deeply affecting colonial interests are continually being entered into by the Imperial Government without affording the colonies any opportunity of publicly expressing their views on such matters as more immediately concern them; this conference is of opinion that, in all Imperial and international treaties, where colonial interests, fiscal, or other, are directly or indirectly involved, the views of the colonies themselves should be ascertained, and due weight be attached to their opinions, and that, effectually to attain this object, each dependency, colony, or group of colonies, should, like a territory of the United States of America or a French colony, be privileged forthwith to commission one if not more representatives or delegates to the National Parliament, with power of speech, whether or not with power of vote, as possessed by those of the French colonies.

4. That in order to carry into effect the foregoing resolutions, and with a view to promote the material interests and preserve the political unity and integrity of the British Empire, this Conference desires to form an association which shall be called "The National League," having its headquarters in London, and which shall have for its object the consolidation of the Empire by an inseparable political union or confederation between the mother country and her colonies, involving adequate representation of the colonies in an Imperial Parliament, and absolute freedom of trade throughout the whole Empire. That, moreover, this conference do proceed to enrol as members of the league any persons who sympathize with its

METEOLOGICAL SERVICE

The annual report of the Meteorological Service of the Dominion of Canada for the year ending December 31st, 1879, has been issued by the Department of Marine and Fisheries. Professor KENNEDY, the Superintendent, states that it gives him great satisfaction to be able to report a continued increase in the accuracy of the warnings, also a diminution in the number of telegraphic delays. In the year 1877 the percentage of warnings verified was 71.9, in 1878 it was 78.3, and in 1879 the percentage of warnings verified was 81.0.

The number of warnings which, owing to telegraphic delays, reached their destination too late to be of service was reduced from thirty-six in 1878 to eighteen in 1879. The following table shows the number of warnings issued in each of the Meteorological Districts during the year, with the number verified:

Table with 3 columns: District, No. Issued, No. Verified. Rows include Lakes, St. Lawrence River and Gulf, Ocean.

The report says that "out of the 591 warnings which were fulfilled, thirty-one were issued too late to be of service to the shipping. Of these ten were for storms approaching the lakes from the north-west, and nine approaching the Maritime Provinces from the ocean, and the failure to give more timely warning was owing to the absence of information from a sufficient distance in these directions. Although forty-nine warnings in all, including those delayed in telegraphic transmission, were received late, twenty-four of them arrived at their destination before the storm reached its height." The total number of weather predictions, other than storm warnings was 4,089. The report says that although this is an increase of 308 over the number in the previous year, the high percentage of accuracy was fully maintained. The number of places receiving the daily "probabilities" was increased during the year to 125, including five stations in Prince Edward Island. The following extracts from the report deserve attention—

"Before closing this report it may be well to call attention to the natural growth in the public appreciation of the usefulness of the work. The storm warnings are looked for by all interested in shipping, and applications to be furnished with daily probabilities are numerous. In order that we may be able to some extent to meet this demand for information I have shortly to be able to make arrangements which will more than treble the number of probability stations, by having posted a daily weather bulletin at nearly every railway station in Canada. If the weather reports are made public in this way, as well as in the daily newspapers and numerous post offices, as at present, they will be available for practical purposes to by far the greater portion of the people of Canada. Although, owing to the limited funds placed at my disposal, it is impossible to do all that is desirable in the way of placing information and conclusions regarding the weather immediately before the public, I trust that the efforts already made in this direction will be appreciated. The great interests which the country has at stake in its shipping has led me in the past to pay as much attention as possible to the prompt issue and publication of storm warnings. There is still, however, much to be accomplished in this branch of the service. The accuracy of the warnings has, as already stated, gradually increased, and the time has now come when it would be advisable to make this information available at all points of the coast at which there is any shipping. Dr. Fortin's scheme will do much in this direction, but there are still many points which are not reached. Were only two or three vessels saved it would more than pay the cost of the whole service. To increase our knowledge of meteorology, and especially of the laws of the formation and progress of storms, it is necessary that we should obtain observations taken at sea. Other countries have paid special attention to the subject of maritime meteorology, but in Canada nothing has been done, the time and energies of the office being taken up in other directions. Considering, however, that the shipping interest occupies such a prominent position among the interests of the country, and now that our storm warnings and probabilities are an assured success, an effort might be made to obtain information from parts of the ocean which few except Canadian vessels traverse; particularly between Nova Scotia and the West Indies. In England there is a special department of the meteorological office presided over by a superintendent who devotes his sole attention to this work, and which in addition to discussing general questions of ocean meteorology, publishes from time to time instructions for aiding mariners in their navigation, and also for avoiding severe storms.

Charters are also issued showing the general winds in different parts of the ocean during each month in the year. Similar information is collected by the ships of European and other countries, and also by those of the United States. Before it was thought possible to predict the weather with any certainty, the agricultural interests received most attention, but in Canada agricultural meteorology has unfortunately fallen somewhat into the background, much reliable information, which would have been of very great value for disseminating among intended immigrants, might have been collected, and would have aided greatly in the settlement of the North-West. To collect information available for agricultural purposes we require a very large increase in the number of stations at which observations are taken of the rainfall and general weather, and a smaller number at which temperature observations are also taken. The study of the influence of the weather on crops should prove of great interest to the farming population of Canada. The Superintendent recommends that the Meteorological staff be attached to the Civil Service, and he expresses the hope that the result of investigation into the value of the work done will justify the Government in increasing the annual appropriation.

BUSINESS IN THE STATES

An American exchange gives the following state of the case so far as trade prospects in that country are concerned. "The agricultural products of the country, including cotton, wheat and corn, will be less than last year's, but judging from present appearances the planters and farmers will not lose much, since the decrease in the yield promises to be compensated for by higher prices. True, the enhanced cost of the food staples will fall upon the masses, but then the masses were never before more able to bear it. The demand for skilled and unskilled labor is quite equal to the supply, the deposits in our savings institutions are increasing and there is cheap capital for all legitimate business. It is true the local money market is stringent on inflated stock collateral, for the reason that money finds safer and more profitable employment in legitimate enterprises, which was not the case a few years ago. That the capitalists of the United States have confidence in the growth of the prosperity of the country is manifest by the way they are putting their money into enterprises which depend for their success upon such prosperity. The productive industries, such as the iron foundries and cotton and woolen mills are running on full time to meet the actual requirements of consumers, and, in many instances, manufacturers are unable to promptly execute orders. The waste places in the newer sections of the country are being made productive by new railroads and immigration, and consumption thereby correspondingly increases. This is pretty conclusive testimony as to the convictions in respect of the future of those whose mission it is to study the business of the country in its largest aspects."

AMERICAN MANUFACTURERS CONVENTION

It has been arranged that the National Convention of American manufacturers shall meet at Chicago on Wednesday, the 30th of November next. The objects of the Convention are briefly set forth to be, "for the purpose of considering and recommending such Congressional action as will promote domestic and foreign commerce, and afford adequate protection to American industry." The subjects to receive attention are—1. Immediate remedy of the injuries done by decisions of the Treasury Department and the Courts, which have so constructed the tariff laws in many cases as to legalize evasions of customs duties, to prostrate numerous important American industries, and to give to foreign manufacturers large sums of money which should go into the United States Treasury, decisions which the Secretaries of the Treasury, in some instances, have declared to be wrong which Congress should be asked to remedy. 2. The appointment of a competent civilian commission to thoroughly investigate and report upon the progress, condition, and needs of American industries, and to recommend such tariff legislation as will be protective in character, consistent in all its parts, and adapted to the present condition of the business of the country. 3. The consideration of the policy of an early and progressive reduction of internal taxes by the general government. 4. The maintenance of a favourable balance of trade by the enlargement of markets for American products and the promotion of our shipbuilding interests and

foreign commerce. Over 800 invited delegates from all parts of the Union will attend the Convention.

ENGLAND'S WHEAT AND FLOUR PURCHASES.

The following statement represents the purchases of wheat and flour by England from foreign countries during the years 1877, 1878, 1879 and 1880. The *Milling Mill*, published in Buffalo, points out that the importations of wheat show a diminution from all countries except the United States, Canada and Australia, while her flour imports from the countries named have largely increased. The amounts are given in English cents—

Table titled 'WHEAT' showing data for years 1877, 1878, 1879, 1880 and countries like Austria Hungary, Germany, France, etc.

Table titled 'FLOUR' showing data for years 1877, 1878, 1879, 1880 and countries like Austria Hungary, Germany, France, etc.

The opening up of the North-West will have a tendency to increase the purchases from Canada.

MANUFACTURING PROGRESS.

Connected with several of the Industrial Exhibitions recently held it was complained that many manufacturing establishments were not represented. While the circumstance was to be regretted the cause was a gratifying one. And what was it? Their proprietors were so busy in endeavoring to meet the demands of the trade that they could not spare time to exhibit their wares. Connected with the Dominion Exhibition now open at Halifax we learn that the same complaint is made, and the same cause is attributed. In the Halifax *Herald's* description of the main building we read:—"Last year and the year before it contained the exhibits of fruit, flowers, roots, vegetables, grains, &c., &c., which this year will be shown in the Horticultural Hall, in the Public Gardens, and machinery in motion in Machinery Hall. The main building, therefore, will not look so full as in previous years, but all exhibits will (or should) be shown off to greater advantage, and will show the largely increased number of industrial exhibits. These, we regret to say, however, are not nearly so numerous as was expected, and as our manufacturers are able to show. There are various reasons for this. The late day at which the price list was issued, and the want of sufficient advertising, together with want of confidence in the energy and ability of the gentlemen managing the exhibition were among those reasons, but the greater cause of all is the tremendous rush of business at all our manufacturing establishments. For instance, the extensive establishments of the Hurrill, Johnson & Co. Iron Company, Yarmouth, which in previous years made one of the principal exhibits in their line: the Bridgetown, Pass River, Windsor, Truro, Amherst, and Oxford Furniture Manufacturing Company, the foundries and machine shops of Messrs. Crab, Grows & Co., Truro; J. Maiboroc & Co., Nova Scotia Forge Works, Nova Scotia Glass Works, Messrs. Caffrey, Wilkes and Nelson, and other industries of New Glasgow; Davis & Co., of Pictou, the extensive tanneries of John Logan and John Campbell & Sons, of Pictou, and some Provincial manufacturing establishments, many of them established within the past three years, not only

Nova Scotia, but all over the Maritime Provinces, were busy in preparing the goods, but were compelled to send them to customers instead of exhibiting, others preferred to fill their orders to exhibitors, while others were busy that not a man could be spared to send to Halifax with their goods. This is also true of many Halifax industries which are unrepresented, but which could had they the time to manufacture goods, astonish many visitors. Every quarter comes the glad tidings of prosperity to all manufacturing industries. Still the establishments engaged in presses the observer with the great strides made in manufacturing in Nova Scotia during the past two or three years. And the movement is still onward. If we have accomplished so much in such a short space of time, we can but imagine what with our sugar, cotton, pulp, glass, woolen, agricultural implements and other factories—the next decade will accomplish. The conditions are so favorable to industry. Labour and capital can now find an adequate reward. That is wanting is enterprise and energy, mingled with common sense and prudence. Within the past two years new life has been infused in both manufactures and agriculture, the result of which is but partially shown at this Exhibition."

EDITORIAL COMMENTS.

A special census agent has just prepared a preliminary report upon the production of iron ore in the United States for the year ending 30th Dec last. The total production is put down at 8,027,398 tons. Of this Pennsylvania has 27.09 per cent., Michigan 2.87, and New York 15.46. Sixteen States are named as producers. The three named with New Jersey, Ohio and Illinois produce 87.73 per cent. Marquette County, Michigan, gives the highest product of any one county—1,374,700 tons. The total value is \$129,000,000, total capital, \$1,677,937.

The *United States Economist* has an article on "Our Commercial Relations with Canada," which was produced in another column. That reciprocal commercial relations between the United States and Canada do not exist is not the fault of the statesmen of this country, but is the fault of our neighbors, who hoped by refusing to renew the treaty which expired in 1864 to ultimately force us into political annexation. It so happened, however, that the abrogation of the treaty did not prove a source of untold misfortune for Canada, while as regards annexation the thing is not even dreamed of.

The *Intelligencer* says that "records of the Belleville Custom House show the gratifying fact that a considerable number of families that emigrated to the States some years ago are coming back. The returning tide set in about thirty years ago (which is significant), and has been swelling in volume till at the present time scarcely a week passes without a number of entries for settlement. What is occurring here is taking place all over the Dominion, and not only are Canadians returning to their own country, but Americans are going into Manitoba and the North-West."

The *Bulletin*, an influential monthly and commercial newspaper published in New York, furnishes the following interesting item of news for the particular benefit of advocates of Free Trade:—"Here is something which will certainly be food for profitable thought to those who are endeavoring to make it appear that Protection does not protect. One of the most extensive firms engaged in the manufacture of fine dress goods in England, Priestley & Sons, whose works, running 1,500 looms, are situated in Bradford. Heretofore fine woollen fabrics, in the shape of ladies' dress goods, have been imported from England, and no special effort has been made to introduce the manufacture into this country. Last spring, Mr. Herbert Priestley visited this country, with a view to starting a here for their manufacture. During the past summer the newly-erected mill property of William Arrott, on Philip street, Philadelphia, was leased and the mill put up, where they are now running under the supervision of one of the sons. Another large batch of looms has just arrived from England, and it is said that Mr. Priestley's intention is to remove their English business, erect mammoth mills, and engage in the business on a large scale. It is understood that the operation will emigrate very largely and judiciously to an American enterprise."

Among the "Government notices" in the *Canada Gazette* of Saturday last, one announcing that "under the Canada Joint Stock Companies Act, 1877," letters patent have been issued

At the great heat of the Dominion of Canada... the 9th day of September 1881, incorporating David George Hatton, of the town of Peterborough in the Province of Ontario, in the Dominion of Canada, solicitor... Robert Archibald Morrow, of the place of Thomas Thomson Turner, of the city of Montreal, in the Province of Quebec, in the Dominion of Canada, merchant George Birchell Williams, of the town of Lafayette, in the State of Indiana, one of the United States of America; and John Franklin... of the city of Washington, in the District of Columbia, one of the United States of America, for the purpose of establishing, erecting, constructing, maintaining and working a line or lines of telegraphic communication... and to any place or places throughout the Dominion of Canada, either by land or water, with all the powers and privileges incident to or connected with necessary for the maintenance and working of such telegraphic lines, &c.

SPECIAL NOTICES.

ELLIOT & CO., DRUG MERCHANTS, ETC.

Lined oil has been cultivated in Canada for a good many years. The local market has not yet been supplied, and the price is not below \$100 per barrel. Elliot & Co. are undoubtedly the greatest dealers in this line in Canada, their warehouses are at 3 Front Street, and their manufactory on Beatty Street. They also manufacture oil cake in vast quantities, which is invaluable as a food for cattle. Their double extracts of odoriferous flowers are much admired at the exhibitions. At the Toronto Exhibition they received five first prizes for linseed oil, oil cake, white soap, perfumery and surgical instruments.

THE TORONTO BRIDGE COMPANY

The Toronto Bridge Company is a National Policy Industry, and one of the most important, its growth being remarkable. Iron bridges, iron roofs and railway trestles, with bridge bolts, etc. are the staple manufactures, and it is purely and entirely a Canadian enterprise. Situated on part of the old exhibition grounds (they have about three acres) bounded on the north by King Street, and on the south by the railway tracks of the Northern & North-Western, Grand Trunk, Toronto, Grey & Bruce and Credit Valley railways, with sidings running into the yard and shops, connecting with all the railways running into the city, their shipping facilities to all points are easy and direct. Although only in operation since the inauguration of the National Policy, and owing at first a hard fight for existence, owing to the undervaluation of imported bridges, which practice has since been stopped by our paternal Government, business has so increased and grown that this summer it was absolutely necessary to increase the shops and facilities. This has just been done; another switch was put in, two large new shops built and new machinery added, altogether doubling the former capacity, and even now orders are in for months ahead. The following are some of the orders on hand, the spanning from seventy to two hundred and thirty feet each, and located from Nova Scotia to Manitoba, Windsor and Annapolis Railway, one span; South-Eastern Railway, two spans; Quebec, Montreal, Ottawa & Occidental Railway, ten spans; Canada Atlantic Railway, seven spans; Toronto, Grey & Bruce Railway, seven spans; Canadian Pacific Railway, six spans. Aggregating in all over 500 lineal feet of railway bridging. In addition to this there are three or four highway bridges all over the country, which aggregate over 1,500 lineal feet together of highway bridging, the principal ones being two trestle bridges at Rosedale, a suburb north-east of Toronto, one is 60 feet high, 30 feet long, and the other, over the Don ravine 40 feet high and 600 feet long. The principal works recently completed are, Westminster Bridge, London, Ontario, which crosses the River Thames in a span of 154 feet; a swing span over the Chambly Canal for the South-Eastern Railway; an iron trestle bridge 60 feet high and 380 feet long at Chesley, Ont., for the Stratford & Huron Railway; two railway bridges over the new Welland Canal for the Dominion Government, one near Toronto, the other near St. Catharines; a bridge of three spans, the centre being with a fixed approach span over a shoal; three bridges for the Dominion Government on the Pembina branch of the Canadian Pacific Railway, and not least, two bridges for the main line of the same railway over the northern and western outlets of Lake of the Woods. Each bridge is composed of steel span of 200 feet, with a span of 100 feet on each side. The western outlet is rapid, the water running so fast it was impossible even to take soundings, and putting in temporary stages or dikes was out of the question. A great deal of consideration the

difficulty was finally and successfully overcome by making in that position a bridge of steel trestles, and building the temporary structure on them, the abutments being used as anchorages, and the piles as towers. This piece of work is one of the most difficult ever accomplished in this country. The foregoing sketch will give some idea of the importance of this industry, and when it is stated that a very large proportion of the iron used is made in Canada and the machinery and tools of home manufacture, the benefit to the country generally can be better appreciated.

PACIFIC RAILWAY COMMISSION.

At 10 o'clock Tuesday morning the Pacific Railway Commission resumed its sittings in room No. 5, Senate building, Judge Clarke presiding.

HON. MR. MACKENZIE'S TESTIMONY.

In answer to questions put by the chairman, Mr. Mackenzie said he had charge of affairs of the Canadian Pacific Railway as Minister of Public Works during the whole period of his administration, from November 7th, 1873, to October 14th, 1878. Surveys had been out for two years previous, but he does not know the exact expenditure. The surveys were, in his opinion, merely exploratory. If Mr. Marcus Smith expressed the opinion that a good route from Edmonton to Barrard Inlet could be obtained, he received from it afterwards. There were no instrumental surveys of location at all at that time. I cannot say how long after my Government assumed office that the Chief Engineer made a report which would justify decided action in relation to letting contracts. In 1874 Mr. Fleming said he had found a crossing from the Thompson River to the Big Head impracticable, and it was decided to explore the country northward, following the line of the Fraser to the head of Chilcotin River. This line was ultimately adopted as far as Jasper House to Fort George.

At this stage witness declined to be examined on the policy of the late Government. The Chairman thought it necessary to know the Government's policy in carrying out an investigation.

Mr. Mackenzie thought otherwise and continuing said Mr. Fleming was not directed to follow any different course from that pursued under the previous Government. He was to make exploratory surveys, to be followed by instrumental surveys. The former to show where the latter were to be made. The location surveys mentioned by Mr. Fleming in his report of 1874, between Pembina Branch and north of Lake Superior, were the first. We pretty well decided upon the location through the prairie country, the general location being decided as far as Yellowhead Pass. The telegraph lines were supposed to follow the same route. I think the Shebandowan section was located. I presume the tenders for the construction of telegraph lines were scheduled and opened as others were. I never opened any tenders myself while in the Department. I cannot say whether Sifton, Glass & Co's tender was understood to be for the whole line, or only for a section. I do not remember that Mr. Fleming had a different understanding as to this firm being tenders for the whole line. Contracts were awarded upon calculation of the engineer and assumed in every case to be lowest. As Minister, I had nominally to give decisions, but I do not remember a case where I decided in opposition to my officers. I took no greater part in awarding

Sifton, Glass & Co's tender than any other. I had no negotiations with the parties. I never dealt with the contractors excepting through the departmental officers; I recollect that the question of maintenance came up but do not know in what shape. Sifton & Glass may have called upon me before the contract was awarded as others did. I was not called to put a construction on the tender different to Mr. Fleming's interpretation. There was a question of profit raised, but I do not remember exactly what it was; so far as I know there were no terms granted as regards the profits of the line different to the tender. I gave no decision in the matter. As regards these tenders the pecuniary results were the only ones considered; contracts were let in the interests of economy. Oliver, Davidson & Co. obtained their contract as assignees for the contractors. It has frequently occurred that tenders passed into other hands before work was commenced, as in the Whitehead case. I cannot furnish the evidence of what led to the displacement of the contractors. Mr. Trudeau ought to have it in the Department. If he cannot give it I cannot.

The Chairman—I understand the difference between Oliver, Davidson & Co.'s tender and the lowest was \$27,000 which Mr. Trudeau could not explain.

STEEL RAILS.

The Chairman said the next question in order of time was the steel rails contract. The advertisement calling for tenders, he said, appeared about the end of September, 1874, and he desired to know what led to the opinion that it was necessary to make such extensive purchases at that time.

Mr. Mackenzie—They were made on the recommendation of Mr. Fleming, who considered that steel rails had reached bottom prices. Irrespective of price, I thought that there was an absolute necessity to go on with the construction. We bought 40,000 tons.

Q About what quantity would be required on the Pembina branch.

A About 50 tons per mile.

Q That would account for the necessity of providing about 10,000 tons. As to the remaining quantity did that weigh in the matter?

A Certainly.

A SLIGHT ARRER.

Q For the present if we could keep out of sight the cost, I suppose the price would be higher than it was at that time

and the rails were actually needed they would have been provided. I am endeavouring now to see whether the necessity for the use of the rails was a reason for the purchase irrespective of price?

A In other words you are endeavouring to see if you can find fault with the policy of the Government. I desire to answer any question as to the policy of the Government, but as so many falsehoods were circulated regarding the purchase of these rails I have answered every question put to me—not that I have any right to do it but because I choose to do it.

Q I may say on behalf of the Commission that it will say now that the policy of the Government, as a whole, was to purchase these rails irrespective of necessity for their use, I will ask you no further questions.

A I prefer you to go on with your questions.

Q Then understand that the responsibility of asking questions rests with you.

A The responsibility of what?

Q The responsibility of asking questions.

A You have no right to ask questions affecting the policy of the Government.

Q I repeat now, if you say that it was the policy of the Government as a whole to purchase these rails irrespective of the necessity for their use, I will ask you no further?

A I have already told you what were the two reasons for purchasing them, and what more do you want?

Q If you have already given the reasons, you must be able to give one. If you have a greater, you must have a less?

A Of the principles of the Government you have no right to ask.

Q Do you decline to give particulars of the reason of the necessity?

A I have already said so.

Q I fall to see where it existed.

A There were 2,000 miles of railway to build.

Q In ten years, but was it the policy of the Government to purchase without a necessity. The Commission can assume that the details of the department may be inconsistent with the principles of the Government?

A The Commission has no right to assume.

Q Do you decline to give any evidence of the necessity for their use?

A I have already said all I've got to say about the purchase.

Q Will you say the price is a material element?

A I have already said so.

Q Are you willing that the reasons be investigated?

A Investigate whatever you like. The fact is, Mr. Fleming thought the rails had reached their lowest.

Q Did you not, as head of the Department, consider it your duty to enquire into the reasons?

A I accepted my engineer's reasons. To the Chairman—There were no Canadian manufacturers to compete for the work; there were agents. If I had not thought eight days notice sufficient to get English manufacturers to compete I would not have fixed that time. I was advised subsequently to extend the time, and I did. In the awarding of tenders I did not give preference to any one.

Witness was here examined at length on the awarding of the contracts, but nothing new was elicited. He maintained that the lowest tenders were accepted in all cases unless some good reasons could be given, and which would be furnished by the Department. He could not say now it was that Cooper, Fairman & Co's offer for freighting from Liverpool was accepted at £10 10s per ton, and Crawford's at £10 5s was rejected. In dealing with the tenders for the 40,000 tons, the intention was to award to the lowest, and go up as forced to by the rise in price.

MR. MACKENZIE'S BROTHER.

The Chairman asked if witness desired to say anything about Charles Mackenzie, his brother, in relation to Cooper, Fairman & Co's contract.

Mr. Mackenzie said he first saw a statement in the Gazette, to the effect that his brother was interested in the company. Subsequently he had an interview with him, and received assurance that he was not. Then telegraphed him if I might publish that statement, which I did. He had done nothing improper in connection with public affairs.

The Georgian Bay contract awarded to Mr. Foster was then taken up. The \$41,000 paid to Mr. Foster for explorations, etc., was authorized by Mr. Fleming's report. The Government were misled into the contract by incorrect information of their officers.

The Commission then adjourned until 2 p.m.

AFTER RECESS.

The examination of Mr. Mackenzie was continued. The Government had adopted the policy of constructing that portion of the line west of Lake Superior upon the representation of the Engineer. Shebandowas was at first the western terminus of No. 13 contract, but it was found necessary, owing to the roughness of the route west of Sturgeon Falls, to deflect the line nearer Thunder Bay. (He here dealt with the policy of the Government, which he said, had already been given in his speech.) He also referred to the question of grades and quantities, which were already been dealt with. Location of contract No. 13, from Red River to Crow Lake, was decided upon by the Engineer. If there was any remonstrance on part of contractors as to the portion of the line near Red River not being located, it should be in the Department. He did not remember any it was intended that Whitehead should do the work for the contractors and not the Government.

What Whitehead received he considered was to be deducted. The question of baulage was not submitted to me. Regarding the Fort Francis locks

no investigation had been made as to whether the money was properly expended, because it was not considered necessary. The engineers were responsible for the proper expenditure.

The next contract taken up was No. 15, let to Sutton & Thompson, who subsequently took Whitehead in. He did not

know before the contract was awarded that either Whitehead or Senator Macdonald were interested. The Government were dealing altogether with Sutton & Thompson. Senator Macdonald, he thought, was their agent. Both the Senator and Whitehead denied that the latter had received any money consideration for withdrawing when he asked them Charlton & Co. had two months to furnish the necessary security, and having failed, the contract was handed over to other parties. Mr. Macdonald was tendered the contract, but he wanted to make a provision that section 14 be completed in the required time. This would make the Government responsible for the delay which they declined to accept. On section 16 the Government were bound by the agreement with the Canada Central to pay 75 per cent on rails delivered. A quantity was delivered at Renfrew—the nearest point possible to the line. Mr. Foster was building the road to Pembroke, and applied for the loan of 200 tons of rails for which he gave £8,000 in Eastern Railway bonds as security. They were afterwards satisfactorily accounted for. With regard to the contract for carrying rails from Liverpool to Vancouver Island at £2 per ton, and amounting to about \$20,000, he said the only enquiries they made about rates were what they saw in the papers. The contract for the transportation of rails from Duluth to Kingston was awarded to the Kitson line because they controlled the boats and were the only one who could perform the work satisfactorily. Another reason was that they charged nothing for storage or wharfage. The next contract was No. 20, with

COOPER, FAIRMAN & CO.

for the transportation of rails from Montreal to Fort William. The lowest tender was from Mr. Samuel, but that gentleman not being a boat owner he was passed over. Regarding section A, he did not know why the same prices were paid for work done on prairie lands as was paid on section 15, a more difficult country. The prices for embankment were, he thought, the same, but Mr. Fleming fixed a price for off ditches, which were omitted from the original contract as far as he could recollect. Regarding Brown's telegram, which had been made the plea for increased prices by contractors, he said he could not have possibly authorized anything that exceeded the instructions in the Order-in-Council.

The Chairman asked if Mr. Mackenzie had anything else to offer. He replied in the negative, and the Commission adjourned sine die.

CANADA AND THE UNITED STATES.

(United States Economist.)

Many considerations demonstrate the importance of mutually free trade, exports, and transit throughout the United States and Canada. Not only does our warmer climate enable us to produce many articles not easily or profitably grown in Canada, yet necessary for the comfort of her people and for which she can give us valuable exchanges, needed in the daily life of our citizens and as material for the manufactures we export, but our rivers, railroads, and canals are the only direct means she has of communication with southern regions, while unfettered transit through her territory and the perpetually free navigation of the St. Lawrence are conspicuous wants of the Western and Eastern States. The people of Canada sprung from the same nations of Western Europe as those whence we derive our origin, have all the characteristics of a commercial, enterprising and progressive nation, however its manifestations may have been retarded by isolation from the remainder of the continent, and favoured by the resources of a new and broad territory, their products and exports are of greater value than those of a population of equal number, but of any other race in the world. Already, though with insignificant numbers, less than one-twentieth part of those of Russia, Canada, yet a possession of Great Britain, occupies the fourth rank among the nations of the world in the magnitude of her commercial maritimes. In the general education of the people, modern Canada is unsurpassed. Separated as they are by the Atlantic and Pacific Oceans from the nations of the Old World, and enjoying the yet slightly developed advantages of their country, their rates of the wages of labour are on the whole not very widely different from our own. From the greater part of the Canadian settlements, and at an average cost not far in all exceeding that of the wages of an artisan for a single day, a man may come to the United States where he can earn such wages as are paid here and enjoy the advantages of republican institutions. In addition to these considerations, Canada is on the whole a forest and farming country, ready not only to sell us many of the bulky articles as we need for common use or for exportation, but also to receive in return those manufactures of which we usually have a large surplus, and for which we have not yet found sufficient market.

It has followed as a matter of course, from the relative positions of the United States and Canada, and their dense populations, that their commercial relations have engaged the attention of the most sagacious statesmen and merchants of our country from the beginning of its history to the present time; and the advocates of the most liberal and intimate system of exchanges with the Canadians have been confined to no party, but have included in their numbers Protectionists as well as Free Traders. The advantage which, under a system of just and fair reciprocity, our own citizens and the people of the Dominion would mutually give and receive are at least in proportion to their respective populations, as valuable as those which any States or groups of States confer upon each other by unlimited freedom of trade between them, and these benefits are among the greatest derived from the union, and are the strongest bond for its preservation and perpetuity. The barriers to intercourse between our citizens and the Canadians are wholly artificial, the results of human law, and can easily be removed by mutual agreement and appropriate legislation.

Through Duties on Canadian grain, we cut out an enormous trade which would naturally, and with mutual benefit to both countries, pass through our territory, paying freight to owners of our railroads and canals and giving work and wages to vast multitudes of men now in need, and adding to the profits of our shippers and merchants, besides, through increased employment, enlarging the demand for the agricultural and other products of the regions through which they pass. What in these respects is true of the city and State of New York is also true of Philadelphia and Baltimore and the States of Pennsylvania and Maryland. The latter more remote from Canada, have not so clearly perceived the advantages of being enabled, with fewer or diminished impediments, to sell to her the products of their workshops or their imports from Europe and the regions of the tropics. Railroads, now giving such easy access from Baltimore and Philadelphia to the interior of the continent, have placed within their reach new advantages as regards trade with Canada which they do not yet adequately appreciate, but are already of much importance, and will continue to increase for centuries to come.

THE CROPS OF 1881.

Montreal, 27th.—The Grand Trunk authorities have issued their annual report of the state of the crops along their line in Canada. The oat crop has given the most abundant yield of all cereals, having been large in all sections of the country and very extensively sown. Barley is also a large crop this year and in the Bay of Quinte district, where this cereal is the staple product the berry is light, plump and above the average weight, the greater portion of the crop grading as No. 1 in quality. Wheat does not appear from the reports to have been so extensively sown this season as in former years, probably because the crop of 1880 was a signal failure, but the result has been very satisfactory, the yield averaging higher and the harvest being gathered under favourable conditions. Fall wheat was very generally substituted for spring wheat in this season's crop, having proved more profitable in 1879 and 1880, in each of which years the yield was large. The present harvest again gives a most gratifying result, nearly one-half the reports placing winter wheat above an average crop, while only eleven out of eighty-eight returns make it under the average. Peas have hardly come up to the standard of yield in the past two years, and in many localities in Western Ontario the grain was destroyed by insects. The crops which have proved a failure this year are hay, maize and fruit of all kinds. Hay was light, particularly in the Province of Quebec, drought and excessive rain following one another at most inopportune periods, stunting the growth of hay, and compelling farmers to house much of it in a wet state. Maize is not largely grown in this country, and the failure of the crop is of less importance than would have been a disaster to any of the other grains. Taken altogether the harvest has proved a most satisfactory one, wheat, oats and barley exceeding a fair average crop.

The assassin Giltzen, it is stated, nurses a vain hope that he will escape the extreme penalty of the law.

The action of the French Col. Negrier in destroying the tomb of Sidi Cheik is approved in Algeria, and a subscription is being raised to present that officer with a sword of honour. Outside the colony, however, his course is generally condemned. "Never," says the Paris correspondent of the London Telegraph, "was a more wanton or foulhardy deed committed than the desecration of a shrine that was held in the utmost veneration by the entire Mohammedan world, and which was visited by pilgrims."

The vine at Hampton Court Palace has been presented by Her Majesty to the Princess Frederick for her private use. This vine, one of the curiosities of the garden, was planted in 1769, and, according to popular belief, is the largest in Europe, if not in the world. The official guide to the palace mentions that "in the autumn it almost drags the house down with its thousand clusters of purple grapes, numbering, in fruitful seasons, as many as 2,500 bunches of a pound weight each." Hitherto the fruit—the black Hamburg grape—has been exclusively reserved for the Queen's dessert. The principal stem, nearly thirty inches in circumference at its base, is about 170 feet long, and, if permitted would outgrow the building, which from time to time has been enlarged out; it now occupies a hall of 2,200 square feet.

A Canadian mechanical engineer, named Arnold, has invented a device designed to give a partial security against boiler explosions. The invention consists of an electric adjustable attachment to the ordinary steam gauge, now in use, to give an instant and continuous alarm. At any distance from the boilers or other pressure generators, or an excess of pressure over that at which the alarm has been set, and where there is more than one generator in operation, an ordinary "tell tale" can be attached to signify which generator is at fault. The invention possesses a great many valuable features, prominent among which may be noticed that it is extremely simple and inexpensive, and can be attached to existing arrangements at no expense beyond that of the alarm itself, and without in any way affecting the present adjustment of the gauge.

SPiRiT OF THE COMMERCIAL AND INDUSTRIAL PRESS.

NEW ECONOMICAL FACTS FOR CONSIDERATION

(St. James' Gazette.)

It is surprising to see how English public men of eminence and ability either evade or are unable to grasp the true economical question which is taking so firm a hold on English opinion...

Will anybody in his senses proclaim that these new facts are of no importance whatever? Will anyone really assert that the contraction, and probably the eventual loss, of the markets of civilization is an idle and immaterial circumstance?

It may be taken, therefore, for granted that the loss of a civilized market—that is of the liberty of selling to a community of men whose needs are always increasing and who are constantly increasing their purchasing power—is a commercial and industrial calamity of the first order.

markets is a still greater disaster, and if, instead of a loss, there is only a serious contraction of such markets, there is at most a mitigation of the evil. It ought, further, to be recognized by all who are not obstinately blind that the difficulties of a populous manufacturing country against which the avenues of trade are being closed are enormously increased and rendered vastly more complex by a fiscal system which has deprived the producing classes of the home or domestic market...

HARMONIZING LABOURERS AND CAPITALISTS

(Chicago Industrial World.)

It is a grave mistake to suppose that there is any antagonism between capital and labour. These are always and universally friendly. Capital is merely an instrument of production, but its use may be abused. An axe is capital in the hands of its owner, yet it may be employed to commit murder as well as to chop wood...

While there never has been antagonism between labour and capital, there has long been antagonism between the labourer and the capitalist. Selfishness is the primal cause of this opposition. We are among those who believe that the relations between the labourer and the capitalist will never be settled upon a perfectly equitable basis until all hearts shall be imbued with a strong desire to do unto others as they would others should do unto them.

For a series of centuries, the general condition of the labourer has been constantly improving. His right to wages, and even to good pay, is now almost universally conceded. But it was not so always. At one time the labourer was a serf attached to the soil, and transferred with it as so much property, by sale or by conquest.

After a considerable period of trial, this system is now rapidly advancing to new stages of development. The labourer perceives that the capitalist realizes a profit upon the hire of services, and knows that all this gain would be his own could he only discover some way of self employment. Co-operative societies of various kinds have grown out of this view of the subject.

THE COMMERCIAL TREATY NEGOTIATIONS WITH FRANCE

(English Press Opinions.)

The Times says the consent of the English Government to renew the negotiations for a commercial treaty with France can have been given only on the understanding that France is prepared to make very considerable concessions in the direction of free commercial intercourse. If this be so, a very short discussion will be enough.

most, and feudal services were converted into pecuniary assessments. With this change a portion of freedom passed to the nobles and their underlings. Capital growing more rapidly, the arbitrary authority of the sovereign ceased, law emanating from a small part of the people taking the place of the society formation. With every successive increase of capital there has been a resulting diffusion of it throughout the community, to greater or less extent, according to its quantity and quality.

So long as society shall be divided into two distinct classes—labourers who let their services for wages, and capitalists who hire the services and pay the wages—there will be antagonism between the two, because their interests are different. Whatever tends to increase production, and thus to augment capital, whether the tendency arise from freer political institutions, or from juster laws, or from a purer administration of justice, or from improvements in automatic machinery, or from other source, must tend to convert labourers into capitalists capable of self employment, and so of independent action in applying their exertions.

Finally, it is plain that the world has barely entered upon the acquisition of capital. An incalculable abundance awaits appropriation in the vast storehouses of nature. Every successive generation inherits an augmented accumulation, and this increase embodies the process constantly going forward, by which the circumstances of all classes have been raised.

The Standard urges that in the renewed negotiations her Majesty's Government should do nothing to weaken the position they have already taken up.

They have pledged themselves not to agree to any conversion of duties which would destroy any branch of English trade, although to ask them to carry out this principle to such an extent as to promise not to injure any individual article of trade, however small, would be simply absurd. If our own Government make a firm stand on the principle, they have hitherto set forth they will, without doubt, succeed in obtaining a treaty which will be really acceptable to the English people, and ultimately result in increased trade and more cordial relations between the two nations.

The Daily Telegraph regards the renewal of the negotiations with satisfaction, because it has been secured without any surrender of principle on the part of the English Government. When France refused to grant a prolongation of the tariff fixed by the treaty of 1860, it was thought that the menace involved in the refusal would have terrified our negotiators into a capitulation.

The Daily News does not think it worth the while of the English Government to assent to any arrangements which would not place English commodities in at least as good a position as that assigned to them by the treaty of 1860. On that understanding we are prepared to negotiate.

TORONTO PRICES CURRENT.

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

Table of prices for Oils, Paints, Wool, Hides and Skins, Leather, Produce, Provisions, Boots and Shoes, and Liquors.

WEEKLY REVIEW.

Weekly review text starting with 'Toronto, Sept 24th, 1911' and covering market conditions for various goods.

PACIFIC RAILWAY LANDS.

Article about Pacific Railway lands, mentioning the Department of the Canadian Pacific Railway and land applications.

Advertisement for THE WOOL HOUSE, featuring Winans & Co., Napanee Blanket Mills, and Arthur Toomey.

Advertisement for DUNDAS COTTON MILLS CO., Dundas, Ont., listing various cotton products.

RAILWAY MATTERS.

THE ELECTRIC RAILWAY IN LONDON

At this present time of writing no one would be prepared to bring forward a scheme for a railway from Charing Cross to Euston excepting underground. Independently of the great objection entertained to multiplying tunnels for passenger routes, the cost thus incurred is enormous, chiefly in consequence of the interference with the sewers and whole arrangements of underground London by such a line. The cost could not be estimated at less than from £3,000,000 to £4,000,000 a mile, and perhaps much more. A high level railway, on the other hand, while much cheaper to construct and more acceptable to the passengers, is justly regarded as inadmissible from the noise of the locomotive traffic. But if, as intimated to us in recent articles, the electric method of propulsion be established, the main objection falls to the ground. An electric high level line—might afford a mode of articulating the London termini with which no other could compete. And therefore, before subscribing to any new London extension of the railway system, we advise our friends and readers to wait for the thorough establishment, or the reverse, of the claims of the electric railway. We think it far from impossible that a judicious application of this invention to the existing railway features of London may lead to as full and as adequate accommodation being given to the railway public as would have been the case if the central station or stations to which we have referred had been erected 40 years ago.—Builder.

THE Q. M. O. & O. RAILWAY.

Our Montreal despatches state that in consequence of the constantly increasing traffic over the Q. M. O. & O. Railway, it has been found necessary to divide the duties of the assistant superintendent, Mr. C. A. Scott, so as to relieve him of some of the work, which is increasing in a corresponding ratio with the business of the road. With this view, it is, we believe, intended to relieve Mr. Scott of that portion of his duties connected with the running of trains, so as to enable his office to be removed from Hochelaga to Montreal. Whilst congratulating the Government upon the sound sense which is indicated by their continued confidence in an excellent official, who was the nominee of the previous administration, it may not be amiss to draw attention to the remarkable success of Mr. Scott's connection with this railway. Appointed in 1878 to the difficult task of taking possession of the western division of the railway from the contractor, Mr. McDonald, by military force, so efficiently was this duty performed that regular trains were running within 24 hours. He also organized a competent and efficient staff, and had the road working with punctuality, speed and safety, and paying a handsome profit beyond its working expenses, almost from the first week of its operation. Upon the taking over of the eastern or Quebec division, the effects of the same excellent management became at once apparent; and to-day the province may boast that, for safety, punctuality, cleanliness and comfort, the Q. M. O. & O. Railway will compare favourably with any road on the continent. It is to be hoped that although Mr. Scott's duties will now prevent his personal superintendence of the running of trains, the same punctuality and freedom from accident will continue to be the characteristics of the Q. M. O. & O., and that travellers may continue, as it has been facetiously said, to "set their watches" by the arrival of trains on this road.—Quebec Chronicle.

THE CANADIAN PACIFIC RAILWAY.

The Hon. Peter Mitchell has recently returned from a very interesting trip over the C. P. R. as well as other parts of Manitoba. The party consisted of Mr. Duncan McIntyre, Vice-President of the C. P. R., Mr. C. D. Ross, of London, England, one of the directors, Mr. Charles Cassels and Mr. Hugh Mackay. Mr. Mitchell speaks highly of the energetic manner in which the Canada Pacific is being pushed ahead. The Rainy River Branch will be completed in about fourteen days to Hat Portage, which is situated about a hundred miles east of Winnipeg. When this section is completed it will enable the contractors on section "B" to push on the work with greater facility. The party proceeded West, passing through Portage la Prairie to the extreme point to which the road is laid west of that place, the distance being about eighty miles. The track is laid to the city of Brandon and is being continued at the rate of a mile and a half to a mile and three quarters a day.

Brandon city, which had no existence on the 1st of May last, now boasts of 50 or 100 residences, composed chiefly of canvas tents, with many wooden buildings, a very respectable hotel, two fine large livery stables, a good many tar-banta shoes, shoe shops, dry goods stores, a lawyer's office and a doctor's abanty, as the hon. gentleman styled it, a number of private residences, and a steam saw mill. A section has been laid off in town lots, which were being held by the owners at from \$300 to \$500 a lot, having been originally purchased

from the company at a figure ranging from \$500 to \$1000 a lot.

Mr. Mitchell speaks very lightly of the character of the country for agricultural purposes, the yield of wheat being at least forty bushels per acre, and oats from 25 to 30, while the farmers have no difficulty in disposing of all they can produce, the bulk of a better being so great that their crops are sold right on the ground.

The C. P. R. Company have already taken into the country over 20,000 tons of steel rails, in addition to the amount they have received from the Government, but they have to contend against the inability of the part of the U. T. R. to supply the necessary cars to transport them at rates such as to be able to compete with other southern routes, the result being that large purchases have been made to be delivered at Chicago instead of Sarnia. The sellers consequently will naturally select such ports as Boston, New York or Philadelphia as their points of delivery and this immense carrying business will be lost to the Dominion. There will be over five hundred miles of track graded by the close of the season since the commencement of the work in May last, and two hundred and fifty miles of track laid within the same period.

THE MERSEY RAILWAY

It has long been almost a national reproach that while great engineering works have been accomplished to connect places of comparatively little importance, either as regards population or trade, Lancashire and Cheshire should continue to be divided by the Mersey at the point where above all others they should join. Some years ago an Act of Parliament was obtained to authorize the construction of a railway under the river Mersey, but for a variety of causes into which it is not now necessary to enter no practical measures were adopted until lately to carry out the undertaking, the great national importance of which is generally admitted. The Mersey Railway Company have now, however, commenced vigorous operations, and steps are being taken to construct a line of rather more than two miles and a half in length. Under an agreement with the London and North-Western Railway Company it will form a junction at Tranmere with the Birkenhead Joint Railway of the London and North-Western and Great Western Companies, and passing through Birkenhead and under the Mersey, will, for the present terminate in Church street, Liverpool, at a point near the Central Station of the Midland, Great Northern and Manchester, Sheffield and Lincolnshire Railway Companies. The joint population of Liverpool and Birkenhead is upwards of three quarters of a million (or 704,152), of which Liverpool contributes 681,936, and Birkenhead 82,216. The finest docks in the world are at Liverpool and Birkenhead, and it is estimated that 26,000,000 of passengers and 500,000 tons of goods are annually passed to and fro. For this there is no railway nearer than Runcoora (30 miles distant) and the ordinary carriage is by means of steam ferries for passengers and lighters for goods. In foggy and tempestuous weather it is difficult and sometimes even impossible for the steam ferries to cross the Mersey. The proposed tunnel railway will ensure a safe and expeditious means of transit for passengers, while by means of stations near Woodside, Birkenhead, and St. George's Dock, Liverpool, rapid communication will be provided for all kinds of goods between the docks and both sides of the river. The connection with the joint railway at Birkenhead will for the first time open up a through route for passengers and goods over the whole of the Great Western system, including the coal fields of North and South Wales. The Great Western Company have shown their confidence in the undertaking by nominating two of their directors to serve on the board. Although the actual line of railway now proposed to be made will be upwards of 2 1/2 miles in length, the portion actually under the river Mersey will not be more than a mile. The work of construction has already been undertaken at the Lancashire and Cheshire sides of the river. A careful series of borings discloses the fact that nearly the whole of the tunnel under the river, as also of the underground railway approaches on either side, will pass through the new red sandstone rock, and that a minimum thickness of 25 feet of solid rock will intervene between the crown or roof of the tunnel and the bed of the river. The cost of the undertaking, regard being had to the magnitude of the work, appears to be exceedingly small, and a contract has been entered into for the completion of the line in two years and two months. The cost of the works, including lands, stations, rolling stock, and incidental expenses and contingencies, will not exceed £800,000, and competent contractors have undertaken to complete it for that sum. It is estimated that the gross annual receipts will not be less than about £140,000, made up of £100,000 for 13 millions of passengers as 2d each, £25,000 for half a million tons of goods, at one shilling per ton, and £15,000 for parcels and sundries. The working expenses are put down at 50 per cent., or £70,000, leaving a balance of £70,000, subject only to a deduction of £10,000 per annum for interest on the debenture debt (included in the £800,000 of capital proposed to be raised), and leaving £50,000 for dividend on the share capital of £650,000. This

would be equivalent to a dividend of 7 1/2 per cent. per annum. A glance at the map will show the great national importance of connecting the counties of Lancashire and Cheshire at the points where population and trade converge to a common centre. As there are no engineering difficulties of any moment to be overcome, the Mersey Railway will no doubt soon be an accomplished fact and when it is opened and carrying millions of human beings and millions of tons of merchandise, people will wonder why so obvious and legitimate an enterprise was not undertaken long ago, especially as the railway will connect not only two of the principal counties of England (now divided by what may be termed an arm of the sea) but the two great arterial railways of the Empire.

AUTOMATIC BRAKES

Writing to the London Times on the subject of "Automatic Brakes" Mr. George Westinghouse, jun., says that in the account given on Monday of the collision near Bow Road Station it was stated that one of the trains was fitted with the Westinghouse brake. At the inquest on Tuesday, however, Mr. Westinghouse states, "the guard of the passenger train said his train was fitted with the Clark chain brake, which could not be operated by the driver, and after the inquest, in answer to a question, he said he might easily have pulled up in time to avoid the collision had his train, like the empty train, been fitted with the Westinghouse automatic brake, which can be instantly applied on the whole train. Instead of the chain brake, which takes several valuable seconds for its application. In other words, had the condition of the trains as regards brake power been reversed, the accident, under precisely similar circumstances, would have been avoided. The empty train was fitted throughout with the Westinghouse brake, excepting on the engine. The air pressure had been left in the train by the previous engine which had taken the train to Fenchurch street, it being a peculiarity of the brake that its connection between carriages can be separated by hand without setting the brakes, leaving the air stored on the train ready for an emergency. From further inquiry it was discovered that the brakes had actually been applied twice for shunting purposes after the brake engine had been disconnected, and in each case were taken off by the carriage release valves before the train started on its journey. A further peculiarity of the Westinghouse brake—and a useful one with all automatic brakes—is a provision against the automatic application of the brakes as a result of an ordinary leakage. The testimony clearly showed that the brakes of every carriage of the empty train had been applied, and thus conclusively established the fact that they had not gone on from leakage, but had been applied by some sudden reduction of pressure in the brake pipe. It is a common occurrence for guards and others to open the brake valves in the vans to test the brakes, and when this is done thoughtlessly with a charged train, without a brake engine to release them, the brakes go on and remain on until released by the carriage release valves. It has been suggested that the best course to pursue in case of automatic brake trains would be to discharge all the air from the carriages when the engine has no brake apparatus, so that it would be quite impossible for the brakes to be put on, but against this is the fact that several accidents have already been avoided by the timely use of the stored up power of the automatic brakes, such as the guards have under their control when in charge of carriages charged with air and drawn by an engine not fitted with the brake. The only objection which can properly be raised to an automatic over a non-automatic brake is the loss of time consequent on the occasional self application of the former, when not required, between stations, for no one trusted with the working of a railway strictly operated on the block system can admit that it is an element of danger, so far as following trains are concerned, suddenly to stop a train on any portion of a line so operated. If it is dangerous suddenly to bring a train to a stand at any unexpected point, then the safety of the block system is not in practice realized. For one obstruction to traffic caused by an unexpected application of the brake there are many hundreds caused by other circumstances incidental to the working of the traffic. And those numerous cases of irregularity, which cannot be avoided, led, in fact, to the establishment of the block system, at an expenditure of millions, to protect any stationary train from being run into by a following train. The following serious objections to non-automatic brakes are now nearly universally acknowledged. It is the fact that they are liable to fall when wanted, thus allowing the train to overrun the intended stopping point that, inasmuch as the power has to be transmitted back from the engine to put on the brakes, they are necessarily slow in action, involving the loss of valuable seconds, each second making a difference of from twenty to thirty yards with express trains; that they cannot be applied by the guards; and that they instantly come off, even after having been put on, if a pipe falls or a train breaks in two. Two recent cases where accidents have been prevented by the Westinghouse automatic brake illustrate the value of instantaneous action. A train on the North-Eastern Railway, which left Burnhill on the 22nd of August at 1.30 pm

was proceeding on its journey, and when nearing a bridge which is only one span across the line, the bridge suddenly fell the driver, seeing it fall, applied his brake and brought his train to a stand within a few yards of the fallen debris. Again, on Bank Holiday, August 1, while a train of fifteen carriages, well filled with passengers, was standing at Stratford, a following train was allowed to enter the station through some mistake, an official, seeing the train come into the station, put up his hands to warn the driver of the approaching train, who at once applied his brake and stopped with his engine only six feet from the rear van of the standing train, which vehicle contained over a dozen passengers, who were in it owing to the crowded condition of the train. The loss of two seconds in getting the brakes on in this instance would have resulted very disastrously. My only excuse for writing at such length is to correct the misleading impression that automatic brakes are not worthy of the confidence that has been placed in them.

The traffic returns of the Great Western Railway of Canada for the week ending Sept. 10th, 1881, are as follows—

Passengers	115,000
Freight and live stock	1,250,000
Mails and sundries	1,250,000
Total	2,650,000
Corresponding week last year	1,112,750
Decrease	\$926

The Saginaw Courier claims that East Saginaw is to be the great railway centre of the northern portion of the lower peninsula of Michigan, and in support of that claim says that with the Shore Railroad to Alpena, which will be constructed next season, the Saginaw, Tuscola & Huron narrow gauge between East Saginaw and Selkwaing, completed this season, and ultimately to be extended to Bad Axe and Port Austin, the Port Huron & Northwestern between East Saginaw and Port Huron, to be completed this season, and also the Manistee branch of the Flint & Pere Marquette, connecting the city with Manistee the present year, together with existing railway facilities, East Saginaw is fairly out of the woods.

At Harrisburg on Friday last a charter was granted to the Big Level & Bradford Railway, which is to connect with the Philadelphia & Erie Railroad and with the Pittsburg, Bradford & Buffalo Railroad, near Kane, Pa., and with the New York, Lake Erie & Western Railroad, north of Howard Hill. The length is fourteen miles and the capital stock \$250,000. A charter was also granted to the Kinross Railroad, which is to run a line to connect with the Big Level & Bradford Railroad near Howard Hill, and with the Bradford, Borell & Smetliport Railroad near Simpson Station. The length of the road is to be fourteen miles, and the capital stock \$150,000. Elsie K. Kane, of Kane, is President of both roads, and holds most of the stock.

Information has been received of the extension of the Texas Pacific Railroad to the Pecos River, 401 miles west of Fort Worth. Sixty miles of the line between Aroya and the Pecos River have been just finished. Construction trains are running twenty miles beyond the Pecos, and the grading is done clear up into the Rio Grande Valley, and will soon reach El Paso. Another line of the Gould Texas system, the International & Great Northern, is also being extended from San Antonio down towards Laredo, on the Rio Grande. The line has advanced 101 miles from San Antonio, and is within fifty-two miles of Laredo. Another line is being extended from Shreveport to New Orleans, and is now about fifty-one miles south-east of Shreveport, and they are extending it north from Alexandria. The distance between two ends of the track, now under the construction party at Alexandria and Shreveport, is 100 miles, and the gap will be completed by the first of January.

The preliminary steps looking to a settlement of the U.S. trunk line difficulties have actually been taken, and the outlines of a new combination and pooling of freight and passenger earnings have been discussed by Messrs. Vanderbilt and Gould, and a plan for a solution of all the difficulties supposed to exist arrived at. Official announcements, however, will not probably be made prior to the 15th of October, as the arrangement of the details cannot be effected before that date, they necessarily requiring considerable time in their preparation. One matter of importance to the travelling public, in this connection, has transpired. The Pullman car service will be superseded by the Wagner on all the Gould roads, and will eventually be extended into Texas. It is to be hoped that if such a change shall be finally determined on public opinion will compel Messrs. Vanderbilt and Wagner to provide better accommodation than that afforded by their existing rolling stock, regarding which the general verdict is that nothing could be worse. The whole Wagner system is a fraud upon the community, and its extension will be looked upon with disgust, unless far better accommodation is guaranteed to the public than that for which such a high price is at present demanded.

In the Hungarian Parliament, which was elected some weeks ago, there are twenty-four Journalists. Eight belong to the Ministerialists, eleven to the Independent party, two to the Moderate Opposition, and two to the Nationalists, while one is independent.

MINING NEWS.

SILVER MINES OF GLOUCESTER

Considerable interest has been excited lately by the reports of mining operations carried on or contemplated at a locality near Bathurst by several companies which had quietly secured certain tracts of Government land and organized to work under the Provincial Incorporation Act. It was known that a mining license covering a desirable tract of land had been so sharply competed for that it was offered by auction at Fredericton, that the Government had realized thereby the large sum of three thousand three hundred dollars, the bidders being North Shore men who were supposed to be well informed respecting the value of the deposits they sought to secure. So great an advance on the upset price (a mining license twenty dollars) seemed to indicate that in the judgment of the bidders the property promised to be of great value, and this impression was confirmed by the further report that the sale of stock in the only company that had offered any was stopped by order of the Directors with a view to increasing the price for the unsold shares. We therefore thought it advisable to send a member of our staff to head quarters to ascertain the facts for the information of our readers. The result of the inquiry made leaves no doubt that very rich silver ore has been discovered in the tract and that the prospect of finding numerous large quantities is exceedingly good. We trust that this will prove to be the case and that the enterprise of the gentlemen who are now prospecting will be rewarded with success equal to their most sanguine anticipations.

Silver ore was discovered in the bed of a small stream named Nigadoo early this summer by Mr. Robert Ellis, surveyor, who at once brought a specimen to Mr. James Hickson, of Bathurst, a gentleman who had considerable knowledge of minerals. Mr. Hickson thought it valuable, as also did his brother, Rev. Edward Hickson, of St. John, who has also given much attention to such subjects. These gentlemen resolved to secure a grant of the land containing the deposit. They succeeded in doing so without any previous permission as to their objects, thus obtaining the property at a nominal price. They then associated with themselves Messrs. J. H. Hartlett, of St. John, and John Ellis, of Bathurst, and the five soon became incorporated under the Act of New Brunswick, by the name of the Nigadoo Silver Mining Company, the capital stock being fixed at \$100,000, 30,000 shares at \$3 each, and head quarters at Bathurst. They were able to organize on the 2nd August last, when Mr. James Hickson was chosen president, Rev. Edward Hickson treasurer, and Edward Hickson, Jr., secretary. At the same time Mr. H. S. Scowbe was employed as manager, and preparations made for immediate active operations. Some eight or ten men have since been employed sinking a shaft a few feet from the bed of the creek, and they have now reached a depth of about 75 feet. Twenty thousand shares in the capital stock were allotted to the incorporators (\$3000 each) for their interest in the property, and it was resolved to sell a portion or the whole of the remaining ten thousand shares at \$2 each for a working capital. Some six thousand shares were quickly disposed of, when the directors thought it advisable to discontinue the sale with a view to increasing the price. Monthlong samples of the ore were sent to Prof. Burwash, of Backville, and Prof. Bartlett, State Assayer, of Maine, for analysis. Two lots were sent to Prof. Burwash, one in June and another in August. The first lot contained—

Lead, 613 lbs. to ton of 2,000 lbs.
Silver, 31.1 oz. to ton of lead
Gold, slight traces
The second lot, assayed August 14, yielded—
Lead, 71 per cent., or 1,420 lbs. to ton
Silver, 30 ounces Troy to ton of ore
nearly 50 ounces to ton of lead, value, \$119 per ton.
The assay by Professor Bartlett (Aug. 15) showed following results—
Gold, 3 pennyweight, value \$4.50
Silver, 72.67 oz. Troy, value \$112.35
Lead, 60 7/8 per cent., value \$69.75

Total value of a ton of ore \$181.60. These results were naturally highly satisfactory and well fitted to establish confidence in the mine. The consequence has been that the Nigadoo Company has moved quietly along, developing the property, and manifesting no disposition to sell stock until the necessities of the enterprise demand more money. They have now a shaft sunk about 75 feet, and the managers' reports of the indications at different points are very encouraging. The Nigadoo people are, therefore, not only hopeful but sanguine. Indeed, they seem to have almost no doubt at all that they have a most valuable property.

The Gloucester Silver Mining Company was organized on the 10th September, instant, under the Company's Incorporation Act of New Brunswick. The incorporators are ten in number, each with equal interest, and the stock has been fixed at \$250,000, 50,000 shares at \$5 each. This gives 5,000 shares to each of the fortunate ten, and the best of it is that it is paid up stock. However, a working capital is a necessity and to obtain this the Company has authorized 5,000 shares to be sold at \$3 each. These are being rapidly disposed of. In this Company the stock is "pooled," sales being made for the benefit of all and so

...at liberty to dispose of his shares at his own pleasure... The Standard Coal and Iron Co. consists of...

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

IRON MINING IN THE UNITED STATES.

A preliminary report upon the production of iron ore in the United States during the year ending June 1, 1881, prepared by Raphael Pumpelly, special agent of the census, has been published.

Table with 2 columns: Item, Percent. Rows include: Number of establishments, Horse power of steam engines, Amount paid for material, etc.

THE STANDARD COAL AND IRON CO OF OHIO.

A few days ago there was filed in the office of the Secretary of State of Ohio, at Columbus, an application for a certificate of incorporation of the Standard Coal and Iron Company.

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

SCIENTIFIC AND PRACTICAL.

INTERNATIONAL EXHIBITION OF ELECTRICITY AT PARIS.

President Grevy paid a visit to the Electricity Exhibition, but the visit was in no way ceremonial. M. Grevy, moreover, is well known to have a horror of ostentation in any shape.

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

A principal characteristic of this metal is its extreme toughness. In consequence of this toughness it is difficult to break...

INTERESTING FACTS ABOUT STEEL CASTINGS.

In a paper read before the Institution of Engineers and Shipbuilders, in Scotland, Mr. F. W. Peak gives the following description of the steel castings made at the Hallade Steel Works...

The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

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The Standard Coal and Iron Co. consists of... The Standard Coal and Iron Co. consists of...

NOVEL USES OF THE ELECTRIC LIGHT.

Several jockey clubs of the South are discussing the plan of lighting up their race courses by means of powerful electric lamps...

Common glue has most enormous strength and adhesive powers if it is good. But to be good it must not have been injured in the making by decomposition...

Some relations between the cranium and the skeleton of human beings have been discovered by M. Manouvrier. The weight of the skull varies in a general way with the weight of the skeleton...

A new battery carbon, which is said to have as much conductivity as retort carbon and to be more electric negative, has been invented by Signor Mauri.

The report of the anthropometric committee of the British Association contains a new and unexpected statement—that there is a very slow but decided increase in stature in all classes of persons up to the age of 70.

In the matter of height, to him that hath shall be given. If you are tall and strong at 21 you may go on getting decidedly, though very slightly, taller for half a century.

Table with 3 columns: Height, Weight, and Category. Rows include: Artisan, Labourer, Commercial, Professional.

MONTREAL PRICES CURRENT.

Table of Montreal prices current, categorized by Groceries, Beans, Coffee, Molasses, Spices, Rice, Salt, Liqueurs, and various oils and hardware.

Table of Montreal prices current, categorized by Drugs and Chemicals, Window Glass, Corks, Leads and Paints, Oils, Naval Stores, Iron and Hardware, and various hardware items.

Table of Montreal prices current, categorized by Leather, Boots and Shoes, Raw Furs, and various leather and fur goods.

Weekly Review. A lull has followed the bustle of exhibition week in dry goods and several other branches of the wholesale trade...

Special Notices. Among the exhibits at the recent Industrial Exhibition in London, which attracted a very large number of visitors...

MISCELLANEOUS.

ONTARIO PROVINCIAL EXHIBITION.

THE PRIZE LIST.

The following are extracts from the list of the Ontario Provincial Exhibition progress at London.

Machinery and Parts Thereof and Tools.

Lathe miller, J. G. Binker, \$6. Extras - Highly commended. Brown & Morris, London, cabinet maker's tools.

Part 3 - Woodworking Machinery.

Saw mill, steam, in operation, W. Eggart, London, \$20. Extras - J. G. Bricker, hub boring machine, hub borer, box machine, upper trimmer.

Class 51 - Shoes and Costings.

Cast iron work, ornamental, for fences, R. Dennis, London, \$2. Cooking range, portable, McClary Manufacturing Co., \$6.

Class 52 - Saddlery, Harness and Trunk Making Work, and Engine Hoop and Rolling.

Harness, set of single carriage, J. Darch & Sons, London, \$6; 2nd, R. T. Bradley, Watford, \$4.

Part 2 - Saddle and Harness Stock.

Brown strap and bridle, two sides of each, C. S. Hyman & Co., London, \$4. Carriage cover, 2 skins, whole, W. Sage & Co., London, \$4.

Class 53 - Shoe and Boot Making Work and Materials.

Boots, gentlemen's, hand made, an assortment, A. W. Milsaw, Toronto, \$5. 2nd, P. Cock Bros., London, \$4.

Books, Balmoral, Oxford, etc. etc. and book, printed at A. W. Milsaw, \$5.

Part 2 - Show Animals, etc.

Calf-skins, one dozen, C. S. Hyman & Co., \$1. Calf-skins, one dozen, C. S. Hyman & Co., \$1.

Part 1 - Wearing Apparel.

Gloves and mitts of leather, W. H. Storey & Son, Acton, \$1. Gloves and mitts of kid, W. H. Storey & Son, \$1.

Part 2 - Furs.

Furs, set of lady's, any other kind, S. R. Clark, Brunswick, Australia, \$4. Fur sleigh robes, assortment, not less than three kinds, S. R. Clark, \$6.

Part 4 - Cotton Goods.

Bags, assortment, Dundas Cotton Mills Co., \$1. Calico, unbleached, 7 pieces, Dundas Cotton Mills Co., \$6.

Class 61 - Woollen Goods - Part 1.

Blankets white, 2 pairs, Christina McIntyre, Morristown, \$6. Counterpanes, woven, Miss H. Wiltale, Derwent, \$3.

Class 62 - Woollen Goods - Part 2.

Blankets white, 2 pairs, Christina McIntyre, Morristown, \$6. Counterpanes, woven, Miss H. Wiltale, Derwent, \$3.

FAIR TRADE AND FREE TRADE.

To the Editor of the St. James' Gazette. Sir - Hard as is the case of the Sheffield grinder or Bradford operative thrown out of work by being undersold in his own market by the produce of America, France and Belgium, which does not contribute a farthing to the rates and taxes which his own produce pays before it comes into the market, yet the case of the farmer is harder still.

is paying rates not only on his income, but on double his income - that is to say, on his rent for the farmer's income is estimated for the income tax at half the rate, and very often that is too high.

As long as a parish was wholly agricultural and each parish kept its own poor, as farm was rated against farm, probably a rate on a man's rent was a fair enough rate on his means as compared with other farmers in the same parish.

And then we are told that it is impossible to tax food. Yet while they tell us this, those Free Trade gentlemen use the very man who has added rate to rate, and so arranged matters that the production of food is taxed ten times more heavily than any other produce.

It is not that we want the price of agricultural produce to be unnaturally raised, but we want it to be put upon the same terms as the foreign grown food in respect of rates and taxes.

In the one case justice would be done by the negative, and in the other case by the positive solution; but in both cases it would be strict justice. The old system of protection of home industries failed on many occasions to keep employment going.

I am, sir, your obedient servant, E. S. CAYLEY.

LORD CLANDEBOYE'S SWIMMING FEAT.

Our readers will doubtless be interested in reading the particulars of Lord Clandeboye's recent swimming feat, which was previously reported by cable. The London News of the World thus describes it: "Another candidate for the honours awarded so liberally to champion swimmers appears in the person of the oldest son of Lord Dufferin. To the celebrated names of Leander, Lord Byron, Lieut. Ekenhead, Sir Patrick Colquhoun, Mr. Deckwith, and Captain Webb, must now be added that of Lord Clandeboye, who has ventured on the classic ground immortalized by the hero of Muscus and the author of 'Ulysses Harold'."

more arduous task than that accomplished by the English poet and the nasal lieutenant. On the whole, Lord Clandeboye came out of the task with flying colours. Leander was drowned; Lord Byron took the age; Sir Patrick Colquhoun was, according to his showing, somewhat inconvenienced from his long immersion; but, so far as we can see, Lord Dufferin's son and heir afloat at Beicos as fresh as did Captain Webb when he touched ground on the west side of Calais harbour, having been in the water for twenty-one hours and three-quarters."

The defective heating apparatus and ventilation of the Indianapolis Court House caused scottic rheumatism in a juror, and he has brought a suit against the county for \$10,000 damages.

Vaccination is making gradual headway in China. The people of the interior detest the outside barbarian, but have a still greater dislike to the disease which often carries off whole tribes of them.

"The two really great things your army has done in this century," remarked a distinguished German officer to an Englishman at the recent autumn manoeuvres, "are the battle of Waterloo and the march to Candahar."

In the possession of a member of the Berkeley family, of England, is a ring composed of a large emerald, surrounded by diamonds. This once belonged to the famous Admiral Sir Cloudesley Shovel, drowned off the Heilly Islands in his warship in 1707.

Edward D. Armstrong and his niece made a marriage engagement at New Windsor, Ill., and when the girl became convinced, through the arguments of her parents and others, that such a union would be improper, and sent him word that she would not keep her promise, he declared his intention to commit suicide.

A Chicago police captain arrested a wife murderer, but could not find the remains of the woman, and the case seemed likely to fall through. Knowing that the prisoner would be speedily discharged, unless some proof was forthcoming, the captain entered the cell with a paper in his hand, and said "Your wife isn't dead after all. She was found alive where you left her and taken to the hospital. This is her sworn statement of what you did to her. She wants to see you." The murderer was completely deceived. On the way to the hospital, as he supposed, he was induced to tell where he shot his wife, and there the body was found.

The new French army list shows that the French army includes a total of 48,039 officers of all arms and classes. The general staff comprises 100 Generals of Division and 200 Brigadier-Generals. The infantry has 23,011 officers, the cavalry 5,022, the artillery 8,814, and there are 1,508 officers of engineers; there are 841 officers of gendarmes, and, with the officers of the Customs, Coast Guard, and Forestry services, a total is arrived at of 37,130 officers. The medical staff, the veterinarians, telegraph operators, ac-

countants, and other non-combatants holding the rank of officer, number nearly 11,000, and so the strength is made to reach 48,000, as stated above.

A wolf, like a tiger, having once eaten man, prefers him to all else for a dinner, and it is already a man it is proof that he has already died of one or has hydrophobia. In the Franco-German war of 1870 troops of wolves followed the army of Alsace-Lorraine. Hydrophobia is not an uncommon event among wolves. The committee lately appointed in France to consider the question of wolf destroyers are in favour of abolishing the force supposed to be maintained for that purpose, known as the *loups-garés*, which had really a direct interest in maintaining the wolves. They think that the extirpation of them may now be left to the land owners, who suffer from their ravages, and to the rural police in the last instance.

A most unflattering view of New York is taken editorially by the Philadelphia Times, which avers that even New Yorkers are beginning to recognize that Manhattan Island is the poorest apology for a great city to be seen in the civilized world. From the same source it is learned that there is not "among the acres of men a more squalid, ignoble, uninviting stretch of indigence and industry than the water fronts of Manhattan Island, from Spuyten Duyvil to the Battery, on both rivers." As for our architecture, with the exception of a few residence streets, it is "more repulsive than the Obelisks of the old German cities. Broadway itself does not compare with hundreds of streets in London, Paris, Vienna or Berlin. Its regular altitudes, its piebald buildings, and tasteless architecture have a stranger in doubt whether he is in the capital of Morocco or the ruined cities of the plain."

The Prince of Wales is advised to keep out of Glasgow for a time. It appears that at Liverpool recently he said, "Everybody knows that Liverpool, after London, is the second greatest town of the United Kingdom." When this statement was read in Glasgow nearly everybody in it seems to have grown pale with indignant rage; for Glasgow has long claimed, and still claims, to be the second city in the Empire. The last census rather staggered Glasgow, for it assigned to Liverpool, within the municipal limits, a population of 549,000, and to Glasgow only 510,000. But Glasgow gasped out that its suburbs must be looked at, and where would London be without its suburbs? If put to it, Glasgow is prepared to annex Paisley as a suburb, although Paisley resists like a Trojan. With power to fix its own suburbs, Glasgow claims 704,000 against Liverpool's 681,934, and asks, with a shout of triumph, who is greatest now?

Dr. Cream and Mrs. Stott were in love at Beviders, Ill., and they concocted a peculiar plan for safely murdering the woman's husband. Stott being ill, the doctor was called in to attend him. A prescription containing a safe amount of strychnine was sent to a druggist, and when the medicine came a large quantity of the poison was added. It was calculated that Stott's death would at once be traced to the strychnine, and that its presence in a fatal proportion would be ascribed to a blunder by the druggist. The murderers would probably never have been detected if the woman had not distrusted her partner. When she heard that he had himself announced that death was the result of poisoning, she mistakenly inferred that he meant to fix the crime upon her, and she hastened to make a statement incriminating him. His trial has just ended in conviction, and she will get off with a lighter punishment, because she became a witness for the prosecution.

IRON BRIDGES.

Toronto Bridge Company

MANUFACTURERS OF Iron and Steel Railway

HIGHWAY BRIDGES, TORONTO, ONT.

R. H. Smith & Co.

(Successors to J. FLINT) Sole Manufacturers in the Dominion of Canada of the

'SIMONDS' SAWS

ST. CATHARINES, ONT.

Sole Manufacturers of the genuine HAYMAK, IMPROVED DIAMOND, IMPROVED CHAMPION, and the NEW IMPROVED CHAMPION CROSS-CUT SAWS. We also make all other kinds of Cross-Cut Saws. Hand Saws from the cheapest to the very best.

THE LARGEST SAW WORKS IN CANADA



Now that our mercantile fleet is likely to have to enter into competition with State subsidized...

IRON IN FRANCE

The Colliery Guardian has a detailed article concerning the manufacture of iron and steel in France...

The finished iron trade in France is sometimes carried on in departments that produce no pig...

Both in the production of finished iron and steel, France has been able to supply her own wants...

Table with 4 columns: Total Collied Iron, Iron Plates, Steel Production, and Total. Rows show data for various years from 1871 to 1878.

ing that the production in all departments was the largest...

INSURANCE MATTERS.

TEN YEARS WITH THE LIFE COMPANIES

The financial condition of the life insurance companies of the United States during the year 1878...

The largest number of policies, as well as the greatest amount of insurance, issued during any one year was in 1870...

Table with 3 columns: Mode of termination, Policies, and Amount. Rows include Death, Maturity, and Expiry.

These are the policies which, as we have said, have fully performed their mission...

During the nine years there were no less than 210,123 policies, covering \$563,301,279 of insurance...

POSTAL TIME TABLE. POST OFFICE, OTTAWA. ARRIVAL AND DEPARTURE OF MAILLS. Table with columns for Mail, Class, and Delivered.

Registered matter must be posted half an hour previously. Office hours from 9 a.m. to 4 p.m. for Savings Bank and Money Order business...

been realized by the companies is altogether erroneous although, doubtless, some considerable pecuniary advantage has resulted to them in consequence of these lapses.

The policies issued but not taken also amount to a very large number, being no less than 152,138, covering insurance to the amount of \$364,763,108.

The policies ceasing to exist, the mode of whose termination is not specified, are said to amount to 77,138 in number, and to cover \$100,547,030 of insurance.

The foregoing figures are, at least, interesting, although the information gained from them may possibly be considered "more curious than usual."

The port of Obok is likely to become a French rival to Aden. It has an excellent harbour, and occupies a favourable position...

German telegraphic engineers, it is said, have lately been making some promising experiments with aluminum as a material for telegraph wires.

POSTAL TIME-TABLES. POST OFFICE, MONTREAL. Table with columns for Mail, Class, and Delivered.

LOCAL MAILLS. Beauchampville, Boucherville, Contrecoeur, Vercheres, etc.

UNITED STATES. Boston and New England, Montreal, etc.

GREAT BRITAIN, ETC. By Canadian Line (Friday), By Canadian Line (Supplementary Saturday), etc.

WEST INDIES. Letters, etc., prepared in New York are forwarded daily on New York wharves...

Postal Car Bags open till 8.45 a.m. and 9.15 p.m. The Street Boxes are visited at 9.15 a.m., 12.30, 6.30 and 7.30 p.m.

or nuts or steam joints. They should be ignited when possible, when the effects of heat and diffusion will soon loosen the nuts.

RAILWAY TIME-TABLES. Canada Central Railway. CHANGING OF TIME. On and after MONDAY, 2nd JUNE...

ST. LAWRENCE & OTTAWA RAILWAY. On and after THURSDAY, 19th JUNE, 1880, trains will run as follows...

Q. M. O. & O. RAILWAY. CHANGING OF TIME. COMMENCING ON Wednesday, June 23rd, 1880, trains will run as follows...

Table with 4 columns: Leave, Mixed, Mail, Express. Rows show train schedules for various routes.

INTERCOLONIAL RAILWAY. SUMMER ARRANGEMENTS, commencing 14th June, 1880. Through Express Passenger Trains run daily (except Sunday) as follows...

DOMINION TRADE REGISTER

INDUSTRIAL DIRECTORY

AGRICULTURAL IMPLEMENTS
WHITING MANUFACTURING CO.
WILLIAM VALE MANUFACTURING CO.
ANILINE DYES.
BRASS WORKS
BRIDGE BUILDERS
CAPS AND FURS
CARPETS.
COCOAS AND CHOCOLATES
COTTON BROKERS.
COTTON MILLS.
EDGE TOOLS.
ENGINES AND BOILERS.
ENGINES AND MACHINISTS.
ENGRAVERS, ETC.
FILES.
FURNITURE.
GLASSWARE.
GLOVE MANUFACTURERS.
HAMMERS.
IRON WORKS.
KNIFE WORKS.
LASTS, OILS, ETC.
LEATHER BELTING.

ORGANS AND PIANOS
PETROLEUM.
THE BRITISH MARKET.
CANADIAN MARKETS.
WOODEN GOODS.
WOOLLEN MANUFACTURERS.
WOOLS AND COTTON WARPS.
THOMAS WILSON, Dundas, Ont.
Manufacturer of STATIONARY and PORTABLE Steam Engines, BOILERS AND MACHINERY of every description. COTTON MILL CALENDERS, HOSE-RIERY STEAM PRESSES AND PROPELLER WHEELS, ALL SIZES

PETROLEUM.
THE BRITISH MARKET.
CANADIAN MARKETS.
The continued firmness in the price of crude keeps the drill active and the producer busy. Since our last no new strikes have been made that are of any importance. Small wells are now the recognized order of things, and so long as this continues two dollars a barrel at least will be paid for crude. The operations in the territory now going on are particularly noticeable at the east end of the town. Messrs. Kaglehart & Co. are almost ready to sink the drill near Gloucester's refinery; J. H. Fairbank's No. 6 on the flats is doing three barrels, while his No. 7 is ready for the drill. Mr. John Drake has just completed his last venture near his residence. The pump is to be put in at once. H. Cooley is trying his luck near his rink. Hoskins & Smiley are down 200 feet on the race course. Mr. S. May's (late Capt. Woodward's) is good for two barrels, while Ed. Fletcher is busy putting in order the old Wolverine and Oxford wells on the flats. Ed. also intends putting down three new ones in the north-west. Good for you Ned, more power to your elbow. T. Lolston has a rig ready in rear of his house. Mr. Chas. Farr has a rig ready in rear of his hotel. The last strike on the Lawson farm continues to hold out at 50 barrels, while Mr. Lawyer's Bonanza still pours it out at the rate of 80 barrels per day.
On lot 13, 2nd con, Mr. Mulholland has struck a good show, the pump will be put in immediately, and the result we will give in our next. Mr. Eroy is just about ready for operations on the flats of Mr. Yates' farm. Mr. Lancaster is erecting another now derrick on lot 17, in the 2nd con, near the old well that he is pumping, good for three barrels. All the wells are pumping except H. Laney's below the old water well, which is cased off with artesian casing. The average depth now is in the neighbourhood of 400 feet. Mr. H. C. Crocker has got another good well in his No. 3, which he cleaned out and sunk deeper. It is now good for 10 barrels right along. The market here for crude oil, by the carload, is from \$1.95 to \$2.00 per barrel f.o.b.

THE MONEY MARKET.
MONTREAL STOCK REPORT.
MONTELEONE'S STOCK REPORT.
MONTREAL STOCK REPORT.
The money market is quiet. The Bank of Montreal is the only one that has any business to do. The Montreal Stock Report shows a general decline in prices. The Montreal Stock Exchange is closed for the day. The Montreal Stock Report shows a general decline in prices. The Montreal Stock Exchange is closed for the day.

HAMILTON COTTON COMPANY,
HAMILTON, ONT.
MANUFACTURERS OF
HOSIERY, YARNS
KNITTING YARNS, BEAVER WARPS, &c.
OF ALL DESCRIPTIONS.
DENIMS AND TICKINGS.

DOMINION CARD CLOTHING WORKS.
York Street, Dundas,
W. R. GRAY, Proprietor.
MANUFACTURE EVERY DESCRIPTION OF
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PANWEL HOUSE, COBOURG. This hotel is in the centre of the town, next to Town Hall and close to Post Office. Terms \$1 per day. Commodious Sample Room.
WINDSOR HOTEL, NEWCASTLE E. D. Dayman, Proprietor. New house and new furniture throughout.



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Marbleized Slate Works
HAMILTON, ONT
MARBLE AND MARBLEIZED SLATE
MANTELS.
J. M. DURWARD
Successor to R. Hooper.

WM. NORRIS & SON,

MANUFACTURERS OF

PIANO STOOLS

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EMBROIDERED AND TAMBOURED

PIANO COVERS.

No. 8 ADELAIDE ST. EAST,

TORONTO.



ASK YOUR GROCER FOR IT!

HIGHEST AWARD AT THE INDUSTRIAL EXHIBITION
Against all competitors.
THIS BLUE RECEIVED THE

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DRUG MERCHANTS,

Manufacturing Chemists, &c.

3 Front St., Toronto,

Invite attention of the trade to their stock in the following lines:

Drugs and Chemicals,
Paints and Oils,
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Manufacturers Supplies,
Druggists' Sundries
and Perfumery.

MANUFACTURERS OF

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COLOURS IN OIL, also CHEMICAL and PHAR-
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S. Lennard & Sons

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PLAIN & FANCY HOSIERY.

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(GUELPH SEWING MACHINE CO)

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Strom's Sewing Machines

APPLE PARERS,
EGG BEATERS,
SAD IRONS,

SKATES,
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PRUNING KNIVES, ETC.,

To the trade only.

Send for Price List and Quotations.

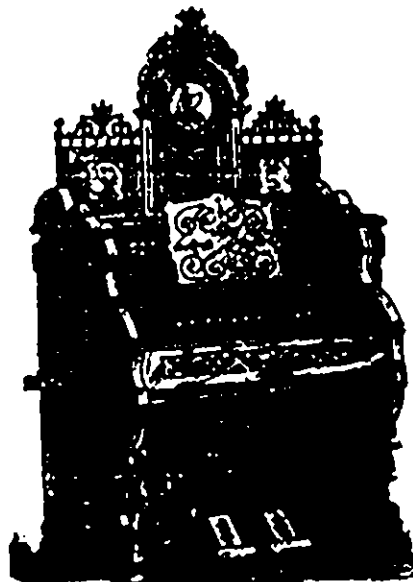
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NOW READY:

THE PURE AND WHOLESOME SUMMER BEVERAGE.

PROF. CROFT'S ANALYSIS.

I have examined it chemically, and find it exceedingly pure. I have no hesitation in certifying that it is as GOOD LAGER BEER AS I HAVE EVER TASTED, and that it is a PERFECTLY PURE and therefore WHOLESOME BEVERAGE.

The TRADE and FAMILIES supplied in Wood and Bottles.

Orders by Post promptly attended to.

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Oshawa Cabinet Company,

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OSHAWA.

Highest Awards and Two Silver Medals at Dominion and Toronto Exhibitions, 1879 and 1880.

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97 YONGE ST., TORONTO, & 447 & 449 NOTRE DAME ST., MONTREAL.

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PIONEER

LAGER BEER, ALES and PORTER,

BOTTLED FOR EXPORT AND DOMESTIC USE.

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PETLEY & CO'Y,

IMPORTERS AND MANUFACTURERS,

SIGN OF THE GOLDEN GRIFFIN, KING STREET EAST

(NEARLY OPPOSITE THE ST. LAWRENCE MARKET),

TORONTO, Ontario.

THE LARGEST

WHOLESALE AND RETAIL DRY GOODS

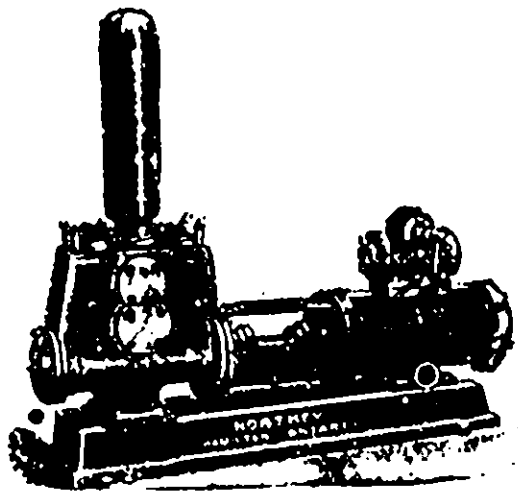
And Clothing House in Canada!

Persons visiting this City will find it to their advantage to inspect our stock when in the City.

PETLEY & CO., 128 to 132 KING ST. EAST.

NORTHEY'S STEAM PUMP WORKS

BOILER FEED PUMPS,
AIR AND CIRCULATING PUMPS,
STEAM FIRE PUMPS,
WRECKING PUMPS.



MINING PUMPS,
PUMPS SPECIALLY ADAPTED
FOR OIL PIPE LINES,
CITY WATERWORKS.

No. 47 KING WILLIAM STREET,
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SEND FOR CIRCULAR.

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Were awarded the FIRST PRIZE for their LARDINE and other

MACHINE OILS

At the great Industrial Fair, Toronto, 1890, and

Four First Prizes and Gold Medal

At the Provincial Exhibition, Hamilton, 1880.

Their Lardine Machine Oil was used, by authority of the Association, on all the machinery at both Fairs during the four weeks, and proved a very superior oil.

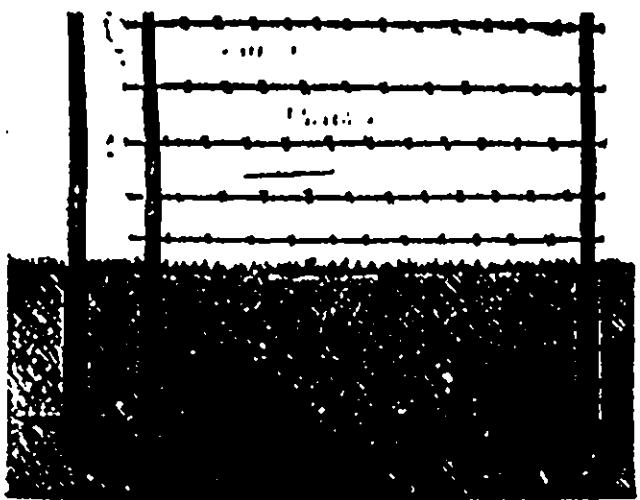
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PATENT FROST AND FIRE PROOF

IRON FENCE POST

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THE GREATEST INVENTION OF THE AGE.



For Barbed or other Wire Fences, the
BEST, CHEAPEST AND MOST DURABLE
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I will build Barbed Wire Fences with the Patent Iron Post at a
VERY LOW FIGURE.
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GALT FOUNDRY & MACHINE SHOPS

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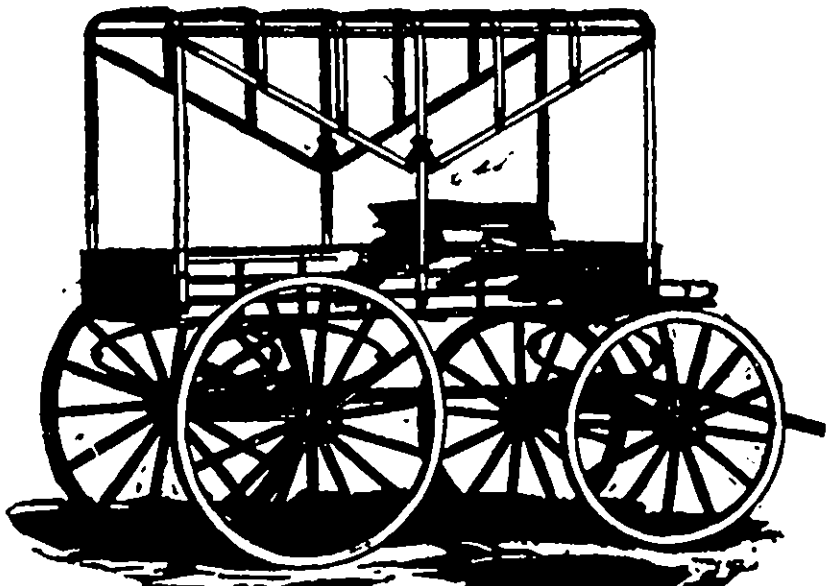
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NOVELTY WAGGON TOP.

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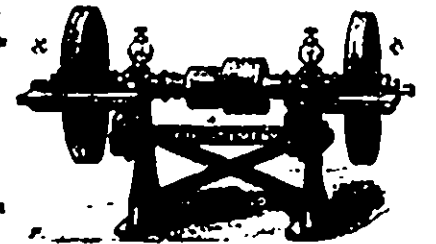
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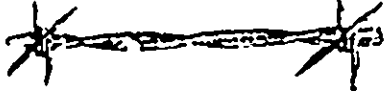
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WAGGON & HORSE COVERS AND OIL SKIN CLOTHING.

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BURNELL'S



FOUR-POINTED GALVANIZED
STEEL BARB WIRE FENCING.

There are now before the public a number of four-pointed barbs which, to the casual observer, are similar in appearance to the Burnell barb which we are making, but a close examination of them will show the difference and their inferiority.

The Grand Trunk Railway Company of Canada gives its preference over all others, and have contracted with us for over one hundred tons of fencing for immediate delivery.

This barb was patented in the United States in 1872, and its infringement on any other patent, and we will defend our patents and consumers against the threats of pretended competitors. As a claim superiority for our Barb Wire over others for the following reasons:

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2nd.—The two strands of No. 12 wire are twisted together just enough to allow for the contraction and expansion of the metal caused by heat and cold, and not so much as to injure the structure of the steel.

3rd.—The barbs on our wire are four-pointed, thus presenting a barb laterally, or at a right angle, which is a great advantage over the two-barb wires, as cattle are unable to get against the fence to break it or push it down.

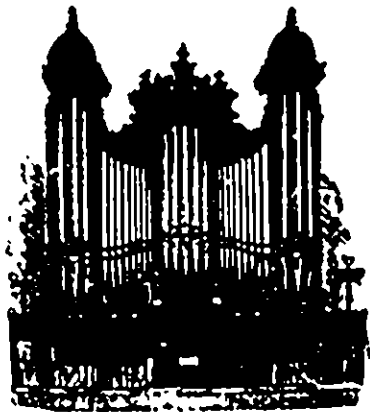
4th.—The barbs are fastened to the wire at intervals of inches, in a manner entirely different from any other, being securely locked around and between both wires, so that they cannot slip or move toward each other, and they also prevent the untwisting of the cable should either wire get broken.

5th.—The machinery by which the barbs are put on is so effect that the cable wires are not injured or weakened by the process, as is the case with other four-pointed barb wires.

Manufactured by the CANADA WIRE COMPANY,
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Have now the most complete facilities for the preservation of their work, and can warrant the highest standard of excellence.

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As we are crowded with work, at present, we shall not be able to exhibit at our annual fair.

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Of Canadian, American, French and German manufacture. Importers of the Celebrated French TF, and Extra Metal Glues.

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The Favorite Gelatine; the Beaver Brand No. 1 and 2 ANGLE GREASE, the Beaver Brand No. 1 Size.

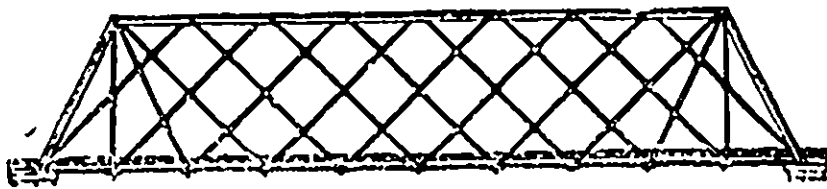
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Containing only well known stoves, all made in
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THE TUPPER GRATE BAR.

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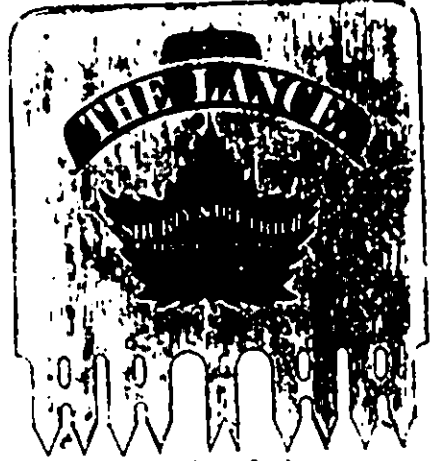
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Are WARRANTEED superior to any made in Canada.

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160 x 160
Highest honors ever awarded to any Maker in the world.

20 Medal and Diploma at Centennial, 1876.

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PERFORATED IRON, for Mill Floors,
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 SAVE MONEY BY SAVING FUEL.
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 FOUR-BARB WIRE FENCING
 FOR EXCELLENCE AND SUPERIORITY OVER ALL COMPETITORS.
 THE CHEAPEST AND BEST FENCING IN THE WORLD.
DOMINION BARB WIRE FENCE CO., MONTREAL.



TENTS! TENTS! TENTS!
 FOR SALE OR HIRE.
LUMBER TENTS a SPECIALTY.
 Christopher Sonne,
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STENCIL CUTTERS
 STAMPS AND SEALS of every description.
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 SUIKERS ST. OTTAWA.

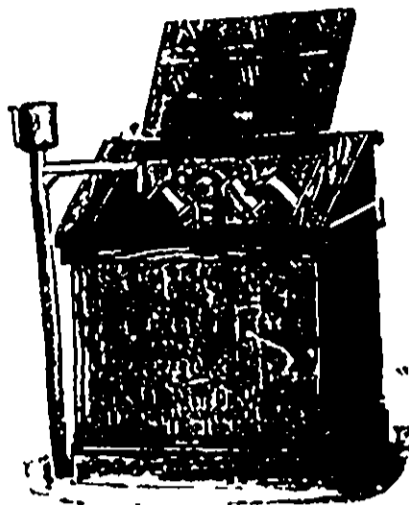
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Oil Cabinet

REFRIGERATORS,
 MEAT SAFES

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 Carts, Waggon, Sleighs,
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