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TRADE IN THE STATES.

The activity of the Free Trade party in the States, the Chicago *Journal of Commerce* writes on the part of those who favor the free encouragement of home industries. It says: "At no other period of our history have the Free Traders been so active, so vigorous, so dangerous, nor, at any former period, has their popular mind been so widely and so keenly awakened to interest in the tariff question. Their literature, with the publications of kindred organs in the United States, has been profusely all over the west, especially among the farmers. The issue between Free Trade and Protection has become a topic of conversation at ordinary gatherings, at public meetings, and of discussion in the schools, debating clubs. We are in constant request for information, campaign answers to particular questions; and we are urged by mail to direct attention to the need of educating the public mind, in preparation for the Congressional elections next year. A member of a prominent law firm in Iowa writes as follows:—

"I am aware that this Free Trade question is forcing its way to the front, and is being discussed in all the schools of the country. It is very important that accurate information should be thoroughly and widely disseminated, so that they may not be misled by shallow and plausible arguments based upon perverted or distorted statistics."

A weekly paper in this State writes as follows: "The probability that the question of protection will form one of the issues of the next campaign, I suggest that Protection leaves behind it throughout the State. I think the question will be better prepared the Protectionists will be their chances of success." Communications of like tenor are being received from the Industrial League of America, the Free Trade Club of Chicago. In the labor centers of this and other cities, the tariff comes up for discussion at almost every one of their regular meetings. The New York Free Trade Club is daily sending out pamphlets and circulars. The Colden Club has two special agents in the States—one placed at New York and one at Chicago. It also has in its employ a travelling emissary, whose duty it is to transmit information to the local agents, and forward it to the central office. A society of Free Traders has been formed in the State, and distributes literature designed to enlighten the people against the policy of tariff protection. A Brooklyn organization has been formed with the Rev. HARRY WARD BEECHER as its pastor, which has for its object the total abolition of tariff protection, and the substitution of Free Trade and simple. The *Christian Union*—a weekly newspaper of wide circulation and high standing, and the personal organ of Mr. Beecher

—has been made the medium of communicating these ultra views. And now as the list of these progressive movements, we have the one described in the following telegram to the Associated Press:—

"Washington, Feb. 25.—A dinner was given to-night to represent the Hurd, of Ohio, to a number of Democratic members of Congress, well known Free Trade advocates. About thirty members were present, and initial steps were taken toward forming a congressional organization in the interest of Free Trade, and to continue an aggressive Free Trade campaign throughout the country. The following gentlemen, members-elect of the next Congress, were selected as officers of the association: S. S. Cox, of New York, President; W. R. Morrison, of Illinois; John G. Carlisle, of Kentucky; R. Q. Mills, of Texas; J. Randolph Tucker, of Virginia; Vice-Presidents. Speeches were made by Messrs. Hurd, Cox, Springer, Lefevre, Knott, Morrison, Townsend and others. Nearly all declared themselves in favor of making Free Trade a prominent feature of the Democratic policy from this time forth, with a view to making it a leading national issue in 1881."

After referring to the results that would follow a radical change, the *Journal of Commerce* concludes: "Shall we defend our industrial interests, or shall we let them go in default? Unless the friends of American industry awaken to a full realization of the danger at hand, we shall certainly be beaten in the coming contest. There are plenty of evidences that, if the naked issue of 'a tariff for revenue' or 'a tariff for protection' should be put to the people, without an electioneering canvass sufficiently long and intense to educate the popular mind, the verdict of the ballot box would be in favor of a revenue measure. It is true that an illumination of sufficing would follow this unfortunate choice, and that a revulsion of views among the voting masses would be the result, yet incalculable losses, damage, and distress would be requisite to reach that end—processes which can be avoided by a thorough work of instruction before the shock of the struggle. A net work of tariff clubs, ramifying the whole country, is demanded by the circumstances of the time. Each of these clubs would be a missionary in its local field. Among them all would be an elbow-touch of sympathy. Combined, they would exert the strength, power, and momentum which belong to bodies of magnitude in a state of activity. The welfare of millions of laborers and of thousands of millions of dollars in property are involved in the contest. The defence of such prodigious interests should be commensurate with their vastness and their immense value." Whatever modifications may be made in the tariff, a complete departure from the policy that has done so much, and is still doing much, in developing and building up the manufacturing industries of the United States is not likely to take place at an early day.

NOVA SCOTIA COAL.

The Halifax *Evening Mail* says that for some time past the Pictou colliery managers have been complaining that they are unable to obtain a sufficient number of coal cars for shipments to Montreal and Toronto. A correspondent of that journal says:—"I understand that contracts have already been made in the Upper Province markets for over one hundred thousand tons Cape Breton coals alone, and that during the ensuing season the coals shipped to Montreal from Cape Breton will be more than double the quantity shipped last year, or nearly four times more than in 1878. I am also informed that, providing favorable freights are secured, and the outlook at present is encouraging, the colliery proprietors will realize larger returns than they have known since 1873. Of the quantity contracted for I understand that some 15,000 tons are for the Rodpath sugar refinery, and large quantities for the gas companies, Canada Central and other railways. Up to last year the Ottawa gas works always used American coal—they thought they could not make gas without using American coal. But now the Parliament Buildings and the whole city of Ottawa is illuminated by gas made entirely from Cape Breton coal—the quality of which is now too well known to need comment. I am also told that the Toronto Gas Company, which have hitherto manufactured what is known as water gas—from American anthracite coal and oil—are getting very much dissatisfied with the quality of the gas (its injury to health and excessive cost being two of the principal objections), consequently they will have to return to the use of bituminous coal, which will create a greatly increased demand for that article—the Toronto gas works alone requiring over 20,000 tons annually. From conversation with prominent brokers and shipping agents I learn that on the opening of our canal system, consequent on recent improvements, and the employment of steam colliers of suitable size, Nova Scotia will certainly secure the Toronto market, and that grain will be carried back to Sydney or Pictou as return cargoes, and

transhipped thence to Europe. Mr. D. J. KENNELLY, of the Halifax and Cape Breton Company, who was also recently in this city, has contracted for the sale of a large quantity of coal." This boom in the Nova Scotia coal trade is the direct result of the National Policy.

OFFICIAL REPORT ON PROFESSOR HURD'S CHARGES.

Returns have been laid before both Houses of Parliament consisting of letters and pamphlets by Prof. H. Y. Hurd, charging the late Government with having used official documents at the Halifax Commission, in 1877, which were deliberately "falsified." The papers are voluminous, evincing an amount of inventiveness on the part of Prof. Hurd worthy of an honest purpose and a useful end. They are accompanied by a memorandum addressed to the Prime Minister, at his request, by the Commissioner of Fisheries. This memorandum deals with the subject in a candid and effective manner, which Mr. Warrcusa's experience of the fisheries question and the proceedings at Halifax so well qualify him to do. The charges, he says, stripped of much verbiage, apply mainly to tables of exports and imports founded upon the trade and navigation returns. These exhibits were adduced in evidence and attested personally by a competent officer of the Customs Department. Mr. Warrcusa admits the possible existence of technical errors and anomalies, but points out their consistency with the general correctness and truthfulness of the returns, which are believed to be substantially accurate. He denies, and proves the impossibility of their having been altered for the purposes charged. The object of these statements was to show the extent and operation of the trade in fish between Canada and the United States during a series of years. They were compiled principally from American records and were verified by comparison with Canadian returns. Blatant statements were filed by the United States and proved by experts. Whatever discrepancies existed on either side were explained in the evidence. Mr. Warrcusa mentions, as an example, that in the year 1874—which was the year chosen by the United States as the most favorable to their view—the records of the Bureau of Statistics at Washington showed nearly eleven and a half millions of dollars less merchandise exported to Canada than was shown by the Canadian import returns, of which fish formed a proportion. Such difference would be advantageous to the United States; but the discrepancy was satisfactorily accounted for and adjusted. Professor Hurd has omitted to stigmatize that fact as a "fraud" or "forgery" on the part of the Americans. The counter claim of the United States for remitted duties being based on the quantities of dutiable fish imported from Canada, it was incumbent on them to establish the basis of computation from their own import returns, which were tested by comparison with the Canadian export returns. Mr. Warrcusa points out that:—

"There are only two methods by which the real state of the fish trade relations between the United States and Canada could have been altered for sinister purposes. The first is by decreasing the quantity of dutiable fish exported from Canada, so as at once to diminish the value of the American market to Canadian dealers and fishermen, and to reduce the amount of customs duties accruing thereon, the remission of which might be applicable as compensation in part for privileges conceded by the treaty. The second is by increasing the quantity of fish subject to duty imported from the United States into Canada, showing thereby the reciprocal advantage of the Canadian market, and a proportionate sum of duties remitted by Canada in reduction of the offset chargeable against her. As the United States imports returns would correct the first, and their export returns would disprove the second, any deceptions of this nature were simply impracticable."

Professor Hurd's earlier charge related to statistics of the catch of fish, which he represented as being altered designedly. This allegation is disposed of very summarily by Mr. Warrcusa, who frankly acknowledges that errors occurred in the table compiled from the fishery reports, owing to inefficient aid in the Fisheries Office; but as they would have proved mostly unfavorable to Canada, and were producing in evidence corrected by virtually the original reports, no possible wrong to the United States nor injury to Canada could result. Prof. Hurd's motive is ascribed to the fact of his having been ill treated by the British Agent and Secretary. Their conduct towards him affords no excuse for the course he has pursued. We may add here that complaints prevail of the same regrettable provocations towards others. The following passage seems to be severe, but it is probably justified by the writer's knowledge of the falseness and personal animus of Professor Hurd's unpatriotic accusations, and perhaps some natural in-

clination at reflections such as these studious charges have occasioned:—

"It is inconceivable that any man of Mr. Hurd's practical experience and literary and scientific ability could be led astray by personal motives so far as to outrage confidential relations, and regardless of either public or patriotic duty, to marvellously distort actual facts and recording divergencies into a tissue of 'fraud' and 'forgery.' Such faithless endeavors to create distrust in proceedings with which he was himself familiar, and in which his own country was especially interested, are alike inconceivable and inexcusable."

Mr. Warrcusa's remarks make it quite clear that whatever errors existed on either side the evidence prepared and used throughout was employed in perfect good faith. We can well understand, therefore, the strong confidence felt by Sir Alexander Smith, who acted on behalf of the late Administration, in declaring to Parliament "that the charges and accusations made by Professor Hurd are absolutely and entirely baseless, and that the case on both sides was conducted in a manner becoming to the dignity and honor of both countries."

PIG IRON PRODUCTION IN THE UNITED STATES.

The New York *Bulletin* contains the following interesting statistics relative to the production of pig iron in the United States last year. The production of pig iron in the United States in 1880 was 4,295,414 net tons, or 3,835,181 gross tons. The production in 1879 was 3,970,875 net tons, or 3,741,853 gross tons. The increase in 1880 over 1879 was, therefore, 1,224,539 net tons, or 1,093,328 gross tons, or 40 per cent. The production of 1879 was larger than that of any preceding year, but the production of 1880 was not only 10 per cent. larger than that of 1879, but it was 50 per cent. larger than that of the two preceding most active years, 1872 and 1873, and it was double that of the centennial year, 1876, when the production of pig iron during the panic years reached its lowest point. The following figures, in net tons, will make these extraordinary facts plain to the eye. Production:—

1872	2,854,558	1877	2,914,581
1873	2,898,278	1878	2,577,304
1874	2,889,413	1879	3,970,875
1875	2,366,581	1880	4,295,414
1876	2,593,231		

Of the total production of pig iron in 1880, 1,807,051 net tons were made with anthracite coal, 1,050,205 tons with bituminous coal and coke, and 537,558 tons with charcoal. The increased production of the year over the product of 1879 was very evenly divided among the different fuels. It is, however, worthy of notice that at the production of charcoal pig iron has increased *pari passu* with that of anthracite and bituminous pig iron. In the four years preceding 1880 it had declined relatively as compared with its two rivals. The charcoal iron product of 1880 has only twice been excluded in our history—in 1873 and 1874, when the production was respectively 577,620 and 576,557 net tons. As has heretofore been the case, some of the anthracite furnaces used more or less coke in 1880 as a mixture, and a smaller number of bituminous furnaces used anthracite as a mixture. The exact quantity of pig iron produced in 1880 with this mixed fuel was 714,631 net tons. Twenty-three States made pig iron in 1880, one more than in 1879, Minnesota entering the list for the first time with her Duluth charcoal furnace—the pioneer we have no doubt of many iron enterprises within her borders. North Carolina has not made any pig iron since 1877. Oregon, with her Oswego charcoal furnace, doubled in 1880 her production of 1879. Another State, Colorado, has its first furnace at South Platte, ready to put in blast. California and Washington Territory are getting ready to make pig iron, a furnace in each being well under way. Utah Territory has made no pig iron since 1876, but the largest and best of its two furnaces, the one at Ogden, is likely to be blown in this year. Every State in the Union which made pig iron in 1879, except one, increased its production in 1880. The exception was West Virginia, which made 70,801 net tons in 1879, 70,338 tons in 1880. In 1879 Pennsylvania made 52 per cent. of the total production; in 1880 her production declined relatively to 48 per cent. Ohio made a very sharp advance in 1880 upon her record of 1879. In 1879, with a production of 447,751 net tons, her percentage of the total product of the country was 14.35; in 1880, with a product of 674,207 net tons, her percentage was 15.7-10. The States which ranked next to Pennsylvania and Ohio in production in 1880, and which produced over 100,000 tons each, were New York, New Jersey, Michigan, Illinois and Missouri, in the order named. There was a gratifying increase in 1880 in the production of spiegel-eisen. The product was

2,612,000 tons against 1,311,000 tons in 1879, 10,000 tons in 1878, 8,547,000 tons in 1877, 6,100,000 tons in 1876, and 7,822,000 tons in 1875. The product of 1880 was made by the New Jersey Zinc Company and the Oxford Iron Company, a New Jersey, and by the Bethlehem Iron Company, the Cambria Iron Company and the Edgar Thomson Steel Company, in Pennsylvania. The stocks of domestic pig iron on hand and in the hands of brokers or their agents at the close of 1880 aggregated 1,375,000 tons, against 1,317,744 tons in 1879, 1,745,000 tons in 1878, 642,000 tons in 1877, 687,000 tons in 1876, and 1,008,000 tons in 1875. The stocks of imported pig iron at the close of 1880 aggregated 1,375,000 tons, against 1,317,744 tons in 1879, 1,745,000 tons in 1878, 642,000 tons in 1877, 687,000 tons in 1876, and 1,008,000 tons in 1875. The stocks of pig iron on hand and in the hands of brokers or their agents at the close of 1880 aggregated 1,375,000 tons, against 1,317,744 tons in 1879, 1,745,000 tons in 1878, 642,000 tons in 1877, 687,000 tons in 1876, and 1,008,000 tons in 1875. The stocks of pig iron on hand and in the hands of brokers or their agents at the close of 1880 aggregated 1,375,000 tons, against 1,317,744 tons in 1879, 1,745,000 tons in 1878, 642,000 tons in 1877, 687,000 tons in 1876, and 1,008,000 tons in 1875.

A FIGHT STILL GOING ON

A protectionist law has been put upon the statute-book but it would be a mistake to suppose that putting the law there will do it. The fight for the proper application of the law is still going on, and to ensure fair play, not mere good legislation, but very firm and strong administration, also, is required. Let us imagine what is likely to happen when any country—Canada, for instance—determines to protect her manufactures. Immediately many interests—vested interests, some of them will call themselves—oppose the change. It is the interest of a great many people abroad that we should not manufacture for ourselves, if we do, their local craft is in danger. But their opposition is not shown merely in fighting against the law while in process of being passed. After the law is passed, they will find ways and means of fighting the administration of it. And scarcely can any statutes be drawn closely worded enough to obviate those double meanings in which schemers find their advantage. There is room for the belief that, both in Canada and in the States, the persistent pressure of foreign exporters and their agents has in times past gained many a victory for foreign interests that was not contemplated in the framing of the law. We really believe that our own Department of Customs has done its best to enforce a law against which many strong foreign interests, in former possession of the Canadian market, were arrayed, and we will not say that more could have been done in this way than what has been done. But we think it fair to point out that in the United States, with a tariff Act doubly protective as compared with ours, unexpected interpretations still do much to defeat the real intent and purpose of the legislation on the statute book. As to what the intent and purpose was in the first place, there need be no dispute. It was, beyond all question, to make a home market for American manufactures by shutting out foreign. That was the intent and purpose, without doubt; but, the heavy pressure of foreign producers seeking the lucrative American market, the original intent has not infrequently been disregarded. In the American iron making trades strong complaint is made in this respect; and a movement of special significance is now going on. It is charged that Mr. SWANSON, good and able administrator as he has undoubtedly proved himself, was in the habit of giving Treasury decisions in favor of importers and against home manufacturers. Whether the charge is or is not true, we pretend not to say; we merely note the fact that it is made after twenty years of a high protectionist tariff in the United States. But why such complaints, under a protectionist tariff, it may be asked? For this reason, simply, we answer, that in certain respects the tariff has failed to decree in its clauses in words precisely what was undoubtedly the true meaning and purpose of the act. So strong a feeling has been aroused by Mr. SWANSON'S many decisions in favor of foreign interests, that a great and concerted movement is now on foot to bring about another course entirely on the part of the new Secretary of the Treasury. President GARFIELD'S Administration will be pressed, and that very strongly too, to reverse many Treasury decisions of late years which it is charged are opposed to the spirit of the statutes. And we should think it very likely, from the positions already taken by President GARFIELD, by Mr. WINDOM, Secretary of the Treasury, and by Mr. BLAINE, Secretary of State, that the appeal of American manufacturers against decisions favoring foreigners will be held good. These decisions are, for the most part, on small, technical points which should not, and according to old English common law would not, be held to weigh against the obvious intention of the Act. That the complaints mentioned will be duly attended to by the new Administration is likely enough; we might rather say certain. But this glance at American affairs is mostly for the purpose of pointing out how little occasion there is for wonder that our own tariff of only two years ago, avowedly framed for protective purposes, should have seemed to have missed its aim in some respects. Not missed its aim, perhaps, we should not say that; but that it has left very hard work for the administration of it. No statute can provide for all contingencies; and the number of contingencies that seem to be born for the purpose of

evasion of the tariff is simply amazing. Names of goods and fabrics are given new and strange applications, undreamed of two years ago, and invoice values which are an outrage on mercantile common sense are unblushingly sent into the Customs. It would seem as if just to try it on. Shall we go into wonderment because all this happens in Canada? By no means, we can see the same thing happening, though not always in the same particular lines, in the United States. But, as Boss Tweed said: "What are we going to do about it? Throw up protection for the reason that we cannot make it protect? Not at all, we can do better than that; a little resolution and firmness will do it. Besides, giving greater force to the statute of the States—thereby carrying out one of the strongest and soundest principles of law—we can add some clauses, or reconstruct others, with the consequence of giving the Government, and not the individual, the benefit of every doubt. Let it be understood that in matters of Customs law the Government has all rights, to begin with and the individual none, and that the latter has only what the law expressly and in very precise words allows him. The Government in this case represents the Canadian commonwealth; then the people of Canada as a whole. Short of the application of this ruling principle right through, nothing will suffice to meet the newly designed and purposely invented evasions of the tariff which will always be cropping up. A short and ready rule to meet all cases is what we will have to come to some day. Nor need we be ashamed to say that we are now looking for it, seeing that our neighbors, with far longer experience, are still looking for it this very year."

CANADIAN SIGNAL SERVICE.

The following letter of importance in regard to the spring navigation of the St. Lawrence was despatched to the Collector of Customs at Liverpool by the last English mail — Department of Marine and Fisheries Ottawa, 16th March, 1881.

To the Collector of Customs, Liverpool, England — Sir, — I have to inform you that the Government of Canada has decided to establish a special ice and weather bulletin for the Gulf of St. Lawrence, during the opening of navigation, which will be composed of telegraphic despatches from signal stations at Anticosti, coast of Gaspe, Magdalen Islands, and north coast of Cape Breton, setting forth the state of the winds, temperature, weather prognostics, and anything else which may facilitate safe and speedy navigation in the Gulf at the opening of navigation. The substance of the telegrams referred to will be telegraphed every day from Sydney (Cape Breton) to St. Pierre, Niquelon, and with the co-operation of the French authorities at the latter place will be transferred from the telegraph office to the Semaphore Station, at Point Galiantry Lighthouse, on the Island of St. Pierre, where any steamers or sailing vessels passing in that vicinity can lay off and have the weather bulletin signalled to them from the Semaphore free of expense. These vessels will then be enabled to ascertain correctly whether the Gulf is clear of ice or not, and should the Gulf happen to be obstructed by ice information will be given them where a passage can be found. I will probably send you by next mail from Halifax some printed notices regarding the weather bulletin, but in the meantime, in case any vessel may be leaving Liverpool for the Gulf of St. Lawrence I will feel much obliged if you will take the necessary steps to give this information to the captains of vessels clearing from your port for the Gulf, and make it known publicly in any way that you may think proper.

I have the honor to be, Sir,
Your most obedient servt.,
(Signed) Wm. SMITH,
Deputy for the Minister M and F.

THE UNITED STATES DEBT.

The *Industrial World*, of Chicago, contains a statement from the last report of ex-Secretary Sherman, from which it appears that the total debt of the United States on the 28th day of February, 1881, amounted to \$2,113,164,889.46, of which \$2,097,810,590.18 was principal and \$15,353,999.28 interest. The interest bearing debt amounts to \$1,674,935; the debt on which interest has ceased, since maturity, amounts to \$6,698,725.28, and the non-interest bearing debt amounts to \$416,276,864.92. The total debt, less cash in the treasury, on March 1, 1881, was \$1,879,956,412.77. The decrease of the debt during February was \$11,843,165.51, and since June 30, 1880, \$62,215,882.57. The total receipts at the United States Treasury were as follows: —

For the year ended March 1, 1881	\$356,996,715
" " " " " " " " 1880	308,762,742
" " " " " " " " 1879	282,098,817
" " " " " " " " 1878	269,842,831

The total expenditures of the United States were: —

For the year ended March 1, 1881	\$257,223,627
" " " " " " " " 1880	290,047,694
" " " " " " " " 1879	236,701,982
" " " " " " " " 1878	218,290,531

The decrease of the national debt during the above periods was as follows: —

For the year ended March 1, 1881	\$115,156,998
" " " " " " " " 1880	71,265,229
" " " " " " " " 1879	15,289,897
" " " " " " " " 1878	40,744,213

Total, \$208,924,780

"No one," says the *World*, "looking at the above exhibits can well say that the United States is not a debt paying nation. The truth is that we are not only surprising ourselves, but the whole world, by the rapidity with which we are wiping out our national obligations." By the close of the next decade the *World* expects that there will be but little left of the national debt, unless the country should see fit to reduce our rate of taxation, or should encounter another panic.

MONETARY CONFERENCE

A cable despatch says: "The invitation addressed to Italy to attend the Monetary Conference says it is the intention to consider and adopt a plan and system for the establishment by means of an international convention of the use of gold and silver as bi-metallic money according to a fixed relative value between these metals. The *Berlin Morning Journal* professes to give the French proposal to be submitted at the Monetary Conference. It takes the form of the draft of a convention of the following ten articles according to which the consenting parties would constitute themselves a bi-metallic union, each member would permit the unlimited coinage of gold and silver in the proportionate value of 1 to 15. It would be optional for the contracting countries to alter or retain the coinage of dollars, francs, pounds, or marks. Any person would have the right to gratuitous coinage in any of the countries, or the immediate exchange of coin for bullion at a deduction not exceeding 2 per thousand, gold and silver to be legal tender in the State coinage them, each Government to settle the quantity and quality of its own issue, the acceptance of silver to begin on the same day in all the consenting countries, and the convention to remain in force until 1900. If the convention is not denounced a year before 1900 this fact is to constitute a tacit renewal until the year 1910, and so on for a period of ten years."

EDITORIAL COMMENTS.

Tosca & Co., of Peterborough, have become proprietors of *The Canada Lumberman*, the first nine numbers of which were published in Toronto by Mr. ALEXANDER BROWN. It is a neat paper, and ably conducted.

The recently issued Canadian Trade Returns are a subject of comment in many English and United States newspapers. In some instances Canada is congratulated upon the fact that last year her exports exceeded her imports.

On Sunday morning last the Czar of Russia was killed by the explosion of a hand shell thrown at him by an agent of the nihilists. As the result of the determined efforts of conspirators to take his life, the belief was general that sooner or later he would come to an untimely end. He is succeeded by his son ALEXANDER, who is thirty-five years old.

A recently published statement shows the acreage of wheat in the United States for the past ten years and the yield in each year: —

Years	Acreage.	Bushels.
1871.....	19,943,893	230,722,400
1872.....	20,858,359	249,997,100
1873.....	22,171,670	281,254,700
1874.....	25,976,077	309,102,700
1875.....	26,361,512	292,436,000
1876.....	27,627,021	289,256,500
1877.....	27,277,540	364,194,147
1878.....	32,108,660	420,122,400
1879.....	32,645,950	448,756,630
1880.....	38,037,050	480,849,727

The value of the wheat crop for ten years was: —

1871.....	\$290,411,820	1876.....	\$300,259,300
1872.....	310,180,375	1877.....	394,695,779
1873.....	323,694,805	1878.....	326,346,424
1874.....	291,107,895	1879.....	497,030,142
1875.....	294,680,990	1880.....	483,559,371

The following statement shows the production of precious metals in the United States for the year ending 30th June last: —

	Gold.	Silver.	Total.
Alaska.....	\$6,000	.....	\$6,000
Arizona.....	400,000	\$2,000,000	2,400,000
California.....	17,500,000	1,100,000	18,600,000
Colorado.....	3,200,000	17,000,000	20,200,000
Dakota.....	3,000,000	70,000	3,070,000
Georgia.....	120,000	.....	120,000
Idaho.....	1,980,000	450,000	2,430,000
Montana.....	2,400,000	2,500,000	4,900,000
Nevada.....	4,800,000	10,000,000	15,700,000
New Mexico.....	130,000	423,000	553,000
North Carolina.....	95,000	.....	95,000
Oregon.....	1,090,000	15,000	1,105,000
South Carolina.....	15,000	.....	15,000
Utah.....	210,000	4,740,000	4,950,000
Virginia.....	10,000	.....	10,000
Washington.....	410,000	.....	410,000
Wyoming.....	20,000	.....	20,000
Other sources.....	14,000	.....	14,000

The total earnings of the Union Pacific Railway last year amounted to \$22,455,134, of which over \$16,200,000 were from freight, and \$5,400,000 from passenger traffic. The gain in earnings, as compared with the previous years, amounted to \$4,400,000, and the ratio of expenses to receipts was 44.96, against 44.39 in 1879. Of the expenses, which were \$10,454,000, over \$2,132,000 were for conducting the transportation, \$3,583,000 for motive power, \$1,264,000 for maintenance of way, and \$1,100,000 for renewal of rails. The total funded debt on December 31st, 1880, was \$92,084,624, of which \$39,095,624 belonged to the Kansas Pacific. Of this amount, \$10,301,500 is held by Messrs. GOULD and SAGE, trustees of the consolidated mortgage bonds. The sales of land of the Union Pacific Land Grant for the year were 176,201 acres, at an average of \$4.82 per acre, and of the Kansas Pacific Land Grants, 100,382 acres, at \$1.03 per acre.

In the *Pall Mall Gazette* of the 1st instant we read:—"The new Canadian enterprise—the establishment of a line of steamers between Canada and Brazil

—will be viewed with some jealousy in the States. The commerce between the Empire and British North America is very considerable, and hitherto it has labored under serious disadvantages being carried on almost entirely through the States ports. By the establishment of the Canadian and Brazilian Direct Mail Steamship Company, and the development of the trade between the two countries, the other cannot produce at all. The competition of vigorous competitors are thus ready to be met, being as eager to send its sugar and coffee to Canada as Canada is to send its flour and manure to Brazil. The immediate effect will be unfavorable on the Brazilian trade with the States, but any loss that may arise in this respect will very soon be recovered when the resources are in each case so enormous."

CANADA'S MANUFACTURES.

The Halifax Coal Mining Company are pushing operations on the new mine, being opened up by them. It is said that some 1000 men are now out of employment at any of the pits.

The *Montreal Witness* of the 12th inst. says: "Coming close after the announcement of the extension of the Merchants' Manufacturing Company, the proposed extension of the Hudson Cotton Works, we learn that the Stormont Cotton Works have applied to increase the capital from \$300,000, having decided to enlarge their mill so that it will become the second largest mill in the Dominion, the Hudson being the first. The plans for the extension were considered on at the last meeting of the company, and the architect has called for tenders for the work. The plans of the extension are very complete, those for a building of 140 feet front, 129 feet wide and five stories in height with a basement, and contain over seven hundred looms. There will be two towers, containing the entrances and stairs, with large tanks at the top. The engine room will be used only in case the water supply is deficient, as four turbine wheels will be put in. The house will contain six large boilers and the engine will be 120 feet in height, the fly-wheel will be 30 feet, and 20 feet high, arched trusses will support the floor of the drying-room area. The building will be 30 by 60 feet and two stories high, and these with a storehouse and offices will complete it. It is expected, will be the model mill of the province. When completed this fall, the extension, including machinery, will have cost \$400,000. Mr. J. H. Brown, who is the architect, has also given the contract for the woolen mill at Campbellton. The best root and sugar factory at Farham, which has already been begun at both places, and will be completed, it is expected, by August."

The *Moncton Times* of the 12th inst. says: "The German barque *Atlantic* arrived at St. John yesterday from Batavia, with a cargo of 800 tons of Java rice for the Moncton Sugar Refining Company. The barque sailed the 18th of last October, and has consequently been 142 days on the voyage. This is the first cargo of sugar ever imported direct from the East Indies to the province, and it is besides, no doubt, the most valuable ever imported into the province from any quarter. John L. Harris, President of the company, has gone to St. John to look after the cargo. The establishment of the sugar refining industry at Moncton is deemed to work a great improvement in the affairs of the whole Province, and especially of this section of the Province. It is already paving the way for an extensive East India as well as West India trade, and the good that can hardly yet be estimated."

"During the past week rumors have been spread by the agents of some of the Cape Breton mines, who hope soon to be able to give our readers some reliable information in reference to coal sales. That there will be some large coal contracts made this spring we have no doubt. At the old Sydney mines the men, we are informed, are now kept on full time." — *Saturday Evening Post*.

"The Hespeler Manufacturing Company are rapidly pushing the work on their premises to complete the woolen factory occupies the building formerly used as the great mill. All the floors have been torn up and replaced by substantial floors of 2-inch plank overlaid with 1 1/2-inch tongue and grooved flooring laid diagonally on them. The plasterers have about finished out of the wings. Some of the machinery is already in the building, more at the station here, and still more in the custom houses at Galt and Guelph. The steam engines have completed the heating of one wing, and will start the remaining wing finished this week. The main wheel has been in place some time, and it is expected that under the energetic management of the superintendent, Mr. Brodie, will soon be a veritable humming hive of industry. J. Schofield, who has been in England buying machinery for the woolen mill, is on his way home, and is expected daily. O. Pabel has the contract for rebuilding the old burnt building, and is putting a strong force on it at an early date." — *St. John Herald*.

"A Dundas *Standard* reporter took a run through these shops the other day, and found over 60 men engaged in the manufacture of reapers and mowers. The firm did a good business last year, and are increasing their production for 1881 by one hundred machines. The Messrs. Curvey & Russell are staunch business men, and are building up a trade in proportion to their business qualities. The machines they manufacture are first-class ones, and the farmers of the province are becoming aware of the fact, which is proven by the rapidity with which the firm disposes of their stocks."

"Two hundred and fifty men are now daily employed at the coal works, and more hands are wanted."

A company has been organized in Windsor, and...

The large and increasing demand for the class of goods warrants a direct and ready...

The committee appointed in connection with the...

The cotton mill scheme is gaining in popularity...

As shown in the statistics of the department or...

The total bonded indebtedness of the cities of...

At the late annual meeting of the Civil Service...

Blat furnace slag, that most hopeless of all...

St. Catharines, 18th.—A meeting of the provincial...

Respecting the employment of Chinese labor on...

The number of different kinds of postage stamps...

One of the growing industries of Australia is the...

The total product of the tomato canning industry...

From a study of phenomena of thunderstorms in...

Some years ago Mr. Pepper created some sensation...

For controlling the action of electric light machines...

Captain David Gray has been attempting a practical...

The trustees of the Lick Observatory have finally...

An important step has been attained in telephony...

It has been ascertained by some calculators that...

In the value of the live animals imported into...

The Prescott Manufacturing Co.—Mr. H. Horwood...

The syndicate has already ordered \$250,000...

One of the growing industries of Australia is the...

The total product of the tomato canning industry...

From a study of phenomena of thunderstorms in...

Some years ago Mr. Pepper created some sensation...

For controlling the action of electric light machines...

Captain David Gray has been attempting a practical...

The trustees of the Lick Observatory have finally...

An important step has been attained in telephony...

It has been ascertained by some calculators that...

4,498 specimens of different postage stamps...

The ingenious idea of lighting buoys with gas...

Dr. Otto Hahn has just published a volume under...

The total product of the tomato canning industry...

From a study of phenomena of thunderstorms in...

Some years ago Mr. Pepper created some sensation...

For controlling the action of electric light machines...

Captain David Gray has been attempting a practical...

The trustees of the Lick Observatory have finally...

An important step has been attained in telephony...

It has been ascertained by some calculators that...

dent of the Senate; M. Bequereel, and other mem-

THE NEW CZAR

Alexander Alexandrovitch, the new Czar, is thirty-five years old. He is not a handsome man. His face is decidedly Catnach in type. He is growing bald on the temples and back of the head, like the Prince of Wales and many other Royal princes of Europe. He has a heavy square forehead, a short flat nose, a Mephistophelian mouth, and a rosy complexion. The expression of his countenance is a curious mixture of good nature and harshness. His fine, general demeanor and character present a marked contrast to the noble form and stately presence of his father. He wears a uniform, and rarely wears one. He prefers driving to riding, solitude to company, the sight of workmen to that of courtiers, and plain speech to that of diplomatic hypocrisy. He has the peculiar habit of silently sucking the head of a silver mounted cane, which he seldom fails to carry. He is rather stout, and dreads corpulence nearly as much as his grandfather Nicholas did. His education was exclusively military. On the death of his elder brother he had no scientific instruction, and no knowledge of foreign languages except French. Of politics and sociology he knew next to nothing. He was inclined to a life of pleasure rather than one of labor. To acquire the necessary qualifications for his new calling was a serious task. He had hardly time for it. He was obliged to enter at once upon the duties of a Crown Prince. He had a seat in the Council of State. He was forced to take an interest in executive affairs and in questions of public policy, and to show by deeds and words that he was endowed with as much judgment as his lamented brother. Though not always equal to the occasion, his wisdom surpassed all expectations. As Alexander II., when simple Czarvitch, possessed more liberal opinions than his father, so did Alexander Alexandrovitch entertain views far more in keeping with the progress of our age than those of the late Emperor. As the latter fought for a more liberal policy against Nicholas, so the new Czar always advocated the adoption of measures that would further the liberties of his fellow citizens. He has occasionally sided so openly with the revolutionists as to be suspected of an affiliation with their secret societies. The new Empress inherited even his wife from his brother. Maria Sophia Frederika Dagmar, Princess of Denmark, was betrothed to Nicholas a few months before his death. With his parents she stood at his deathbed. She promised him that she would become his brother's bride. Her noble character and beauty kindled the flame of love in Alexander's heart. This love, born of and nurtured in grief, has proved strong and true. The new Czar and Princess Dagmar, now Maria Feodorovna, seem to love each other more to-day than when they became husband and wife, four years ago. The name of the new Empress is coupled with no scandal. He is pointed out as a model husband and father. He blesses his brother's memory for bequeathing him such a wife. His wife's influence accounts for his anti-German proclivities. Popular spirit in Russia is opposed to Germany. Once only has he tried to hide his dislike of Prince Bismarck and of the Prussian court. That was seven years ago, when the Emperor William visited St. Petersburg. The new Czar has always been a zealous partisan of the national cause, and a decided admirer of Kalkoff and other patriots. In the winter of 1867-68 he was Chairman of the Committee of Relief for the northern provinces of Russia, then sorely tried by famine. The committee was politically antagonistic to Waiouloff. As chairman he was responsible for the fall of the Governor. This action led to the first quarrel between the late Emperor and his son. Since that time there has been no close harmony between them. Encouraged by its victory, the national party of Moscow recognized the new Czar as its leader. He had a lively correspondence with Ivan Aksakoff, the publicist. All political questions of vital interest were freely discussed. The secret police intercepted some of the letters. Count Schouvaloff showed them to the late Emperor. He suspected a conspiracy. The Czarvitch was summoned before the Emperor. He declined to give any explanation, and indignantly complained that one of his father's subjects dared to state the secrecy of his correspondence. He is said to have slapped Schouvaloff's face. He boldly demanded his dismissal. The Count assured the Emperor that he could not answer for the safety of the empire if restricted in his investigations. Alexander told his son that the committee was tolerated merely as a charitable institution, and that its chairman would be dismissed should he again indulge in a political correspondence. The blow lessened the authority of the new Czar. He was much grieved and almost repented to private life. Alexander Alexandrovitch is not so firm and independent in his opinions as is generally believed. His enthusiasm for a cause is of short duration. Outer influences frequently change the course of his thoughts and modify his actions. In this way his French sympathies were singularly modified by the action of the Communists. Nor did he show greater determination and perseverance when the reform of the Russian army was discussed. Gen. Miliutin advocated a gradual change in its armament. Bariatinski and Taderoff supported a radical and immediate change. The new Emperor took sides with the latter. Yielding to the impulses of his patriotism, he displayed the greatest activity in hastening the work of reform. He hired skilful mechanics and engineers and paid out of his private purse for the manufacture of several thousand rifles and scores of cannons. At the end of a few months, however, his enthusiasm was vaporized and things resumed their natural course. Ten years ago, on all economical questions he swore by Tchibakoff. Although Tchibakoff was neither a great economist nor a man of a peculiar talent, he was Alexander's most trusted adviser. It was he who persuaded the new Emperor to undertake his campaign against Waiouloff. But Tchibakoff's supremacy was transient. Aksakoff took his shoes, and in its turn gave way to a celebrated painter, Bogoljuboff. The new Czar has grown more independent of late. It would be a strange thing, indeed, if this prince, educated amid the contradictory and warring tendencies of Russian society, should develop into a sovereign capable of resisting the intrigues of his courtiers. All the Czarvitches have been liberal. Alexander II. was far more liberal than his father, but failed to keep his promises. Alexander Alexandrovitch is certainly more liberal minded than Alexander II. His reign will probably begin by great reforms, but the Czar will be the heir of a policy as well as of a principle, the custodian of a nation's prejudices, ambitions and hopes, a part of a grand machine which he must work or be crushed beneath its wheels. He evidently cherishes the idea of giving the country a constitution and of sharing the care of government with a national body of representatives. He may carry out this project, but it is doubtful whether he will persevere in his liberalism, and whether he will give as much as the revolutionists will demand. If he does he may be carried away by the current, destroying his own personality, if he does not, revolution will follow, and his Government may become as reactionary as that of Alexander II. His position is unenviable. His task is doubtless heavier than that of any predecessor. Alexander III. cannot, it would be a mere noanality. He must leave some mark on the history of his country and of Europe. He may reconcile the largest empire in the world with civilization and freedom.—N. J. Spa.

SPIRIT OF THE COMMERCIAL AND INDUSTRIAL PRESS.

CANADA DIVINA.

(Canadian Spectator.)

He must be a blind man that will not recognize the prosperity which the country has attained. When the turn of the tide began two years ago it enticed certain parties to lose their eyes to the fact while others thought it was too good to be true. But at present the truth is so patent to everyone that politicians are taking advantage of it in order to promote the cause of their economic theories. In his Budget Speech Sir Leonard Tilley worked in the prediction that the change to the better which we are now experiencing was mainly due to his protection tariff. Sir Richard Cartwright categorically denied this, and attributed the change to a succession of beautiful harvests and a combination of natural causes. Of course, the truth lies between the two views, but it is not necessary to indulge in theories when we may enjoy the facts. It is quite sufficient to know that our country is in the full career of prosperity, and that the near future lies smiling before her. The banks are gorged with money, and the rate of interest at an unprecedentedly low; all good securities are buoyant, investments are easy and lucrative, the shipping has never been more brisk, the commodities of life are abundant and cheap, almost every branch of industry has been attempted with success, manufactures are thriving everywhere, vagrants have disappeared from the pavement walls and the public gardens, having found steady employment, and, over and above all, there is a general feeling of confidence that this good future is not merely ephemeral, but shall last. That there is ground for this confidence is sufficiently clear from the figures supplied in the Blue Books, leaving out altogether any reference to the speech of the Finance Minister or the public utterances of the Government. In the first place, it seems clear that our receipts more than balance our expenditure, which is a crucial point gained. The expenditure for the year is estimated at \$25,370,394, and the revenue at \$27,580,000, thus leaving a surplus of two million dollars. Of course, this figure has been and will be impugned, but that there is a considerable surplus is certain, and that is quite sufficient. It was too tedious to go through the official tables relating to each of our industries and manufactures, and it will suffice to say that they are, generally speaking, of a satisfactory character. In the two articles of prime necessity—cottons and sugars, for instance—there is the most encouraging indication of advance. In regard to cotton, the importation of the raw material reached the respectable sum of \$371,874 in the past eighteen months, and the prices have not sensibly risen. So with sugar. Although this is one of the most complicated questions in all political economy, we have two simple facts to guide us—that the price of that commodity, taking it all around, has not very materially increased, and that we have our refineries giving employment to thousands of hands and support to thousands of families. One great danger in the past was that the country was liable to over importation. This flooded the markets and was a principal cause of bankruptcies. This evil is now to a certain extent remedied, for we are getting to be practically self-supporting, and the amounts which we expend in the importation of raw materials for our factories are pretty well balanced by the sums received in the export of the manufactured articles. Hence the prime importance of our shipping trade, and the wisdom of opening out as many channels of communication with foreign countries as possible. That policy should be sustained which aims at the improvement of the navigation of the St. Lawrence, and the establishment of direct commercial relations with the West Indies, Brazil, France, Spain and Italy. There is no danger of a glut where there is a sufficient outlet, and the over production which the comparative exigency of our own domestic market might bring about should be obviated by a broad foreign policy. This has been so long an almost exclusively agricultural country that that interest may, for the present, safely be left to itself. It is more important to devote our attention to manufactures. Montreal, for instance, could be made one of the greatest manufacturing centres on this continent. It has geographical and other natural advantages which are unrivalled. Its water power is unlimited, and its communications by rail and water cannot be surpassed. And it has unusual facilities for the acquisition of skilled labor. This is a point which Mr. George Hague has well made in a published communication. He says that our French population is peculiarly fitted for engaging in manufacturing processes, being industrious and patient, and endowed with a natural facility for handicraft. There are no better workmen in the New England mills and workshops than our French Canadians. Why not keep them all to ourselves? Certainly, if we are equal to our opportunities we should take advantage of our present prosperity and so build up as to maintain ourselves in the future.

THE FUTURE CONSUMPTION OF LUMBER.

(Toronto Globe.)

There have lately appeared in our columns several able written letters, in which the speedy exhaustion of Canadian and American forests is foreshadowed. To our mind, none of the writers have gone to the heart of the subject. Among them they have made it clear enough that there is a point beyond which consumption cannot go without entailing ultimate exhaustion of the supply. But none of them have laid sufficient stress on the point that the first evidence of impending exhaustion will be a great increase in the cost of production; and that this increased cost of production will inevitably have the effect of decreasing the consumption. There is a most no end to the purposes for which pine is now used, not because it is the best possible material for the said purposes, but because it is the cheapest. Once let the price of lumber rise seriously, and other materials would soon supplant wood for a great number of purposes. There are farm fences, for instance. Rails and boards are now used because they are cheap, not because they make the best fence. The original rail fences in a great part of Ontario have already rotted and been replaced with board fences. Every rod of board fence consumes about 51 feet of one inch lumber. The average hundred acre farm in Ontario, divided into ten acre fields, would have about 600 rods of fencing upon it. Eight hundred rods of fence would take up 43,200 feet of lumber, to say nothing of the posts. There are in Ontario at the present time about 25,000,000 acres of land occupied and fenced in. In Quebec, New Brunswick, and Nova Scotia there are probably 30,000,000 acres fenced in. The average size of the fields is doubtless smaller than ten acres each, and the average size of

the farm throughout the four provinces is less than 100 acres. But supposing that the whole 55,000,000 acres were divided into ten acre farms, consisting of ten fields of ten acres each, and that each of these fields was fenced with the common board fence, we should arrive at the astonishing total of 19,100,000 feet as the consumption of the lumber in such fence. Of course, board fences have not yet entirely supplanted rails, but as the renewal of existing rail fences with rails is out of the question the substitution of board fences or something else must soon come about. As the life of a board fence does not exceed twenty years at the outside, it will, when all the old rail fences have rotted, take 95,500,000 feet to make annual repairs to say nothing of extensions. But, as soon as the price of lumber rises, farmers will be compelled either to adopt some other material for fencing, such as wire, or to abandon nine-tenths of their fences and use the other tenth in penning in their cattle, instead of, as now, fencing the cattle out of the crops. There is already a strong movement among farmers towards the adoption of the last mentioned system, and it is a mere question of time, irrespective of the consumption of lumber, when this much needed reform shall be adopted both in the Dominion and in such of the United States as have not already put it in force. Here then is one direction in which the consumption of lumber is pretty sure materially to decrease. Then there are the fences on city lots, front fences, back fences, and side fences—an almost incalculable quantity of wood. At a rough guess there must be 20,000,000 feet of one inch lumber bestowed on the fences in Toronto alone—which is 288 feet for every person in the city. Doubtless it takes just as much lumber to keep other Canadians, as well as Torontonians, out of their neighbors' back yards. We arrive, therefore, at a consumption of 1,004,000,000 feet as the quantity of lumber used by our 4,000,000 of people in fences around dwelling houses—necessitating the use of at least 100,000,000 feet annually for this purpose. The whole of the front fences might be at once abandoned to the great beautifying of the dwellings which they now disfigure. We showed, a short time ago, that Toronto has more than a million dollars invested in useless front fences. These will doubtless be abandoned in imitation of the fashion set by certain go ahead American cities, and as to the whole of lumber consumed in fencing the other sides of city lots, half of the fences are unnecessary, and for the other half a substitute can be found when pine becomes dear. Another use to which lumber is put solely because it is cheap is in laying sidewalks. The consumption of lumber for this purpose is enormous. There are in Toronto alone 168 miles of wooden sidewalks of an average width of five feet, and laid with two inch lumber. This is equal to close upon 9,000,000 feet of one inch lumber, and to it must be added half as much more to represent what is used in wooden curbs and crossings—13,500,000 feet. This is 180 square feet of lumber for every man, woman and child of our population. No doubt every person in the Dominion has at least as much to his share, so we find that it takes 720,000,000 feet of lumber to provide sidewalks for our 4,000,000 of people. Some of our city sidewalks are completely worn out by five years' use, others last seven years, but all are gone in ten. Giving the outside duration of ten years as the average period of usefulness, there must be an annual consumption of 72,000,000 feet for the purpose of repairing sidewalks. It is questionable if there is any real economy of wood over stone, even at present prices. A very slight increase in price would cause the abandonment of wood as a material for sidewalks, and in fact, as we get richer, more lasting material will be used, irrespective of price. Bricks and stone are gradually displacing lumber as building material, and a rise in the price of lumber would accelerate the change. Even in the interior of our houses the use of the inflammable pine might be economized to great advantage. Wooden steamships are already almost obsolete, and wooden sailing vessels cannot compete against iron. The same qualities of lightness, strength, durability, and increased storage capacity, which give iron ships the advantage over those built of wood, will also dictate the substitution of iron for wood in freight cars, and even passenger cars. Iron bridges are already cheaper in the long run than wooden structures. Even in farmers' barns a point could be easily reached where it would be more profitable to build with brick than with wood. In short there is simply no end to the ways in which lumber can be economized as soon as it becomes as much of an object for ourselves and the Americans to be saving as it now is with the British people. And after all due allowances have been made on this score, there is to be taken into consideration the fact that, even allowing the supply of pine to be easily exhaustible, there is a vast store of other forest trees for the exhaustion of which no man can pretend to fix a date.

GROWTH OF BI-METALLISM IN EUROPE

(Greaser and Mercantile Review.)

The advocates of the re-demonetization of silver in this country are not meeting with much encouragement just now from the change in European sentiment on the subject now in progress, occasioned, doubtless, by the heavy drain of gold from the three national banks of Great Britain, France and Germany during the past two years, despite their efforts to retain it by raising the rates of discount. France, finding herself on the point of being bereft of all her gold and of being reduced, by the operation of bi-metallism, to the single standard of silver, desires her neighbors and fellow-countries to consult together to see what can be done to make silver a more popular money. In Germany the same sentiment prevails. Bismarck has expressed the opinion that Germany made a grave mistake when it demonetized silver. England, too, is much more favorably disposed toward bi-metallism than it was two years ago. For example, the conservative London Economist, alluding to the proposed monetary conference, says: "If we cannot enter the monetary conference on the same footing as some other parties, we shall at least exercise toward it a very benevolent neutrality. Should, for instance, such a proposal be made to us as to increase the quantity or the fineness of the silver in our coinage so as to make it less of a mere token currency, we should hardly object, or to increase somewhat the amount to which silver may be a legal tender." Commenting on this conciliatory spirit, the New York Shipping List says: "This change of sentiment is quite remarkable. A more stou of poor harvests and decreased demand for British manufactures in important markets have resulted in serious inroads upon the British gold board. For a time Great Britain was able to pay for the grain, provisions and other products, which she has been buying in constant increasing quantities of the United States, with the quantities which we so lavishly exported before the commercial revival of 1873; but most of these means have been absorbed; we have drawn large amounts of gold from her during the last two years, and the eyes of British bankers and

business men have thus been opened to the danger of the situation. They hence see that it will be impossible for them to retain their stock of gold if bad harvests and decreased demand for their goods cause the balance of trade to continue heavily against them. It must flow wherever they have debts to pay. Furthermore, Europe's supply of gold has been largely checked. For years Europe carried the greater part of the product of our mines. Specie importation in this country, and especially our trade balance, have kept the amount of gold produced at home. Consequently, Great Britain finds herself in a condition where she can hardly expect to retain her gold, with no adequate source of supply. She is therefore in a position where she must consider the expediency of giving silver the same legal tender power as gold. Thus it appears that Great Britain, who was, until the demonetization of silver in the bimetallic Congress of 1876, an Economy which declined to send delegates to that Congress as an avowed rival where they may be expected to take an active part in the bimetallic negotiations which it is proposed to hold at an early day. The Paris Review states that both France and the United States accept the proportion between gold and silver of 15 to 1, as a basis upon which the question of bi-metallism may be settled. As the chief silver producing country, it is to the interest of the United States to use all legitimate efforts to promote the settlement of the silver question upon a fair and equitable basis.

TELEGRAPH WIRES IN CITIES

(Scientific American.)

The ice storm which so seriously interfered with electric communication in and around this city recently exposed many defects in the usual method of supporting telegraph and telephone wires. The rapid restoration of the lines to working efficiency has strikingly exhibited the inherent convenience and value of aerial lines. How to secure immunity from such interruptions in the future without laying too great a burden upon the owners of wires, and without restricting the easy extension of electric communication, is a problem of no small importance. The first demand, particularly from those who had no property interest in telegraph or telephone lines, was that the practice of setting up wires on poles and houses should be stopped, and that all electric wires should be put under ground. In response to this demand a bill was introduced in the New York State Legislature to secure such a placing of wires within city limits before July 1, 1881. The bill provided that after the date given it should not be lawful to use any wire above ground for telegraphic, telephone, or electric lighting purposes, except indoors. In framing this bill its author neglected to take account of the conditions under which private lines of electric communication are set up and operated. Granting the feasibility of putting underground a large part of the wires—which is far from evident—the requirement that all wires shall be so placed would be little less than prohibitory in the case of private wires, since the cost of the work would outweigh any possible benefit. Besides, the frequent upturning of the streets for the extension of such lines, were it otherwise practicable to bury them, would be a nuisance quite unbearable. The exigencies of modern business and social life require not only the widest extension and the cheapest maintenance of electric service attainable, but also its readiest extensibility. This, not by great corporations, solely, but by individuals. It is a common thing nowadays for business houses to supplement the facilities offered by the telegraph companies and telephonic exchanges by maintaining from one to a dozen or more private lines. The public will not willingly assent to any curtailment of such facilities. The relatively low cost of aerial lines, and the ease with which they can be set up and repaired, make them in many instances of this nature the only available means of electric communication. As for lines which might go underground the question would arise, which is the greater nuisance, the poles for the support of aerial lines, cabled or separate, or the frequent tearing up of the pavements for extension, alterations, and repairs, if the lines are buried? Then would come the difficult problem of determining whether the subways for telegraphic, telephonic, and electric lighting wires should be owned by the city, or whether some company or combination should be allowed to acquire a monopoly of the means of electric communication within the city limits. Plainly, the time has not come for an abandonment of aerial lines. While the sinking of through lines should be encouraged, if it can be done without introducing greater evils than the change is intended to cure, the first effort should be to improve the modes of supporting and distributing the existing lines. The difficulty with these lines, as they are, arises chiefly from the insecurity of their supports, the lack of concert of action in their erection, and the absence of any orderly supervision of their distribution. It may be that legislation will be required to remedy these evils, but that should be had without difficulty, and without necessitating any sweeping change in the systems, or endangering in any way the freedom and economy of electric service. There is ample room on the roofs of houses for such an orderly distribution of aerial wires as would meet the public requirements and avoid at the same time the unsightly tangle of wires now prevailing. There is no great objection to the supporting of wires on houses if the supports are properly placed and sufficiently strong. Hitherto individual permission so to place wires has had to be obtained. The essential value and necessity of electric service would seem to justify the granting of the right of way over houses for the running of wires in some systematic manner, the damages to be assessed and met in the usual way. Under such legal privileges, restraints, and regulations, most of the confusion, misplacing, imperfect supporting, and other faults of aerial lines, could be corrected and the way left clear at the same time to extend our systems of electric communication unimpededly.

GENERAL CHEERFULNESS.

(Chicago Journal of Commerce.)

There are among all classes those who are full of life and cheerfulness, as well as those who are sad and gloomy. Some are born filled with contentment, who meet the ills of the world with a will that conquers adversity; while others come into existence with gloom in their hearts—a foreboding of evil that dampens their energies, and unites them for their daily pursuits. Again, education has more to do with the life of manhood than is generally admitted. Early teachings never fade from memory. There is all of truth in Pope's famous lines: "Just as the twig is bent, the tree's inclined." By education we do not mean the training of the schoolmaster, as he endeavors to crowd the matter of certain text books into the unoccupied brain of his pupils, but that spirit

which imparts a higher grade of thought, a brighter sentiment which will fill the mind, and may meet difficulties with a nobility that will throw around untoward events a brilliant halo of unobscured courage, imbued with all the cheer and illumine the pathway of life, and thus stumbling blocks in every highway, and the gloomy are sure to encounter obstacles which some are so biased and baffled that they are able to assume an upright position. Judicious training will so educate the mind that fortune makes slight impressions, and the cheerful associations surrounding habits, the unmarshaled intellects, the spirit, give rise to surmount the evil and to overcome the perplex the way. In the business of life, the qualities of which we have spoken are not noticeable and their effects mark the path of life. Of the prominent merchants here, of whom the friends of those whose careers have been successful, most triumphs have met life as an old friend—a familiar friend. They leave no stone unturned in their commercial relations, but at the same time enjoy life and are always ready to share with the inspiration of happy thoughts and a cheerful heart. They look upon the bright side, and are dark to those who seem to pride themselves on gloom and despondency. To meet difficulties with a will to conquer them, to give way to despondency to invite ruin.

THE ESTHETIC SIDE OF THE HARDWARE TRADE

(Chicago Industrial World.)

The hardware merchant is generally supposed to follow a dull and prosaic business. The most suggestive of his occupation is that it is confined to handling nails and iron, and the impression left is that all the surroundings are sombre hue and are uninviting. If to which are set up stores and measure off wire were all that comprised the duties of the hardware man, there would be some reason for looking upon his store as being devoid of interest, except perhaps that which is usually inspired by money making. His duties are pleasant, as well as unpleasant, a closer inspection into the details and surroundings of his trade shows that it is one of the most interesting of any embraced in the line of business. The congeniality of an occupation is largely on the mind of the one engaged in it. It is generally supposed that the artist would be wrapped in his occupation, and yet we have artists of acknowledged reputation thrown down by business in aversion, and say that, were they obliged to, they would never take them up again. There are dealers in hardware, too, who doubtless have the same dislike for their business. Some have stayed for years in their stores surrounded by the myriad beautiful productions wrought out in hardware manufactures and have remained unmoved. They have never stepped to trace a line of business to observe the perfection of design or finish in any of the many things which crowd their counters and their shelves. If anywhere the finger of art is traced, it is in the numerous designs which have late years made American shelf hardware famous to the world over. A man possessed of a keen eye and a cultivated taste can spend hours in examining the superior designs which are now an inseparable accompaniment of such things as our table and pocket cutlery, locks, window fasteners, drawer pulls, and lifts, fancy butts, and the like. Even in stores of late, the attention of makers has been drawn to the beauty of design and finish, making stores there one of the most attractive shows in the hardware store. Surely if art appeals anywhere to the eye and to the taste it must be in stores where large and varied stocks of hardware are kept. The business of the hardware dealer is by no means monotonous. At one time he may be engaged in selling agricultural implements to the farmer, at another he may be fitting out a house with builders' hardware while at another he will be behind the counter disposing of shell hardware, or, perchance, engaged in one of the many duties which occupy the attention of the busy retailer. Of course, in this very diversity there is much that is far from being pleasant or congenial, but such is the case in all the business transactions of life. The hardware dealer is always in the presence of the finest illustrations of mechanism surrounding him on every hand are to be found the highest types of inventive productions. He is constantly brought in contact with the latest and best mechanical improvements, embracing a wide range of articles. If experience and observation afford a good school, surely the close association of the dealer with the wonderful mechanical inventions in the many articles kept in a hardware stock ought to furnish him with a schooling which, while being beneficial in a business point of view, should contribute in a high degree to his personal pleasure. It is more agreeable to be engaged in a progressive trade, in which improvements are coming in day by day, than in one that is stationary and anti-progressive. Certainly there has been advancement enough in the hardware trade in the past twenty years to satisfy the most ambitious in the business. The hardware trade is a solid one, and not ephemeral in its growth. Generally the dealer locates to stay. He is dealing in substantial articles, which sell freely and on which he usually realizes a fair profit. But to his work well he should be an honest man, understand his business, provide himself with an ample capital, and success will follow. No merchant in the town outranks him in position or influence, and if he is the right kind of a man he ought to be contented and happy.

Vineyards in France cover a larger area than wheat does in the United Kingdom, and in one year or another the produce is estimated to give employment to seven millions of people.

The population of every one of the Australian colonies increased during 1879. At the end of that year the aggregate population of the colonies was 2,716,792, as against 2,603,122 in the previous year.

The shaft of bolting reels should be of the best material, and large enough to prevent springing, and instead of using gudgeons or journals they should be bolted on to the end of the shaft in a firm manner and the journals should run in metal boxes. Such an arrangement should be made at the tail of each reel in the mill as will allow the miller to adjust the pitch as readily as he can raise or lower the burrs in grinding. No two reels standing side by side should be allowed to discharge their flour into the same conveyer. When such is the case it is impossible to tell how either of the reels are bolting. Each conveyer should be furnished with slides nearly the whole length of the chest.

TORONTO PRICES CURRENT.

Table of current prices for various commodities including Groceries, Flour, Sugar, and other foodstuffs.

PAINTS, ETC.

Table listing prices for various types of paint and related materials.

PETROLEUM

Table listing prices for different grades of petroleum products.

WOOL

Table listing prices for various types of wool.

HIDES AND SKINS

Table listing prices for different types of hides and skins.

LEATHER

Table listing prices for various types of leather.

PRODUCE

Table listing prices for various types of produce.

GRAIN

Table listing prices for different types of grain.

PROVISIONS

Table listing prices for various types of provisions.

BOOTS AND SHOES

Table listing prices for different types of boots and shoes.

LIQUORS

Table listing prices for various types of liquors.

WINE

Table listing prices for different types of wine.

WINE

Table listing prices for different types of wine.

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Table listing prices for different types of wine.

WINE

Table listing prices for different types of wine.

WEEKLY REVIEW.

TORONTO, March 16th, 1881

Stocks.—Today's markets was quiet with the following transactions to note: Bank of Montreal, 5 1/2...

Flour.—The flour market shows more firmness, and although orders are not arriving for large quantities...

Wool.—There is no improvement either in the price or the demand for wool. The English markets show signs of weakness...

Hides.—There is a good demand for No. 1 hides, which are now somewhat scarce owing to the great number of grubby hides now coming in...

Leather.—There is a good steady market for leather, but the trade is principally confined to small lots...

Produce.—There is absolutely no change in this market since last week, but a fair steady business is being done...

Grain.—There is no change, and the rates are as follows: To Belleville, 2 1/2c per barrel; Shannonville to Kingston, inclusive, 28c...

Provisions.—There have been various estimates of the consumption of wheat in this country. The agricultural department estimates the consumption at about 5 1/2 bushels per head for all purposes in 1879-80...

CONSUMPTION OF WHEAT IN THE UNITED STATES.

Table showing wheat consumption in the United States from 1870 to 1880, including population and acreage data.

EXPORTS OF BARLEY TO THE UNITED STATES

The following statement, which the New York Journal of Commerce has compiled from figures obtained from official sources, shows the total imports of barley into the United States from Canada since July, 1878, to the close of 1880...

Table showing monthly and yearly export data for barley from Canada to the United States from 1878 to 1880.

Total. 7,451,600 7,096,505 5,308,794

The only ports in the Oswego customs district that import barley are Oswego and Fair Haven. The imports at Oswego of New crop Canada barley since July 1 to and including December 31, 1880, were 4,227,784 bushels...

The total imports of barley into the United States from Canada during the last ten crop years aggregate 74,516,000 bushels, valued at the ports of exportation in Canada at \$48,412,555.

THE "SILVER PLUME."

The Silver Plume Mining Company placed their stock on the market here some time ago, and it is probable succeeded in working off a few shares, as it was pretty well advertised as a very rich mine. However, on Tuesday the Hon. Mr. Justice Torrance gave judgment in the case of the Attorney-General of the Province of Quebec vs. the Company...

WHOLESALE PRICES OF BITUMINOUS COALS

Table listing wholesale prices for various types of bituminous coals from different locations.

—Fifteen cars of sugar were shipped over the Intercolonial Railway to Hamilton, Ont., on Tuesday, and seven cars to Montreal.

Advertisement for 'DIRECT TRADE BETWEEN CANADA AND THE BRAZILS' by F. J. Mackay, featuring a ship illustration and details of shipping services.

Advertisement for 'WINANS & CO.' located at 13 Church St., Toronto, specializing in wool and leather goods.

RAILWAY MATTERS.

THE CANADA PACIFIC.

March 14.—Parties to determine... The work will probably occupy about one... The following: R. B. Stikney, chief engineer, William... Mr. Stikney... The quantity of land granted to the Southern Pacific Railway is 59,220,000 acres...

building of competing lines where there is barely a... railway commissioners was created to act as a... The working of this commission is pointedly...

THE RAILWAY PROBLEM AND ENGLISH LEGISLATION.

The last few weeks have been pacific in controversy... The English railway legislation, to the end that our national and state legislators may learn therefrom... The railway problem had not been approached from the right point of view...

FAST RAILROADING.

The creation of the locomotive is due almost wholly to patient toil and study... The English roads exhibit greater stability and permanence of way than ours, with less curvature... The three questions which puzzle the managers of life insurance companies more than any others are...

with good promise of success in burning liquid fuel... The quantity of land granted to the Southern Pacific Railway is 59,220,000 acres...

THE PAYMENT OF LIFE INSURANCE AGENTS.

The three questions which puzzle the managers of life insurance companies more than any others are those which relate to the apportionment of the expenses of management...

INSURANCE MATTERS.

THE PAYMENT OF LIFE INSURANCE AGENTS.

The three questions which puzzle the managers of life insurance companies more than any others are those which relate to the apportionment of the expenses of management, the proper method of arriving at surrender values...

Among the curiosities in the way of proposed insurance legislation at Albany is a bill introduced in the Assembly on Tuesday by Mr. Alford...

THE WINTER AND ITS EFFECT ON RAILWAYS.

There is no class of property more subject to damage and loss from the vicissitudes of the seasons and accidents than that of a railway company... The winter season, and the possible effect of the "break up" of the spring...

MONTREAL PRICES CURRENT.

GROCERIES

Table listing various grocery items such as flour, sugar, and oil with their respective prices.

DRUGS AND CHEMICALS

Table listing various drugs and chemicals such as salicylic acid, iodine, and other pharmaceuticals.

LEATHER

Table listing various types of leather and their prices.

BOOTS AND SHOES

Table listing various types of boots and shoes and their prices.

PAN FURS

Table listing various types of pan furs and their prices.

WEEKLY REVIEW.

Montreal, March 16th, 1911

Textual review of market conditions for various commodities including wool, raw furs, and iron and hardware.

Additional market news and commentary, including reports on leather, boots, and pan furs.

Horse Market.

March 10th, 1881

A few horses continue in horses, American... from all parts of the Eastern States...

Table with columns: Horses, Value. Lists various horse types and their market values.

Sales were reported on Monday of a lay horse 6 years... 12 years old for \$125...

Live Stock Market.

March 16th, 1881.

For some time past the quality of cattle offered on... this market has been improving...

Table with columns: Cattle, Sheep, Hogs, Horses. Shows market prices for various livestock.

Sheep are in small supply, a few selling at from \$7.50... \$40 each for choice...

A relic of great interest has just been recovered by the Chicago Historical Society...

NAPANEE BLANKET MILLS. Special to the Trade: WHITE BLANKETS, SHANTY BLANKETS, HORSE BLANKETS, ETC., ETC., ETC. Every Description of Blanket. A VERY LOW FIGURE. ARTHUR TOOMEY, NAPANEE.

THE LUMBER TRADE.

THE BRITISH MARKETS

The Timber Trades Journal says: Much interest will be excited in all the English, foreign and Canadian wood markets by the great third day sale...

Robert Coltart & Co's. Wood Circular and Prices Current, dated March 2nd, says: The wood market during the past month has been very quiet...

Colonial Woods.—Yellow Pine Timber.—The stock of yellow pine timber is about double that held at the same time last year...

North of Europe Woods.—Of fir timber there have been no arrivals during the month, and the stock consists of 191,000 feet against 53,000 feet at the same time last year...

heavy wire pipe have been sold at 150 per mille... extra heavy highhead at from 1.30 lbs to 1.10 per mille...

TIMBER RESOURCES OF NEW BRUNSWICK

The following statement is supplied by Edward Jack, of the New Brunswick Crown Lands Department, a gentleman of much experience in every thing connected with the subject...

AN INSIDIOUS DESTROYER

The theory of evolution, with the deduction of the "survival of the fittest," says an eastern exchange, may account for the fact that our primitive forests are now attacked by a small but exceedingly destructive insect...

"Many hearts deplored The fate of those old trees, and oft with pain The traveler at this day will stop and gaze On wrongs which nature scarcely seeks to hide..."

THE NEW PROCESS FOR TREATING ORES

A large number of gentlemen were present at the Albion Foundry yesterday afternoon for the purpose of witnessing a test of a new process for the reduction of quartz carrying gold and silver...

HAIR BREADTH ESCAPES

Sometimes, when I look back over my life, I am amazed to see how the pages of its record are dotted with hair breadth escapes. I escaped the dangers and hardships of the revolutionary war by waiting until the war had been over about sixty years before I was born...

—The Digby Courier says the Farmers' Club of Weymouth has decided that its members shall hereafter raise their own sugar and molasses...

JAS. ROBERTSON & CO. Dominion Saw Works TORONTO. Circular Saws, Gang Saws, Butting Saws, Cross Cut Saws, Shingle Saws, Mill Saws. THE "SIMONDS" SAWS. ST. CATHARINES, Ont. THE LARGEST SAW WORKS IN CANADA.

THE METAL TRADE.

THE PHILISH MARKET

The following state of the market in Great Britain is reported by the correspondent of the American Manufacturer on the 18th February. Business characterizes the British iron districts. Upon every hand there is disappointment that business moves so slowly. All had hoped for better things. The second month of the year has more than an average of its production, but we are in a worse case than could have been fairly looked for. Notwithstanding the accumulation of orders received during the period of frozen canals, there is conspicuous inactivity now where outside the steel mills, and prices of raw iron have found work to procure even the level to which they fell in the first half of the year. The week that has just elapsed in the iron districts of Cleveland and Scotland. The spring trade is now being looked forward to with great expectation, but its early development seems unlikely by reason of the persistent refusal of the sun to shine anywhere for more than a few continuous hours. We are supplied with everything but iron which will yield a profit. Unable to obtain a sale for our tin plates we have lifted up merchants' warehouses in Liverpool on terms which mean broadly taking \$3 for that which cost \$1.50, and since there is hardly another foot of storage room left, and we have not given over the same of regarding our neighbor and ourselves too, a proposition now is to start a tin plate warrant in Liverpool. Thus we propose to cure one evil by creating a greater. Why will you Americans persist in neglecting to send us the orders for this commodity that we had confidently predicted you must send us, and to meet which we had augmented our productive resources upon a scale justifiable only if the whole world and his wife to boot had no other source of supply. You will remember that last week I reminded you that half a million boxes of tin plates were now stored in Liverpool awaiting United States purchasers. Very plethoric have become the stocks of crude iron in makers' hands and in warehouse stores in all but the hematite iron districts. Consular stores in Glasgow and at Middlesboro represent this week a total of 661,000 tons. At the prices which now prevail there is a disposition in some quarters to purchase warrants on speculative account at the prices which these accumulations have made possible, and which we give further on, but such action is not marked with much spirit. The foot is being put down firmly in no market. Iron making in the past year has been rarely anything to rejoice over. Much worse has it been with colliery concerns. Still, if the prospects are not all they were expected to be at this juncture, it cannot be asserted that they are more gloomy than they have been. An ugly shadow is again beginning to throw itself athwart the agricultural districts in the shape of blights upon the land, cattle disease amongst the herds and foot rot amongst the flocks, and the statements of improved prospects in the reports of directors of iron and coal companies are being read by the dimmed light which the present is casting upon the past twelve months' experience. The small profits which are being made are restricted not alone by the small or by the no dividends which are being declared, but likewise by the financial difficulties which are appearing in connection with both iron and steel manufacture and the trading in those metals. I advised you last week of the troubles of the Mersey Steel and Iron Company, arising out of accepting contracts at a loss. That little business was preceded, you will remember, not long before by the heavier trouble in Sheffield from a similar cause. In one word, in a determination to secure orders at any price, three small firms "went" in Staffordshire at about the same time from the same cause; yet their total of liabilities was over £80,000. This week I have to report two more iron trade "troubles." These have happened, the one in the hematite district of Workington, in Cumberland, and the other in Glasgow. The first firm is that of Messrs. Kirk Brothers, of New Yard, Workington, and the rolling mills at Maryport. Their bills were dishonored on Thursday, and the aggregate indebtedness is understood to be about £100,000. The other firm are iron brokers, and are no others than Messrs. Morrison Brothers, of St. Vincent street, Glasgow, whose connection with the iron industry of Scotland has been for many years continuous. Their liabilities are not at present known, but are believed to be "serious," and are likely to fall most seriously upon Middlesboro. The firm have been doing an immense speculative business in Cleveland iron, their transactions at certain times having reached 50,000 or 20,000 tons per day. The Wigan Coal and Iron Company (Lancashire) have in the past year carried on their collieries at a loss, and the net results of the firms trading during the twelvemonth is a profit of £19,693—an amount too small for a dividend even when it is made \$1,170 by the addition of a balance from last year. The crude iron trade of Cleveland is hopeful touching the movement by the iron foundry and other consumers of foreign raw iron in Belgium for the repeal of the five franc per ton duty on imported pig iron. But by the rolled iron makers of the same district and Staffordshire the attempt is viewed with very different eyes. Belgium rolled iron has been quite enough a thorn in our side, both in our home and in our foreign markets; it would penetrate deeper if this movement should be successful. The return supplementary to the Trade and Navigation Statistics, which deals with the exports of rails shows that during January there was a slight declension in the exports of both iron and steel rails—the first for many months. Of iron rails 7,084 tons were exported last month, the quantity for the corresponding month of last year being 11,143 tons. The greater part in both years were sent to the United States. Of steel rails 23,240 tons were exported in January, the quantity for the corresponding month of last year being 28,916 tons. Last month the largest quantities of steel rails were sent to Australia, Italy, British India and the United States; and these individual shipments were generally smaller than those for January, 1880. The average price of the two classes of rails was for the past month slightly over £6 7s per ton for iron rails, and £8 12s 6d for steel rails. The high price of the iron rails is due largely to the high price of some of the light sectioned rails sent to Canada and India.

The ebb and flow of speculation on the Glasgow warrant market has induced a fluctuation of prices this week between 60s and 61s 3d, but the market closed yesterday with buyers at 60s 6d and sellers 60s 7d. It is eloquent of the poor state of the shipping trade that the reduction in the price of makers' iron last week has not induced any increase of iron buying. This week makers' quotations are practically unaltered, except that Gartshore has improved 1s per ton. The continental demand continues very limited and no orders of consequence have come

from America. This week's exports will be found when the returns are available to be only a little under those of last week, and only about half of the shipment of the corresponding week last year. The home demand remains pretty steady. Foundrymen are taking less iron, but in the home market a little more of the stocks of Cleveland iron in recent land has been exhausted, so that the demand will probably increase. Hematite has advanced in price within the last two months. Manufacturers in this district are in a state of uncertainty, but prices are being maintained. Shipbuilding prices are quiet at about £7 per ton, and boiler plates range in price from about £7 10s to £7 15s per ton, while the quotations for angles and angles are about £7 10s and £7 15s per ton respectively. The Cleveland market has shown some improvement this week with less advertisement on the part of consumers to give out contracts. The exports too have increased somewhat. The volume in Glasgow and Cumberland, referred to above, have affected the market less than might have been anticipated. Prices have been a little better this week. Yesterday at Middlesboro the minimum price for No. 1 prompt delivery was 44s 6d and for delivery next month 39s 6d. Consular warrants were quoted at 40s 6d for No. 1, and if holders had been willing to take the level 40s a large business might have been done. The exports of pig iron for the week ending Tuesday night amounted to 10,505 tons, a 7,700 tons more than last week. The largest delivery during one day that has been made for many weeks past was made on Wednesday when the shipments amounted to 4,410 tons, of which 1,180 tons went to Scotland. The combination of plate makers keeping up their quotations capriciously as they have still plenty of work on hand. The price of this week are: Ship plates 20 15s to 47, angles 15 17s 6d to 46, sheets 27 15s to 28, cable iron 17 15s to 18, rails 25 10s to 26, common bars 27 12s 6d to 25 17s 6d, all less 2 1/2 per cent. Padded bars, 24 15s net cash. Iron chairs 23 to 23 5s, girders, 21 1 to 23 per ton.

THE LONDON MARKET

The following were the closing prices in the London metal market February 18, 1881—

Table listing various iron products and their prices, including items like Bars, Welsh (in London), Bessemer rails (at works), and SHEETING AND SHEETS.

I may this week supplement the "Prices Current" by stating that Bessemer "blooms" are quoted by makers at 46 and upwards per ton at works for 7 in. x 7 in. sizes. It has been ascertained the last month that 4,600 tons of blooms were shipped to the United States from South Wales. The current demand from your side may be said to be an excess of the supply. Bessemer billets range between £7 5s. and £8 at works, according to quality. Cast steel for tool making varies from £30 to £40 at works for ordinary and medium qualities, and from £55 to £70 for fine and best tool steel. Old iron rails are quoted at £4 10s to £4 12s 6d per ton, c. l. f., Philadelphia, New York, or Baltimore, but most buyers are scarcely prepared to give such prices. For good wrought iron scrap £4 5s. to £4 10s. is demanded c. l. f., United States ports, and is scarce. Common cast scrap—such as old railway chairs, is about £2 3s 6d. to £2 5s. per ton f. o. b.

UNITED STATES MARKETS

(American Manufacturers.)

Pig Iron.—Prices of pig iron have undergone no change since our last report, but interviews with dealers leave the impression that business has grown duller. Indeed, the market appears to be far from buoyant, although prices are reported to be still firm, especially for the better qualities of iron, which continue to be comparatively scarce. The low prices of manufactured iron, which appear to be chronic, are a heavy weight on pig iron, and until there is an improvement in the former it is scarcely probable that there will be much in the latter, although there have been occasions when the upward pressure of the price of pig has forced an advance in manufactured iron. Taken altogether, the market for raw iron is not as satisfactory as was some time ago anticipated it would be. We repeat quotations of last week: Cold-short, \$21.50/22; neutral, \$22.50/23; extra neutral, \$23.50/24; cluster-mixed cold-short, \$25. All ore red-short, \$27/27.50, Bessemer, \$28.50, No. 1 foundry, \$23.50/25; Missouri and Lake Superior warm-blast charcoal, \$35, Hanging Rock cold-blast charcoal, \$42/45, Hanging Rock charcoal foundry, \$25/32, as to quality—all four months' time. Rails.—The Western Nail Association met yesterday, but did nothing more than talk. The card remains unchanged at \$3 per keg for 10d to 6d, or 2 per cent. less for cash, with an abatement of 10c per keg on lots of 250 kegs. The storms in the west have so obstructed business that trade could not be discussed with any despatch. Wrought Pipe and Tubes.—The demand continues excellent, and prices are unchanged. Discount on gas and steam pipe, 65/67 1/2 per cent.; on boiler tubes, 40 per cent.; on oil well tubing, 22 cents net, oil well casing, 72 cents net. Rails.—We are advised of an order having been placed since last report for upwards of 5,000 tons of steel rails at \$62 per ton delivered at lake ports during July, August and September. It would, however, require iron \$1 to \$2 per ton more to buy rails for immediate delivery. Light iron rails may still be quoted at \$18/20 per ton.

Railway Supplies.—There have been no changes in price of railway supplies for a considerable period, and we are not aware of any quotations. Spikes, 2 1/2 per pound, spikes for 1 1/2, 3 1/2, 4 1/2, 5 1/2, 6 1/2, 7 1/2, 8 1/2, 9 1/2, 10 1/2, 11 1/2, 12 1/2, 13 1/2, 14 1/2, 15 1/2, 16 1/2, 17 1/2, 18 1/2, 19 1/2, 20 1/2, 21 1/2, 22 1/2, 23 1/2, 24 1/2, 25 1/2, 26 1/2, 27 1/2, 28 1/2, 29 1/2, 30 1/2, 31 1/2, 32 1/2, 33 1/2, 34 1/2, 35 1/2, 36 1/2, 37 1/2, 38 1/2, 39 1/2, 40 1/2, 41 1/2, 42 1/2, 43 1/2, 44 1/2, 45 1/2, 46 1/2, 47 1/2, 48 1/2, 49 1/2, 50 1/2, 51 1/2, 52 1/2, 53 1/2, 54 1/2, 55 1/2, 56 1/2, 57 1/2, 58 1/2, 59 1/2, 60 1/2, 61 1/2, 62 1/2, 63 1/2, 64 1/2, 65 1/2, 66 1/2, 67 1/2, 68 1/2, 69 1/2, 70 1/2, 71 1/2, 72 1/2, 73 1/2, 74 1/2, 75 1/2, 76 1/2, 77 1/2, 78 1/2, 79 1/2, 80 1/2, 81 1/2, 82 1/2, 83 1/2, 84 1/2, 85 1/2, 86 1/2, 87 1/2, 88 1/2, 89 1/2, 90 1/2, 91 1/2, 92 1/2, 93 1/2, 94 1/2, 95 1/2, 96 1/2, 97 1/2, 98 1/2, 99 1/2, 100 1/2.

Steel.—Common quality steel has advanced from 9s to 10s per ton. With this exception, there has been no change. Best quality refined iron steel, 11 to 12 cents per pound, as to quantity, purchased in small lots, 10 to 11 cents, and 12 to 13 cents, and open market, 14 to 15 cents. Common quality steel, 10 to 11 cents. Command and about the same price as they did at the date of our last report, namely, 230 per ton for rails and 220 for double heads.

Scrap.—The position of the scrap market is about the same. We quote as last week. No. 1 wrought iron scrap, \$20 per ton and a low quality, \$18 per ton. Cast iron scrap, \$15 to \$18 per ton, and old car wheels, \$2 to \$3.

Philadelphia. Pig Iron.—Several inquiries and a few orders were made this week for iron of 10 1/2 or than ordinary grades, but the market is already well sold ahead and does not seem to contract further. The prices all throughout, without a sign of weakening. The general disposition among consumers is to buy for current wants. The conviction has been and is that the supply either from increasing home production or foreign sources will afford full protection against any advance. Sellers still adhere to the belief that influences at work will bring about an advance and look for such a revival in the British market as will allow it. The sales this week were much larger than last, but the prices were no better. No. 1 foundry sold for \$25. Two lots of 1,000 tons each sold at \$25.50. Several smaller lots sold at \$25 and \$26. The necessities of buyers are such as to keep the market bare of stocks except in a few lower grades. A quiet business has been done in English iron. Some large purchases have been made abroad as a measure of protection and because the reserve supply on this side is far below the prudential limit. It will be a year before the reserve will be established. During that time we are forcing an increasing demand which no one knows what it may develop into. Hence this protective step of securing what is equal to a week's supply. Everybody knows prices cannot recede except from disastrous causes. Estimates vary as to what the increased demand this year will be, but it will be such as renders any decline impossible. On the other hand, the first symptoms of recovering in the foreign market will be of necessity, followed by a stiffening of prices here. No 2 iron rather quietly at \$22 because of the efforts of holders of English irons to get rid of their elephant. Bessemer iron continues dull at \$26.50, but some business was transacted, and more will be as soon as the withold American demand brings prices to \$26. The sales in charcoal pig were of the ordinary kind at about \$34. Several furnaces are being put in blast.

Steel Rails.—English steel rail makers seem to be assured of a large American demand, and prices are in consequence, perhaps, quite firmly maintained. The American mills are full of orders and are anticipating already their increased capacity later in the year. Recent foreign purchases have been made, and we are told more are under consideration. The quoted prices are \$62 to \$64 at tide. Several large orders are on the market for acceptance, and some ten thousand tons additional have been placed for winter delivery.

Iron Rails.—Light rails are in active demand and orders for several thousand tons in all have been placed in various mills at prices running from \$48 up. It is expected to place some large orders as soon as prices are agreed upon. The future course of old material is the uncertain and troublesome factor.

Old Rails.—The market is without interest because of the weak demand. Holders refuse to yield further. Some small sales were made at \$27.0 for fees. Should the pending iron rail negotiations close, it is probable prices will again advance. Foreign supplies are represented as uncertain.

Scrap.—Several very large sales of scrap iron were made this week at \$30 for wrought, and \$20 for cast, and \$17 for stove plate.

New York.

Pig Iron.—American Consumers seem rather indifferent about buying to an extent beyond what passing wants necessitate, and, with a few exceptions, sellers are disposed to take their chances on the market rather than make the concessions that would appear necessary to place any extensive amounts at the moment. As a natural result of these conditions the market remains in a somewhat dormant state, with nothing apparent that would indicate a near change one way or the other. Buyers consider an advance in prices as unlikely in face of the prospective heavy output during the year, and in some instances a moderate decline is thought not out of the question if the present low rates for bar and some other descriptions of finished iron are not improved upon. Among sellers there is a general belief, however, that if any decline takes place it will be a light one, as in their opinion the probabilities are that there will be no heavy importations of foreign pig unless there is an incentive in the shape of higher prices than those now current. So far as indicated by the business transpiring from day to day prime brands are ruling about steady at \$25/26 for No. 1 X foundry, \$22/23 for No. 2 X foundry, and \$20/21 for grey forge.

Scotch.—The advices from Glasgow indicate a rather easy market there, owing to continued gradual increase of stock in both the makers' and public stores. So far as concerns the New York market there is nothing new to report, however, the bulk of supply being in good hands and held for steady prices, while the importations are moderate. Occasionally a cheap lot is secured from vessel, but sales from store are not made at less than about \$22 for Fglinton, \$23 for Glengarnock, \$23.50 for Gartshore, and \$24.50 for Coltness.

English.—For this article the demand is very light, while prices lack stability. The latest returns show some decrease in the production of Cleveland iron during the last month, and an accumulation of 60,000 tons in the stock in makers' hands and in public stores. Holders here are quoting about \$18.50 for No. 3 Middlesboro and \$26 to \$28 for Bessemer. Scrap Iron.—A few good sized lots of No. 1 wrought, making in all about 2,400 tons, have been placed at \$30 ex-store, and a desirable article cannot be had at a lower price. Small lots from yard are held as high as \$32.50. Cast borings are quoted at \$13 to \$14, cast machinery scrap at \$18 to \$20, and old car wheels at \$30 to \$35 as to condition. Rails.—No extensive movement has been reported in American makes as very little supply can be had for prompt or near future delivery, while buyers are disposed to delay contracting for fall or winter deliveries. The prices remain about \$60 to \$62 at mill

for steel, and \$15 to \$17 for heavy section. In foreign makes there has been a steady movement, the reported sales embracing a total of about \$60, and 6,000 tons in that quantity, as to specification, at New York. Old Rails.—There is a great deal of business attending prices, and as a matter of course, some amounts can be moved off at present rates, and \$25.50 to \$27 for D. H. A lot of this iron on sale brought only \$27.50 on average.

THE SCOTCH PIG IRON TRADE.

From the annual report issued by Messrs. James Watson & Co., Glasgow, says the Manchester (Lancashire) Engineer, we learn that the early days of the year were ushered in by a continuance of the active and vigorous demand for all descriptions for America, and, in consequence, that the export trade seemed quite profitable, and that absolute quantities, without much regard to cost prices. This remarkable movement has given rise to an impression that it would be maintained for a lengthened period, with probably some fluctuations in the extent of the inquiry, but it gradually became plain that speculators were taking a very optimistic view of the actual requirements, over and above native production, hence, whenever the export arrivals began to show themselves at New York, buyers in the United States declined to pay the extreme figures demanded by holders, and a corresponding, in very marked contrast to the abnormal condition of matters indicated in the opening paragraph, and so violent was this reaction that a strong tide was incurred on both sides of the Atlantic by irregular manner in which contracts of high prices were thrown back upon the sellers. Since this partial cessation of orders, there have been several excellent flutterings from America, but they never came to a genuine outflow of supplies from Scotland, and were prompted more by a spirit of curiosity than by anything else, as it was necessary to make decisions upon their heavy stocks prior to importing further quantities. For the first six months of this year a great deal of interest was bestowed upon the liabilities of renewed demands from trans-Atlantic customers, but as the Board of Trade turns forced the conviction that other parts of the world were steadily waking up from their lethargic state, and in an increasing manner compensating for the loss of business narrated above, less importance has recently been attached to it, especially as the internal trade of Great Britain has assumed an ebullient vigor which bids fair to be a legitimate rival to dormant enterprises, permeating all branches of industry, and conducting to national and not sectional benefits. These are the broad outlines of the influence at work during the twelve months just ending, and we will now pass to the details of each department, only premising that they are of a peculiarly interesting character, at what, to our minds, is a turning point in this important trade. The average production of only 190 tons per furnace per week, as compared with 204 tons in 1879; and the total make is 1,000,000 tons against 1,320,000 tons, or say, only 117,000 tons more, although the average number of furnaces in blast was 100 against 88 last year. There are 152 furnaces existing at this date against 154 in 1879. Of these furnaces in operation 8 are producing hematite pig iron of a first rate quality, leaving 116 running G. M. B., or a weekly output of about 2,000 tons of hematite and 23,000 ordinary good merchantable brands. It is very pleasing to note that the manufacture of steel is growing rapidly in this neighborhood, and will likely occupy a prominent place in our local trade, as this metal is coming into popular favor at home and abroad, for railway and marine purposes. The tendency is towards higher grades of quality in all descriptions of pig iron. Exports to foreign countries show very excellent results, amounting to 440,200 tons against 340,835 tons, or a net increase of 99,318 tons over 1879. There is a remarkable similitude between the variations in warrants during the last two years, the extreme range having been 28s and per ton in 1880 against 28s per ton in 1879, and with so many influences emerging there are no doubt some curious changes before us ere long which must affect the adjustment of wages. The average price is 17s 1/2 per ton above 1879.

A BOOM IN PIG IRON STATISTICS

We have received from the manufacturers full returns of the production of pig iron in the United States in 1880, and lose no time in giving the details to our readers. The production of pig iron in the United States in 1880 was 4,295,414 net tons, or 3,835,191 gross tons. The production in 1879 was 3,070,875 net tons, or 2,741,853 gross tons. The increase in 1880 over 1879 was, therefore, 1,224,539 net tons, or 1,093,338 gross tons, or 40 per cent. The production of 1878 was larger than that of any preceding year, but the production of 1880 was not only 40 per cent. larger than that of 1879, but it was 50 per cent. larger than that of the two preceding most active years, 1872 and 1873, and it was double that of the Centennial year, 1876, when the production of pig iron during the panic years reached its lowest point. The following figures, in net tons, will make these extraordinary facts plain to the eye. Production:—

Table showing production of pig iron in net tons for years 1872 through 1880, with a total for 1880.

Of the total production of pig iron in 1880, 1,807,651 net tons were made with anthracite coal, 1,950,205 tons with bituminous coal and coke, and 537,558 tons with charcoal. The increased production of the year over the product of 1879 was very evenly divided among the different fuels. It is, however, worthy of notice that the production of charcoal pig iron has increased pari passu with that of anthracite and bituminous pig iron. In the four years preceding 1880 it had declined relatively as compared with its two rivals. The charcoal iron product of 1880 has only twice been exceeded in our history—in 1873 and 1874, when the production was respectively 577,620 and 576,557 net tons. As has heretofore been the case, some of the anthracite furnaces used more or less coke in 1880 as a mixure, and a smaller number of bituminous furnaces used anthracite as a mixture. The exact quantity of pig iron produced in 1880 with this mixed fuel was 714,631 net tons. Twenty-three states made pig iron in 1880, one more than in 1879, Minnesota entering the list for the first time with her Duluth charcoal furnace—the pioneer, we have no doubt, of many other iron enter-

North Carolina has not made... with her 45-w...

The most valuable mineral raised in British... coal and iron... of which 2,758,000 tons...

AMERICAN AND EUROPEAN RAILWAYS.

The advantage which the people in the United States have over those of other countries is in cheapness of transportation. It is quite true that passenger fares on our railways have not been reduced to the same proportion that freight charges have, and it is to be hoped that the time is coming when railway managers will perceive the advantage of increasing both their business and profits in this way...

KEYS AND LOCKS

A writer in the Magazine of Art gossips as follows about keys. The history of keys abounds with interesting matter, and takes us back almost to the beginning of civilization. The exact place and date of their first use has not yet been determined, but their origin has been variously attributed to Egypt, Phoenicia and Greece. We find in Homer's "Odyssey" a simple appliance in the shape of a leathern thong inserted through a hole in the door, which, with the help of a ring or hook attached to it, would fasten or unfasten from the outside a bolt within. This was probably the precursor of the key. Those who examined Dr Schliemann's famous collection will not have failed to notice a very ancient fragment of bronze, somewhat in the form of a key, which is supposed to have secured nothing less than the Trojan treasure itself. But when we come down to Roman times, we arrive at a period in which locks and keys were established in constant use. It was a general custom for a Roman bride, on first entering her husband's house, to be presented with the keys of the household, except that of the cellar, which, prudently or imprudently, was always left in custody of the husband. The museums of Europe possess manifold specimens of this epoch, which all bear a strong ancient character, though differing in many varieties...

They are generally made of bronze, but sometimes are also in iron—of rather, perhaps, the former metal has lasted the longest. Unfortunately, the locks to which they belong having been made chiefly of iron, have not withstood decay, and so do not enable us to judge of their mechanism. But the bronze keys are not infrequently found in a very perfect condition, and the evidence of their construction is sufficient to show that the handwork of the Roman locksmith was not unworthy of comparison with that of our own time. Many have been discovered in London, and some of which may be seen at the Guildhall Museum, and specimens have not been wanting among the ruins at Pompeii and Herculaneum.

To find the proportion for cylinder steam ports for stationary engines. To find the area of port, multiply the square of the diameter of the cylinder in inches by half the speed of the piston in feet. Multiply the product by 1 and divide by 10,000, this will give a good liberal port. The travel of valve is equal to the outside lap on one end of the valve added to the width of port multiplied by 2. If the eccentric is connected direct to the valve stem its travel should equal this amount. The amount of outside and inside lap depends entirely upon the point of cut-off and the amount of compression that is desirable.

Fatty or animal oils and tallow are very detrimental when they get into steam boilers with water containing solid matter. It is extremely difficult to separate fatty oil from hot feed water after it has been thoroughly mingled with it by coming in contact with the exhaust steam from the cylinder into the open or spray heater, whence it finds its way into the boiler, and with the solid matter forms a sticky deposit when the water is blown out, which adheres to the iron and is baked by the remaining heat into a hard greasy mass that effectually prevents afterwards the water from reaching the iron. Mineral oil is not so bad, and should always be used for cylinder lubrication where the heating of the feed water is done, mixing it with exhaust steam.

Belts have the advantage over gear wheels that, if a main belt breaks, it can be very readily repaired or replaced, whereas the breakage of gear wheels may cause long delays and great expense. Belt driven machinery may be more readily altered in speed than where gear wheels are used. Belts are superior to gear wheels in that, by their elasticity, they lessen shocks. On the other hand, it may be found that two revolutions per hundred are lost in the transmission of power by a belt, so after a succession of five speeds the lost motion is an eighth of the calculated speed. After thirty-four speeds the velocity will be reduced to one-half. One distinction is well to bear in mind, owing to the elasticity of the shafting or the imperfection of the gearing. Gearing and shafting transmit a uniform number of revolutions, but not always a uniformity of revolutions.

Attention has recently been called to some peculiar cases of spontaneous ignition of hydrogen in air, the phenomenon having been noticed, it seems, in factories where quantities of zinc were being dissolved in hydrochloric acid for the preparation of zinc chloride. Violent explosions took place when no flame was near, and it was eventually ascertained that the gas took fire spontaneously. It is thought to be caused by fragments of very porous zinc, which, when lifted above the surface of the liquid, during the violent evolution of the gas, and brought into contact with the hydrogen and air, act just as spongy platinum would under the circumstances. The performance of such operations in the open air is recommended. The ignition can be shown, according to M. Hoffman, by treating a few kilogrammes of finely divided zinc with acid; the zinc dust, he says, may even ignite by contact with water.

On January 1, 1880, there were in England 17,696 miles of railway, and in the United States there were 84,328 miles, or nearly in the proportion of one to five. But the square miles to be covered by the roads were about as one to thirty-six, and the populations to use them were about as three to five, or, to state it otherwise, there is in England 1 mile of railway to every 6.9 square miles of area, while the United States, with five times as many miles of road, has only 1 mile to every 43 of area. These proportions are reversed, however, as regards population, for there are 1,900 people for every mile of English road, and but 610 to each mile in the United States. The cost of a mile of railway in England was \$102,750, while the average cost in this country has been but \$87,000, so that the total cost of railroads in the United States is but \$4,762,510,000 as against a total of \$3,589,020,000 in England. These are figures large enough for the boundless prairies, and the traffic totals are not less well adapted to American idiosyncrasies. In England last year there were over 508,000,000 passengers, and in the United States there were over 200,000,000. As regards tons of freight, the total is actually smaller for England than for the United States, the figures being respectively 212,000,000 and 280,000,000 tons. The receipts were, in England, \$17,450 per mile, and in the United States \$6,280, the gross receipts being, for England, \$308,980,000, and for the United States \$379,000,000. As a pendant to these figures, the Times says, may be given a few totals for Europe. Greece has just 7 miles of railway; Russia has 12,834 miles; France 14,150 miles; Prussia 12,300; Austria-Hungary 10,725. The proportion of one mile of railroad to square miles of area is for Russia, 167; for France, 144; Prussia, 10.9; for Austria, 22.4. In Russia there are 5,800 inhabitants for each mile of railroad; in France, 2,688; in Prussia, 2,114; in Austria, 3,350. All Europe, excepting some five smaller states, has 71,840 miles of road, or one to every 44.7 square miles and 3,340 inhabitants. That is to say, Europe has somewhat fewer miles of railway to square miles of area than the United States, although it has five times the population. Here there may be an inference as to the "overcrowding" of our railroad building, but, however some unfortunate shareholders may smart for it, there is a proportionally bright showing for our superiority in the vigor and enterprise which are such marked American characteristics. The average cost of a mile is least in mountainous Switzerland (\$35,800), and for all Europe is \$111,500. The gross receipts of 1880 were, for all Europe, \$6,968,015,000. That is, \$9,760 per mile, or not very much more than the earnings of the United States. From all of which it appears that the comparison of the United States with any country of Europe is like placing a mountain beside a mouse. All Europe is our only fair match now, and still we grow faster than any other nation the world has ever seen.—N. Y. Indicator.

POSTAL TIME-TABLES.

Post Office, Ottawa, Canada Central Railway

Table with columns for Arrival and Departure of Mails, listing various routes and times.

Registered matter must be posted half an hour previously office hours from 8 a.m. to 4 p.m. For Savings Bank and Money Order business, 9 a.m. to 4 p.m.

Post Office, Montreal.

MONTEAL, July 7, 1880.

Large table with columns for Delivery, Mails, and Closing, listing various routes and times for Montreal.

Letters, etc., prepared in New York are forwarded daily on New York, whence mails are despatched for Havana and West Indies, via Havana, every Thursday p.m.

TO MALTSTERS.

THE undersigned beg to inform maltsters and the trade that, having lately added new and powerful steam machinery for the especial purpose of weaving extra strong STEEL WIRE CLOTH for malt and drying kiln floors, are now prepared to quote prices for the above goods. These floors are much more economical than iron tiles, saving from 30 to 40 per cent. in fuel and labor, and producing a brighter sample of malt.

TIMOTHY GREENING & SONS, DUNDAS, ONT. (3-26)

RAILWAY TIME TABLES.

CHANGE OF TIES

Monday, 23rd JUNE 1880. From both East and West... From the East, South and South-East 11 15 a.m. For the East 2 30 p.m. For both East and West 10 30 p.m.

ST. LAWRENCE AND OTTAWA RAILWAY.

On out on THURSDAY, 10th JUNE, 1880, trains will run as follows. For the East, West, South and South-East 11 15 a.m. For the East 2 30 p.m. For both East and West 10 30 p.m.

Q. M. O. & O. RAILWAY.

CHANGE OF TIME. COMMENTING on Wednesday, June 23rd, 1880, trains will run as follows. Leave Hochelaga for Hull 1.00 a.m. 4.30 a.m. 6.15 p.m. Arrive Hull 10.30 a.m. 12.45 p.m. 9.25 p.m.

INTERCOLONIAL RAILWAY.

SUMMER ARRANGEMENTS, commencing 14th June, 1880. Through Express Passenger Trains run daily (except Sunday) as follows: Leave Pointe St. Louis 7.30 a.m. 1.00 p.m. 2.05 p.m. 2.41 p.m. 7.55 p.m. 8.15 p.m. 11.40 p.m. 2.10 a.m. 6.45 a.m. 10.45 p.m.

DUNDAS FOUNDRY AND ENGINE WORKS.

ESTABLISHED 1838. THOS. WILSON, MANUFACTURER OF STEAM ENGINES, BOILERS AND ALL KINDS OF MACHINERY. DUNDAS - ONTARIO. SEND FOR CATALOGUE.

The total quantity of sugar refined in Greenock in 1880 was 249,822 tons, in 1879, 245,844 tons, in 1878, 251,677 tons, in 1877, 243,240 tons; in 1876, 240,142 tons. The average weekly quantity of sugar refined in Greenock during 1880 was 4,804 tons.

PETROLEUM.

THE BRITISH MARKETS

THE PETROLEUM REPORT
By J. B. BROWN, February 26th, 1911.

Refined Petroleum Oil.—There has been a very large demand for spot for truck purposes throughout the past week, which has resulted in quantities of month and March 1st having been changed hands. Prime and Standard White Petroleum on spot sold at 8d down to 7d per gallon, the latter being the price of the "Standard White" brand at Thames Haven Wharf. Month and March 1st to 7d, March 7th to 7d, April 7th to 7d, September-December at 7d.

Local market closed on spot 7d, March 7th to 7d, 8th to 7d, 9th to 7d, 10th to 7d, 11th to 7d, 12th to 7d, 13th to 7d, 14th to 7d, 15th to 7d, 16th to 7d, 17th to 7d, 18th to 7d, 19th to 7d, 20th to 7d, 21st to 7d, 22nd to 7d, 23rd to 7d, 24th to 7d, 25th to 7d, 26th to 7d, 27th to 7d, 28th to 7d, 29th to 7d, 30th to 7d, 31st to 7d.

Table with columns for Price of S.W. Petroleum, Stock this day, Landed last week, Delivered last week.

Table with columns for Coal Oil, Stock this day, Landed last week, Delivered last week.

Above represents stocks and movements at London and Thames Haven. Public Wharves only.

CANADIAN MARKETS.

The Petrolia Advertiser's latest reports has the following: The market for crude is very firm, and the demand is good. Quite an amount is changing hands. There has been no change in refined since our last issue.

OIL SPRINGS.

The excitement shows no signs of abatement. Scarcely a day passes but some of the old residents of the days of prosperity pay us a visit. Mr George Palmer, one of them, is in town. It is said that he intends operating heavily. The "Phoenix" has shut down for a few days in order to put in a new pump, having to return the one they have been using. The other wells show no signs of abatement.

OIL CITY.

The "hum" has at length reached this place. Since the location of the mammoth hoop and stove factory has been determined upon, the village has assumed a business-like appearance. Every day the place is crowded with farmers' teams bringing in loads of elm and other stock for the factory. The proprietors will proceed at once with the erection of the factory and other buildings, which will give employment to a large number of carpenters, masons, etc. When completed, steady employment will be given to 100 hands, and will be the largest of the kind in Canada. The hoops and staves will be shipped direct to Europe via New York.

Since the recent big strikes at Oil Springs the C. S. R. has been reaping a good harvest in the shipments of oil. Efforts are being made to have a branch of that railway extended to the Springs. When this is accomplished a lucrative traffic in oil will take place over the railway.

Mr. F. Day, of St. Thomas, is purchasing large quantities of hickory logs for the German market. The place can now boast of a direct European trade.

CACAO OIL MARKET

The market here for crude oil, by the car load, is from \$1.50 to \$1.52 per barrel. This price has been paid this week for the crude oil certificates of the Petrolia Crude Oil and Tanking Company, this being the speculative price, and the price at which these certificates can be bought from producers regulates the market.

The price of American crude oil in the various producing districts of Oil City, Parker, Titusville and Bradford, by the latest quotations, is 85c to 86c per barrel in tanks at the wells for United Pipe Line crude oil certificates. To this price has to be added the pipeline charges of 20c per barrel for pumping on board the cars. When a producer has his own pipeline he obtains from 10c to 20c per barrel more for his oil than the price at the wells, but he does not get the advantages of a certificate in case he wishes to hold his oil for a rise and get money advanced on it.

REFINED OIL MARKET

Table with columns for Location (Petrolia, London, Toronto, Ottawa, Montreal, Quebec, Halifax and St. Johns) and Price per gal.

The above are wholesale prices per imperial gallon at which refined oil is sold by the car load, the price per single barrel is generally from 1c to 2c above these figures.

The latest refined oil quotations in New York market are as follows:—

Cargo lots for export, 110° burning test by the Saybold tester, 91c. Refined oil for the New York city trade, in lots of 50,000 barrels, 109° flash test by the Tagliabue pyrometer, 101c. Refined oil of 150° burning test, 14 1/2 @ 17c, according to brand.

Cases of refined oil for export, 110° burning test, cargo lots, 12 1/2 @ 12 1/2c, according to brand.

Table with columns for Lubricating, Tar, Benzine, Oil, Paraffine Candles, Wax (ref'd) and Price.

THE MONEY MARKET.

TORONTO STOCK REPORT

Table with columns for BANKS, DEBENTURES, A/c, DIVIDEND PAYABLE, WHERE PAYABLE, and Closing Prices.

MONTRÉAL STOCK REPORT

Table with columns for NAME, Capital subscribed, Capital paid-up, Rest, Dividend last 6 Months, and Closing Prices.

HORSE POWER OF A WATERFALL

A horse power represents 33,000 pounds raised one foot high per minute, or 83,000 foot pounds, consequently 33,000 pounds of water flowing in a stream per minute would exert one horse power for every foot of fall. To calculate the power of a waterfall, therefore, proceed as follows: Compute the number of cubic feet of water flowing per minute by multiplying the area of its cross section in feet by the velocity of flow in feet per minute. To ascertain the weight of this volume of water multiply it by 62 1/2, which is the weight of one cubic foot of water. Then multiply this product by the vertical fall in feet. This will give the number of foot pounds per minute, and by dividing this by 33,000 the result will be the horse power of the fall. Example: Given a stream 12 feet wide and 3 feet deep, the area of its cross section is (12x3) = 36 feet. Let the velocity of its flow be 100 feet per minute, then (36x100) = 3,600 feet of water flow over the fall per minute, the weight of which is (3,600x62 1/2) = 225,000 pounds. Let the fall be 12 feet, then the power of the fall in foot pounds will be (225,000x12) = 2,700,000 foot pounds, and its horse power would be (2,700,000 divided by 83,000) = 32.4 horse power.

A RUNAWAY TRAIN.

The most hair raising episode that ever happened to a New Mexican mountain railway train fell to the lot of Connector Blessingham, Thursday afternoon, at 3 o'clock, on the west slope of Giletta summit. The train comprised nearly 30 loads, and as it entered upon the descent, Jake Brown, the engineer, threw on the water brake, but found that it was broken and would not work. The train gained momentum to such a frightful extent that the switch cables and hooks lying on the pilot base in front were hurled from their place into the air, breaking one of the locomotive's guard rails. Brown called for brakes, but the train men had already set every one, and realized that the train was beyond their control. Seeing that nothing could be done to stop the mad course the

train was manag, Brown jumped from the cab while going at the rate of sixty miles an hour, and landed 72 feet distant, actual measurement. Blessingham, who was on the caboose with Pawnee Charley and wife as passengers, fearing that the train was going to destruction, cut his way car loose, and checked it with the brakes, while the train continued its velocity down the long grade. The fireman stood at his post like a hero, and while the engine was plunging down the slight at a gliding speed, he crawled on the foot board and poked sand through the sand box, thinking that he might assist the wheels in getting a grip upon the rails. As the train sped around Material curve, which is "short and steep," the velocity was so great that the locomotive ran on one rail, and overbalanced so greatly that it came within an ace of losing its equilibrium. The brakemen on deck were obliged to lie flat and cling to the running boards for safety. For six miles those badly frightened men stuck to the ship and faced the horrors of death. Below Conocito is a natural basin, with three miles of level track, and it was on this stretch the runaway train was mastered and stopped. Some of the cars were laden with iron for the front, but they were unloaded before the train stopped by the material being hurled in all directions. Just how the train held to the rails as well as it did is a mystery which the philosopher must solve—we can't.—Las Vegas (N.M.) Optic.

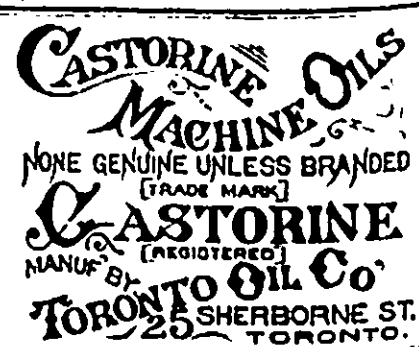
The Grand Trunk Railway are going to build an elevator of the capacity of 120,000 bushels on their wharf at Belleville.

A new tow boat company is in prospect, and the advanced ideas of the promoters will in a few days be issued from the press. The idea is to have a service of tug boats owned by Montreal merchants to do the tug duties between Montreal and Quebec at a fixed rate to subsidize the company to some extent. This scheme is being undertaken to protect incoming vessels against exorbitant rates of towage charged by the Quebec tow boat companies, and will likely aid very strongly backing in the city.—Montreal Witness.

DOMINION TRADE REGISTER

INDUSTRIAL DIRECTORY.

Table listing various industrial companies and their products, including Agricultural Implements, Aniline Dyes, Cotton Mills, Glassware, and more.



The effect of the heavy snow storm in the West and North-West is still seen in decreased earnings of the leading railway lines. The Chicago North-Western Railway trade for the first week of March showed a decrease of \$150,000.

THE DRY GOODS TRADE.

NEW YORK ADVICE.

...the demand for the staple... with it out of the production of goods and perhaps... The long winter from its severity... large amount of heavy woollens... price to maintain it... the time into the market... every where... the great railway trunk lines... the West... the country... the most desirable styles and... the most favorable indications of the... the most desirable styles and... the most favorable indications of the... the most desirable styles and...

...the demand for the staple... with it out of the production of goods and perhaps... The long winter from its severity... large amount of heavy woollens... price to maintain it... the time into the market... every where... the great railway trunk lines... the West... the country... the most desirable styles and... the most favorable indications of the... the most desirable styles and...

WEIGHTS AND MEASURES.

One of the best laws ever passed in the Canadian Parliament is that on weights and measures... especially with regard to weights have the people of this country suffered in a degree passing belief... a scale five years ago anywhere within a hundred miles of this city but had been tampered with in some shape or other... Talk of conscience! Where has it existed with the shopkeeper, either round or square toe, until this new law?...

WAGES AND COST OF LIVING IN CHINA.

There have been many books written on China, from the time of Abbe Hue to the present. But most of them have been too general to present any precise ideas of the actual social conditions in that vast empire. Recent official observation has, however, done much to clear away the mists which obscure real life. Most of the trades which we have carried on in the central flowery land. There are there the traditional 'butcher, baker, and candle-stick maker.'...

Table with 2 columns: Category (For food, etc; For rent, etc; For clothing) and Amount (\$). Includes sub-headers FOR A MASTY and FOR A WORKMAN.

The same authority adds 'The master generally lives at the workshop, where he has, perhaps, two rooms, besides a place to cook in. The household furniture may be estimated at from \$20 to \$30. The ordinary workman, if married, will share a small house with a friend, and occupy one room, and have access to the kitchen. He may live with his parents, in which case his earnings go to the common fund. Under such circumstances, \$10 to \$15 will cover the value of the household furniture. We have no form of Chinese life in California, except in very rare cases, which corresponds to that which is here portrayed. There are only a few Chinese families in this city. Nearly all the Chinese are male adults without any family ties or connections, at least in this country. But we get a glimpse of that peculiar state of things in China also. Consul Denny further says that if the Chinaman is 'a bachelor, and away from his family, he will either sleep at his employer's, for a consideration, or stay with a friend, in either case his whole inventory consists of a box with his clothes and his bedding.' This is a complete portrait of the Chinaman in California. He is got up in light...

...the demand for the staple... with it out of the production of goods and perhaps... The long winter from its severity... large amount of heavy woollens... price to maintain it... the time into the market... every where... the great railway trunk lines... the West... the country... the most desirable styles and... the most favorable indications of the... the most desirable styles and...

ALASKA.

The following is a summary of the results of the... The population of Alaska is estimated at 100,000... The revenue from the fur seal fisheries... The revenue from the coal mines... The revenue from the gold mines...

ALASKA.

The following are selected extracts from the narrative of Mr. Petroff, United States Census Enumerator, whose official report of his journey through Alaska was concluded in January. The first Alaskan port touched by Mr. Petroff was Ounahka, where he arrived just three weeks after leaving Washington. This point is the most important support of the territory, the centre of a vast region embracing the most vital interests of the country—the fur seal fisheries and the sea otter hunting grounds. It is also the only place that can boast of departures and arrivals of commercial shipping in every month of the year. The sea otter, whose valuable fur maintains today in comparative comfort and semi-civilization the inhabitants of the islands and coasts of Southwestern Alaska, was one hundred and forty years ago directly instrumental in leading the venturesome Russian hunters and traders to the gradual discovery of all the islands of the Aleutian chain. In those remote times the population was much more dense than it is now, and if we may believe the records of their conquerors, more warlike and energetic. The policy pursued by these Muscovite invaders of compelling the natives of the country to toil and hunt for them like slaves, instead of buying from the occupant of the soil the produce of the chase, would, perhaps, be considered sufficiently provocative to arouse the meekest barbarians to some show of resistance. A brief struggle ensued, affording a pretext for the commission of revolting cruelties by the Protophiletiks, who were but little less savage than their victims. Hundreds, perhaps thousands, were killed or carried away into servitude in distant hunting grounds, and the remainder gradually subsided into a state of inoffensive docility which characterizes the Aleutian race to-day in its sincere attachment to the Russian Church, to which they owe such civilization as they possess, and in their easy subservience to the business management of energetic Americans. The work of the census agent among these people was confined chiefly to a verification of the mischievous records kept by the officials of the Russian Church and to the collection of statistics bearing upon business industries and natural resources. For this purpose advantage was taken of the voyage from port of a small trading steamer, and by the middle of June the two parishes of Ounahka and Belhowsay, extending from the Shumagin Islands in the east to the western extremity of the Aleutian chain, a distance of nearly one thousand miles, had already been thoroughly canvassed. The condition of the people of this region, considered from a pecuniary standpoint only, must be considered to be decidedly prosperous. The 1,800 Aleuts and 470 Crookes divide among themselves the purchase price of at least 5,000 sea otters, or from \$150,000 to \$200,000 a year, in addition to smaller returns from fox skins procured by the aged and youths not yet inured to the more dangerous pursuit of the sea otter. Those settled in the immediate vicinity of shipping points and trading centres easily find employment at various kinds of labor at the rate of \$1 per diem. Taking into consideration also the fact that food is plenty in the shape of fish—shell fish and berries can be procured throughout this region without expense beyond a little exertion of energy—we cannot repress the thought that many communities of equal numbers in our settled states, who now toil cheerfully for a comparatively pittance, would rapidly grow rich under such conditions. The sea otter hunting Aleut, however, is not one to lay up riches—his improvident nature has become proverbial—and the abject dependence upon the management of others to which the Russians accustomed him in times when he could look forward to no reward for his dangerous pursuit beyond a scanty supply of food and clothing has but ill prepared him for gaining lasting advantages out of the sudden altitudes forced upon him by rivalry in trade when the Russian monopoly came to an end. The only experience he seems to have gained consists in a steadily increasing capacity for spending his earnings in the briefest possible time and even encroaching upon the profits of the future as far as the prudence of the calculating trader will allow him to do. In the early days of American occupation, when the competing parties were more numerous than now, it frequently occurred that extravagant advances were urged upon the skillful hunter in order to secure his trade, but this policy, ruinous both ways, is happily becoming obsolete. On the 14th of June, Mr. Petroff turned his back upon the interesting haunts of the sea otter and proceeded by steamer to the confined locality of another exceedingly valuable industry of Alaska—the Fur Seal Islands. Though transcending in the aggregate the sea otter in intrinsic value, the fur seal benefits but a small number of the inhabitants of the country, the bulk of revenue derived from its pelts being divided by the general government and the...

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CANADIAN PARLIAMENTARY NOTES

Sir Leonard Tilley laid on the table of the House of Commons...

Table of financial estimates for 1881-82, categorized by Administration of Justice, Immigration and Quarantine, Railways and Canals, Public Works and Buildings, and Charges of Management.

Table of financial estimates for 1881-82, categorized by Railways and Canals, Public Works and Buildings, Harbors and Rivers, and Indians.

Dairy line in the autumn of last year in pursuit of the buffalo, and remained in American territory during the winter...

bolts, nuts, and iron bridges and telegraphic apparatus respectively, have been procured by the said company...

the total capital on the 30th June 1880, was as follows:

Table with 2 columns: Category and Amount. Categories include Share Capital, Reserve, and Total.

The following is a comparative statement of the number of passengers carried during the years ending June 30, and 30th June, 1880:

Table with 2 columns: Year and Passengers. Categories include Grand Trunk, Montreal, and Northern & North-Western.

The following table shows the number of passengers carried in 1880 compared with the number in the preceding year, the revenue from passenger traffic was greater. The freight traffic on the above railways in tons for the years named was:

Table with 2 columns: Year and Tons. Categories include Grand Trunk, Montreal, and Northern & North-Western.

The following table shows the number of persons killed and injured as the result of accidents in 1878-79 was:

Table with 2 columns: Year and Deaths/Injuries. Categories include Passengers, Employees, and Total.

The following table shows the amounts still to be paid by the various Governments and municipalities on the completion of the roads to which they are entitled:

Table with 2 columns: Year and Amount. Categories include Dominion Government, Ontario, and Nova Scotia.

Mr. Schreiber concluded as follows: "The returns for the year 1879 exhibit a highly satisfactory improvement in the prospects of the railway interest of the Dominion."

DOMINION SALVAGE AND WRECKING COMPANY

The provisional directors and promoters of this company met in the council room of the Board of Trade offices, last Saturday. Captain Merritt, of New York, who was present, gave some interesting and important information relative to the organization of the New York Coast Wrecking Company, with which he is connected.

OUR SEAL FISHERIES

St. John's, N.F., March 11.—This morning twenty-six superb steamships sailed from our ports for the great northern oil fields, from which a rich harvest is periodically gleaned by the adventurous and hardy fishermen of Newfoundland.

Boston, but proved a disastrous failure, being wholly unfit in model and requisite strength for combating with northern ice. Since that time Scotland has entered the lists against Newfoundland and placed on our waters six noble little sealing steamships of an average of 6,000 tons and capable of floating about thirty-five thousand seals each.

WINTER NAVIGATION

Quebec, March 11.—Petitions were today sent to Mr. Langlois, for the Dominion Government, praying for Government assistance to winter navigation, and for the St. Charles branch line to Lewis of the Intercolonial Railway.

THE NORTH POLE

New York, March 10.—The two polar expeditions to be sent north this summer—one to Lady Franklin Bay and the other to the north coast of Alaska—are part of the polar observation enterprise in which several European nations are participants.

IRON VESSELS ON THE LAKES

A Buffalo correspondent of the "Advertiser" states that there is every indication of an early revival of iron shipbuilding at many ports on the great lakes, and judging by the feeling manifested by the leading builders and vessel owners, the transition from wood to iron will be as rapid as it has been of late years in ocean shipping.

There are certain mining terms in such general use that it is necessary for all people interested in mining matters to know their meaning. We give below the definition of a few of the principal terms employed in mining reports, etc.

THE ENGLISH CARPET INDUSTRY

The year which has just closed has been one of very mixed experience in the carpet trade in Kidderminster. In the earlier months there was an amount of business such as had not been experienced for years, while toward the close of 1880 trade was again depressed, and the amount of business and the price at which it was done were neither of them satisfactory.

Indeed, continuing buoy, so far as production went, even into the autumn. The home trade took the lead, Continental business came next in importance, while trans-Atlantic and colonial requirements were scarcely so good as usual, owing to disturbing influences in portions of these special markets.

EFFECT OF PLYMOUTH'S SHIPPING ACT

In referring to late exports from New York to Europe, the "Daily Bulletin" says: "The steamers are now becoming more attention to the matter of stowing of grain, and this is due to Plymouth's Merchant Shipping Act, which has been in operation now for six weeks, and has produced some change in the stowing of grain, though this has been done more by the moral effect of the law than by any actual provisions contained in it."

THE DEMAND FOR NUTS

During recent years the trade in foreign and domestic nuts has developed wonderfully. New York City has become an important centre of the trade in Africa used to supply us with peanuts, sending them by shiploads, but our southern states have so successfully cultivated this popular nut that we are now independent.

MINING TERMS

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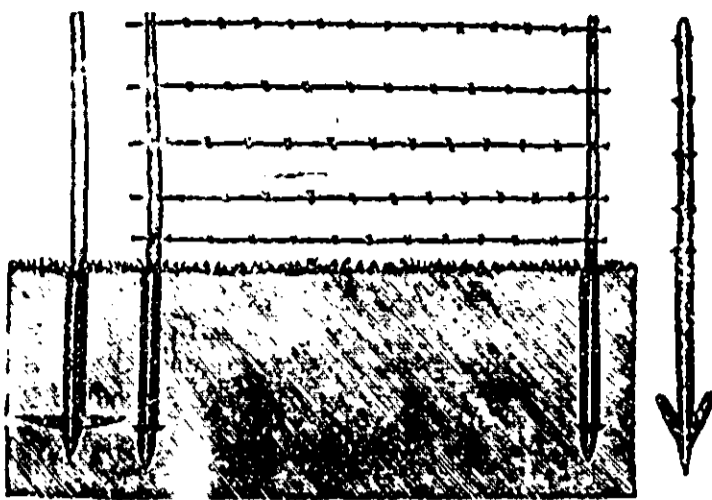
Hanging wall.—The upper wall, the rock or wall resting on the lode or vein.
Lode.—A mass of ore or rock or other barren matter protruding into an underlying lode or fissure.
Level.—Drift from the main shaft or from one shaft to another, an excavator run on the lode or vein, or ore body, at distances of from fifty to one hundred feet apart, or high enough for men to work in.

ARE LOW PRICES BENEFICIAL TO THE RETAIL DEALER?

Abnormally low prices are not so beneficial to the dealer as is popularly supposed. When the value of goods falls below the point where a fair profit is realized for the makers or factors, the condition of the trade is unhealthy and a reaction is likely to ensue bringing a change of disadvantages, whether any gains realized in the first instance. It may be true that occasionally one can make money by purchasing at a time when the market is demoralized by the cutting of rates.

COUGHLIN'S
PATENT FROST AND FIRE PROOF
IRON FENCE POST

THE GREATEST INVENTION OF THE AGE.



BEST, CHEAPEST AND MOST DURABLE
VERY LOW FIGURE.
For particulars send for circular.

P. COUGHLIN, PRESCOTT, ONT.

HART EMERY WHEEL COMPANY

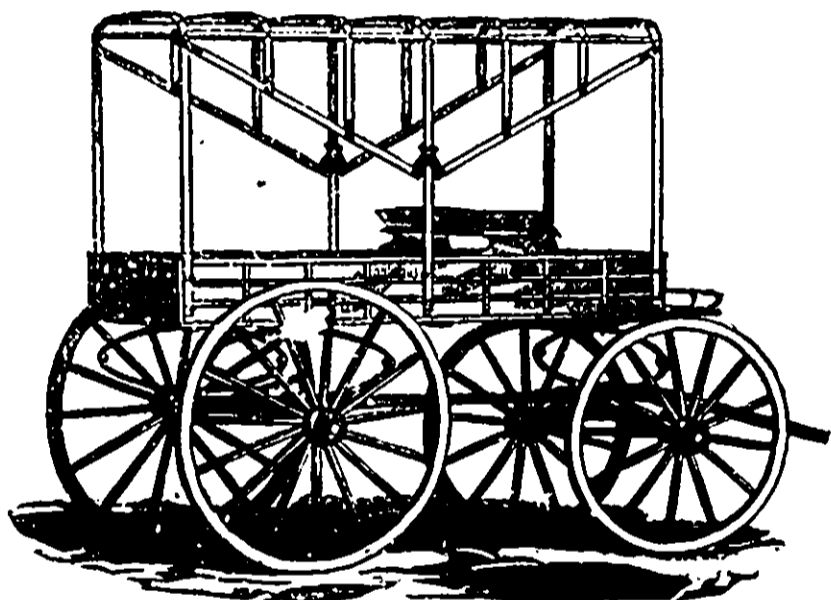
DETROIT EMERY WHEEL.

Each Wheel strengthened by a Brass Wire Web inserted. Send for Price List and Circulars.

Hamilton, Ont.

Bronze Medal and First Prize at Toronto Industrial Exhibition, 1880.

THE CELEBRATED



NATIONAL MANUFACTURING CO.

202 SPARKS STREET, OTTAWA.

NOVELTY WAGGON TOP.

SEND FOR ILLUSTRATED CATALOGUE.

McCOLL BROS. & Co.

TORONTO,

Were awarded the FIRST PRIZE for their LARDINE and other

MACHINE OILS

At the great Industrial Fair, Toronto, 1890, and

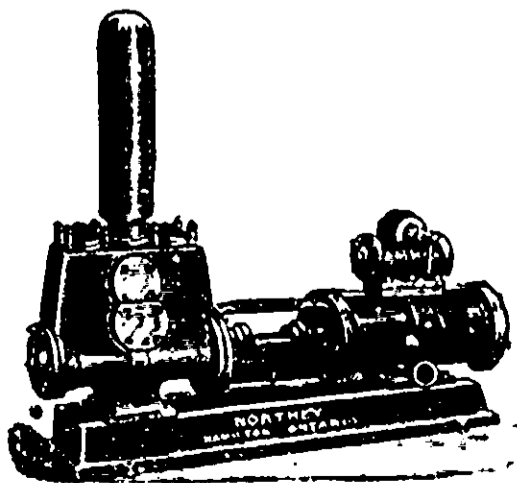
Four First Prizes and Gold Medal

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.

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,
SEND FOR CIRCULAR. HAMILTON, ONTARIO.

Oshawa Cabinet Company,

FURNITURE MANUFACTURERS

OSHAWA.

Highest Awards and Two Silver Medals at Dominion and Exhibitions, 1870 and 1880.

RETAIL WAREHOUSES:

97 YONGE STREET, TORONTO.

GALT FOUNDRY & MACHINE SHOPS

COWAN & Co.

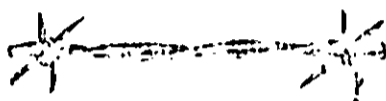
Don't forget the Manufacturers of **WOOD WORKING MACHINERY**, with all the latest.

Steam Engines and Boilers,

PORTABLE AND STATIONARY.

Our REVOLVING BED MOULDING MACHINE stands unrivalled, and has never met its equal.

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 at their inflexibility.

The Grand Trunk Railway Company of Canada give it a 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 1877, and is no infringement on any other patent, and we will defend dealers and consumers against the threats of pretended monopolists. We claim superiority for our Barb Wire over all others for the following reasons:

1st.—We use only the best quality of galvanized Annealed Steel Wire.
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 always presenting a Barb laterally or at a right angle, which is a great advantage over the two-pointed Barbs, as cattle are unable to get against the fence to let it or push it down.

4th.—The Barbs are fastened to the Wire at intervals of 7 inches, in a manner entirely different from any other, being securely locked on and not, as in other wires, so that they cannot slip on 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 perfect 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, Montreal.
H. R. IVES, Manager.

STENCIL PLATES.

STEEL STAMPS for marking tools, etc.
STAMPS AND SEALS of every description.

Pritchard & Mingard,
SPARKS STREET.

SEND FOR ESTIMATE.

BRAYLEY & DEMPSTER

MANUFACTURERS OF

WROUGHT IRON AND SADDLERY HARDWARE

SCREW & STRAP HINGES A SPECIALTY.

47 & 49 King William St.
HAMILTON, ONT., CANADA.

PORTER & SAVAGE TANNERS

AND MANUFACTURERS OF

LEATHER BELTING, FIRE ENGINE HOSE, HAWK MOCCASINS, LACE, RUSSET & OAK SOLE LEATHERS.

Office and Manufactory:

430 VISITATION STREET, MONTREAL.

Metal & Rubber Stamps

KENYON-STEWART MFG. CO.

Manufacturers of the finest variety of Stationery, Railway and Business Stamps, Seals, etc. Awarded Bronze Medal at Toronto Industrial Exhibition, 1880. Office and Manufactory:

36 KING STREET WEST, TORONTO.

DOMINION ORGANS & PIANOS.

THE largest and most complete factory in the Dominion, 140 x 100. Highest honors ever awarded to any Maker in the Dominion.

27 Medal and Diploma at Centennial, 1876.

27 Medal and Diploma at Sydney, Australia, 1877.

27 Gold Medal at Provincial Exhibition, Toronto, 1879.

27 Highest award at Industrial Exhibition, Toronto, 1880.

We are now manufacturing Square and Upright Pianos in the market. Correspondence solicited. Send for Illustrated Circulars free.

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1873

WIRE ROPE.

ROUND and flat hoisting ropes of best brands of iron and cast steel. Charcoal iron transmitting ropes and pulleys.

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Hamilton, Canada.

ANILINE DYES.

From the celebrated manufactory of

MR. K. OEHLER, AT OFFENBACH O. N., GERMANY

The Trade supplied at MANUFACTURERS' PRICES through the Agency in Canada.

Emil Thouret & Co.,
MONTREAL.

WINDSOR HOTEL, NEWCASTLE. L. D. Jones, Proprietor. New house and new furniture out.

Shurly & Dietrich



MANUFACTURERS OF

CIRCULAR AND CROSS-CUT SAWS,
PLASTERING TROWELS, ETC.

GALT, ONTARIO.

DUNDAS COTTON MILLS CO.

DUNDAS, ONT.

MANUFACTURERS OF

GREY DOMESTICS,
TICKINGS, DENIMS,
CHECKED AND STRIPED SHIRTINGS,
COTTON BAGS,
WARPS, YARNS, ETC.

The productions of these mills continue to have a deserved high reputation in the trade. The proprietors are determined to maintain the quality of unsurpassed excellence they have heretofore held.

DOMINION

CARD CLOTHING WORKS

YORK STREET, DUNDAS,

W. R. GRAY, Proprietor.

MANUFACTURE EVERY DESCRIPTION OF

Card Clothing and Woollen Mill Supplies

PANWEL HOUSE, COBBOURG. This hotel is in the centre of the town, next to Town Hall and close to Post Office. Terms \$1 per day. Comfortable sample rooms. [5]