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EMIGRATION AND MANUFACTURES.

The recognition of the reciprocal character of these two elements of our future prosperity is of no small importance in the present period of Canadian history. Hitherto our broad lands, temptingly situated along the very banks of the St. Lawrence, and our extensive public works have offered sufficient inducements, and adequate employment to the large streams of emigrants who have been thrown upon our shores each successive year. The class or degree of these annual streams of labour was then a matter of but little moment. To reclaim the forest and to reap the latent wealth of our wild lands required more the capital of sinews than gold, the willing, more than the skillful hand; and for the prosecution of our public works the capital was supplied with a liberal hand from the inexhaustible treasury of the mother country. While these two sources of employment and prosperity were fairly open to the emigrant, our emigration returns showed a steady yearly influx of from thirty to fifty thousand souls. In 1858 this fell to some twelve thousand, and in the present year the emigration promises to be a mere bagatelle.

This decline is obviously nothing more than the natural operation of the great law of supply and demand. Whatever of it we may ascribe to the crisis of 1857, it is impossible not to see that, even under more favorable circumstances, Canada, at the present time, cannot offer nearly the same inducements to the same class of emigrants that she did a few years ago. A

glance at the map of 1858 will amply illustrate this. All our great public works are completed, and scarcely one other undertaking of the kind may be looked for, for many years at least; and along the whole length of the St. Lawrence, and for many miles into the interior, the land is taken up and already half exhausted of its virgin fertility. There may be yet abundance of land unoccupied; but it is far behind in the back townships, difficult of access, promising many additional hardships, and not offering the same ultimate advantage that the earlier settlers obtained along the front, or that are now offered them in the Western States. The consequence is that Canada is fast assuming the humiliating position of a medium or half-way establishment for passing on the emigration from Europe into the United States, to say nothing of the emigration thither of our own settled population. The Emigration Returns show that out of twenty-seven thousand emigrants passing through Hamilton last year, something less than five thousand were all that fell to the share of Canada. How many loyal Canadians passed off in the same direction it is impossible to estimate. We understand that the greater portion of the passenger traffic Westward this Spring is composed of parties leaving the country for the West.

With these facts before us we have good subject matter for reflection as to our future operations, and the means whereby we may re-assume our position as a home for the surplus population of the old world.

The natural order of the growth of nations has always been—first, agriculture, then manufactures, then the arts and sciences. The United States have long since passed the exclusively agricultural stage, and the second—manufactures, may now be said to be largely developed. The arts and sciences have as yet been but little cultivated, and they cannot yet be said to have arrived at that period of their growth at which these higher developments fairly begin.

Canada has just now arrived at the transition period between the exclusively agricultural and the next stage—the manufacturing. Up to the present time manufactures of all kinds have succeeded but indifferently in this country. There were many violent obstacles to be overcome, such as adverse tariffs, want of capital, imperfect communication, want of skilled labor, foreign competition, and worse than all, a dogged indifference, if not direct obstruction on the part of the whole population of the country to anything bearing the stamp of home production. These obstacles, and especially the last, are now fast palpably giving way before the pressure of public opinion on the one side, and public and private necessity on the other. Our tariff

is constructed upon principles, which, if not ultra-protective, yet afford a fair advantage to the home manufacturer against the foreigner; our system of communication and transit is almost complete; skilled labour can generally be obtained at a fair value; and a revulsion of feeling is manifest throughout the country in favor of home productions, and a disposition seems almost everywhere to exist to give them countenance and encouragement. The consequence is that the manufacturers of Canada—the few she has—may be safely regarded as the most successful and promising class that the country possesses at the present moment. The capital invested is generally very limited, and the manufacturing concerns, as a rule, are neither very extensive nor very wealthy; but for the amount of capital expended we believe there is no investment paying better than useful manufactures of all kinds in this present year of 1859.

Here, then, in the natural order of events, is the new sphere of operations opening up, whereby Canada may redeem her character and her position as a colony where the surplus hordes of the old world may make a home. In order to take proper advantage, however, of this new field of enterprise some care and trouble may be found necessary.

There can be no doubt that capital is one of our chief requirements, although well matured experience may be the next in importance. These must obviously be drawn from the same source, from whence the like materials have been derived for the prosecution of our great public undertakings. To borrow at the present moment, and indeed for some time to come, for such purposes would perhaps be neither politic nor practicable. Some other more convenient and practicable means then must be resorted to. These appear to us plain and almost self-evident, and only requiring a little tact and energy on our part to put into successful operation.

England abounds with capitalists at the present time, who, although they might be unwilling to loan to strangers for a similar object, would be glad at any moment to avail themselves of the splendid opening now offered in this country for investment in various branches of domestic manufactures. And not only have they the requisite capital in abundance, but hundreds of men may always be found there highly skilled in all the refined appliances of the greatest manufacturing country in the world, who are anxiously looking and waiting for a favorable opportunity for investing their money and skill.

To attract this class of men to our shores should be our great aim in the next few years. That they would gladly avail themselves of the advan-

tages that we are in a position to offer them, if only once made thoroughly acquainted with them, we have no manner of doubt. But while they remain in total ignorance of the requirements and position of our country, if not of our very existence as a people, it can scarcely be expected that either themselves or their money will find their way hither. A proper dissemination in the proper quarter of such truthful information with respect to our country's advantages to capitalists of all grades at the present time, is therefore the main object we have to gain.

This, it appears to us, can only be accomplished by the appointment of suitable agents—well informed, intelligent men—to be located in the leading cities of the old country, and who would be competent to bring the subject ably and thoroughly before the more intelligent portions of the community. They should of course be men able to use their pens with some effect, and should be sufficiently well paid, to command respect among the better orders of society.

If a system of agencies on this principle were established and well conducted, we would venture to say that a class of men would soon be attracted to this country, that would present a most gratifying contrast to the poor unfortunate, penniless creatures, that are brought here under the existing system, and to whom, in our present condition, we are able to offer little other encouragement than a loaf of bread and a railway pass to assist them into the neighbouring States.

The subject is one of considerable importance, and bears immediately on our future prospects, and we had hoped to have seen it “grappled with” during the last session; but as this has failed us, we can only further hope that the matter will yet be taken up by the government, and that some sound movement will yet be made in the direction we have suggested.

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## BANKING IN CANADA.

The high character hitherto borne by the Banking Institutions of Canada is a subject of general remark, not only in our own country but also in the adjoining states of the American Union; and when it is remembered that in most new countries a sound system of banking has only been arrived at after repeated and disastrous failures, the uniform and uninterrupted success of the Canadian Banks is certainly matter for congratulation.

In the midst of commercial depression, political struggles, and party strife, these institutions have pursued the even tenor of their way, not embarrassed by the one nor disturbed by the other, but distributing, with apparent ease and unconcern, the sinews of commerce as of war, to that great crowd of eager borrowers whose applications for loans have, for twenty years, been regularly deposited in the "discount box."

The regularity with which the wants of the commercial community have been supplied, may be seen by an examination of the Bank Returns during the last two years, which go to show that the crisis of 1857 had no serious effect either upon the loans, deposits, or circulation of the Canadian Banks.

Date.	Loans.	Deposits.	Circulation.
	\$	\$	\$
1857.			
March.....	33,927,218.....	8,306,435.....	11,338,376
June.....	32,307,199.....	8,650,326.....	10,511,876
September.....	33,968,627.....	8,837,278.....	9,157,976
December.....	30,745,745.....	8,137,484.....	9,157,976
1858.			
March.....	30,921,803.....	7,249,846.....	8,352,020
June.....	30,279,648.....	9,159,327.....	8,188,288
September.....	30,578,335.....	8,056,070.....	9,882,725
December.....	31,837,132.....	9,134,362.....	9,102,798
1859.			
March.....	33,178,185.....	10,450,589.....	9,202,698

Here we find that at no time has the decrease in the loans exceeded ten per cent. in three months, while those of March 1859 are nearly equal to the figures of 1857. Looking at these returns, and also at the returns of the principal Banks in the United States, which not only reduced their loans in the latter part of 1857 from twenty to fifty per cent., but were compelled at the same time to suspend specie payment, we have abundant evidence of the ability and discretion with which the affairs of our monetary institutions are conducted.

The principal cause of that success to which we have referred, is doubtless to be found in the fact that Bank charters have only been granted to men of the highest respectability, and where the parties applying for such privileges were themselves prepared to invest their own means in the enterprise, and to use those means to accommodate the trade of their immediate localities.

The last three Sessions of Parliament have not been marked by the same caution in the distribution of banking privileges. Charters have been granted in almost every instance in which they have been applied for, and men who could scarcely pay their tailor's bills have figured as the applicants for Bank Charters with capital ranging from one to two millions of dollars. That

there is room for a larger amount of banking capital cannot be denied, and where the privileges granted have been legitimately used, much good has resulted to the community. The demand however for an increase of charters for country Banks, under the plea of assisting the Agricultural community will not stand the test of examination. The Free Banking Law now in force affords to them all the advantages consistent with sound policy, and those who are dissatisfied with its provisions should be required to show good cause for their dissatisfaction before exclusive rights and privileges are conferred upon them. The facility with which charters are now obtained, operates against the successful working of the Free Banking Law; for while a Bank can be started by the purchase of ten thousand dollars of Government Securities, and a *little financiering*, few will be found willing to deposit one hundred thousand dollars for the privilege of issuing the same amount of Bank Notes.

As the natural result of this laxity on the part of the legislature, there is generally on hand some two or three Bank Charters to be disposed of to the highest bidder; and as the Banking Laws of the principal States of the American Union prevent the enterprising citizens of that country from doing a large banking business with little capital, and as, moreover, Canadian Bank Notes pass current in the neighbouring States, the customers for this description of *merchandise* have generally come from the other side of the Lines.

There can be no possible objection to see *bona fide* capital from the United States brought into Canada for Banking purposes, and so long as the money so invested is used to accommodate the trade of the country, every facility should be afforded for its introduction. The many lumbering and other operations in which American gentlemen are engaged amongst us, and the difficulty they too often experience in obtaining the necessary amount of accommodation from our old established Banks to carry on their business, renders it extremely desirable that a few institutions, whose managers are familiar with the standing of parties on the other side of Lines, should be established here. At the same time it is to be feared, that those Canadian Banks now controlled by American citizens, have not been established to accommodate the international trade, but for the purpose of carrying on a business of much less public utility.

The two Banks now in operation under the Free Banking Law furnish abundant evidence of the difference between Banks established for purposes of public convenience and those set on foot solely for private gain. The Provin-

cial Bank and the Bank of the County of Elgin made the following returns for the month of March 1859:

	Debentures Deposited.	Discounts.	Deposits.	Circulation.
Provincial Bank.....	\$140,000.....	31,573.....	1,000.....	138,614
Bank of Elgin County.....	\$100,000.....	96,126.....	31,778.....	40,620

It appears from the above that with a circulation of \$138,614 the Provincial Bank had only discounted paper to the extent of \$31,573, so that nearly all its capital was employed in speculation! Had such a Bank obtained a charter and been permitted to issue its notes without the guarantee of Provincial securities, what security would the bill holders have possessed? Yet, we find the proprietors of this Bank intriguing for the Charter of another institution, and even applying to Parliament for a charter of incorporation for the Provincial itself, while its returns show that it never did and never intended to grant banking facilities to the neighbourhood in which it is situated. The estimation in which this Bank is held may be judged by the fact that its *deposits* amounted to but \$1,000, while those of the Bank of the County of Elgin were \$31,778, although the capital of the latter was forty per cent. less than that of the former, and its circulation only one third that of the Provincial.

The conduct of the Provincial Bank in fixing its head quarters in the most out-of-the-way corner of the country, for the purpose of rendering it difficult of access, and its notes consequently difficult of redemption, has had a most injurious effect upon other new Banking Companies in the country. The Ontario Bank, although conducted upon sound business principles and conferring much benefit upon its immediate neighbourhood, suffered at its initiation from the suspicion that attaches to the Provincial. The greatest evil however inflicted by the Provincial, has been the prejudice which its operations have created against the Free Banking Law, a system of Banking which affords the most ample security to the bill holder, while it cannot fail, under proper management, to be of much benefit to the country. It is not, however, through the Free Banking Law, that the high character of Canadian Banks is likely to suffer. While the bills are properly secured, the loss to depositors, judging from the returns of the Provincial, would in the event of a failure, be very small. The great danger lies in permitting those charters so freely granted, to fall into the hands of speculators, who might flood the country with their "promises to pay," without any guarantee for their redemption.

Of the Charters still in the market, one has evidently found a customer within the past few months. The Colonial Bank, after for lying dormant several

years is at last resuscitated, and although the fact has not been publicly announced, its office is now open, and its bills are being put in circulation. In view of these facts it is high time the public knew something of its managers. If they are men of wealth and respectability there can be no object for concealment. The names of a President and Cashier whom nobody knows, is not sufficiently explicit to admit its well executed Bank Notes into the respectable company of our "well known and highly esteemed" currency. When and where were its meetings held? Who are its Directors and where do they reside? Have the terms of the Charter been complied with in respect to their nationality and place of residence? These are matters which we are entitled to know, and of which we are anxious to be informed.

The consideration of this subject brings up the important question whether Canada really requires an increased amount of banking capital at the present time. That there exists a scarcity of money is no proof that the money is not equal to the business. Money is merely a facilitator of commerce, and would no more give us prosperity than would a fleet of one hundred vessels brought to our port to transport wheat or flour which were not to be found in the city. It is true that capital might be well expended in improving the land, but that is a permanent investment which can be better attained through private sources, and indeed could not be advanced by any banking institution having due regard to its own safety. It is also true that many manufacturing establishments could use to advantage a large amount of extra capital, but the money now advanced to merchants to enable them to purchase in foreign markets, would, if properly directed, be sufficient for that purpose, while it is very evident that if the old Banks assisted the importers, and new ones aided the manufacturers, a surplus stock would be produced fatal to the interests of both.

We have said that American capital might be advantageously used in making advances to parties engaged in the lumber trade; but even then, as a correspondent of the *Colonist* reminds us, the heavy stock now lying at Chicago, Albany, and other markets, shows that in this branch there is no lack of banking accommodation. We would not, however, be understood to urge the employment of more means in lumbering operations; but what we wish to say is, that if the capital required by American firms to carry on their business in Canada, and which is now supplied principally by Banks in the United States, were furnished by Canadian Banks whose managers were familiar with the nature of the trade, and the standing of parties engaged in it, much good would result both to Canada and to the lumbermen themselves.

The complaints so rife in the country of a scarcity of money appears to arise from an entire misapprehension. With wheat at two dollars per bushel, oats at sixty cents, beef at ten cents per lb., butter at twenty cents, cheese at fifteen cents, and other articles in proportion, and all commanding cash in the market, it is not money but *produce* that is wanted.

Ten years ago, when beef was two-pence, butter five-pence, wheat seventy cents, and *paid for in trade*, the farmers might well have complained of hard times; but if they cannot now live and make money, we fear that no amount of "Banking accommodation" will restore them to a prosperous condition.

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## FISH MANURES

We would call the particular attention of our readers to the following able article from the pen of T. S. Hunt, Esq., on the subject of Fish Manures, which cannot fail to prove interesting, both in a commercial and economical point of view:—

Before describing the results of some enquiries into the value of these manures, and the practicability of introducing their manufacture into Canada, it may be well to explain briefly, certain principles which may serve to guide us in the appreciation of the subject. Modern investigations of the chemistry of vegetation have led to a more or less correct understanding of the laws of vegetable nutrition and the theory of manures, and we are all aware how many natural and artificial matters have been proposed as substitutes for the manure of the stable and farm yard. Foremost among these ranks the Peruvian guano, composed for the most part of the exuviae of sea-birds and employed for centuries by the Peruvians as a powerful stimulant to vegetation. This substance owes its value to the phosphoric acid and ammonia which it is capable of affording to the growing plant; the former element being indispensable to the healthy development of vegetation and entering in large proportion into the mineral matter of the cereals, while ammonia furnishes, in a form capable of assimilation, the nitrogen, which with the elements of water and carbonic acid, make up the organic tissues of plants. Besides these essential principles, plants require sulphuric acid, chlorine, potash, soda, lime, magnesia and oxid of iron, all of which elements are found in these ashes, and are required for their healthy growth. In a fertile soil all of these ingredients are present, as well as phosphoric acid and ammonia, which last substance is constantly produced by the decay of animal and vegetable matters, and is either at once retained by the soil, which has the power of absorbing a certain portion of it, or is evolved into the air and afterwards dissolved and brought down by the rains to the earth.

Many of the mineral elements of a soil are present in it in an insoluble form, and are only set free by the slow chemical re-actions constantly going

on under the influence of air and water. Such is the case with the alkalis, potash and soda, and to a certain extent with the phosphates. Now although there is probably no soil which does not yield by analysis quantities of all the mineral elements sufficient for many crops, yet by long and uninterrupted tillage the more soluble combinations of these elements may be all taken up, and the land will then require a certain time of repose in order that a store of more soluble matters may be formed. Hence the utility of fallows.

In my analyses of the soils of the Richelieu valley, in the Report for 1850, pp. 79—90, I have shown, by comparing the virgin soils with those exhausted by continued crops of wheat during fifty years, that the proportions of phosphoric acid and magnesia, elements which are contained in large quantities in this grain, have been greatly diminished, but the soil still contains as much phosphate as it has lost, and this only requires to be rendered soluble in order to be available to vegetation.

In forests and untilled lands the conditions of a healthy vegetable growth are seldom wanting; the soil affords in sufficient quantity all the chemical elements required, while the leaves and seeds which annually fall and decay, give back to the earth a great proportion of the elements which it has yielded. In this way the only loss of mineral matter is that which remains stored up in the growing wood or is removed by waters from the soil. Far different is the case in cultivated fields, in the shape of corn, of fat cattle, and the products of the dairy, we remove from the soil its phosphates, alkalis and nitrogen, and send them to foreign markets. The effect of tillage becomes doubly exhaustive when by artificial means we stimulate vegetation without furnishing all the materials required for the growing plants. Such is the effect of many special manures, which while they supply certain elements, enable the plants to remove the others more rapidly from the soil. A partial exhaustion of the soil results likewise from repeated crops of the same kind; for the element of which the cereals require the largest quantity are taken in smaller proportions by green crops, and reciprocally, so that by judicious alterations the balance between the different mineral ingredients of the soil is preserved,

One of the great problems in scientific agriculture is to supply to the soil with the ammonia and the mineral matters necessary to support an abundant vegetation, and to obtain from various sources these different elements at prices which will permit of their being economically made use of. Nowhere but in the manure of the stable and farm-yard can we find combined all the fertilizing elements required, but several of them may be very cheaply procured. Thus lime and magnesia are abundant in the shape of marl and lime-stones; soda is readily obtained, together with chlorine, in common salt; while gypsum or plaster of Paris supplies at a low price both sulphuric acid and lime. Potash when wanting may be supplied to the soil by wood-ashes, but phosphoric acid and ammonia are less easily obtained and command higher prices.

An abundant supply of phosphate of lime is found in bones, which when dried contain from 50.0 to 60.0 p. c. of mineral matter, consisting of phos-

phate of lime, with a little carbonate, and small portions of salts of magnesia and soda. The remainder is organic matter, which is destroyed when the bones are burned. This phosphate of lime of bones contains 46.0 per cent of phosphoric acid and the refuse bone-black of the sugar-refiners usually affords about 32.0 per cent. of the acid. The different guanos also contain large amounts of phosphoric acid, and that known as Columbian guano is principally phosphate of lime. Various deposits of mineral phosphate of lime have of late attracted the attention of scientific agriculturists. I may mention in this connection the crystalline phosphate of lime or apatite of our Laurentian limestones, phosphatic nodules found in different parts of the Lower Silurian strata of Canada and described in previous Reports.

These mineral phosphates are in such a state of aggregation, that it is necessary to decompose them by sulphuric acid before applying them to the soil. The same process is also very often applied to bones; for this end the phosphate of lime in powder is to be mingled with nearly two-thirds its weight of sulphuric acid, which converts two-thirds of the lime into sulphate, and leaves the remainder combined with the phosphoric acid as a soluble super-phosphate. In this way, the phosphoric acid may be applied to the soil in a much more divided state, and its efficiency is thereby greatly increased.

Even in its soluble form however, the phosphoric acid is at once neutralized by the basic oxides in the soil. Mr. Paul Thenard has lately shown that ordinary phosphate of lime, when dissolved in carbonic-acid water, is decomposed by digestion with earth, insoluble phosphates of iron and alumina being formed, which are again slowly decomposed by the somewhat soluble silicate of lime present in the soil, and transformed into silicates with formation of phosphate of lime. It is probable that alkaline silicates may also play a similar part in the soil. These considerations show that the superior value of soluble phosphate of lime as a manure, depends solely upon its greater subdivision. A portion of the phosphoric acid in Peruvian guano exists in a soluble condition as phosphate of ammonia.

With regard to the nitrogen in manures, it may exist in the form of ammoniacal salts, or combined in organic matters which evolve ammonia by their slow decay. The ammonia which the latter are capable of thus yielding, is designated as potential or possible ammonia, as distinguished from the ammonia of the ammonical salts, which is generally soluble in water, and is at once disengaged when these matters are mingled with potash or quick-lime. Such is the sulphate of ammonia, which is prepared on a large scale from the alkaline liquid condensed in the manufacture of coal-gas. In the peruvian guano a large amount of the nitrogen is present as a salt of ammonia, and the remainder chiefly as uric acid, a substance which readily decomposes, and produces a great deal of ammonia. In fact, the decomposition takes place spontaneously, with so much rapidity, that the best guanos may, it is said, lose more than one-fifth of their nitrogen in the form of ammonia in a few months' time, if exposed to a moist atmosphere.

Other manures, however, contain nitrogen in combinations which undergo decompositions less readily than uric acid. Thus unburned bones yield from six to seven per cent. of ammonia, and dried blood, fifteen or sixteen per cent., while woolen rags and leather yield about as large a quantity. In estimating the value of such matters as manures, the difference in the facility with which they enter into decomposition, must be taken into account. Thus if two large quantities of guano are applied to the soil, a portion of the ammonia may be volatilized and lost, while with leather and wool the decay is so slow, that these materials have but little immediate effect as manures. The nitrogen of blood and flesh is converted into ammonia with so much ease, that it may be considered, almost as available for the purpose of a manure as that which is contained in ammoniacal salts.

Attempts have been made to fix the money value of the ammonia and the phosphates in manures, and thus to enable us from the results of analysis, to estimate the value of any fertilizer containing these elements. This was I believe first suggested a few years since, by an eminent agricultural chemist of Saxony, Dr. Stöckhardt, and has been adopted by the scientific agriculturists of Great Britain, France, and the United States. The values vary of course very much for different countries; but I shall avail myself of the calculations made by Prof S. W. Johnson of New Haven, Connecticut, which are based on the prices of manures in the United States in 1857. In order to fix the value of phosphoric acid in its insoluble combinations, he has taken the market prices of Columbian guano, and the refuse bone-ash, of the sugar refiners, which contain respectively about 40 and 32 per cent. of phosphoric acid, and from these he deduces as a mean  $4\frac{1}{2}$  cents the pound as the value of phosphoric acid when present in the form of phosphate of lime. This would give \$1.44 as the value of 100 pounds of bone-ash, and \$1.60 for the same amount of the guano, while they are sold for \$30 and \$35 per ton.

The value of soluble phosphoric acid has been fixed by Dr. Völcker in England, and by Stöckhart in Saxony, at  $12\frac{1}{2}$  cents the pound. This valuation is based upon the market price of the commercial super phosphates of lime. Mr. Way, of the Royal Agricultural Society, however, estimates the value of phosphoric acid in its soluble combination at only  $10\frac{1}{2}$  cents the pound; and Mr. Johnson, although accepting the higher price, regards it as above the true value.

In order to fix the real value of ammonia, Prof Johnson deducts from the price of Peruvian guano, at \$65 the ton, the value of the phosphoric acid which it contains, and thus arrives at 14 cents the pound for the price of the available ammonia present. This kind of guano, however, now commands a price considerably above that which serves for the basis of the above calculation; and both Völcker and Stöckhardt fix the value of ammonia at 20 cents the pound. The price of potash as a manure is estimated by Mr. Johnson at 4 cents the pound; but this alkali rarely enters to any considerable extent into any concentrated manures, and may therefore be neglected in estimates of their value.

The use of fish as a manure has long been known; on the shores of Scotland, Cornwall, Brittany, some parts of the United States, and on our own sea-coasts, the offal from fisheries, as well as certain bony fishes of little value for food, are applied to soil with great benefit. The idea of converting these materials into a portable manure was however I believe first carried into effect in France by Mr. Démolon, who seven or eight years since, erected establishments for this object on the coast of Brittany and in Newfoundland. For the details of this manufacture I am indebted to the *Chimie Industrielle* of Payen. Concarneau, in the department of Finisterre, is a small town whose inhabitants are employed in fishing for sardines, and it is the refuse of this fishery which is employed in the manufacture of manure. The offal is placed in large coppers and heated by steam until thoroughly cooked, after which it is submitted to pressure, which extracts the water and oil. The pressed mass is then rasped, dried in a current of hot air, and ground to powder. 100 parts of the recent offal yield on an average 22 parts of the powder, besides from 2 to 2½ parts of oil. The manufactory of Concarneau employs six men and ten boys, and is able to work up daily eighteen or twenty tons of fish, and produce from four to five tons of the powdered manure.

This manure contains, according to an average of several analyses, 80.0 per cent. of organic matters and 14.1 per cent. of phosphates of lime and magnesia, besides some common salt, a little carbonate of lime, small portions of sulphate and carbonate of ammonia, and only 1.0 per cent of water. The nitrogen of this manure, which is almost wholly in the form of organic matters, corresponds to 14.5 per cent of ammonia, and we may estimate the phosphoric acid, which is here present in an insoluble form, at 7.0 per cent. If we calculate the value of this manure according to the rules above laid down, we shall have as follows for 100 pounds:—

Ammonia,—14½ pounds, at 14 cents,	\$2.03
Phosphoric Acid,—7 pounds, at 4½ cents	0.31½
	\$2.34½

This is equal to \$47 the ton of 2000 pounds; the manufactured product of Concarneau, however, according to Payen, is sold in the nearest shipping ports at 20 francs the 100 kilogrammes, (equal to 220 pounds), which, counting the franc at \$0.20, is equivalent only to \$1.81 the 100 pounds, or a little over \$37 the ton. This however was in 1854, since which time the price of manures has probably increased.

Mr. Démolon in company with his brother, has also according to Payen, erected a large establishment for the manufacture of this manure on the coast of Newfoundland, at Kerpon near the eastern entrance of the Strait of Bellisle, in the harbour which is greatly resorted to by vessels engaged in the cod-fishery. This manufactory, now in successful operation, is able to produce 8,000 or 10,000 tons of manure annually. Payen estimates the total yearly produce of the codfisheries of the North American coast to be equal to about 1,500,000 tons of fresh fish; of this, one-half is refuse, and

is thrown into the sea or left to decay on the shore, while if treated by the process of D emolon, it would yield more than 150,000 tons of a manure nearly equal in value to the guano of the Peruvian islands, which now furnish annually from 300,000 to 400,000 tons. If to the manure which might be obtained from the cod-fisheries of the Lower Provinces, we add that of many other great fisheries, we are surprised at the immense resources for agriculture now neglected, which may be drawn at a little expense from the sea, and even from the otherwise worthless refuse of another industry. To this may be added vast quantities of other fish, which at certain seasons and on some coasts are so abundant that they are even taken for the express purpose of spreading upon the adjacent lands, and which would greatly extend the resources of this new manufacture. The oil, whose extraction is made an object of economic importance in the fabrication of manure from sardines in France, exists in but very small quantities in the cod, but in the herring it equals 10 per cent. of the recent fish, and in some other species rises to 3.0 and 4.0 per cent,

Mr. Duncan Bruce of Gasp e has lately been endeavoring to introduce the manufacture of fish-manure into Canada; but he has conceived the idea of combining the fish-offal with a large amount of calcined shale, under the impression that the manure thus prepared will have the effect of driving away insects from the plants to which it is applied. He employs a black bituminous shale from Port Daniel, and distilling this at a red heat, passes the disengaged vapours into a vat containing the fish, which by a gentle and continued heat, have been reduced to a pulpy mass. The calcined shale is then ground to powder and mingled with the fish, and the whole dried. Experiments made with this manure appear to have given very satisfactory results, and it is said have had the effect of driving away insects when applied to growing crops, a result which may be due to the small amount of bituminous matter in the products of the distillation of the shale, rather than to the admixture of the calcined residue. Coal-tar is known to be an efficient agent for the destruction of insects, and in a recent number of the journal, *Le Cosmos*, it is stated that simply painting the wood-work of the inside of green-houses with coal-tar has the effect of expelling from them all noxious insects. Mr. Bruce caused several analyses of this shale to be made by Dr. Reid of New York, from which it appears that different specimens contain from 2.0 to 26.0 per cent. of carbonate of lime, besides from 1.4 to 6.7 per cent. of gypsum, 2.0 per cent. of iron pyrites, and from 4.5 to 6.7 per cent. of carbon remaining after distillation. The amount of volatile matter, described by Dr. Reid as consisting of water, naphtha and ammonia, was found by him in two different samples to equal only 3.5 per cent., of which a large proportion is probably water.

I have examined two specimens of manure prepared by Mr. Bruce from the fish commonly called the menhadden (*Alosa menhadden*). No. 1 was made with the Port Daniel shale, as before described; while for No. 2, this was replaced by a mixture of clay and saw-dust, which was distilled like the shale, the volatile products being added to the decomposing fish. The oil which rose to the surface of the liquid mass had been separated from the second preparation, but remained mingled with the first. Both of these

specimens were in the form of a black granular mass, moist, cohering under pressure, and having a very fishy odour. A proximate analysis of these manures was first effected by exposing a weighed portion to a temperature of 200° F. till it no longer lost weight, and then calcining the residue, from which the carbonaceous residue very readily burned away. The oil in the first specimen was obtained by digesting a second portion, previously dried, with ether, so long as anything was taken up. The solution by evaporation left the oil, whose weight was deducted from the loss by ignition. The portion of oil remaining in the second sample was not determined.

	I.	II.
Animal matters and carbon.....	33.7	} 21.0
Oil.....	6.6	
Water.....	13.5	21.8
Earthy matters.....	56.2	57.2
	<hr/> 100.0	<hr/> 100.0

The residue of the calcination was digested with hydrochloric acid, which dissolved the phosphate of lime from the fish-bones, together with portions of lime, magnesia, alumina, and oxide of iron, derived from the shale and clay. The solution from No. 1 contained, moreover, a considerable portion of sulphate from the gypsum of the shale. Small quantities of common salt were also removed by water from the calcined residues. The dissolved phosphoric acid, lime, and magnesia were separated by precipitating the phosphoric acid in combination with peroxyd of iron, from a boiling acetic solution, and were determined according to the method of Fresenius. The nitrogen of the organic matter was estimated by the direct method of burning a portion of the dried substance with soda-lime, and weighing the disengaged ammonia-chloride of platinum. The results were as follows for a hundred parts :

	I.	II.
Phosphoric acid.....	3.40	3.99
Sulphuric acid.....	2.16	.15
Lime.....	5.90	4.44
Magnesia.....	1.20	1.15
Ammonia.....	3.76	2.60

If we calculate the value of the first specimen according to the rules already laid down, we have as follows for 100 pounds :—

Phosphoric acid, 3 <sup>1</sup> / <sub>10</sub> pounds at 4 <sup>1</sup> / <sub>2</sub> cents.....	\$0.153
Ammonia, 3 <sup>3</sup> / <sub>4</sub> pounds at 14 cents.....	0.525
	<hr/> \$0.670

At 98 cents the 100 pounds this manure would be worth \$13.60 the ton. The sulphuric acid is of small value, corresponding to 80 pounds of plaster of Paris to the ton, and we do not take it into the calculation. The somewhat

larger amount of phosphoric acid in the second specimen, is probably derived in part from the ashes of the saw-dust, and in part from the clay. The value of this manure would be \$10.88 the ton.

In order to arrive at the real value of the animal portion of this manure after the removal of the oil, we may suppose, since Dr. Reid obtained from the shales from 4.5 to 7.6 per cent. of fixed carbon, that which the 56.2 parts of calcined residue, there were originally 3.7 parts of carbon derived from the shales. This deducted from 23.7 parts leaves 20.0 of nitrogenized animal matter in 100 parts of the manure, yielding 3.76 parts, or 18.0 per cent. of ammonia. This matter consists chiefly of muscular and gelatinous tissues, and Payen obtained from the dried muscle of the codfish, 16.8 per cent of nitrogen, equal to 20.4 of ammonia. The 3.4 parts of phosphoric acid in the manure will correspond to 7.4 of bone phosphate, and if to this we add for moisture, impurities, etc., 2.6 parts, =30.0 in all, we should have for 100 pounds of the fish when freed from oil and dried, the following quantities of ammonia and phosphoric acid.

Ammonia,—12½ pounds at 14 cents .....\$1.75  
 Phosphoric acid,—11½ pounds at 4½ cents ..... 0.51

The matter thus prepared would have a value of \$45.20 the ton, agreeing closely with that which we have calculated for the manure manufactured from sardines in France, in which the quantity of ammonia is somewhat greater, and the phosphoric acid less, giving it a value of \$47 per ton.

Prof. George H. Cook of New Jersey, in an analysis of the menhadden, obtained from 100 parts of the dried fish, 16.7 parts of oil, besides 61.6 of azotized matters yielding 9.28 parts of ammonia, and 21.7 of inorganic matters, etc., containing 7.78 of phosphoric acid.\* If we deduct the oil, we shall have for 100 parts of the fish, according to this analysis, 11.2 of ammonia, and 9.3 of phosphoric acid.

By comparing these figures with the results calculated for the animal portion of Mr. Bruce's manures, we find:—

	Ammonia.	Phosphoric acid.
Manure from Sardines (Payen) .....	14.4	7.0
Dried menhadden (Cooke) .....	11.2	9.3
Manure by Mr. Bruce.....	3.75	3.4
“ “ (excluding shale).....	12.5	11.3

The proportion of phosphates is of course greater in the more bony fishes. In the manure of Mr. Bruce there are doubtless small amounts of phosphoric acid and ammonia, derived from the shale and the products of distillation; but these do not, however warrant the introduction of an inert material

\* Report of the Geological Survey of New Jersey for 1856, p. 63.

which reduces more than two-thirds the commercial value of the manure. The results which we have given clearly show that the application of a process similar to that now applied in France and in New Foundland, which consists in cooking the fish, pressing it to extract the oil and water, drying by artificial heat, and grinding it to powder, it is easy to prepare a concentrated portable manure, whose value, as a source of phosphoric acid and ammonia, will be in round numbers, about \$40 the ton.

We can scarcely doubt that by the application of this process a new source of profit may be found in the fisheries of the Gulf, which will not only render us independent of foreign guano, now brought into the Province to some extent, but will enable us to export large quantities of a most valuable concentrated manure, at prices which will be found remunerative.

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#### LONDON NEWSPAPERS—THE TIMES.

Nearly sixteen hundred years of our Christian era had elapsed before a newspaper had appeared in Europe; and the first newspaper was published in England, in 1619, by N. Newberry in London. It was issued weekly, and called *News out of Holland*, a title which was very significant of the period of its publication. Before the appearance of the first regular weekly newspaper published in London, which was in 1622, and called the *News of the Present Week*, great families residing in the country paid correspondents in London for transmitting to them the London news every week. Mr. Whitaker, in his history of Cruven, states that Lord Clifford paid "Captain Robinson five pounds for writing letters of news to his Lordship for half a year." A great number of newspapers came into existence during the civil war, in the time of Charles I, and the Commonwealth; they were in small quarto, published weekly, and bore quaint but significant titles, such as the *Parliament Kite*, the *Scot's Dove*, the *Secret Owl*, etc. Sir Robert L'Estrange commenced the *London Gazette* in 1664. The first *daily newspaper* was published in 1709; it was called the *Daily Current*. About this time the celebrated essays, the *Tutler*, *Spectator*, and *Guardian* commenced. The first number of the *Tat'ler* was published in April, 1709. The *Public Advertizer*, in which the *Letters of Junius* appeared, commenced in 1726. Wilkes' *North Briton* was published in 1762. Perhaps the very earliest provincial weekly paper published in England was the *Stamford Mercury*, which commenced in 1704; and, singularly enough, it has been uninterruptedly published since that date to the present time, under the same title, and in the same town; and the proprietorship has always been, and is now, in the same family.

We have stated that the *Daily Current* was the first daily paper published in London (1709.) There were eighteen other papers published in London at that time. Fielding, the novelist, edited the *True Patriot*, in 1745. In 1771, parliament attempted to punish two printers, for given names in

full in the debates. The practice has not since been interfered with. Of the great London papers at present published, the *Public Ledger* commenced in 1760, the *Morning Chronicle* in 1769, the *Morning Post* in 1772, the *Morning Herald* in 1780, and the *Times* in 1788. The *Daily News* was established in 1846, and is the only new daily paper that has stood its ground since 1793.

But to return to the *Times*, with which our business is at present. We wish to show the astonishing growth of the London daily press by the progress of this leviathan of the newspaper world, this "leading journal" of Europe. We have stated that the *Times* was commenced in 1788; but Mr. Walter, the proprietor of that journal, had commenced his labors as a journalist on the first of January, 1785, when he published the first number of the *Daily Universal Register* at Printing-House Square, the identical locality from whence at present issue daily the 50,000 copies of the sixteen mammoth pages of the *Times*. The title of the paper was changed to *The Times* in the spring of 1788. The *Daily Universal Register* was printed *logographically*, and so also was the *Times* for a season, we know not how long. The logographical mode of printing was so much more economical than the mode of printing by the arrangement of single letters, that Mr. Walter said he could in consequence, sell his paper "over one half-penny under the price paid for seven out of the eight morning papers." The difficulties Mr. Walter experienced in introducing his new mode of composing for the press as well as the history of the *Daily Universal Register*, are given in the *Household Words*, for February 27, 1858. Our business is with an early number of its eminent successor. *The Times*, No. 1,113 of the joint series now before us, was printed on a folio sheet of four pages, eighteen inches by twelve. This number contained twenty-four advertisements, of which one was theatrical, and related to Sadler's Wells; one was literary, and advertised, *The Memoirs of Miss Ann Sheldon*; five concerned the sale of estates; and nine that of goods, and personal property; one called a meeting of creditors: one was a government advertisement, and related to the Victualing office; three related to business concerns; two to distressed debtors, and one was about a lost watch. The other contents of this paper were two columns of an account of the siege of Bender by the Russians in 1770; about half-a-column of foreign news, and three-fourths of a column of Parliamentary proceedings, in which Lords Hawkesbury, Heathfield, Cathcart, and Sandwich, and the Duke of Chandos took part in the discussion of a bill respecting the slave trade. The bill was carried by a vote nineteen against eleven. Lord Bathurst moved an address providing for instructing the slaves in the West Indies in Christianity. This motion was opposed by the Lord Chancellor and the Bishop of London and defeated. The House of Commons was not disposed to work, since we are told the Speaker had attended in four successive days without being able to form a house. There was nothing approaching to what we now call a "leading article." There was a paragraph on the advantages of canals, twenty-four lines on the abolition of the slave trade, and thirty-two lines relating to public schools. There was also two columns of short paragraphs, such as are now furnished by penny-a-liners, relating to the movements of the royal family and the nobility; "the King was unwell, and recom-

mended to drink the Cheltenham waters ;” short city articles and ship news ; a rumor of war between Russia and Spain—“ France cannot aid Spain in consequence of the disturbed state of the whole French nation ;” praise of Lord Kenyon as a judge, and for his endeavours “ to keep the attorneys in order, from whose advice and interference ninety-nine cases out every hundred which come before the courts are said to originate.” There is also a curious satirical article in the shape of a racing calendar, headed “Sporting Intelligence.” In this “calendar” there appears a match between Mr. Sheridan’s mare, “Old Rip,” and Mr. Pitt’s colt, “Constitution.” The Ordnance stakes were contended for by Duke of Richmond’s “Howitzer” and Mr. Courtney’s “Pop Gun,” and the latter was double distanced. The Oude plate was run for by horses belonging to Mr. Sheridan, Mr. Burke, Mr. Anstruther, and Mr. Fox. This has relation to the trial of Warren Hastings. Lord Thurlow’s “Nobody” and Sir Pepper Arden’s “Somebody” contended for the Roll’s stake. Alderman Wile’s old horse, “Hypocrisy,” walked over the course for the Chamberlain’s cup, and the cup given by Thalia and Melpomene was run for by horses belonging to Messrs. Sheridan, Harris, Wroughton, Palmer, and others, and won by the first. All of these accounts accompanied with political observations, which were very pertinent no doubt at the time, but have now become dark and obscure as to their application. The proprietor of the *Times*, Mr. Walter, grandfather to the present proprietor of the same name, and M. P. for Nottingham, was prosecuted in 1786 and 1787 for a libel (in the *Universal Register*) upon Lord Loughborough, and found guilty, we suppose, since he had the prosecutor’s bill of costs, £111 17s. 1d., to pay. This bill is given at length (two columns and a half) in the *Times* of July 4, 1788, with many sharp comments upon its various items. The writer’s indignation is principally directed against Mr. Erskine. The remaining space is filled with some of “Old Bailey” intelligence, prices of stocks, &c. Three per cent. at 94½. Bank stock and India stock are mentioned, but the prices are not given. So much for the *Times* of 1788. We are inclined to think, from the specimen before us, that it was even at the commencement of its career, conducted with good judgment, considerable talent, and no small portion of sharp and bitter commentary.

We will now turn to the *Times* of 1858, and take for our specimen the number of the 14th of May. It is printed upon two sheets of paper, each 48 inches by 36. It is folded into 16 pages of six columns each ; and contains a surface (both sides) of 6,912 square inches, being exactly eight times the surface of the *Times* of 1788. But, in fact, owing to the smaller type being used and the printing being more compact in the *Times* of 1858, the latter contains nearly fifteen times as much printed matter as the former. The superficies of each number of the times and double supplement is equal (on both sides) to 5½ square yards. The circulation is now about 50,000, and the daily surface of printed matter issued by the *Times* is equal to fifty-five acres and about one-tenth. The *Times* and double supplements weigh 5½ ounces, and the whole impression consumes about 7½ tons weight of paper. The ninety-six columns of the *Times* contain above 23,000 lines, and the type to print the whole consists of about 1,334,000 pieces of metal. The *Times* of the 14th of May, 1858, and its double supplement contained 2, 178 advertisements which we have classified as follows : Births, deaths, and marriages,

68 ; business companies, 43 ; business to dispose of, 85 ; boarding and lodging apartments, etc. 103 ; books, music, and musical instruments, 236 ; sales of carriages and horses, 93 ; educational, religious, and charitable meetings, 71 ; sales of personal property, furniture, etc., 56 ; exhibitions, theatres, etc., 108 ; Government and legal notices, 21 ; houses and estates to sell, 164 ; to be rented, 247 ; money wanted or offered, 42 ; places, situations, and employments wanted, 322 ; property lost or found, 31 ; partners wanted, 75 ; railway advertisements, 44 ; ships, steamers, etc., 157 ; servants assistants, etc. wanted, 110 ; miscellaneous, 102. But perhaps the *cui bono* of all this detail may be inquired about ; should it be, we would reply that the answer does not lie very far below the surface. It is very seldom that we have an opportunity of comparing the statistics of an establishment very soon after its commencement with those which it presents nearly three-quarters of a century afterwards. We are fortunate in possessing the means of instituting this comparison between the position of the *Times* in 1788, and that of 1858. Such an institution as this paper must be greatly productive of either good or evil. We sincerely believe it is the former, and, believing so, rejoice in its progress and well deserved success. The *Times* is one of the great moving powers of the day, and its influence is felt and understood wherever civilized man is found, and felt without being understood wherever even uncivilized man exists.

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### THE METAL CROP OF THE WORLD.

The following interesting facts in relation to the metal crop of the world, culled from reliable data, will be particularly interesting to the mechanic and manufacturer, as the article mentioned enters largely into all the industrial enterprises of the day :—

An examination of the crop of metals produced in the great harvest field of our globe, leads to some striking and interesting facts. Until the discovery of the gold fields of Austria and California, the crop of precious metals throughout the world maintained as uniform a production as the cereal or other crops, and even since these discoveries the rate of production, so suddenly and enormously expanded, has subsided into regularity. The amount of glittering dust shipped yearly from San Francisco, Melbourne and Sydney is now accurately estimated as cotton, wheat, tobacco, or any of our great staples.

The value of precious metals produced per annum in the United States as compared with Europe, is estimated in round numbers in the *Encyclopædia Britannica* thus : United States, sixteen millions pounds sterling ; Great Britain, twenty millions ditto ; the Russian Empire, five millions ; France, only three millions ; the Austrian Empire, less than half a million ; Prussia, a little upwards of four millions ; Belgium, nearly two millions. Spain, a million and a half ; Sweden and Norway, a million ; Saxony, three hundred thousand ; the Hartz District, rather more and Italy considerably less than

half a million; and Switzerland only seventy-eight thousand pounds sterling. The annual average of precious metals in Australia is put down at £8,214,167: Mexico and Chili foot up about nine millions sterling, and the rest of South America, exclusive of Chili, gives less than three and a half millions. According to this estimate, the grand total of the crop of precious metals, produced annually in Europe and America, including Australia, is nearly seventy-six millions of pounds sterling; in exact numbers £75,785,060.

Mr. Whitney's tables of the metallic produce of the world for the year 1854, presents some interesting facts. Russia in that year is supposed to have produced 60,000 pounds troy of gold, and 58,000 pounds of silver. Of copper she produced 6,500 tuns, 4,000 tuns of zinc, 800 tuns lead, and 200,000 tuns of iron. The disproportion here between the precious and useful metals is very striking, as will be seen by a comparison with Great Britain. The gold of Great Britain in 1854 is estimated at 100 pound troy; silver, at 70,000 pounds; tin, 7,000 tuns; copper, 14,500 tuns; zinc, 1,000 tuns; lead, 61,000 tuns; iron, 8,000,000 tuns. In the same year, the United States, including California, is supposed to have produced 200,000 pounds troy of gold, 22,000 pounds of silver; 100,000 pounds avordupois of mercury; (Great Britain and Russia producing none at all.) 3,000 tuns of copper, 5,000 of zinc, 15,000 of lead, and a million of tuns of iron.

Mexico takes the palm in silver, the product of 1854 amounting to 1,750,000 pounds troy. Chili ranks next, at 250,000 pounds; Ecuador and New Granada are put down at 130,000 pounds; Bolivia the same; Spain 125,000 pounds; and so on; Brazil closing the list with only 700 pounds. Prussia and the Hartz District yield the same, 30,000 pounds each. Saxony gives 60,000 pounds; France 5,000 pounds; Italy, Africa, the East Indies, Southern Asia and Cuba, do not appear in the silver list.

In the gold column, we find the United States taking the lead at the head of 200,000 pounds; next Australia, 150,000 pounds; Russia, as before stated, 60,000 pounds; East India and Southern Asia, 25,000; Ecuador and New Grenada, 15,000 pounds; Mexico, 10,000 pounds; Brazil 6,000 pounds; Austria, 5,700 pounds, and Africa, 4,000 pounds. Spain brings only 42 pounds; the Hartz District gives but 6 pounds, and poor Sweden a miserable 2 pounds. Norway, Belgium, Prussia, Saxony, Switzerland, France, Italy and Cuba, make no return to the gold column.

The great country for mercury is Spain, which produced in 1854 two and a half millions of pounds. Next comes the United States, with a million of pounds, as we have seen; then Austria, with 500,000 pounds, and finally Peru, with 200,000 pounds. The tin crop is larger in great Britain than anywhere else on the globe. To her 7,000 tuns, the East Indies and Southern Asia bring 5,000 tuns; Peru 4,500; Saxony 100 tuns; Austria 50, and Spain 10 tuns. Great Britain also surpasses all other countries in the production of copper, and will continue to do so until some facile process of making marketable the vast masses of native copper which abound in the Lake Superior region, is discovered. Next after Great Britain comes Chili,

with 14,000 tuns of copper; then Russia, then Australia and Oceanica, producing 3,500 tuns; the same in the United States; Austria, 3,300 tuns; the East Indies and Southern Asia with 3,000 tuns, and so on, Saxony closing the list with bare 50 tuns. France, Switzerland, Mexico, and Brazil, it seems, produce no copper at all,—at least none is set down in Mr. Whitney's table. Cuba produces 2,000 tuns, Africa only 600 tuns

From Mr. Whitney's letter it appears that Great Britain takes the lead of the United States not only in silver, tin, copper, and iron, but in lead also. The product of this metal in 1854, in Great Britain is set down at 61,000 tuns, against 15,000 tuns in the United States. We had supposed that the lead mountains of Missouri would have given a very different return. Even Spain produces twice as much lead as the United States, the yield in 1854 being put down at 30,000 tuns. Prussia produces 8,000 tuns; Austria 7,000 tuns; the Hartz District 5,000 tuns; Saxony 2,000 tuns; France 1,500 tuns; Belgium 1,000 tuns; Italy 500 tuns; and lowest of all, Sweden 200 tuns. As regards the iron crop, we have seen Great Britain and the U. S. heading the list, the former with three and the latter with one million of tons. France comes next with 600,000 tuns; Belgium 300,000 tuns; Russia 200,000 tuns; Prussia, 150,000 tuns, and so on; Norway bringing up the rear with 5,000 tuns. The grand totals of the metallic produce of the world for 1854, as summed up by Mr. Whitney, are: Gold 479,950 pounds troy; Silver, 2,812,200 pounds troy; Mercury, 4,200,000 pounds avordupois; Tin, 13,660 tuns; Copper, 58,850 tuns; Zinc, 50,550 tuns; Lead, 133,000 tuns; and Iron, 4,792,000 tuns.

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## JOURNAL OF MERCANTILE LAW.

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### AN ACT TO EXTEND THE PROVISIONS OF THE ACT FOR THE ABOLITION OF IMPRISONMENT FOR DEBT.

*Assented to 4th May, 1859.*

WHEREAS it is just to extend to decrees and orders in Chancery, and rules and orders of the Common Law Courts, for the payment of money, the relief granted to parties in actions at law under the Act for the abolition of Imprisonment for Debt; and to abolish imprisonment for debt in the Division Courts; and to make further provision for the relief of parties and the punishment of frauds, in respect as well of debts affected by the said Act, as of the other debts embraced in this Act: Therefore Her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

#### CHANCERY.

1.—No order shall be granted for a writ of *Ne exeat Provincia*, (to be hereafter called a Writ of Arrest,) unless the party applying for the writ has a cause of suit to at least such an account, and shows by affidavit such facts

and circumstances as the Act for the abolition of imprisonment for debt requires in the case of a special order for holding a party to bail under that Act.

2.—In case an order is made for a Writ of Arrest in a suit for alimony, the amount of the bail required shall not exceed what may be considered sufficient to cover the amount of future alimony for two years, besides arrears and costs, but may be for less at the discretion of the Court.

3.—The bail or security required to be taken under a Writ of Arrest shall not be that the person arrested will not go or attempt to go out of Upper Canada, but shall merely be to the effect that the person arrested will perform and abide by the orders and decrees made or to be made in the suit, or will personally appear for the purpose of the suit at such times and places as the Court may from time to time order, and will, in case he becomes liable by law to be committed to close custody, render himself (if so ordered) into the custody of any Sheriff the Court may from time to time direct.

#### GENERAL PROVISIONS.

4.—Process of contempt for non-payment of any sum of money, or for non-payment of any costs, charges, or expenses, payable by any decree or order of the Court of Chancery, or of a Judge thereof, or by any rule or order of the Court of Queen's Bench or Common Pleas, or of a Judge thereof, or by any decree, order, or rule of a County Court, or of a Judge thereof, is hereby abolished; and no person shall be detained, arrested, or held to bail for non-payment of money, unless a special order for the purpose is made on an affidavit or affidavits, establishing the same facts and circumstances as are necessary for an order for a writ of *capias ad satisfaciendum* under the Act for the abolition of imprisonment for debt; and in such case the arrest when allowed shall be made by means of a writ of attachment, corresponding as nearly as may be to a writ of *capias ad satisfaciendum*.

5.—But in case a party is arrested under a Writ of Arrest, issued after the passing of this Act, it shall not be necessary before suing out a writ under the preceding section of this Act to obtain a Judge's order therefor, or to file any further affidavit, than those on which the order for the Writ of Arrest was obtained.

6.—Persons who may hereafter give bail under a writ of *capias ad satisfaciendum*, or under a writ of attachment under the fourth section of this Act, shall not be bound to remain or abide within the gaol limits, but may depart therefrom at their discretion; and when a person desires to give bail under such a writ, the bond to the Sheriff shall not contain that part of the usual condition which provides that the debtor shall remain and abide within the limits of the gaol, or shall not depart therefrom, unless discharged from custody by due course of law; but the condition shall provide that the person arrested, shall observe and obey all notices, orders, and rules of the Court touching or concerning the debtor or person ordered to pay, or his answering interrogatories, or his appearing to be examined *viva voce*, or otherwise, or

his returning and being remanded into close custody; and the party or his bail shall not be entitled to claim longer time for so observing or obeying them than he would have been entitled to if the party had remained on the limits as heretofore, but the Court may, notwithstanding, grant further time if the Court is of the opinion that the same may be done without substantial injury to the interests of the party to receive the money.

7.—Persons who have heretofore given bail or security under a writ of *ne exeat capias* or *ad satisfaciendum*, may surrender themselves into custody, or may substitute for their bonds or other security heretofore given under the writ, a bond or other security to the effect and amount mentioned in the preceding sections of this Act; and thereupon in either case the existing bail or security shall be discharged or released.

8.—A person arrested under a writ of *capias ad satisfaciendum*, or under a writ of attachment, though he is not confined to close custody, but has given bail, may apply for and obtain his discharge, in the same manner and subject to the same term, and conditions, as nearly as may be, as an execution debtor who is confined to close custody.

9.—In case a person has been heretofore or may be hereafter arrested and committed to gaol in any other County than that in which he resided or carried on business at the time, or in case a person is surrendered by his bail to the Sheriffs of any County, other than that in which he resided or carried on business at the time, such person shall be entitled to be transferred to the gaol of his own County, or pre-paying the expense of his removal; and the Sheriff in whose County he was arrested, may, if he is satisfied of the facts, transfer him accordingly; but if the Sheriff declines to act without an order of the Court or a Judge, such an order shall be made on the application of the prisoner, and notice to the opposite party.

10.—Every person who is now in custody, or on bail under a process of contempt for non-payment of costs, shall be entitled to be discharged therefrom; and no person shall hereafter be liable to arrest for non-payment of costs.

11.—Every person who is now in custody or on bail under a writ of *ne exeat* or who is now in custody or on bail, whether to the limits of any gaol or otherwise, under process of contempt for non-payment of money under any award, order, decree, or other proceeding whatever other than costs, charges, and expenses, shall be entitled to be discharged, but shall be liable to be detained, or after such discharge to be again arrested, by virtue of any such special order, as mentioned in the first or fourth section of this Act.

12.—For the purpose of enforcing payment of any money, or of any costs, charges, or expenses payable by any decree or order of the Court of Chancery, or any rule or order of the Court of Queen's Bench or Common Pleas, or any decree, order or rule of a County Court, the person to receive payment shall be entitled to writs of *feri facias* and *venditioni exponas* respectively, against the property of the person to pay, and shall also be entitled to attach

and enforce payment of the debts of or accruing to the person to pay, in the same manner respectively and subject to the same rules, as nearly as may be, as in the case of a judgment at law in a civil action; and such writs shall have the like effect as nearly as may be, and the Courts and Judges shall have the same powers and duties in respect to the same and in respect to the proceedings under the same, and the parties and sheriff respectively shall have the same rights and remedies in respect thereof, and the writs shall be executed in the same manner and subject to the same conditions, as nearly as may be as in the case of like writs in other cases; but subject to such general orders and rules varying or otherwise affecting the practice in regard to the said matters, as the Courts respectively may from time to time make under their authority in that behalf.

13.—As to the Court of Chancery, that Court may also issue writs of sequestration as hitherto or in such cases as by general or other orders of the Court may think expedient; and nothing in this Act shall be construed to take away the jurisdiction of the Court under or by means of such writs; and no writ shall issue from Chancery against the lands of the person to pay, but if the decree or order is registered, the Court may enforce the charge thereby created upon real estate, according to the practice of the Court in the case of a charge on real estate created by other means.

14.—Every decree or order of the Court of Chancery, and every rule or order of the Court of Queen's Bench or Common Pleas, and every decree, order or rule of a County Court, directing payment of money or of costs, charges or expenses, shall, so far as it relates to such money, costs, charges, or expenses, be deemed a judgment, and the person to receive payment a creditor, and the person to make payment a debtor, within the meaning of the Act for the abolition of imprisonment for debt; and the said persons shall respectively have the same remedies, and the Courts and Judges and the officers of Justice shall in cases under this Act, have the same powers and duties, as in corresponding cases under the said Act.

15.—In case a decree or order in Chancery, or of a County Court in the exercise of the equitable jurisdiction of such County Court, directs the payment of money into Court or to the credit of any cause, or otherwise than to any person, the person having the carriage of the decree or order, so far as relates to such payment, shall be deemed the plaintiff within the meaning of the said Act.

16.—If any person being a Trustee of any money or other property for the benefit either wholly or partially of some other person, or for any public or charitable purpose, converts or appropriates the same or any part thereof, to, or for his own use or purposes, or otherwise, wilfully disposes of the same contrary to his duty, so that such money or other property is not forthcoming, and paid or delivered when such person is ordered or decreed by the Court of Chancery or other Court having jurisdiction in the matter, to pay the same, he

shall be deemed to have converted or disposed of the same with intent to defraud within the meaning of the Act twenty-second Vic., chap. twenty-two.

17.—Every rule or order of the Court of Queen's Bench or Common Pleas, or of a Judge thereof, directing payment of money other than costs, and every rule or order of a County Court directing such payment may be registered in the Registry Office of any County, and such registration shall be on the certificate of the same officer and shall have the same effect as the registration of a judgment of the same Court.

18.—For the purpose of carrying out the provisions of this Act, so far as relates to the Courts of Queen's Bench and Common Pleas, and to the County Courts as Courts of Law, the three hundred and thirteenth, three hundred and fourteenth, and three hundred and fifteenth sections of the Common Law Procedure Act, 1856, and the ninth section of the County Courts Amendment Act, 1857, shall be deemed incorporated herewith, as if the provisions therein contained had been repeated in this Act, and expressly made to apply thereto, and it shall not be necessary to lay before Parliament any rules, orders or regulations made for the purpose of this Act.

19.—The Court of Chancery shall, with reference to the proceedings in the Court of Chancery under this Act, and to proceedings under this Act, in the County Courts in the exercise of their equitable jurisdiction, have all the powers which the next preceding section of this Act gives to the Common Law Courts, in respect to the cases to which that section refers.

#### DIVISION COURTS.

20.—The Summons issued under the ninety-first section of the Division Courts' Act may be served either personally or by leaving a copy of the summons at the house of the party to be served, or at his usual or last place of abode, or with some grown person there dwelling.

21.—A party failing to attend according to the requirements of any such summons, shall not be liable to be committed to Gaol for the default, unless the Judge is satisfied that such non-attendance is wilful, or that the party has failed to attend after being twice so summoned, and if at the hearing it appears to the Judge, upon the examination of the party or otherwise, that he ought not to have been so summoned, or if at such hearing, the judgment creditor does not appear, the Judge shall award the party summoned, a sum of money by way of compensation for his trouble attendance, to be recovered against the judgment creditor in the same manner as any other judgment of the Court.

22.—The examination shall be held in the Judge's chamber, unless the Judge shall otherwise direct.

23.—In case a party has, after his examination, been discharged by the Judge, no further summons shall issue out of the same Division Court at the suit of the same or any other creditor, without an affidavit satisfying the Judge upon facts not before the Court upon such examination, that the party had not then made a full disclosure of his estate, effects and debts, or an affidavit satisfying the Judge that since such examination the party has acquired the means of paying

#### PENALTIES.

24.—No person shall be arrested or imprisoned on any claim, or on any judgment reversed against him as a debtor at the suit of any person for any penalty or sum of money in the nature of a penalty or forfeiture, whether such claim or suit be in the name of such person alone, or in the form of proceeding known as *qui tam*, &c., (notwithstanding any thing to the contrary in any statute providing for the recovery of such penalties or sums by action at law (except in cases and under circumstances where no claims or judgments for ordinary debts, parties can hereafter be arrested or imprisoned, and any person now under arrest or imprisonment or order for arrest or imprisonment or any such claim or judgment first in this section referred to, shall be forthwith discharged from such arrest or imprisonment or order therefor, subject to be arrested hereafter, as in the cases of judgments for ordinary debts as hereinbefore provided.

25.—This Act shall apply to Upper Canada only.

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### AN ACT TO SECURE TO MARRIED WOMEN CERTAIN SEPARATE RIGHTS OF PROPERTY.

(Assented to 4th May, 1859.)

Whereas the law of Upper Canada relating to the property of married women is frequently productive of great injustice, and it is highly desirable that amendments should be made therein for the better protection of their rights; therefore, her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:—

1. Every woman who shall marry after the passing of this Act without any marriage contract or settlement, shall and may, notwithstanding her coverture, have, hold and enjoy all her personal property, whether belonging to her before marriage, or acquired by her after marriage, and also all her personal earnings, and any acquisitions therefrom, free from the debts and obligations of her husband, and from his control and disposition without her con-

sent, in as full and ample a manner as if she continued sole and unmarried, any law, usage, or custom to the contrary notwithstanding; provided, that this clause shall not extend to any property received by a married woman from her husband during coverture.

2. Every woman already married without any marriage contract or settlement, shall and may, after the passing of this Act, notwithstanding her coverture, have, hold, and enjoy all her personal property not already reduced into the possession of her husband, free from his debts and obligations contracted after the passing of this Act, and from his control or disposition without her consent, in as full and ample a manner as if she were sole and unmarried; any law, usage or custom to the contrary notwithstanding.

3. Provided always that nothing herein contained shall be construed to protect the property of a married woman from seizure and sale on any execution against her husband for her torts; and in such case, execution shall first be levied on her separate property.

4. The interest acquired by marriage of a man in the real estate of his wife shall not, during her life, be subject to execution on any judgment against him.

5. Every married woman having separate property, whether real or personal, not settled by any ante-nuptial contract, shall be liable upon any separate contract made or debt incurred by her before marriage, to the extent and value of such separate property, in the same manner as if she were sole and unmarried.

6. Every husband who takes any interest in the separate, real, or personal property of his wife, under any contract or settlement on marriage, shall be liable upon the contracts made or debts incurred by her before marriage, to the extent or value of such interest only, and no more.

7. Every married woman may make any devise or bequest of her separate property, real or personal, or of any rights therein, whether such property be acquired before or after marriage, to or among her children, issue of any marriage, and failing there be any issue, then to her husband, or as she may see fit, in the same manner as if she were sole and unmarried; Provided that such devise or bequest be executed in the presence of two or more witnesses, neither of whom shall be her husband, and that her husband shall not be deprived by such devise or bequest of any right he may have acquired as tenant by the curtesy.

8. A married woman shall not be liable to arrest either on mesne or final process.

9. The separate personal property of a married woman dying intestate shall be distributed in the same proportions between her husband and children as the personal property of a husband dying intestate is or shall be

distributed between his wife and children; and if there be no child or children living at the death of the wife so dying intestate, then such property shall pass or be distributed as if this Act had not been passed.

10. In any action or proceeding at law or in equity, by or against a married woman, upon any contract made or debt incurred by her before marriage, her husband shall be made a party if residing within the Province, but if absent therefrom, the action or proceeding may go on for or against her alone; and in the declaration, bill or statement of the cause of action, it shall be alleged that such cause of action accrued before marriage, and also that such married woman has separate estate; and the judgment or decree therein, if against such married woman, shall be to recover of her separate estate only, unless in any action or proceeding against her, in which her husband has been joined as a party, any false plea or answer has been pleaded or put in, when the judgment or decree shall be, in addition, to recover against him the costs occasioned by such false plea or answer, as in ordinary cases.

11. Nothing in this Act contained shall be construed to prevent any ante-nuptial settlement or contract being made in the same manner and with the same effect as such contract or settlement might be made if this Act had not been passed; but notwithstanding such contract or settlement, any separate, real or personal property of a married woman acquired either before or after marriage, and not coming under or being affected by such contract or settlement, shall be subject to the provisions of this Act, in the same manner as if no such contract or settlement had been made; and as to such property, and her personal earnings and any acquisitions therefrom, such woman shall be considered as having married without any marriage contract or settlement.

12. This Act shall apply only to Upper Canada.

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AN ACT TO AMEND THE LAW OF FALSE PRESENCES.

*(Assented to 4th May, 1859.)*

Whereas it is expedient to amend the law relating to false pretences: therefore, her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

1. If any person by any false pretence obtains the signature of any other person to any bill of exchange, promissory note, or any valuable security, with intent to cheat or defraud, every such offender shall be guilty of a misdemeanor, and shall be liable to fine or imprisonment, or both, at the discretion of the Court; such imprisonment to be for a period less than two years.

# JOURNAL OF BANKING, CURRENCY & FINANCE.

## Monthly Averages of Canadian Banks.

*Bank of British North America and Gore Bank not included.*

Date. 1857.	Capital.	Discounts.	Specie.	Circulation	Deposits.
March 31.	16,119,187	33,927,218	2,025,715	11,338,376	8,306,435
April 29.	16,295,597	33,232,219	2,145,249	10,859,571	8,507,157
May 31.	16,844,834	32,470,986	2,114,084	10,226,624	8,795,065
June 30.	17,246,140	32,307,199	2,210,933	10,511,876	9,650,326
July 31.	17,924,667	32,243,981	2,262,167	10,760,167	8,625,924
Aug. 31.	18,092,888	32,931,843	2,272,310	10,777,358	8,621,015
Sept. 30.	18,044,701	33,968,627	2,024,081	11,507,205	8,837,278
Oct. 31.	17,887,692	33,082,530	2,135,270	10,711,813	8,142,254
Nov. 30.	17,940,354	31,273,693	2,553,435	9,866,435	7,455,129
Dec. 31.	17,991,288	30,745,735	2,217,237	9,157,976	8,137,484
Jan. 31, 1858.	18,041,513	30,468,213	1,982,688	8,450,573	8,358,437
Feb'y 28.	18,057,669	30,758,657	2,042,757	8,477,114	7,251,386
Mar. 31.	18,071,775	30,921,803	2,004,000	8,352,030	7,249,846
April 30.	18,132,587	30,713,550	1,929,948	8,348,410	7,793,577
May 31.	18,165,652	30,068,176	2,107,873	8,057,114	7,614,409
June 30.	18,326,020	30,279,684	2,152,236	8,188,288	9,159,327
July 31.	17,757,635	30,300,069	2,075,230	8,438,313	8,616,399
August 31.	18,448,710	30,351,386	2,229,045	8,688,356	8,436,413
Sept. 30.	18,513,362	30,578,385	2,451,875	9,882,725	8,056,070
October 31.	18,607,010	31,365,829	2,469,191	10,571,047	8,880,820
Novem. 30.	18,639,446	31,474,245	2,496,732	10,104,005	9,434,112
Decem. 31.	18,857,962	31,837,132	2,567,069	9,833,706	9,134,362
Jan. 1859.	19,025,334	33,020,906	2,652,451	9,679,391	10,204,000
Feb'y 1859	18,988,490	32,560,861	2,642,553	9,758,491	9,688,285
March 31	19,189,901	33,178,185	2,617,628	9,202,638	10,450,589
April 30	19,243,893	33,092,162	2,518,009	8,914,015	10,951,705

## Business of Canadian Banks, 1859.

### BANK OF UPPER CANADA.

	Capital.	Circulation.	Deposits.	Specie.	Discounts.
	\$	\$	\$	\$	\$
Jan'y 31.	3,122,190	2,445,700	2,813,417	556,000	7,373,106
Feb. 28.	3,124,980	2,368,728	3,345,488	686,595	7,466,911
March 31.	3,126,050	2,275,025	4,103,399	679,974	7,518,146
April 30.	3,126,250	2,223,166	4,266,818	673,911	7,728,467

### QUEBEC BANK.

January 31....	991,530	560,776	523,442	204,574	1,954,596
February 28.	995,920	598,350	504,979	193,310	2,000,793
March 31.....	995,920	610,063	411,021	156,828	2,074,104
April 30.....	995,920	591,233	391,371	120,446	2,116,556

CITY BANK, MONTREAL.

	\$	\$	\$	\$	\$
January 31.	1,196,320	521,181	759,311	236,257	2,016,383
February 28.	1,196,320	599,974	686,147	205,824	1,985,684
March 31.	1,196,448	469,828	618,950	162,211	1,966,774
April 30.	1,196,448	440,318	594,221	156,795	1,922,346

BANQUE DU PEUPLE, MONTREAL.

January 31.	968,700	332,737	580,430	136,877	1,747,403
February 28.	973,330	323,516	533,150	113,471	1,721,424
March 31.	1,073,950	309,895	495,059	121,800	1,727,286
April 30.	1,084,665	303,638	504,823	97,747	1,749,905

MOLSON'S BANK, MONTREAL.

January 1.	904,760	395,003	397,219	100,542	1,367,090
February.	909,690	399,098	484,244	88,985	1,441,962
March 31.	911,910	385,206	438,224	127,060	1,434,201
April 30.	933,280	377,905	472,096	90,579	1,428,304

BANK OF TORONTO.

January 31.	473,610	447,888	260,072	81,411	998,022
February.	483,690	441,539	221,113	82,062	995,874
March 31.	500,850	374,855	296,650	88,018	916,369
April 30.	507,300	315,886	190,121	79,473	881,576

COMMERCIAL BANK.

Jan'y 31.	4,000,000	1,544,506	1,305,237	463,994	6,130,183
February.	4,000,000	1,526,918	1,348,878	480,465	6,113,605
March 31.	4,000,000	1,455,677	1,288,021	488,899	6,113,587
April 30.	4,000,000	1,457,431	1,280,427	451,129	6,013,282

BANK OF MONTREAL.

Jan'y 31.	5,927,260	2,660,331	2,896,691	775,148	9,825,511
Feb. 28.	5,928,060	2,635,361	2,894,630	715,714	10,037,477
March 31.	5,928,700	2,492,315	2,696,207	693,663	10,118,052
April 30.	5,928,800	2,382,374	3,021,520	754,080	9,928,763

ONTARIO BANK, BOWMANVILLE.

January 31.	322,667	247,672	69,724	30,881	510,089
February 28.	331,744	289,564	73,295	32,067	620,558
March 31.	373,836	251,159	105,579	38,164	662,936
April 30.	388,993	230,473	126,029	35,398	665,930

NIAGARA DISTRICT BANK, ST. CATHARINES.

January 31.	251,050	189,586	73,704	21,595	443,060
February 28.	251,100	170,957	55,366	22,349	428,145
March 31.	251,734	192,332	49,351	25,204	428,415
April 30.	251,734	173,994	82,316	21,732	441,090

INTERNATIONAL BANK.

January 31.	100,000	30,000	9,027	16,262	78,873
February 28.	100,000	36,156	9,368	17,050	84,080
March 31.	100,000	25,250	6,350	21,100	90,096
April 30.	100,000	57,974	4,631	22,157	86,659

## STATEMENT OF BANKS ACTING UNDER CHARTER

NAME OF BANK.	CAPITAL.		LIABILITIES.			
	Capital authorized by Act.	Capital paid up.	Promissory Notes in circulation not bearing interest.	Balance due to other Banks.	Cash Deposits not bearing interest.	Cash Deposits bearing interest.
Quebec Bank . . . . .	\$ 1,000,000	\$ 995,920	\$ 591,355	\$ 137,052 47	\$ 276,592 43	\$ 114,779 00
City Bank of Montreal . . . . .	1,200,000	1,196,448	440,318	35,183 39	355,858 93	228,363 16
Bank of Montreal . . . . .	6,000,000	5,928,800	2,382,374	207,337 79	1,903,317 98	1,118,203 79
Commercial Bank . . . . .	4,000,000	4,000,000	1,457,481	284,465 17	979,881 13	800,546 49
Bank of Upper Canada . . . . .	4,000,000	3,126,250	2,332,166	470,821 56	2,836,553 78	1,430,265 30
Banque du Peuple . . . . .	1,200,000	1,084,665	303,133	19,284 51	259,752 18	245,071 18
Molson's Bank . . . . .	1,000,000	933,250	377,905	18,055 95	363,960 82	108,046 89
Niagara District Bank . . . . .	1,000,000	251,734	173,094	45,620 11	62,946 09	19,370 92
Bank of Toronto . . . . .	2,000,000	507,300	345,886	42,332 16	47,530 62	142,591 88
Ontario Bank . . . . .	1,000,000	306,993	230,473	27,737 74	79,661 76	46,318 55
International Bank . . . . .	1,000,000	100,000	57,971	892 49	4,631 05	.....
Total, . . . . .	23,100,000	18,513,310	8,503,042	1,288,738,34	7,170,650 81	3,763,557 16

## Statement of Assets and Liabilities of Banks issuing Notes under the Free

NAME OF BANK.	ASSETS.				
	Debentures deposited with the Receiver General.	Real Estate.	Furniture and other Assets.	Debts due by other Banks, and Notes of other Banks.	Bills Discounted.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
(a) Bank of British N. America . . . . .	478,833 33	.....	.....	.....	.....
(b) Niagara District Bank . . . . .	11,670 00	.....	.....	.....	.....
Molson's Bank . . . . .	.....	.....	.....	.....	.....
Provincial Bank . . . . .	140,000 00	1,000 00	2,705 00	.....	31,725 50
Bank of the County of Elgin . . . . .	100,000 00	.....	1,328 00	2,650 75	97,554 96
Total . . . . .	730,503 33	1,000 00	4,033 00	2,650 75	129,280 46

(a) Issues \$1 and \$2 Notes only under the above Act.

(b) Withdrawing its circulation under this Act.

CHAS. CAMBIE, Registrar.  
April, 1869.

FOR THE MONTH OF APRIL, 1859.

Total Liabilities.	ASSETS.							
	Coin and Bullion.	Landed or other Property of the Bank.	Government securities.	Promissory Notes or Bills of other Banks.	Balance due from other Banks.	Notes & Bills discounted & other debts due to the Bank not included under the foregoing heads.	Total Assets	
\$1,119,756 90	\$ 26,440 00	\$14,985 40	.....	\$22,170 86	12,265 08	\$ 2,116,556 01	2,286,523 41	
1,009,723 52	156,795 47	34,100 00	192,638 35	102,785 11	58,589 85	1,922,346 69	2,466,554 87	
5,611,233 56	754,000 00	31,023 33	802,264 00	122,260 71	512,431 87	9,908,763 56	12,280,633 56	
3,022,737 79	451,129 68	206,826 82	4,000 00	168,544 11	522,226 26	6,013,282 48	7,798,011 48	
6,690,806 61	673,911 72	239,818 85	1,001,417 93	165,697 00	732,774 36	7,728,467 46	10,541,350 33	
827,745 87	97,747 04	51,440 30	118,242 05	47,415 49	26,992 08	1,749,905 81	2,091,742 77	
867,968 66	90,79 40	20,513 85	200,000 00	65,629 01	52,736 82	1,422,204 44	1,857,763 57	
301,031 12	2,732 21	8,246 39	14,462 98	8,415 35	14,405 06	441,090 22	538,322 24	
578,340 66	79,473 53	.....	102,400 00	27,270 57	56,543 63	881,576 29	1,147,264 02	
384,191 24	35,399 90	9,126 21	59,000 00	9,867 75	41,739 09	665,930 36	701,662 31	
63,497 54	22,157 71	.....	10,100 00	4,012 00	37,345 48	86,659 41	160,774 60	
20,806,669 56	2,503,451 89	9,445 21	2,729,765 31	744,688 02	2,047,151 60	32,962,852 13	41,493,243 76	

JOHN LANGTON, AUDITOR.

Banking Act, to April 30, 1859, (13th & 14th Vic, Chap. 21, &c., &c.)

Debts due by Individuals.		Specie in Vaults.	Total Assets	Notes in Circulation.	Deposits.	Debts due to other Banks.	Other Liabilities.	Total Liabilities.	
\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	
.....	.....	478,833	33	147,826	00	.....	.....	147,826	00
.....	.....	11,670	00	11,667	00	.....	.....	11,667	00
95,575	50	5,795	00	279,801	00	130,801	00	139,801	00
4,738	21	8,763	73	215,005	65	31,079	00	109,783	82
108,313	71	14,559	73	985,339	98	330,373	00	409,077	82

JOHN LANGTON, AUDITOR.

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## TRADE AND NAVIGATION.

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### CAN WE SECURE A PROFITABLE PARTICIPATION IN THE TRADE OF THE NORTH WEST STATES & TERRITORIES.

*Continued from page 57.*

It may be remarked that the cost of labour for loading and unloading, appears to vary materially with circumstances. Thus, while the general average is  $24\frac{1}{2}$  cents per ton, the actual cost of transferring from one train to another at Dunkirk, is only seven cents, a very wide difference, but probably sufficiently accounted for by the constancy of the service, the favourable description of freight and sufficiency of accommodation to meet the wants of the business at that particular depot, and to the general uncertainty of all these at other stations.

Collecting from Mr. McCallum's elaborate Tables, the elements constituting that portion of the cost of Transport which is proportionate to distance carried, I find that they sum up to  $9\frac{1}{2}$  mills per ton per mile, that is to say,

For cost of running Trains .....	cts 0.444
For General Expenses.....	0.085
“ Repairs of Engines & Cars.....	0.140
“ “ of Track.....	0.182
“ “ of Structures.....	0.019
“ Miscellaneous .....	0.042
	.912— $9\frac{1}{2}$ mills.
Which with the constant charge for booking, &c. ....	.168
And charges for Ferry .....	.075
	.155
Makes a total of.....	cts. 1.155

As above stated—a set of experiments were undertaken by Mr. McCallum, for the purpose of determining practically the tractive power of the locomotives on the line, which resulted in establishing that on the most *unfavourable* grades and curves occurring on any portion of the road, the power of the Engine used was equal to hauling a gross load of  $18\frac{1}{2}$  tons for every ton weight on the driving wheels.

An Engine therefore with 47,000 lbs. =  $(24\frac{1}{2}$  tons net) on the drivers, would haul a gross load "through" of  $434\frac{3}{4}$  tons, which may be divided thus—Engine and tender, 120,000 lbs. ; 24 cars each weighing 13,000 lbs., and 4,375,000 lbs. of freight, being a trifle more than nine tons to each car, or 218 tons of useful load.

The total quantity of freight carried over the New York and Erie Railroad during the year, covered by the Report quoted, is stated to have been 842,055 tons, and the mileage or number of tons carried one mile, was 150,673,997, the average load for each Engine, being 90 tons, consequently the freight train mileage was 1,674,155 miles.

In another part of the Report it is shown that of the whole tonnage carried, 77 per cent. was moved eastward, and 23 per cent westward. Assuming this to be the proportion due to the nature of the traffic, we have this result—the whole tonnage could have been hauled with a train mileage of 1,061,380 miles being, a reduction of 609,775 miles. The cost of movement as distinguished from the constant charges at Stations for loading, booking, &c., was 82 cents per mile, run by trains ; therefore, had the supply of freight been offered with a regularity that would have ensured the running of the trains in all cases with as full loads each way as the proportion of movement east and west permits, there would have been a reduction in the freight train expenses of \$500,015, and the cost of movement per ton per mile, would have been reduced from  $9\frac{1}{8}$  mills to  $5\frac{8}{10}$  mills = 36 per cent. from the actual cost.

It is true that to run trains fully loaded, involves the consumption of a slightly increased quantity of fuel, and an increased amount of wear and tear as well as of general working expenses. Such increase, however, would be small in amount, and after making ample deduction to meet it, there would still remain fully 30 per cent as a possible reduction on the cost of movement could a regular supply of freight at fixed points be obtained.

Examined with reference to capital, the value of "through freight," as compared with local, will be strikingly manifest. It has been previously stated that the average distance over which each ton of freight was carried on the Erie railway as reported in the documents before me, was 177 miles. The total cost of that road is reported as \$33,000,000, or about \$70,000 per mile ; to pay six per cent on this amount, requires an annual profit over working expenses of \$1,980,000. Now as the revenue derived from freight was 65 per cent of the whole revenue, if it is to pay interest on capital in

the same proportion, \$1,287,000 must be drawn for this branch of traffic, which represents a charge of \$1.52cts. on each ton of goods carried, or  $8\frac{5}{16}$  mills per ton per mile, on the mileage above named. If the whole amount carried had been through freight, and carried over a road of a length equal to the average distance (i. e. 177 miles,) over which each ton was carried, the capital at the same cost per mile, would have been only \$12,390,000, and the interest only \$743,400—sixty-five per cent of this being equal to a charge of  $60\frac{8}{10}$  cents per ton, or  $3\frac{1}{10}\frac{8}{10}$  mills per ton per mile—less than half the former amount.

The amount of dead weight hauled in proportion to useful load, materially affects the economical working of a line of railway, and it must ever be an object with managers to reduce the proportion to a minimum. From the Records kept on the New York and Erie road during four months of 1855, it was ascertained that of the total weight moved, the useful load carried eastward, was . . . . . 37.5 per ct.

Westward. . . . . 11.1 = 48.6

The weight of cars containing load moving eastward, was . . . . . 26.0

Do. do. do. west 11.3 = 37.3

The weight of cars returned empty moving eastward, was. . . . . 0.3

Do. do. do. westward 13.8 = 14.1

100.0

Hence it is manifest that of the total cost of movement,  $51\frac{4}{10}$  per cent was due to dead weight, while had the cars been all equally loaded, the proportion of dead weight to useful load would have been as 26 to 37.9 per ct. of the gross movement. It results from the above that of the  $9\frac{5}{16}$  mills, which was ascertained to be the average cost per ton per mile of the useful load,  $51.4$  per ct., or  $4\frac{6}{10}\frac{9}{10}$  mills, was due to the cost of moving, carrying stock in other words, the cost per ton of the *gross* movement, only amounted to  $4\frac{4}{10}\frac{3}{10}$  mills per mile.

As a practical evidence of the effect which grades have on the efficiency of the motive power, the results deduced from the experiments already allu-

ded to may be stated. The ruling grades on the various divisions of the line are as follows:

On the Eastern Division,.....	60 feet per mile—20
Delaware “ .....	60 “ “
Susquehannah .....	12 “ “
Western “ .....	52 “ “

On these divisions, the tractive power of the engine was found be equal to a gross load of 20—18½—80—and 28 tons respectively for each ton weight on the drivers, the difference on the similar grades which exists on the Eastern and Delaware divisions being due to curvature.

I have adhered to the Report of the New York and Erie Road, in my endeavour to obtain data for determining the cost of carrying, because it is one of the great avenues for Western trade; but more especially because its grades and curves are similar to those on the competing railways, and finally, because the statistics made public by the company, afford a better insight into the various details of working expenses than those published by any other company with which I am acquainted. It is not my purpose, however, to base my future arguments on the minimum cost of movement, which would be justified by the preceding figures, because although correct in the abstract, they would not be realized unless a state of things existed, which would at all times ensure the full loading of the trains, practically this regularity of supply could not be obtained at the terminal stations. But it appeared to be desirable to exemplify the important relation that exists between the quantity of freight, the distance it is carried and the cost of moving it, and to shew that, notwithstanding the immense traffic that passes over the New York and Erie Railway, and the careful economy with which it has been managed, the minimum of cost has not yet been reached, thereby demonstrating that in adopting the cost of transporting freight as arrived at in Mr. McCallum's elaborate Report, representing as it does practical working results, I am adopting data for my investigations which will bear the strictest scrutiny. I shall, therefore, assume the cost of movement at 9¼ mills per ton per mile, and the cost of receiving, booking and loading at 37½ cts. per ton, adding such further charge to represent the interest on capital as may be required by the cost of the road.

But the cost is the average of east and west movement and in the tabulated calculations, the cost of eastward bound freight is reduced, and westward bound freight increased in a ratio proportioned to the movement. That is, for eastward bound, the cost is cts. .624, and westward bound, cts. 1.618,

and in like manner the cost of booking, receiving, and delivering is apportioned at 26.50 on eastward bound, and cts. 64.50 per ton on westward bound.

*TABULATED Exhibit of the details of the theoretic charge for carrying over the several routes between the Western Lakes and the Atlantic Seaboard.*

ROUTE No. 1—CHICAGO TO NEW YORK BY THE LAKES AND ENLARGED ERIE CANAL VIA BUFFALO.

	Exclusive of Capital and tolls.	Including Capital.	Substituting tolls for Capital.
<b>EASTWARD MOVEMENT.</b>			
Capital Invested—\$37,000,000.....		\$0.44 40	
1060 miles of lake transit in Propellers of 1000 tons burthen, at 137 per ton per mile* .....	\$ 1.45 22		
2 days of Propellor in port—c.18.66 per ton per day .....	37.32		
Cost of transshipment at Buffalo of grain in buks or barrel freight.....	8 25		
364 miles of Erie Canal, at 0.323 cts per ton per mile .....	1.17 57		
2 days detention of barges, at c. 6.20 " day....	12.40		
Albany to New York.....	40 00		
Cost of receiving and discharging at both termini... ..	16.50	3.77 26	3.77 26
Tolls on 364 miles of E. Canal, at cts. .46 pr. ton pr. m.			1.59 16
<b>Total theoretic charge.....</b>	<b>\$3 77.26</b>	<b>\$4.21.66</b>	<b>\$5.36.42</b>

**WESTWARD MOVEMENT.**

Capital invested \$37,000,000.....		0.44 40	
New York to Albany.....	93 00		
364 miles canal transit at c. 0.79 per ton per mile ...	2.84 42		
2 days detention of barges in port at c.15.52 pr ton .....	31 04		
Cost of transshipment at Buffalo .....	15 00		
1060 miles of lake transit at c. 0.322 per ton per mile .....	3.51.32		
2 days detention of Propellor in port at c.45.67 per ton per day .....	91 34		
Cost of receiving and discharging at both termini... ..	30.00	9 01.12	9 01 12
Tolls on 364 miles of Canal at 6 mills.....			2 18 40
<b>Total theoretic charge.....</b>	<b>\$9.01.12</b>	<b>9.45 52</b>	<b>11.19.52</b>
Average charge in loading tolls \$8 27.			

ROUTE No. 2—CHICAGO TO NEW YORK BY THE LAKES AND ENLARGED ERIE CANAL VIA THE WELAND CANAL AND OSWEGO.

**EASTWARD MOVEMENT.**

Capital invested \$17,700,000.....	35 00
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\* This item represents a charge per ton sufficient to pay the interest at 6 per cent on so much of the capital permanently invested in the artificial works constructed for the formation of the route—but apart from the marine carrying stock—as is due to the amount of revenue derived from the freight traffic in proportion to the whole business of the route. The calculation of this element is based on the full utilization of the route.

1000 miles lake transit in Propellers of 275 tons burthen, at c. 0.36 per ton per mile .....	3 60 00		
3 days in Welland Canal at c. 63.53 per ton per day	1 90 59		
140 miles lake transit on L. Ontario, c. 0.36 per mile	50 40		
2 days of Propeller in Port, c. 43.3 per ton per day	36.60		
192 miles of Canal transit (Oswego to Albany) at c. 0.323 per ton per mile.....	62 01		
2 days of barge in port at c. 6.20 per ton per day.....	12.40		
Albany to New York .....	40 00	8.18.50	8.18.50
Cost of receiving and discharging at both termini...	16.50		
Tolls on the Welland Canal .....			46.00
Tolls on 192 miles of Erie Canal at c. 0.46 per mile			88.32
		<hr/>	<hr/>
Total theoretic charge.....	8.02 00	8 53.00	9.52 82

WESTWARD MOVEMENT.

Capital Invested \$17,000,000.....		35.00	
New York to Albany .....	98.00		
192 miles of Canal Transit, at c. 0.79 per ton per mile	1.52.28		
2 days of barge in port, c. 15.52 " " day	31.04		
Cost of transhipment at Oswego .....	15 00		
140 miles transit on Lake Ontario, c. 0.82 " " mile	1 23 48		
3 days in Welland Canal, c. 154.40 " " day	4 63 50		
1000 miles of lake transit, c. 0.882 " " mile	8.82.00		
2 days of Propeller in port c. 105.67 " " day	2.10 00		
Cost of receiving and discharging.....	30.00	20.05 30	20.05 30
Tolls on Welland Canal .....			50.00
Tolls on 192 miles of Erie Canal, c. 0.6 " " mile			1 15.20
		<hr/>	<hr/>
Total theoretic charge.....	20.05 30	20.40.30	21.70.50
Average charge including to ls \$15.61.			

ROUTE No. 3.—CHICAGO NEW YORK BY THE LAKES AND ENLARGED ERIE CANAL FROM OSWEGO, BUT TRANSHIPPING IN BARGES THROUGH THE WELLAND CANAL.

EASTWARD MOVEMENT.

Capital invested \$23,700,000 .....		\$18.96	
1000 miles of Lake Transit, in Propellers of 1,000 tons burth. at c. 0.137 per ton per mile .....	1.37.00		
2 days of Propellers in port c. 18.66 pr. day	37.32		
Cost of transhipment at Port Colborne (if grain in bulk or barrel) .....	8.25		
3 days in Welland Canal in large barges c. 1.29 per ton per day.....	18 57		
2 dys of barges in port, c. 4.06 per ton, day	8.12		
Cost of transhipment at port Dalhousie ...	8.25		
140 miles of lake Ontario transit c. 0.137 per ton—mile	19.18		
2 days of Propeller in port c. 18.66 per ton per day ...	37 32		
Cost of transhipment at Oswego.....	8 25		
192 miles of Canal, O-w. to Alb. c. 0.323, mile	62 01		
2 days of barge in port, c. 6.20 per ton—day	12 40		
Albany to New York .....	40 00		
Cost of receiving and delivering.....	16.50	4.13 17	4.13.17
Tolls on Welland Canal.....			46.00
Tolls on 192 miles of E. Canal, c. 0.46 per ton per mile			88 82
		<hr/>	<hr/>
	4.13.17	4.32.13	5.47.99

## WESTWARD MOVEMENT.

Capital invested \$23 700 000 .....			18.96	
\$ z { New York to Albany.....			98.00	
2.95 72 { 192 miles E. Canal transit c0.79 per ton—mile	1.51.68			
{ 2 days of barge in port, c15.52 " " day	31 04			
{ Cost of transhipment at Oswego.....	15 00			
140 lake transit on L. Ontario, c0.322 per ton per mile	45.08			
2 days of Propellor in Port, c45.67 " " day	91.34			
\$ y. { Cost of tranship't at Pt. Dalhousie.....	15.00			
{ 3 days in W. Canal in lg. barges, c15.15 day	45.45			
{ 2 days of barg in pt., c9.94 per ton p-r day	19 88			
5.08.67 { Cost of tranship't at Port Colborne .....	15 00			
{ 1000 miles of L. transit, c0.322 per ton, mile	3.22.00			
{ 2 days detention of Propellor in port c45.67	91 34			
Cost of receiving and discharging .....	16.50	9.57.31	9.57.31	
Tolls on 192 miles, E. canal, c0.6 per ton per mile ...			1.15.20	
Tolls on Welland Canal .....			50.00	
Average charge including tolls \$8.35.	\$9 57.31	9.76.27	11.22.51	

## ROUTE No. 4.—CHICAGO TO NEW YORK BY THE LAKES, THE ENLARGED WELLAND AND ENLARGED ERIE CANALS, via OSWEGO.

## EASTWARD MOVEMENT.

Capital invested \$27,000 000.....			32.40	
1000 miles of lake transit in Propellers of 1000 tons burthen, c0.137 per ton per mile .....	1.37.00			
3 days in Welland canal, c25.86 per ton per day.....	77.58			
1.79.16 { 140 miles transit on L. Ontario, c0.137 m.	19 18			
{ 2 d.ys of Propeller in port, c18.66 " " day	37.32			
{ Oswego to New York—6 route 3.....	1.22.66			
Cost of receiving and delivery .....	16.50	4 10.24	4.10.24	
Tolls on 192 miles of E. canal c0.46 per ton per mile			88.82	
Tolls on Welland canal .....			46.00	
	4.10.24	4.42.64	5.45.06	

## WESTWARD MOVEMENT.

Capital invested \$27 000,000 .....			32.40	
New York to Oswego (z route 3).....	2.95 72			
140 miles lake Ontario transit, c0.322 per ton per m	45.08			
3 days in Welland canal, c63.24 " " d	1.89 72			
1000 miles of lake transit c0.322 " " m	3.22.00			
2 days of Propeller in port, c45.67 " " d	91.34			
Cost of receiving and discharging at both termini	30.00	9.73.36	9.73.86	
Tolls on 192 miles of Erie canal, c0.6 per ton per m			1.15.20	
Tolls on Welland canal.....			50.00	
	9.73.86	10.06.26	11.39.06	
Average including tolls \$8.42				

## ROUTE No. 5—CHICAGO TO TIDE WATER ON THE ST. LAWRENCE BY THE PRESENT CANALS.

## EASTWARD MOVEMENT.

Capital invested \$9 000 000 .....		20.00
1000 miles lake transit in Propellers of 275 tons burthen, c0.36 per ton per mile.....	3.60.00	

3 days in Welland Canal, c63.53 per ton per day.....	1 90 59		
226 miles of lake and river, c0.36 " " mile	81 36		
107 miles of St. Lawrence Canals & Rapids 15 days at c86.6 per ton per day .....	1.29.90		
2 days of Propeller in Port, c43.3 per ton per day...	86.60		
Cost of receiving and discharging at both termini...	16.50	8.64.95	8 64.95
Tolls in Canals .....			50 00
	<u>\$8 64.95</u>	<u>8.84 95</u>	<u>9.14 95</u>

## WESTWARD MOVEMENT.

Capital invested \$9 000,000 .....		20.000	
107 miles of St. Lawrence Canals & Rapids—2 days at c211.67 per ton per day .....	4.22 34		
3 days in Welland Canal, c154.50. per ton per day	4.63 50		
226 miles of lake & river navigation, c0.882 mile	1 99 33		
1000 miles of lake transit. c0.882 per ton per " "	8.82.00		
2 days of Propeller in port c105.67 " " day	2 11.34		
Cost of reviewing and discharging at both termini	30.00	22.08.51	22 08 51
Welland and St. Lawrence Tolls .....			50 00
	<u>\$22.08 51</u>	<u>22.28 51</u>	<u>22 58.51</u>
Average charge including Tolls \$15.86			

## ROUTE No. 6—CHICAGO TO TIDE WATER ON THE ST. LAWRENCE AS BEFORE, BUT USING LARGE PROPELLERS AND TRANSHIPPING THROUGH THE WELLAND CANAL.

## EASTWARD MOVEMENT.

Capital invested \$13,000,000.....		14.29	
Cost to Port Dalhousie, same as (a tables 3).....	2,17,51		
226 miles of lake and river transit, c0.137 per ton per mile .....	30.96		
107 miles of St. Lawrence Canals and Rapids 15 c25.86 per ton per day.....	38.79		
2 days in port, c18.66 per ton per day .....	37.32		
Cost of receiving and discharging .....	16.50	3.41.08	3.41 08
Welland and St. Lawrence Tolls .....			50 00
	<u>\$3,41.08</u>	<u>3.55.37</u>	<u>3.91 08</u>

## WESTWARD MOVEMENT.

Capital invested \$13 000,000.....		14.29	
107 miles of St. Lawrence Canals and Rapids 2d. at c77.57 per ton per day .....	1.55 14		
226 miles of lake and river transit, c0.322 per m.	72.77		
2 days of Propeller in port, c45.67 per ton per day	91.34		
Cost from Port Dalhousie to Chicago, same as in [route 3.] .....	5 08 67		
Cost of receiving and discharging.....	30 00	8.57.92	8 57.92
Welland and St. Lawrence Tolls .....			50.00
	<u>8.59 92</u>	<u>8 72 21</u>	<u>9 07.92</u>

Average charge including tolls \$6.49.

ROUTE No. 7.—CHICAGO TO NEW YORK BY THE LAKES, THE ENLARGED WELAND CANAL AND THE ST. LAWRENCE, CAUGHNAWAUGA AND CHAMPLAIN CANALS.

## EASTWARD MOVEMENT.

Capital invested \$19,512,000 .....			21.28
1000 miles lake transit in Propellers of 1000 tons burthen, at c0 137 per ton per mile .....	1.37.00		
3 days in Welland Canal, c25 86 per ton per day.....	77 58		
346 miles of lake and river transit, c0 137 per ton—m	47 40		
107 " St. Lawrence Canals and Rapids—1 5 days at c33 06 per ton per day.....	49 09		
102 miles Caughnawauga & Champlain canals—4 d. at c25 86 per ton per day.....	1.03.44		
150 miles river navigation to N Y, c1 37 per ton—m	20 00		
2 days of Propeller in port, c18 66 " " d	37 32		
Cost of receiving and discharging at both termini...	16 50	4.88.88	4 88 88
Tolls on the Welland Canal.....			46 00
" Caughnawauga canal, 37—c0 46 per ton—m			17 02
" Champlain, 69—c.46 per ton per mile.....			31.74
		<u>4 88 88</u>	<u>5.10.16</u>
			<u>5.83.64</u>

## WESTWARD MOVEMENT.

Capital invested \$19,512,000 .....			21 28
102 miles transit Whitehall & Caughnawauga Canals 4 days at c63 24 per ton per day.....	2 52 96		
150 miles Hudson river, c 322 per ton per mile .....	48.30		
107 " St. Lawrence Canal & Rapids, 2 days, c77 57	1 55 14		
346 " Lake & River transit, c0 322 per ton per m	1.11.41		
3 days in Welland Canal, c63 24 " " day	1 89 72		
1000 miles lake transit, c0 322 " " mile	3 22 00		
2 days of Propeller in port, c45.67 " " day	91.34		
Cost of receiving and discharging at both termini...	30.00	12.00 87	12 00.87
Tolls on 102 miles Caughnawauga & Champlain canals c0.6 per ton per mile.....			61 20
Welland and St. Lawrence tolls.....			50 00
		<u>\$12.00.87</u>	<u>12 22 15</u>
			<u>13.12.07</u>
Average charge including tolls \$9.47			

## ROUTE No. 8.—CHICAGO TO NEW YORK via THE OTTAWA &amp; LAKE CHAMPLAIN.

## EASTWARD MOVEMENT.

Capital invested \$37,262,000 .....			34.39
560 miles lake transit Chicago to French River at c0 137 per ton per mile.....	76 72		
430 miles Ottawa Navigation embracing 62 locks—10 66 days, c2586 per ton per day.....	2.75.67		
120 do Caughnawauga & Champlain Canals 4 days—c25 86 per ton per day.....	1.03 44		
120 do. Lake Champlain, c0.137 per ton per mile	16 44		
150 do. Hudson River, c0.137 " "	20 55		
2 days of Propeller in Port, c18 66 " "	37 32		
Cost of receiving and discharging.....	16.50	5.46.64	5.46.64
Tolls on 430 miles of Ottawa improvements, c0 3 do			1.29.00
" 102 Caughnawauga & Champlain Canals, c0 46			46 92
	<u>5.46 64</u>	<u>5.81 03</u>	<u>7.22.56</u>

## WESTWARD MOVEMENT.

Capital invested \$37,262,000.....			34 39
150 miles of Hudson river transit, c0 322 per ton-m	48 30		
102 do. Champlain & St Lawrence canals—4 days at c63.24 per ton per day.....	2 52 96		
120 do. Lake Champlain, c0 322 per ton per mile	38 64		
430 do. Ottawa improvements—10.66 days c63 24	6 74 13		
560 do. Lakes Huron & Michigan, c0 322 do. mile	1 80 32		
2 days of Proctor in port, c45 67 per ton per day	91 84		
Cost of receiving and discharging .....	30 00	13 15 67	12 15 67
Tolls on 102 miles Champlain canals, c0 6			61 20
“ on 430 do Ottawa improvements, c0 3 do			1 29 00
		<hr/>	<hr/>
	13 15 67	13 50 00	15 05 87

Average charge including Tolls, \$11 14.

(To be Continued.)

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 THE NORTH WEST.

The following interesting matters on the subject of the North-West Territory and trade, are condensed from the able essay by Allan Macdonald Esq., published in connection with the Report by the “North West Transit Company.” The essay embodies much matter of interest and importance to the people of Canada, and is well worthy perusal.

One of the chief objects in the formation of this Company, is that of participating in that important and lucrative trade, which, although emphatically belonging to Canada, has for the last 38 years, been exclusively monopolized by a few traders of the city of London, styled the Hudson’s Bay Company. It is not here intended to enter into a history of the trade, which is coeval with the history of Canada, but it may be necessary briefly to allude to it. Its existence and exercise may be divided into three distinct periods of almost equal duration.

The first dates from the time of the French occupancy of Canada, up to 1763, when the trade of that illimitable region, which this Company now proposes to enter upon, had its outlet through Lake Superior.

The second dates from 1763 up to the year 1821, when the trade of that country was chiefly in the hands of the Northwest Company of Montreal, and which followed the old route and channels that their predecessors, the French, had pursued.

The third dates from 1821, (the year when the Northwest Company amalgamated with the Hudson’s Bay Company,) up to the present period, and during which time the trade has been monopolized, and forced by the Hudson’s Bay Company through the more difficult, circuitous and dangerous route to the shores of Hudson’s Bay, and thence to England.

By changing the route of transport, the shorter and the better one, *via* Lake Superior, became unfrequented and its very existence almost forgotten.

The united Companies under the name of the Hudson's Bay Company, then traded without the apprehension of exciting the rivalry of others. No merchant, trading along the Saint Lawrence, witnessed the imports for the west, nor the exports therefrom. That trade was thus kept a secret from the rising generation in Canada, — the productions of which have for so many years past annually poured wealth into the coffers of those who have never contributed one farthing to the revenue of this country.

The North West Company on the contrary contributed largely to the revenues of Canada. The magnitude of the operations of that Company were enormous. It carried on a most extensive and lucrative trade, making Montreal the centre and depot of that trade; and traversing Canada in every direction, not only from Montreal to Hudson's Bay, but with their fleets of boats and canoes, crossing the continent through a chain of lakes and rivers, from Montreal to Puget's Sound, and to the Russian possessions within the Arctic Circle, laden with goods and merchandize for Indian natives, and returning with furs for Europe.

The Northwest Company was formed in 1783, upon a joint stock capital of some \$40,000. In three or four years after the formation of the Company, the annual value of the trade had reached \$600,000 and it continued to increase until the year 1816, when the Hudson's Bay Company appeared upon the field, and for the first time advanced a claim to the right of exclusive trade in virtue of an old charter of Charles II. which in truth and in fact conferred no such right.

The North-West Company gave employment to about 4000 Canadians: and the wealth that Company realized was freely flung back to circulate in Canada amid the varied industrial pursuits which a trade like theirs had called into action.

In that year, 1821, a license of exclusive trade, was procured from the Imperial Government by the Hudson's Bay Company and the partners of the North West Company conjointly, over certain portions of territory, to which the pretended charter of Charles II. could not be made applicable. — This license of exclusive trade was in fact, the origin of the exercise of claim to exclusive monopoly. This license of exclusive trade expires in May 1859; it is hoped never again to be renewed.

#### RESOURCES OF TRADE.

The Hudson's Bay Company make all their importations and all exportations *via* Hudson's Bay; even their imports to and exports from Lakes Superior and Huron are made *via* Hudson's Bay.

Their ships do not leave England for Hudson's Bay before the month of June, as they cannot pass through the Hudson's Straits until July, and sometimes not until August, and the goods destined for Lake Superior do not arrive there until the month of August or September. Goods *via* the St.

Lawrence and the Lakes, can be laid down on Lakes Huron and Superior by the month of May, and may be transported thence to the shores of Hudson's Bay itself by the month of June. Thus they would reach Hudson's Bay before the goods destined for that locality could even have left England.

The yearly value of the importations by the Hudson's Bay Company *via* Hudson's Bay, average about \$300,000. Their exportation in exchange *via* the same route, varies from \$1,000,000 to \$2,500,000.

At the half yearly sale in London in April last the proceeds from the trade, it is said, amounted to \$1,150,000. The value of the exports are therefore shewn to be as 5 to 1 over the imports.

The route by which these goods are taken to the interior from the shores of Hudson's Bay is only adapted to a boat or canoe navigation, interrupted by numerous and difficult portages, and accordingly a land route has been established between the Red River settlement and Minnesota over a distance of 600 miles.

The traffic is carried on by means of carts, each cart carries about 700 lbs weight. The time occupied in transit from the Red River to St. Paul's is from twenty to thirty days, and a like time occupied in returning.

This mode of conveyance involves not only the labor of many men and cattle, but a loss of nearly three months at the most important season of the year to the settler for action at home. The cost for transport is at the rates of \$42 to \$45 per cart, or about \$120 per ton. Upwards of 500 carts went from the Red River to St. Paul's this last summer and carried with them about \$180,000 worth of furs.

The proportion of the whole export of furs from the basin of the Winnipeg may safely be estimated at one half of the whole trade of the Company, or at least \$1,000,000. Such are the proceeds of the trade in its present restricted state, and in one class of commodities alone. What will it be when left to the free course of commercial competition, and when an unrestricted colonization opens new fields of industry and presses all the resources of a new western world into the stream of reciprocal intercourse whose swelling volume is already wearing a deep track between Red River and St. Pauls.

It is notorious that the Hudson's Bay Company do not import a fifth part of what the country requires and can pay for. By the construction of roads and the improvement of the inland navigation, and carrying in settlers, this Company will develop the great resources of that country's wealth and be enabled to trade in all the varied productions which man's industry and knowledge creates.

From the shores of Lake Huron to those of the Pacific the Hudson's Bay Company have a series of trading forts or chief depots upon which smaller posts are again dependent. Each chief fort has therefore dependent upon it for supplies the number of Indians as shewn in the annexed table

take from appendix C in the evidence adduced before the Committee of the House of Commons upon the Hudson's Bay Company in the month of July of the past year, shewing the number of Indians dependent upon them for supplies:

*Lake Huron.*

La Clotche Fort,	-	-	-	-	150
Little Current,	-	-	-	-	500
Mississauga, 150; Green Lake, 150,	-	-	-	-	300
White Fish Lake, 150; Sault Ste Marie, 150,	-	-	-	-	300
(At the latter should be set down 300.)					
Lake Nipissing,	-	-	-	-	350

*Lake Superior.*

Balchewaana, 100; Mamainse, 50,	-	-	-	-	150
Michipicoten, 300; Pic, 110; Nepigon, 250,	-	-	-	-	650
Fort William, 350; Pigeon River, 50,	-	-	-	-	400
Lac la Pluie, Fort Francis,	-	-	-	-	1500
Fort Alexander, 300; Rat Portage, 500,	-	-	-	-	800
White Dog, 100; Lac du Bonnet, 50,	-	-	-	-	150
Lac des Bois, 200; Shoal Lake, 200,	-	-	-	-	400
Assiniboine, Red River, Winnipeg, &c.,	-	-	-	-	10,000

The bands along the Saskatchewan, &c., are denominated the tribe of the Plains, and are dependent for supplies as follows:

At Fort Edmonton, 7,500; Carleton House, 6,000,	-	-	-	13,500
Fort Pit, 7,000; Mountain House, 6,000,	-	-	-	13,000

North and West of the Saskatchewan and along the slopes of the Rocky Mountains, the tribes are styled the Thick Wood Indians, and these number about 35,000.

The Indians in British Oregon, and along the northwest coast number about 80,000. The whole total half breeds and Indians in what is called the Hudson's Bay Territories, and depending for supplies upon the Hudson's Bay Company, are set down as amounting to at least 158,000. Here is a population which must create a vast demand for Canadian manufactures and importations of British goods, all of which can be so much more advantageously supplied to them *via* Lake Superior.

To supply this population, it has been shewn that the Hudson's Bay Company take into the country, upon an average only \$300,000 worth of goods, something over \$1,80 per head. Each Indian, upon an average, would take \$40 worth of goods, per annum, and the country possess resources wherewith to pay for them.

The goods and merchandize which an Indian requires are various, such as

guns, blankets, cottons, clothing of all kinds, powder, shot, tobacco, teas, flour, &c.,

Taking the estimate at \$40 per head would shew a demand existing for \$6,160,000 worth of importations, where \$300,000 worth are now only supplied. But let us calculate at \$10 per head, a *very low estimate*, and we have a demand for \$1,580,000 of imports.

The Hudson's Bay Company trade only for furs, and for their imports of \$300,000, they export from \$1,500,000 to \$2,800,000, or at the rate of 500 per cent, of profit upon their imports.

And yet there are various other productions, which can be made as profitable sources of trade as the furs of wild animals. Take, for instance, the buffalo, of which the hunters from the Red River Settlement alone, kill annually 25,000. Each animal will, upon an average, produce from 50 lbs to 70 lbs of tallow.

Let us take the average, however, at 40 lbs per animal, 25,000 at 40 lbs equal 1,000,000 lbs, this at 10 cents per pound, \$100,000; hides, at \$3 each, \$75,000, making \$175,000.

The tongues, the beef, &c., if cured for exportation or trade, would produce a much greater amount, say \$400,000, making \$575,000 worth of trade in addition to the fur trade. Time and again efforts have been made by some of the settlers at the Red River, to embark in the tallow trade, but the Hudson's Bay Company have invariably refused to export the same, either through an inability to do so, or through a desire to prohibit a traffic which would militate against their monopoly of the fur trade.

It is estimated that upwards of 150,000 buffalo are annually slaughtered in the valley of the Saskatchewan, thousands of these wantonly, and as many killed only for their tongues.

When the Indians find that the carcass, the tallow, the horns, and even the hoofs will procure the necessaries of life, just as readily as furs, a most important trade will have sprung into existence.

100,000 buffalo would be as readily procured, as the 25,000 by the Red River hunters, those estimated at the same calculation, as given above, would produce a trade worth \$2,300,000, which in addition to the estimated fur trade now enjoyed by the Hudson's Bay Company, in that section of country alone, would swell its value upwards of \$3,300,000.

We import and pay large sums of money for these very articles of production, which are peculiar to our own country, and, stranger still, import the very furs from England which have been exported from this country, via Hudson's Bay.

We import annually :

Fur goods, value \$169,573, duty thereon, \$24,076...	\$193,648.
Fur undressed, no duty thereon .....	50,624.
Tallow .....	360,000.
Hides.....	259,000.
Fish oil.....	249,000.
Total.....	<u>\$1,112,996.</u>

With the exception of those furs that are imported from England, the residue of the above imports are all from the United States.

Immense fisheries for oil may be carried on in Hudson's Bay, distant from Lake Superior about 200 miles, via the Michipicotan river, along which route all the merchandize and goods of the Hudson's Bay Company, destined for Lakes Huron and Superior, are now brought from Hudson's Bay.

*Mode of Transportation proposed to be at present adopted, and until such time as greater facilities are afforded :*

Until a railway be built, a good waggon road will be constructed from the shores of Lake Superior, either to Whitefish Lake or to Dog Lake, thence the route will be through the chain of navigable waters leading from either of the above named lakes to Rainy Lake, the proposed terminus of the Railway from Lake Superior. The several portages which interrupt the above mentioned chain of navigable waters will be improved so that laden batteaux carrying about five tons may be hauled across without unloading.

A wooden railway or tramway from the head of the portage to the next clear water will suffice for this. The portages are all short, few of them over 100 yards in length.

This mode of conveyance will enable the company at once to commence operations, and at the same time carry forward the project of constructing good waggon roads, connecting the long reaches of water navigation, whereby the numerous portages will be avoided. It will likewise enable the company to carry out the project of placing steamers upon Lac la Pluie, the River la Pluie, and the Lake of the Woods, as by no other means can the material for the construction of steamers be carried forward. A waggon road will also be constructed from the western side of the Lake of the Woods to the Red River.

These waggon roads are to form the line over which the contemplated railways shall pass. As these roads progress westward from Lake Superior so will the facilities for a more speedy mode of transport increase.

The estimated cost of perfecting a steamboat and waggon road communication between Lake Superior and Frazer River, as shown by the

prospectus issued, is about \$300,000. When the projected plan is complete as far as the Red River, the time of travel between Lake Superior and that point will be reduced to four days. The communication from the Red River to Edmonton house as has been already shewn will be by steamer.

*Profits to arise from immediately opening a transit communication between Lake Superior and the Red River.* A communication capable of taking heavy merchandize, one established between Lake Superior and the Red River to ply to the Saskatchewan, or even as far as possible in the direction of the McKenzie River, for although the company are authorized to construct canals, railways, &c., within the limits of Canada, they are not forbidden to trade beyond these limits.

This company possessing steamers upon the Red River will under any circumstances be enabled to make tributary to it the carrying trade of all that vast country lying to the westward and northward of the Red River.

Taking 600 carts as the measure of freightage between Red River and Saint Paul's at the rate of \$42 per cart, we have for freightage alone \$25,200. It is not unreasonable to suppose that an equal amount is paid for the transportation of goods in returning, thus shewing that there is paid for freight to and from the Red River the sum of \$50,400.

### THE CARRYING TRADE OF CANADA IN 1858.

We have compiled the following Tables from the *Trade and Navigation Returns*:—

*Number and Average Tonnage of Vessels passing through the Canadian Canals, in 1858.*

#### CANADIAN.

SAILING VESSELS.			STEAM VESSELS.		
Class.	No.	Tonnage.	Class.	No.	Tonnage.
1. 250 to 380 tons.	66	19,770	1. 250 to 400 tons.	6	1,810
2. 200 " 250 "	38	8,260	2. 200 " 250 "	5	1,096
3. 150 " 200 "	76	12,670	3. 150 " 200 "	6	1,069
4. 100 " 150 "	180	20,779	4. 100 " 150 "	14	1,725
5. 50 " 100 "	319	23,560	5. 50 " 100 "	29	1,984
6. under 50 "	125	3,381	6. under 50 "	31	996
<b>Total,</b>	<b>804</b>	<b>88,440</b>		<b>91</b>	<b>8,679</b>

#### AMERICAN.

SAILING VESSELS.			STEAM VESSELS.		
Class.	No.	Tonnage.	Class.	No.	Tonnage.
1. 250 to 412 tons	229	73,775	1. 250 to 384 tons.	14	4,939
2. 200 " 250 "	54	12,005	2. 200 " 250 "	2	452
3. 150 " 200 "	47	8,335	3. 150 " 200 "		
4. 100 " 150 "	33	3,965	4. 100 " 150 "	5	542
5. 50 " 100 "	101	6,205	5. 50 " 100 "	7	466
6. under 50 "	120	3,730	6. under 50 "	10	327
<b>Total</b>	<b>584</b>	<b>108,015</b>	<b>Total</b>	<b>38</b>	<b>6,725</b>

N. B.—The above shows the number and tonnage actually employed.

*Total Number and Tonnage of Vessels passed through the Canadian Canals, in 1858, computed from the aggregate number of trips made by each Vessel.*

CANADIAN VESSELS AND STEAMERS.		AMERICAN VESSELS AND STEAMERS.		
	No.	Tons.		
Welland Canal.....	2,528	360,894	3,172.....	787,877
St. Lawrence Canal.....	8,287	725,842	334.....	31,968
Chambly Canal.....	1,973	124,179	709.....	35,644
Burlington Bay Canal.....	676	145,845	35.....	6,188
St. Anne's Lock.....	2,850	179,115	72.....	3,588
<b>Totals.....</b>	<b>16,314</b>	<b>1,536,875</b>	<b>Totals. 4,322</b>	<b>865,265</b>

*Gross Revenue Derived from Canal Tolls in 1858.*

Welland Canal.....	\$208,361 30
St. Lawrence Canal.....	54,678 70
Chambly Canal (including St. Ours Lock).....	11,560 23
Burlington Bay Canal.....	13,790 89
St. Anne's Lock.....	4,907 41
<b>Total (Tolls on Free Goods deducted).....</b>	<b>293,298 53</b>
Gross Revenue from all sources.....	\$369,110 02
Less Collector's Salaries, &c.....	\$106,885 23
“ Repairs, &c.,.....	106,992 41
“ Tolls refunded.....	12,036 92
	<b>225,914 56</b>
<b>Net Revenue, all Incidental Expenses deducted.....</b>	<b>\$143,195 46</b>

## JOURNAL OF MANUFACTURES.

### MANUFACTURES.

The term manufactures, like “education,” “conservatism,” and others in popular use, has, in the cycle of progress, become almost a misnomer. Goodrich's Webster informs us that manufacture is a French word, compounded from the Latin *manus*, hand, and *facio*, to make; so that, of course, a fabric composed by means of machinery or mechanical apparatus and appliances, is not properly speaking, a manufacture. “When Adam delved, and Eve span;” when the good women of Israel sought “wool and flax, and worked willingly with their hands;” when our Saxon grandmothers held distaffs and Guth, the armorer, wrought mightily at the anvil, and forged scale mail with his brawny sinews; when the fair Matilda of Flanders devised her cunning tapestry, embalming history with the point of her needle; nay, down through the descent of ages, until the period of Watt, Arkwright, Fulton and Whitney—the era of the cotton gin and steam engine—it was correct

enough to call a fabric a *manu-fabric*, as it was almost wholly made with hands. Now-a-days, what is a manufacture? A loaf of bread is not, if it be made at the Mechanical Bakery. A newspaper is not, because the wonderful mechanism that produces the letter-press is almost as cunning and ingenious as the minds of those whose thoughts breathe through the editorials and selections. A common nail or a bar of iron is not a manufacture; nor is a piece of cloth, whether it be of vegetable or animal wool. The progress of the mechanical arts is rapidly reducing the classes of manufacture, and enlarging and economizing the products of machinery and the elementary means or agencies. But these latter, wonderful in variety, and indispensable now for the use of man, must have a generic name; and, in the poverty of language, and through the power of association, we call them manufactures; persisting in the term, in an inverse proportion, as human hands are *not used* in their production.

It is curious to trace the progress of mechanical art and science, from their ruder and primitive stages, to their stand-point, or rather position, at the present day. Coeval with the development of the principles of popular, intellectual and municipal emancipation, the range of the useful inventive art has expanded in a ratio ten-fold geometrically within a comparatively short allotment of time. Railroads, canals and turnpikes, have not wrought greater changes upon the face of this broad land than their cognate auxiliaries in the work of improvement—the rolling mill, the planing machine, the ponderous tilt hammer, etc., have worked, in the rapid growth of our young cities. And, strange to see, all these economic agencies have (as an antediluvian might say!) sprung at once into being. At our elbow lies a volume of the English Encyclopædia, printed 70 years ago, a repertory of everything, almost, as extant at *its* day. Imagine its poverty of mechanical information, if you call to mind this fact—when it was issued there were no gaslights, no steam engines, no locomotives, no electric telegraphs, few mineral coal fires, and no sewing machines. Of course, free schools and student news-boys had not been dreamed of, so that philosophic Franklins and statesmen-cordwainers, like Sherman, were wonderful productions—mental monsters *rara aves in terra*—*Gazette*.

## FACTORIES IN THE UNITED KINGDOM.

The total number of the factories in the United Kingdom amounts to 5,177—viz., 4,432 in England and Wales, 530 in Scotland, and 155 in Ireland. The total number of spindles is 33,503,580, and of power looms 369,205. The amount of moving-power is 137,711 by steam, and 23,724 by water. The total number employed includes 273,136 males, and 409,360 females, making together 682,497. There are 24,537 males, and 21,534 females, under 13 years of age, attending school; 1,253 males, 4,448 females, between 11 and 13 years of age, in silk-throwing mills; 70,247 males, between 13 and 18 years of age: 383,378 females, above 13 years of age; and 176,400 males, above 11 years of age. There are in the United Kingdom 460 silk fac-

tories, 417 flax factories, 525 worsted factories, 1,505 woolen factories, and 2,210 cotton factories. Of the cotton factories, 986 are employed in spinning, 460 in weaving, and 652 in both spinning and weaving. The cotton factories employ 379,213 hands; the woolen, 79,091; the worsted, 87,794; the flax, 80,262; and the silk factories, 56,137 hands.—*Hunt's Magazine*.

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### MODE OF MAKING SUGAR FROM THE CHINESE CANE.

Mr. J. S. Lovering of Philadelphia, one of the most successful manufacturers of sugar from the Chinese cane, gives the following as the conclusion he has arrived at on this subject.

1. That it is obvious that there is a culminating point in the development of the sugar in the cane, which is the best time for sugar making. The point or season I consider to be, when most if not all the seeds are ripe, and after several frosts, say when the temperature falls to 25 deg. or 30 deg. F.

2. That frost, or even hard freezing, does not injure the juice or the sugar, but that warm Indian summer weather, after the frost and hard freezing, does injure them very materially, and reduces both quantity and quality.

3. That if the cane is cut and housed, or shocked in the field when in its most favorable condition, it will probably keep unchanged for a long time.

4. That when the juice is obtained, the process should proceed continuously and without delay.

5. That the clarification should be as perfect as possible, by the time the density reaches 15 deg. Baumé, the syrup having the appearance of good brandy.

6. That although eggs were used in those and small experiments, on account of their convenience, bullock's blood, if to be had, is equally good, and the milk of lime alone will answer the purpose; in the latter case, however, more constant and prolonged skimming will be required to produce a perfect clarification, which is highly important.

7. That the concentration, or boiling down, after clarification, should be as rapid as possible without scorching—shallow evaporators being the best.

With these conditions secured, it is about as easy to make good sugar from the Chinese cane as to make a pot of good mush, and much easier than to make a kettle of good apple butter.

## STATISTICS OF AGRICULTURE.

### AGRICULTURE IN CANADA IN 1858.

From the Report of the Minister of Agriculture just issued from the Department, we learn many highly interesting and instructive particulars respecting the wheat and other crops of the past year. It appears that in July and August last in order to procure reliable information with regard to the produce of the harvest just then housed, Circulars were issued from the Bureau of Agriculture to the Presidents of all the Agricultural Societies in both sections of the Province, requesting information as to the supply of cereals likely to be available for consumption and export.

Up to the 1st October, 100 reports were received by this Department and the result given to the public. Between that date and the 1st December, twenty-nine more were received. These latter were probably more correct, as the farmers had threshed much of their grain, and had stored their potatoes.

The result of the whole may be thus stated :

The 129 Reports are the united opinions of about six hundred of the most intelligent farmers. Very many of the queries being answered by the Municipal Councils whilst in session.

They comprise nineteen from Lower Canada from thirteen Counties and one hundred and ten from Upper Canada from thirty-eight Counties. Eight L. C. and four U. C. returns report that no Winter wheat, or very little, is grown. Two of these are from the Magdalen Islands, but these report good crops of Spring wheat, one of them twenty bushels per acre, and the other sixteen, and the crops of other cereals also good.

The average of the thirty-nine Winter-wheat growing Counties is only 11 bushels. That of the forty-eight Spring wheat growing Counties is 13½ bushels per acre.

Taking the usual average of Winter wheat at 18 bushels per acre, the deficiency of this year's crop is about 36 per cent., and taking the average of Spring Wheat at 16 bushels per acre, the deficiency will be about 16 per cent. The difference of the area of the two kinds grown is not easily ascertained; that of Winter wheat has been hitherto much the largest, but this year's experience will diminish the extent of Winter wheat and extend that of Spring wheat, particularly of the species called Fife or Glasgow wheat, which nearly all the returns represent as entirely free from rust, and nearly so from the Midge, especially when sown in April, or after the 24th May—either very early or very late.

The Winter wheat called Mediterranean is stated by four parties to be entirely free from rust or midge and this is corroborated by several writers in the "Country Gentleman" and other New York Papers. The opinion as to its quality in other respects varies very materially. It is not by any means universally recommended. Had the Fife wheat been generally sown, the crops of Spring wheat would have been a full average.

When it is considered that Winter wheat on Summer-fallows requires the occupation of the land two years, and spring wheat only one year, the farmer will probably endeavor to adapt his system to the cultivation of Spring wheat, where naked Summer fallow can be dispensed with. This year's experience is very much in favor of Spring wheat.

The breadth of Winter wheat sown is already very much diminished, but what has been put in, has been sown early, and before the snow fell had a most flourishing and luxuriant appearance.

Three Counties of Lower Canada, Two Mountains, Argenteuil and Pontiac, have reported the successful growth of Winter wheat, two of them having reported 20 bushels to the acre, and the other, Argenteuil, 15. The Counties in Upper Canada which have reported freedom from the midge are Stormont, Carleton, Grenville, Lanark, Russell, Renfrew, North Simcoe, Grey and Bruce, and one return from Leeds.

The new Townships of Addington and of North Hastings, and of Peterboro, and Victoria are also free. Stormont returns 30 bushels per acre, Carleton 28, Russell 27, Renfrew 22, Simcoe 21. The insect does not appear to have reached the cultivated lands in the north, although it has reached the extreme west, having travelled regularly from the east.

It is to be hoped that it has left the Eastern Townships of Upper Canada. It is still to be found in every County along the Lake Shore from Frontenac to Essex, Lambton and Huron.

The Farmers to the North will probably have it next season, and they and all others should provide against its ravages by sowing very early and having their land well drained and cultivated, so as to encourage early maturity in order that the vegetable life may have the start of the animal life; or else, if need be, very late, so that the wheat may not blossom till the midge shall have assumed the grub-state—say after the 24th May. The Secretary of the New York State Agricultural Society has stated that the loss by this insect alone in the State of New York last year was fifteen millions of dollars.

To avoid rust which has this year been almost as destructive as the Midge, the Fife or Glasgow wheat should be sown. About 75 of the returns state that no rust affected this species of wheat, and no returns state that it did.

With regard to the other Crops; Rye, Barley, Oats and Peas, appear to be full average crops, with few exceptions,

About twelve report a partial failure of the Oat crop from rust and grasshoppers, which were in some cases very ravenous and destructive, and a partial failure of the Rye and Barley crops, which they assert the midge has attacked as well as the wheat crop,

The cause of rust is universally attributed to the want of proper drainage and free circulation of air.

Three returns from Essex, four from Middlesex, two from Kent, two from Frontenac, one from Northumberland, one from Elgin, one from Haldimand, one from Peterboro report almost a total failure in the Oat crop, attributed chiefly to rust, but in three cases to grasshoppers. With these exceptions the crop is reported rather above an average, say 32 Bushels per acre,

With regard to Potatoes the returns are not very favourable as to quantity though very so much as to quality. Almost all report a deficient crop from various causes. Thirty-two attribute the deficiency to drought or wet weather at the time of planting; twenty-two to the rot; forty-six state distinctly that there was no rot, and twenty nine give no especial report. In parts of Northumberland, Durham, York, Leeds, and Peterboro' the grasshopper has been very destructive to this crop.

The general average given in the returns is 125 bushels per acre. The later returns are much more favourable as to the amount of produce than the early returns, so that taking the average at 150 bushels of 56 lbs., the deficiency in this crop was not more than 16 per cent. in quantity, and the quality was above an average.

In the new Townships, and near the Free Grant Roads, it is well worthy of remark, that the rot has not affected the crop to any extent. It is an excellent one both as to quantity and quality. The grain crops also in these localities bear the same character for excellence.

The inferences we may draw from these 129 returns are:

1st. That the whole wheat crop of Canada for 1858, including both Winter and Spring Wheat is about 30 per cent below the general yearly average, allowing for the good quality of both Winter and Spring wheat which have escaped the midge and rust, the samples of which are excellent.

2nd. That the crops of Rye, Barley and Oats are about a fair average notwithstanding the partial failure of the last named.

3rd. That the Pea crop is a little beyond the average, say 10 per cent.

4th. That the Potatoe crop is not more than 16 per cent deficient in quantity, and is much better in quality.

5th. That Indian Corn crop has been much less cultivated than usual, owing to the planting season having been extremely wet, and that there will therefore be a very small surplus of this grain beyond what will be required for domestic purposes. Fifty-five have reported that there was little or none grown this season.

If these deductions are correct, the deficiency in the wheat crop is about the same as last year, viz., 30 per cent.; Potatoe crop is considerably better, and this is a very important item in the year's supply of food. The returns of this crop which were received at this Department, after the crop was stored were much better than those received previously; whilst the returns of the wheat crop which were sent in, after it had threshed out, were very

much worse. This will account for the difference between the Report issued by this Department when only 100 returns had been received, and the present one giving the result of the 129 returns, being all that were received in reply to about 800 circulars. Calculating the average growth of Wheat in all Canada at what it was in 1852, viz. : nine bushels for each individual, and taking the present population at 2,500,000, the deficiency in the wheat crop at 30 per cent is 6,750,000 bushels, being rather more than the same number of dollars lost this year from the destruction of the Wheat crop by midge and rust

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### POTATOES.\*

POTATO leaves contain 79 per cent. of water, and nearly 13 per cent. of ash, calculated dry. The stems contain 78 per cent. of water and about 8 per cent. ash. Estimating the ash before the stems and leaves are dried, the latter has 2.63 per cent and the former 1.735. In the tubers there is a little over 75 per cent. water, and 2½ per cent. ash, dry weight. In 100 parts of the latter, Prof. Emmons found

Silica,	1,850
Earthy phosphates,	21,100
Carbonate of lime,	0,600
Magnesia,	0,500
Potash,	48,365
Soda,	5,025
Chlorine,	4,090
Sulphuric acid,	1,200
Organic matter,	2,456
Carbonic acid,	15,725
	<hr/>
	99,911

Omitting the carbonic acid and organic matter in the above table, as of little practical importance, it will be seen that the proportion of potash exceeds 50 per cent. This is an important fact, and indicates the value of ashes as a fertilizer for this crop. Mr. Salisbury found 20 per cent. of starch in one specimen of sweet potatoes, and less than 70 per cent. of water. It also gave nearly 7 per cent. of albumen and casein; and over 3 per cent. ash calculated on the dry matter.

The Southern Cultivator contains a statement of Mr. Aaron Adkins, who raised 307 bushels of sweet potatoes on an acre, at an expense of \$10, or a little over three cents a bushel. The potatoes were cut and dropped into deep furrows, (on dry mellow land,) in rows three and half feet apart, and covered with a plough. They were not hoed, but cultivated with the shovel-plough—throwing the vines over to one side for a furrow near the hills, and then replacing them and clearing the opposite side to plough that also. A

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\* From the U. S. Patent Office Report.

small plough was run nearest the plants, and a larger one in the centre of the rows. The crop was lifted out of the ground with the plough, so that no hoe went into the field. For feeding cows while giving milk, ewes and lambs, sweet potatoes are fully equal to Irish, if not superior. It is a crop the culture of which ought to be extended wherever the climate favors its production. Professor Emmons gives the following analysis of the ash of the leaves and stems of this plant :

Silica.	.	.	.	.	23.600
Earthy phosphates,	.	.	.	.	28.575
Carbonate of lime,	.	.	.	.	15.000
Magnesia,	.	.	.	.	none
Potash,	.	.	.	.	18.515
Soda,	.	.	.	.	9.460
Sulphuric acid,	.	.	.	.	5.785
Chlorine,	.	.	.	.	2.090
					100.025

There have been sent to the Patent Office several papers of considerable length on the potato disease, which are left out of this report, because they furnish no new information on the subject. Dr. Richardson, of Baltimore, has made what he seems to regard as a great discovery, in reference to the ravages of an insect which deposits its eggs in the stems of growing potatoes, usually in June in that latitude, which hatching furnish larvæ that eat their way downward, and finally escapes near the ground. The writer has been familiar with the attacks of this depredator for the last five years, and was the first to describe and figure its larvæ. Several other gentlemen besides Dr. R. refer to this insect as the cause of the potato rot; and it destroys many thousands of bushels every year. It is not, however, the only cause of this malady. To satisfy these gentlemen that the priority of the discovery is not with them, a paragraph is copied from the Patent Office Report of 1845 page 489 :

“The editor of the Genessee Farmer, Dr. Lee, has made an extensive examination of the potato crop through central New York, and finds in all cases the curling and blight of the vines are attended by an insect. The parent is probably a beetle. It punctures the vine just above the ground, and deposits its egg in the pith of the stalk where it hatches. The larvæ eat out all the stalk but the outer bark when the stem withers and dies. Dr. Lee thinks that this prevents the ripening of the tubers and disposes them to decay. The blight, it is found, will be more severe this year than last.” During the two seasons last past the writer has seen this insect and its destructive works in Georgia and South Carolina; but he is sorry to say that he has no remedy to suggest.

In regard to the cultivation of potatoes, a few remarks are deemed appropriate, founded alike on experience and scientific research. There is no closer observer of natural phenomena in western New York than Mr. John J. Thomas, who says: “The average yield of Potatoes has diminished of late years, independent of the rot, from unknown causes, and rarely exceeds

100 bushels per acre." Evidence to this effect might be cited to almost any length. The fact is known to thousands; the cause to but few. For ten years the writer has believed and said on all proper occasions, that the robbing of the soil of its potash and other elements indispensable to the healthy organization of potatoes, has tended powerfully both to diminish the crop, and impair the constitutional vigor of the plant. A writer in the Patent Office Report for 1845, (in which the potato malady alone fills some two hundred pages,) over the signature of "Chenico," says: "Dr. Lee, a scientific gentleman of New York, who is at present engaged by the New York State Agricultural Society to visit every county in that State and deliver lectures on agricultural chemistry, in a letter to the editor of the Albany Cultivator, remarks: "More than one-half of the ashes is pure *potash*. A sugarcane, a grape vine, a potato plant, and an apple tree, need a soil that *abounds with potash*. In every town I have found scientific farmers, who, by the use of *unleached ashes, lime* and *plaster*, in equal parts, and placed in the hill with the seed, and on the hill as soon as the tops are well grown, have wholly escaped the potato rot, and harvested for several years from 500 to 200 bushels per acre." Having found from personal experience that this treatment, even on good sod loam, and on new ground with an abundance of rotting forest leaves, was highly beneficial, we had before recommended it.

In organizing the elements of water and carbon into starch, sugar, and woody fibre, the writer became satisfied, fifteen years ago, that the presence of an alkali or a kalie salt was indispensable. His researches were commenced for the purpose of determining, by careful weighing, what elements and how much of each were consumed in forming 100 lbs. of sound potato plant, including all that grows below and above ground. Few farmers or men of science have any definite idea how much of the substance of the earth, whether organic or inorganic, is dissolved and taken up by the roots of a crop of corn, wheat, potatoes, or in the growth of an apple orchard, including its fruit and leaves, in the course of a season or year. It is to be regretted that the American people will not, either through Congress or State Legislature, encourage investigations in the growth of all cultivated plants and domestic animals. If it were customary for officers in the army and navy, and others, to work for nothing and find themselves, perhaps agricultural chemists and entomologists might do the same. The misfortune is, that science as applicable to rural affairs, is not appreciated by legislators and the public at large. Hence every dollar expended for the promotion of agriculture is so grudgingly bestowed, that gentlemen of talent and science turn their attention to military and other pursuits, which pay far better, both in honor and money.

The March number of the American Farmer, for 1850, has the following paragraphs on the culture of potatoes:

"As to the yield of potatoes, that is a thing which depends upon many circumstances, as the preparation of the soil, its character, its appropriateness, and quantity of the manure applied, the kind of potato, the culture, and upon the season as much as anything else. In former years, the average crop was rated at 400 bushels; at a latter period, 200 bushels per acre; at a still

later, 150 bushels ; and since the appearance of the rot, no calculation could be safely made of average products, and he who made 100 bushels to the acre felt that he had raised a good crop ; few growers reached that point, while many did not save from the effects of that vegetable pestence more than from 50 to 60 bushels, and in numerous instances the whole or nearly the whole crop rotted in the ground. But as the disease has well nigh abated the farmer has a right to hope for more fruitful yields ; and under a favourable concurrence of circumstances, in auspicious seasons, in good soils, well manured, well prepared, and as well cultivated, we do not see why from 300 to 400 bushels to the acre may not be calculated upon. We do know that the latter quantity has been raised upon that quantity of ground and as what has been done can be done again, no farmer should despair of its accomplishment ; but, on the contrary, set himself to work with firm determination to raise that number of bushels on an acre."

On new land, rich in organic matter and rich in alkalis and alkaline earths, 400 bushels were a common yield. Then 200 became a good harvest ; followed by a 150, and down to 60 and 30 bushels per acre.

Gen. Barnum, of Vermont, many years ago, raised 1000 bushels to the acre ; but his process of culture involves so much toil and hand labor, that we doubt the economy of growing them after his plan. His mode was this :

He ploughed, harrowed, and rolled the ground, so as to bring it into a state of perfect tilth, having previously prepared a rich, light compost for purpose of manuring and raising the rows as the plants should require it. In planting the sets on the surface, he had them covered two or three inches deep with the prepared compost. When the plants came up and had grown to the size of 4 inches in height, he caused his men to go through the patch, and place alongside of the rows a sufficient quantity of the compost to form a slight hilling ; at the second and third workings, the hillings were increased and completed in a similar way, the compost thus smothering the weeds immediately near the plants, while the rest were removed by the hand. The middle of the rows were, during the season, kept clean by running the cultivator through them.

*Composition of the ash of Potatoes.*

	Tubers.	Stems.
Carbonic acid,	13.4	11.0
Phosphoric acid,	11.3	10.8
Sulphuric acid,	7.1	2.2
Chlorine,	2.7	1.6
Lime,	1.8	2.3
Magnesia,	5.4	1.8
Potash,	51.5	44.5
Soda,	trace	trace
Silica,	5.6	13.0
Oxide of iron,	0.5	5.2
Charcoal and loss,	0.7	7.6
	<hr/> 100.0	<hr/> 100.0

The above analyses were made by M. Boussingault, one of the most reliable chemists in France. If we deduct the carbonic acid, the proportion of *potash* in the ash of potatoes exceed 56 per cent. If we deduct charcoal, loss, and carbonic acid from the haulm or tops, the potash in this part of the plant exceeds 50 per cent. The inference is plain: a soil should be rich in such elements as the crops needs, one of which is potash.

As a general thing, decomposing turf, rotting forest leaves, ashes, and fresh lands, abound in all the constituents of potatoes. On the other hand, old and long tilled fields, without sod, with little mould, and less alkaline salts, yield small harvests, and in the course of a few generations so impair the vital force of this family of plants, so badly treated, that premature "rot" is reasonably to be expected. Insects hasten the work of disorganization. The *fungi* which grow so luxuriantly on diseased tubers, are to be regarded less as *causes* than *effects* of the constitutional malady. There is an essential difference in potatoes in their ability to withstand the purely chemical forces which tend to fermentation and putrefaction. It is believed by many, that all vegetables propagated by buds instead of seeds, like the best varieties of fruit tree, sugar cane, and tubers of the potato plant, are less able to endure any prolonged defect in their food, or in climate, than seedling plants. This department of vegetable physiology eminently deserves further investigation. The art of feeding cultivated plants is in the *embryo*—not born. Rural art, based on science, *is yet to be learned*.

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#### PRICES OF AGRICULTURAL PRODUCTIONS AND LABOR IN OLDEN TIMES.

The New York *Tribune* reduces to dollars and cents the prices annexed to the inventory of the estate of Captain Thomas Wheeler, of Stonington, Conn., in the year 1755. Wheat was 62½ cents per bushel, corn 33¼ cents, and rye 44 cents. Tallow was 5½ cents per pound and cheese 4 1-6 cents. Hay \$4 17 per ton. Horses ranged from \$10 to \$55. Oxen were from \$30 to \$50 per yoke. Cows from \$10 to \$17. Sheep 48 cents per head. Fat swine \$3 86. Negro slaves from \$2 76 for "an old negro woman," to \$152 78 for "negro man named Cipeo."

Referring to the travels of the Duke de la Rochefoucault Lia court in the years 1795, 1796 and 1797, we have observed the prices of corresponding articles in Western New York, as he found them at that period. At Paines Post which had then been settled about four years, wheat was "seven shillings a bushel; Indian corn four; oats three; rye eleven shillings and sixpence; hay three pounds a ton, although very little of this article is sold, and that only in the depth of winter. A cow costs from eighteen to twenty five dollars; sheep from sixteen to twenty shillings, and wool four shillings a pound. Laborers' wages from four to six shillings a day, and ten dollars a month without victuals. Maid servants earn about six shillings a week." The price of rye, as here given must have been exceptional, or may be accounted for as a misprint. At the estate of Benedict Robinson, who settled near Seneca Lake in the train of Jemima Wilkinson (whom, by the way, he al-

ready regarded with distrust) the price of rye is given at five shillings. Tolerably good oxen were selling there at from sixty to seventy dollars a yoke.

At this time the settlements were new, and the demand for the products of the earth was probably such as to raise the prices in Western New York above those in the older settlements, just as now the prices of similar articles are higher in Minnesota than in Illinois.

Thirty-three years ago, in Northern New York, wheat was seven to eight shillings per bushel, corn and rye three and sixpence to four shillings, and hay from five to ten dollars per ton, the latter being a starvation price. Horses were worth from forty to one hundred and twenty-five dollars, and oxen from eighty to one hundred dollars a yoke.

The present prices of wheat in this city are from \$1.60 to \$1.80; corn is 72 to 84 cents, and rye 90 to 100. The rise in the price of horses all over the country is almost fabulous. It is but a common nag that is worth only \$150, and matched horses go up to indefinite hundreds per pair.

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## RAILWAY RETURNS.

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### GRAND TRUNK RAILWAY RETURNS.

	1858.	1859.
Week ending April 23rd - - - -	\$50,653	\$44,858
“ “ 30th - - - -	46,424	46,222
“ May 7th - - - -	43,083	46,923
“ “ 14th - - - -	46,137	42,486

### GREAT WESTERN RAILWAY RETURNS.

	1858.	1859.
Week ending May 6th - - - -	\$44,607	\$35,650
“ “ 13th - - - -	42,020	34,029
“ “ 21st - - - -	37,471	33,480

## STATISTICS OF POPULATION.

### EMIGRATION TO CANADA—1858.

From the Report of the Chief Emigration Agent, we condense the following particulars of the Emigration to Canada in 1858:—

The number of vessels engaged in the conveyance of Emigrants from Europe was 154, having a tonnage capacity of 101,737 tons, and navigated by 4,211 seamen. 138 of these vessels were of the ordinary class of sailing ships. These had an average passage of 40 days. The remaining 16 were steam ships, which made an average passage of little over 12 days. Of the 138 sailing ships, 116 were from Ports in the United Kingdom—59 of which came within the regulations of the Passenger Act; and 73 were exempt. The former brought out 6,018, and the latter, 608 passengers. The foreign emigration employed 22 ships, which brought out 3,581 passengers. Of the whole emigration from Europe, there arrived by—

	CABIN.	STEERAGE.
16 Steamships.....	1,478	1,912
138 Sailing Vessels.....	102	9,104
Total .....	1,580	11,016

The emigration has been very healthy. The average mortality among the Steerage emigrants from Europe has been a little more than the third of one per cent.

The following is a comparative statement of the arrivals from each country in 1857 and 1858:

	1857.		1858	
	Cabin.	Steerage.	Cabin.	Steerage
England.....	1,647	13,824	1,436	5,005
Ire and .....	1	2,015	106	1,047
Scotland.....	188	3,030	38	1,386
Germany.....	4	4,957		922
Norway.....		6,407		2,655
Lower Provinces.....		24	116	98
	1,840	30,257	1,696	11,114

Showing a decrease in the emigration of 1858 of 19,287 souls.

Distinguishing the nationality or origin of the immigrants of the two seasons, they will appear as follows:

	1857.	1858.	Decrease
English.....	9,451	3,186	6,265
Irish .....	9,451	1,740	2,726
Scotch .....	4,756	2,202	2,554
Foreign .....	11,554	3,888	7,666
Canadian .....	51	98	

The number of persons aided in their emigration to this country by private individuals, charitable institutions, or under the sanction of the Poor Law Commissioners, was 353; 44 male adults, 246 females, and 63 children; and the amount paid among them, on arrival here, was £286 17s. sterling.

The number sent out from England was 118 persons, 49 of whom (24 boys and 25 girls) were sent out by the London Reformatory Schools; and 15 men, 20 women, and 34 children were sent out by the Parishes.

From Ireland there were 232 persons, viz: 2 males, 201 females, and 29 children, from the Poor Law Unions; and a further party of 22 adult females were sent out by the Rev. Roach, of Wexford.

The total number of males embarked, were 4,442, and the trades and callings are stated as follows:

	<i>Brit'h.</i>	<i>For'gn</i>		<i>Brit'h</i>	<i>For'gn</i>
Bakers .....	15	1	Brought forward....	2593	1259
Butchers.....	9		Millwrights .....	14	
Bookbinders & Printers	11		Millers .....	5	13
Bricklayers.....	18	11	Moulders & Foundrymen	7	
Blacksmiths .....	55		Miners .....	41	
Carpenters and Joiners	175	30	Painters and Glaziers..	17	
Cabinet-makers.....	9	1	Plasterers .....	3	
Coach-makers.....	10		Plumber .....	1	
Curriers .....	1		Saddlers & Harness mak.	4	1
Clerks.....	192		Sawyers.....	5	
Coopers .....	12		Sailmakers .....	3	
Dyers .....	3		Shipwrights.....	2	1
Engineers .....	18		Shoemakers.....	30	22
Farmers .....	867	784	Smiths.....	7	17
Labourers.....	1165	428	Servants .....	74	
Gardeners.....	20	4			
Masons .....	13			2806	1313
Forward .....	2593	1259	Grand total.....		4442

THE FOLLOWING IS A COMPARATIVE STATEMENT OF THE NUMBER OF EMIGRANTS ARRIVED AT THE PORT OF QUEBEC SINCE THE YEAR 1829, INCLUSIVE.

	1829 to 1833	1834 to 1838	1839 to 1843	1844 to 1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858
England.....	43386	28561	30791	60458	8980	9887	9877	9276	9585	18175	6754	10353	15471	6441
Ireland.....	102266	94094	74981	112192	2316	17976	22381	15983	14417	16165	4106	1658	2016	1153
Scotland.....	20143	11061	16311	12767	4984	2879	7042	5477	4745	6446	4859	2794	3218	1424
Cont'n't of Europe	15	485		9728	436	849	870	7256	7456	11537	4864	7345	11365	3578
Lower Provinces.	1889	1346	1777	1219	968	701	1108	1184	496	857		261	24	214
	167699	96357	123816	196359	38494	32292	41076	39176	36699	53183	21274	22439	32097	12810
Grand Total....														913815

The total expenditure of the Emigration Department, including a portion of the expenditure of the Quarantine Establishment at Grosses Isle during the season of 1858, amounts to \$32 659 80—accounted for as follows:—

For the Quarantine Establishment..... \$9,903 35  
 Emigration..... \$9,929 78  
 Salaries..... 10,926 78  
 Agency..... 1 900 45

For Emigration..... 22,756 45

\$32,659 80

BANK NOTE REPORTER.

BANK OF BRITISH NORTH AMERICA

HEAD OFFICE—London, England. Charles McEab, *Secretary*.  
 Head Office in the Colonies—Montreal. T. Paton, *Gen. Manager*.

			DISCOUNT IN	
			Montreal.	Toronto.
BRANCH at	Montreal.	Robert Cassels, Manager .....	par	par
"	"	Brantford. James C. Geddes, Mang'r .....	1/2	par
"	"	Halifax, N. S. S. N. Binney, Mang'r .....	5	5
"	"	Hamilton. Geo. Taylor, Mang'r .....	1/2	par
"	"	Kingston. Samuel Taylor, Mang'r .....	1/2	par
"	"	London, C.W. Walter Watson .....	1/2	par
"	"	Quebec. C. F. Smith, Acting Manager .....	par	par
"	"	St. John, N.B. Thomas Christian .....	5	5
"	"	Toronto. W. G. Cassels, Mang'r .....	1/2	par
Agency at	Dundas.	W. Lash, Agent .....	1/2	par
"	"	Ottawa. A. C. Kely, Ag't .....	1/2	par
Agents in	NewYork.	R. C. Ferguson, F. H. Grain.		
"	"	Scotland. National Bank of Scotland, and Branches.		
"	"	Ireland. Provincial Bank of Ireland, and Branches.		
"	"	West Indies. Colonial Bank.		
"	"	Australia. Union Bank, and Branches.		
"	"	Vancouver. Bank B. N. A.		

BANK OF THE COUNTY OF ELGIN.

(Notes secured by deposit of Government Securities.)

Head Office—St. Thomas, C.W. Edward Ermatinger, *Mang'r* ..... 1/2  
 All Foreign business transacted through the Commercial Bank of Canada.

BANK OF MONTREAL.

			DISCOUNT IN	
			Montreal.	Toronto.
Head Office—	Montreal.	Hon. P. McGill, <i>President</i> .		
		D. Davidson, <i>Cashier</i> .....	par	par
Branch at	Montreal.	E. H. King, .....	par	par
Branch at	Quebec.	J. Stevenson, Manager .....	par	par
"	"	Toronto. R. Milroy, Mang'r .....	1/2	par
"	"	Hamilton. G. Dyett, Mang'r .....	1/2	par
"	"	London, C.W. Wm. Dunn, .....	1/2	par
"	"	Brockville. F. M. Holmes, Mang'r .....	1/2	par
"	"	Kingston. A. Drummond, Mang'r .....	1/2	par
"	"	Cobourg. C. H. Morgan, Mang'r .....	1/2	par
"	"	Belleville. Q. Macnider, Mang'r .....	1/2	par
"	"	Bowmanville. W. R. Dean, Mang'r .....	1/2	par
"	"	Brantford. A. Greer, Mang'r .....	1/2	par
"	"	St. Thomas. E. M. Yarwood, Mang'r .....	1/2	par
"	"	Ottawa (late Bytown). P. P. Harris, Mang'r .....	1/2	par
Agency at	Woodstock	W. J. Buchanan, Agent .....	1/2	par
"	"	Cornwall, W. Mattice, Agent. ....	1/2	par
"	"	Whitby. Thos. Dow, Ag't .....	1/2	par
"	"	Peterboro. J. N. Travers, Ag't .....	1/2	par
"	"	Goderich. H. McCutcheon, .....	1/2	par
"	"	Simcoe. S. Read, Ag't .....	1/2	par
"	"	Port Hope. R. Richardson, Ag't .....	1/2	par
"	"	Picton. J. Gray, Ag't .....	1/2	par

BANK OF MONTREAL (CONTINUED.)

		DISCOUNT IN	
		Montreal.	Toronto.
Agency at	Guelph,	R. H. Moore,	..... ½ par
" "	Lindsay,	Hartley Dunsford,	..... ½ par
" "	Perth	M. Stevenson	..... ½ par
" "	Windsor,	A. Macnider	..... ½ par
Agents in London—	The Union Bank of London		
" "	Liverpool—The Bank of Liverpool.		
" "	Edinburgh—The British Linen Company, and Branches.		
" "	Glasgow—	Do.	do.
" "	New York—	R. Bell and J. Rae.	
" "	Boston—The Merchants' Bank.		

BANK DU PEUPLE.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Montreal.	<i>President.</i>	
		B. H. Lemone, <i>Cashier.</i>	..... par par
Agents at	Toronto,	E. F. Whittemore & Co.	
" "	Quebec,	Quebec Bank.	
" "	Bowmanville,	John Simpson.	
" "	London, Eng.,	Glynn, Mills, & Co.	
" "	New York,	Bank of the Republic.	
This Bank issues no notes at its Agencies.			

BANK OF UPPER CANADA.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Toronto, C. W.	Wm. Proudfoot, <i>President.</i>	
		T. G. Ridout, <i>Cashier.</i>	..... ½ par
Branch at	Brockville ...	R. F. Church, "	..... ½ par
" "	Hamilton ...	Alfred Stow, "	..... ½ par
" "	Chatham ...	C. P. Sisson, "	..... ½ par
" "	Kingston ...	W. G. Hinds, "	..... ½ par
" "	London ...	Jas. Hamilton, "	..... ½ par
" "	St. Catharines	H. C. Barwick, "	..... ½ par
" "	Montreal ...	E. T. Taylor, <i>Manager</i>	..... par par
" "	Quebec ...	R. S. Cassels, "	..... par par
Agency at	Barrie ...	E. Lally, <i>Agent,</i>	.....
" "	Belleville ...	E. Holden, "	..... ½ par
" "	Clifton ...	James Macklam "	
" "	Goderich ...	John McDonald "	
" "	Lindsay ...	J. H. Hopkins "	
" "	Niagara ...	T. McCormick "	
" "	Ottawa ...	Thomas Gem.	
" "	Port Hope ...	J. Smart "	
" "	Sarnia ...	Alex. Vidal "	
" "	Stratford ...	J. C. W. Daly "	
" "	Three Rivers, C. E.	P. D. Dumoulin "	
" "	Windsor, C. W.	Thos. E. Trew "	
" "	Picton,	D. Barker "	

BANK OF UPPER CANADA (CONTINUED.)

			DISCOUNT IN	
			Montreal. Toronto	
Agents at	Albany, N. Y...	Bank of the Interior.		
" "	Boston ...	Blake Howe & Co.		
" "	Edinburgh ...	British Linen Company.		
" "	London, Eng...	Glyn, Mills & Co.		
" "	" "	Coutts & Co.		
" "	" "	Barclay, Bevan, Tritton & Co.		
" "	" "	Bank of London.		

BANK OF TORONTO.

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Toronto	...	J. G. Chewett, <i>President</i> .		
		Angus Cameron, <i>Cashier</i> .....	$\frac{1}{2}$	par
Agency at	Barrie ...	Angus Russell, <i>Agent</i> .....		
" "	Cobourg ...	J. S. Wallace, " .....		
" "	Newcastle ...	Alexander Smith, " .....		
" "	Peterboro ...	Alexander Monro " .....		
" "	Oakville ...	John T. M. Burnside " .....		
Agents at	London, Eng...	City Bank.		
" "	New York, U.S.	Bank of Commerce.		

CITY BANK, MONTREAL.

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Montreal.		Wm. Workman, <i>President</i> .		
		F. Macculloch, <i>Cashier</i> .....	par	par
Branch at	Toronto ...	Thomas Woodside, <i>Manager</i> .....	$\frac{1}{2}$	par
" "	Quebec ...	Daniel McGee, " .....	par	par
" "	Sherbrooke ...	W. Ritchie, " .....		no issues
Agent at	Dublin ...	National Bank of Ireland.		
" "	London, Eng...	Glyn, Mills & Co.		
" "	New York ...	Bank of the Republic.		

INTERNATIONAL BANK.

Capital, \$1,000,000.

Head Office—Toronto.	Wm. Fitch, <i>President</i> .	J. H. Markell, <i>Cashier</i> .....	$\frac{1}{2}$	par
Agents at	New York, Metropolitan Bank.			

COLONIAL BANK OF CANADA.—Authorized Capital, \$2,000,000.

Head Office—Toronto. W. BETTES, *President*. E. C. HOPKINS, *Cashier*.

This Bank has just gone into operation and has not yet made any return to the Government. Its bills are not taken on deposit by the other chartered Banks.

COMMERCIAL BANK OF CANADA.

(Formerly Commercial Bank of the Midland District.)

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Kingston.		Hon. John Hamilton, <i>President</i> .		
	Ross, <i>Cashier</i> .....	C. S.	$\frac{1}{2}$	par
Branch at	Belleville ...	Andrew Thompson, <i>Manager</i> .....	$\frac{1}{2}$	par
" "	Brockville ...	James Bancroft " .....	$\frac{1}{2}$	par
" "	Galt ...	William Cooke, " .....	$\frac{1}{2}$	par
" "	Hamilton ...	W. H. Park, " .....	$\frac{1}{2}$	par
" "	London ...	J. G. Harper, " .....	$\frac{1}{2}$	par

		DISCOUNT IN	
		Montreal.	Toronto
Branch at	Montreal, Thomas Kirby,.....	par	par
"	" " Port Hope, W. F. Harper.....	$\frac{1}{2}$	par
"	" " Toronto, C. J. Campbell.....	$\frac{1}{2}$	par
Agency	" Chatham, J. Pottinger, <i>Pro Agent</i> .....		
"	" " Ingersoll, W. Sage.....		
"	" " Perth, James Bell .....		
"	" " Peterboro, Wm. Cluxton .....		
"	" " Port Stanley, E. C. Warren.....		
"	" " Prescott, John Miller.....		
"	" " Stratford, George C. Small.....		
"	" " Windsor, G. W. Macdonald.....		
Agents	" Albany, Bank of the Interior .....		
"	" " Boston, Merchants Bank.....		
"	" " Dublin—Ireland; Boyle, Low, Pim & Co.....		
"	" " Edinburgh—Scotland; Commercial Bank of Scotland.		
"	" " Glasgow " Clydesdale Banking Company.		
"	" " London—England; London Joint Stock Bank.		
"	" " New York, Merchants Bank.		

## GORE BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head office,	Hamilton, A. Stevens, <i>President</i> . W. G. Crawford, <i>Cashier</i> .	$\frac{1}{2}$	par
Agency at	Chatham, A. Charteris, <i>Agent</i> .....		
"	" " Galt, " John Davidson ".....		
"	" " Guelph, " T. Sandilands ".....		
"	" " London, " ".....		
"	" " Paris " James Nimmo ".....		
"	" " Simcoe, " D. Campbell ".....		
"	" " Woodstock, " James Ingersoll ".....		
Agents	" Albany, N. Y.; New York State Bank.....		
"	" " Edinburgh, Scotland,—Union Bank and Branches.		
"	" " London, England,—Glyn, Mills & Co.....		
"	" " New York, Ward & Co., and Merchants Bank.....		

## MOLSON'S BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Montreal, Wm. Molson, <i>President</i> ; W. Sache, <i>Cashier</i> .	par	par
Agency at	Toronto, John Glass, <i>Agent</i> .....	$\frac{1}{2}$	par
Agents at	Boston, U. S.; J. E. Thayer & Brother.		
"	" " New York, Mechanics Bank.		
"	" " London, England; Glyn, Mills & Co.		

## NIAGARA DISTRICT BANK.

Head office—	St. Catharines. Hon. W. H. Merritt, <i>President</i> . C. M. Arnold		
	<i>Cashier</i> .		
Agency at	Ingersoll, C. E. Chadwick, <i>Agent</i> .		
Agents.—	London, England,.....Bosanquet, Franks & Co.,		
	New York.....Bank of the Manhattan Co.		

This Bank was established under the Free Banking Law of Canada, in 1854, but was incorporated by Act of Parliament in 1855, and is now one of the chartered Institutions of the country.

ONTARIO BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—Bowmanville ...	Hon. John Simpson, <i>President</i> .		
	D. Fisher, <i>Cashier</i> .....	½	par
Agent at New York ...	Bank of the Republic.		
“ London, Eng. ...	Glyn, Mill & Co.		

PROVINCIAL BANK—STANSTEAD.

(Notes secured by deposit of Provincial Securities.)

		DISCOUNT IN	
		Montreal.	Toronto
Head Office—Stanstead, C. E.,—W. Stevens, <i>President</i> ,.....	J. W. Peterson <i>Cashier</i> .....	½	5
<i>Agents in Montreal</i> .....	J. D. Nutter & Co.		
“ New York.....			
“ Boston.....			

The notes of the Provincial Bank are not taken in deposit by any of the other Banks or Branches—the Brokers in Montreal redeem them at one-half per cent. discount. In Toronto and other western cities they are bought in large sums at two and one-half, and, in smaller amounts, at five per cent. discount.

QUEBEC BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—Quebec, James Gibb, <i>President</i> —C. Gethings, <i>Cashier</i>		par	par
Branch at Toronto, W. W. Ransom, <i>Manager</i> ..		½	par
Agency at Montreal, Banque du Peuple, <i>Agents</i> .....			
“ Ottawa, H. V. Noel, “ .....			
“ Three Rivers, John McDougall, “ .....			
<i>Agents at</i> Fredericton, N. B. ; Central Bank, “ .....			
“ London, England ; Glyn, Mills, & Co., “ .....			
“ New York, U. S. ; Maitland, Phelps, & Co. ....			
“ St. John, N. B. ; Commercial Bank, New Brunswick ...			

ZIMMERMAN BANK.

Head Office—Clifton, C. W.—Jos. A. Woodruff, *President*.

J. W. Dunklee, *Cashier*.

½

*Agents in* New York, Atlantic Bank.

PRIVATE BANKERS AND EXCHANGE BROKERS.

MONTREAL.—C. Dorwin & Co., St. Francois Xavier Street.	
“ J. D. Nutter & Co., Place D'Armes, Publishers of C. M's Bank Note Reporter.	
“ Geo. W. Warner, St. Francois Xavier street.	
“ D. Fisher & Co.,	
“ J. E. Malhiot	

## COMMERCIAL SUMMARY AND REVIEW.

### REVIEW OF THE TORONTO MARKETS.

TORONTO, May 31st., 1859.

The Produce Market, which was dull and inanimate at the date of our last, has undergone considerable fluctuations during the past month. Owing to war-like news from Europe, a rapid advance in the price of breadstuff took place about the middle of the month, which was sustained to within the last few days, since which indications of a decline are again perceptible. The prospect of an abundant harvest both in England and on the Continent of America, has doubtless contributed to this decline, notwithstanding that the news from Europe continues as war-like as ever.

Fall Wheat—which at the date of our last was from \$1 50c. @ \$1 60c. per bushel, advanced towards the middle of the month to \$1 90c. @ \$2, but has since receded to \$1 60c. @ \$1 90. The deliveries have been much larger than during the preceding month, the high prices having induced holders to realize.

Spring Wheat remains much as last month, the demand for seed having necessarily fallen off. It is still scarce, however, and meets ready purchasers at \$1 40c. to \$1 55c.

FLOUR—The demand is entirely for local consumption, the prices being higher than either in New York or Montreal.

#### PRICE OF PRODUCE.

Fall Wheat Prime, per Bushel .....	1 60	to	1 90
“ Medium “ .....	1 35	to	1 50
Spring Wheat, “ .....	1 20	to	1 35
Barley, “ .....	0 75	to	0 80
Rye, nominal “ .....	0 75	to	0 80
Oats, “ .....	0 55	to	0 60
Peas, “ .....	0 80	to	0 90
Clover Seed, “ .....			
Tares, “ .....			
Swedish Turnip Seed, per lb .....			25
Potatoes, seed, .....	0 70	to	0 80
Turnips, per bushel .....			0 37½
Apples, per barrel .....	4 50	to	5 00
“ dried, per bush .....	3 00		

Pork, fresh, per 100 lbs. ....	7 00	to	7 50
Beef, " " .....	7 00	to	8 00
Mess Pork, per barrel.....	19 00	to	20 00
Prime, " .....	13 00	to	15 00
Bacon, sides per 100 lbs. ....	8 00	to	9 00
Hams, " .....	10 00	to	12 00
Sheep, each.....	6 00	to	8 00
Calves, each.....	4 00	to	5 00
Wool, per lb.....	0 20	to	0 25
Sheep Skins, each.....	1 50	to	1 76
Beef hides, per 100 lbs.....	6 00	to	7 00
Calf Skins, per lb. ....	0 10	to	0 12
Butter, fresh per lb. ....	0 15	to	0 16
Eggs per dozen .....			0 10
Chickens, per lb.....	0 50	to	0 60
Turkeys, each.....	1 00	to	1 50
Geese, each.....	0 50	to	0 60
Cheese, American, per 100 lbs. ....	10 00	to	11 00
Honey, per lb.....	0 15	to	0 20
Hay, per ton .....	17 00	to	18 00
Straw per load .....	6 00	to	6 25
Wood, per cord, delivered.....	4 00	to	4 25
" per load.....	3 00	to	3 75
Flour No. 1, Superfine, per barrel, 196 lb .....	7 00	to	7 50
" Fancy.....	7 50	to	7 75
" Extra .....	8 00	to	8 50

REVIEW OF THE MONTREAL MARKETS.

*Montreal, 31st May, 1859.*

The weather continues all that could be desired, and the crops in this neighbourhood look well and give promise of an abundant return.

The European intelligence has had an unfavourable influence on the price of Stocks and it is with difficulty that the best securities are realized. Money, however, continues easy and the Banks are discounting freely all the first class paper that is placed before them. Outside rates are higher, but this is generally for temporary loans on an inferior class of paper.

On reference to the Customs' returns, we find that, from the 1st January 1859, to the 24th inst., the total amount of receipts for duties amounted to :

	\$942,069
For the same period last year,	504,313
	<hr/>
Excess this year,	\$437,756

The total imports at the port of Montreal for the corresponding period stand as follows :—

	1858.		1859.
January, - -	173784.	January, - -	356497
February, - -	273801.	February, - -	704010
March, - -	947588.	March, - -	1500323
April, - -	853045.	April, - -	1295396
May 23rd, - -	1463129.	May 23rd, - -	2238201
	<hr/>		<hr/>
	\$3,711,347		\$6,094,427

Showing an increase up to the 24th of May, 1859, over the corresponding period of last year of \$2,383,080.

We have to report a dull week in nearly all branches of business. It is expected, however, that the Tea cargo which will be offered to the trade on Friday, the 3rd June, will attract a large number of merchants to this city. The cargo of the brig "Von Laffert Gailitz," from Marseilles, will also be sold on Wednesday, the 1st of June.

The Sugar Market has ruled exceedingly heavy for the past few days, and no sales of note have transpired.

Yesterday, Mr. John Leeming offered, on account of Messrs. J. & J. Mitchell & Co., the cargo of a vessel direct from Cuba. Only one small lot of 5 bhds and 30 brls were sold, the balance of the cargo was withdrawn.

The change in the rate of duty on Sugar will take effect on the 1st June; and dealers, fancying that the increase would tend to put up prices, bought largely in the New York and Boston Markets; the consequence of which is that our market is for the present overstocked. We quote Porto Rico Bright \$8 @ \$8.25; Fair \$7.50 @ 7.75; Dark \$7; Cuba Bright \$7.75 @ \$8; Fair \$7.50; Dark \$6.75 @ \$8.

The following are the prices of the Canada Sugar Refinery:—Loaves, in tierces of about lbs.  $11\frac{3}{4}$  c. per lb.; Dry Crushed, in brls of 160 lbs.  $11\frac{1}{2}$  c. do.; Ground, for table use, in brls 200 lbs  $11\frac{1}{4}$  c per lb.; Extra Ground for confectionary, in brls 200 lbs.  $11\frac{1}{2}$  c. per lb.; Crushed A. or White Bastard, in brls of 250 lbs. 11c. per lb.; Yellow Refined,  $8\frac{1}{2}$  @  $10\frac{1}{2}$  per lb.; Sugar House Syrup in brls of 40 galls. 50c per gal. Sugars of other grades sold by sample at prices according to qualities.

Statement of quantity and value of Sugar and Molasses, at the port of Montreal, from the 1st January to the 23rd May, 1859, compared with the same of the corresponding period of last year:—

	1858.		1859.	
	Gals.	Value.	Gals.	Value.
Molasses	337,340	64,296	144,542	29,365.
	lbs.		lbs.	
Refined Sugar	34,439	2,837	94,766	8,508
	lbs.		lbs.	
Raw Sugar	3,024,075	152,923	10,018,451	564,098

The dry goods trade for this Spring may be said to be over. A large business has been done and considerable caution exercised in extending doubtful accounts.

PRICE OF PRODUCE.

MONTREAL, May 31st, 1859.

ASHES—Pot.....	⌘ cwt.	\$6 30	to	\$6 35
Pearl.....		6 60	to	6 65
FLOUR—Canada Fine.....	⌘ bbl. 196 lbs.....	5 50	to	5 75
Superfine No. 2.....		6 25	to	6 50
Superfine No. 1 United States.....		7 00	to	7 50
Superfine No. 1 Canadian.....		7 00	to	7 50
Fancy.....		7 50	to	0 00
Extra Super.....		8 00	to	8 25
Double Extra.....		8 25	to	8 75
Rye Flour.....		5 25	to	0 00
INDIAN MEAL—.....	⌘ 196 lbs.	None.		
WHEAT—⌘ 60 lb.				
Wheat [U. C. and U. S. White].....		0 00	to	0 00
U. C. Spring.....		0 00	to	0 00
Red Winter.....		0 00	to	0 00
Milwankie Club.....		1 40	to	1 45
Chicago Spring.....		1 35	to	1 40
BARLEY.....	⌘ minot.....	0 80	to	0 85
OATS.....	⌘ minot.....	0 57½	to	0 00
PEAS—White.....	⌘ minot.....	1 05	to	1 10
INDIAN CORN.....	⌘ 56 lbs.....	00 95	to	1 00
PROVISIONS—Beef, Mess.....	⌘ bbl.....	0 00	to	00 0
Prime Mess.....		14 50	to	15 00
Prime.....		10 00	to	10 50
Cargo.....		None.		
PORK—Mess.....	⌘ bbl.....	20 00	to	21 00
Prime Mess.....		17 50	to	18 00
Prime.....		16 50	to	17 00
Cargo.....		None.		
BUTTER—Inspected No. 1.....	⌘ lb...	None.		
Inspected No. 2.....		None.		
Uninspected.....		0 15	to	00 22½

**MONTREAL STOCK MARKET—PREPARED BY THE BOARD OF BROKERS,**  
BOARD ROOM, EXCHANGE, MONTREAL, May 26th, 1859.

DESCRIPTION.	Shares.	Paid Up.	Dividend Last Six Months.	Buyers.	Sellers.
Bank of Montreal	\$200 00	whole.	4 per cent.	112	113
Bank of Montreal, New Stock	200 00	70 per ct.	4 per cent.	112	113
Commercial Bank of Canada	100 00	do	4 per cent.	112 1/2	None
City Bank	50 00	do	4 per cent.	107 1/2	108
City Bank, New Stock	50 00	do	4 per cent.	None.	None.
Bank of Upper Canada	50 00	40	4 per cent.	108	108
People's Bank	50 00	40	4 per cent.	109 1/2	None.
Molson's Bank	50 00	\$15 10	None.	\$2 25	\$2 50
Montreal Mining Company's Consols	20 00	4 10	4 per cent.	None.	None.
Quebec and Lake Superior Mining Company	8 00	0 75	4 per cent.	None.	None.
Lake Huron Silver and Copper Mining Company	5 00	0 90	4 per cent.	None.	0 25
Canada Mining Company	5 00	0 25	4 per cent.	0 35	16 1/2
Huron Copper Bay Mining Company	4 00	whole.	None.	16 1/2	None.
Champlain and St. Lawrence Railroad Company	200 00	whole.	6 per cent, per annum.	80	None.
Grand Trunk Railroad Company	100 00	whole.	3 per cent, per annum.	115 1/2	None.
Great Western of Canada	100 00	whole.	4 per cent., 6 mos.	115	107 1/2
Montreal Telegraph Company	40 00	whole.	4 per cent., 6 mos.	105	103
Montreal City Gas Company	40 00	whole.	4 per cent, per annum.	None.	92 1/2
Government Debentures, 20 years	•	•	6 per cent, per annum.	None.	None.
Can. M. L. F. Debentures	•	•	7 per cent, per annum.	50	52 1/2
Champlain and St. Lawrence Railroad Bonds	•	•	6 per cent, per annum.	80	107
Montreal Exchange	400 00	whole.	8 per cent, per annum.	105 1/2	94
Montreal Harbour Bonds	•	•	6 per cent, per annum.	12	•
Do. Water Works Bonds	•	•	6 per cent, per annum.	•	•

**STOCKS.**

PEOPLE'S BANK.—Quiet and nominal at 104.  
MOLSON'S BANK.—Asked for, Nominally 109 1/2.  
MONTREAL MINING CO. CONSOLS.—No transactions.  
Conditions purely nominal.  
CHAMPLAIN & ST. LAWRENCE RAILROAD.—There is a slightly increased demand, and sellers are firm at 10 1/2 to 11.  
GRAND TRUNK RAILROAD.—No stock offered.  
GREAT WESTERN OF CANADA.—Nominal. Nothing doing.  
MONTREAL TELEGRAPH COMPANY STOCK.—Heavy.

BANK OF MONTREAL.—Has continued to decline— their being to-day sellers at 113 ex. div. Buyers, but not to a large amount, at 112.  
BANK OF MONTREAL NEW STOCK.—Sellers at 113. Buyers at 112 ex. div.  
BANK OF BRITISH NORTH AMERICA.—None in market.  
COMMERCIAL BANK OF CANADA.—Nominally as quoted.  
BANK OF UPPER CANADA.—Latest transactions at 91. Nothing doing.

but very little stock in the market.  
MONTREAL CITY GAS COMPANY.—Has declined.— Sellers at 107 1/2  
GOVERNMENT DEBENTURES.—Offered at 103. Demand very limited.  
CONSOLIDATED MUNICIPAL LOAN FUND DEBENTURES.—Nothing whatever doing. Sellers, but no buyers at 92 1/2.  
IN OTHER STOCKS.—Nothing doing.  
EXCHANGE.—As quoted, with but little doing.

PRODUCE MARKETS.

The following is the *Montreal Gazette's* Report for the week ending 26 May, 1858.

**ASHES.**—Pots have met a steady demand throughout the week, closing to-day at \$6.35 for best shipping parcels. Pearls are in mode rate request at outside quotation.

**FLOUR.**—The market has assumed a quiet tone in absence of shipping demand. The amount of business done since last report is unusually small for the season, being nearly confined to supply of local trade. The quotations for all kinds are reduced about 30 cents. Superfine, of best U. C. brands, now fetches \$ 7.37½ and a lot of 1000 brls Welland Canal was placed yesterday at \$7.00. Fancy and Extra are dull and almost nominal at quotations. French sacks have been sold at \$9.00 per 196 lbs., the quality being equal to Extra. A lot, slightly damaged, was sold at auction at \$7.62½c @ \$7.87½cts.

**INDIAN MEAL.**—Is in fair demand at quotations. The transactions are however, of a retail character.

**OATMEAL.**—The former quotation is fully maintained, some holders asking \$8.00 per barrel.

**GRAIN.**—Wheat is now difficult of quotation as none has been offered for some days. Oats are a shade firmer; the latest sale worth reporting was at 60 cents. Peas—the stock being small and in few hands, are held firmly at \$1.10. Barley is strictly nominal at quotation; no demand. Corn—the latest sales were at 95 cents; holders now ask \$1.00.

**PROVISIONS.**—Beef—prime mess being scarce and in few hands, is firm at \$15 per brl; tierces are held above views of buyers. Prime not asked for. Pork—the demand noted in last report has now subsided, and sales could only be effected at a considerable reduction from former quotations. The latest sales were at \$20 for Mess, \$17 for Prime Mess, and \$15 for Prime. Butter is strictly nominal at quotations; no shipping demand. Lard is dull at quotations: no sales worth reporting.

In Hardware we have nothing new to note.—The following are the quotations for leading articles:

MONTREAL, May 26, 1859.

IRON, HARDWARE, &c.—

	£.	s.	d.	£.	s.	d.
Iron, Bar, Staffordshire,.....per ton	13	15	—	@	14	5
Iron, Best Refined.....	16	10	—	@	17	10
Iron, Bar, Scotch.....	13	15	—	@	14	5
Iron, Swedes.....	23	15	—	@	27	10
Iron, Pig, Gar'sherrie.....	5	10	—	@	—	—
Iron, Other Brands.....	5	5	—	@	5	7
Boiler Plate,.....per cwt.	18	6	@	20	—	—
Iron, Sheet, Singles,.....	15	6	@	15	3	—
Sheet, Doubles,.....	20	—	@	22	6	—
Hoop, for Coopers.....	16	6	@	17	—	—
Hoop, for Nails.....	14	3	@	15	—	—
Iron, Band.....	16	3	@	17	6	—
Shot.....per cwt.	45	—	@	46	—	—
Cut Nails.....	19	0	@	20	—	—

Wrought Spikes.....	23	9	@	25	—
Pressed Spikes.....	20	—	@	21	—
anchors.....	30	—	@	40	—
Anvils.....	30	—	@	60	—
Potash Kettles.....	15	—	@	16	3
Sugar Kettles.....	15	—	@	16	3
Camp Ovens.....	16	6	@	18	6
Bellied Pots.....	17	6	@	20	—
Plough Moulds.....	25	6	@	30	—
Steel, Spring.....	30	—	@	37	6
Steel, Cast.....	85	—	@	95	—
Lead, Pig.....	35	—	@	40	—
Lead, Sheet.....	35	—	@	40	—
Copper, Sheet.....	2	2	@	2	4
Canada Plates, Glamorgan.....	24	—	@	—	—
Canada Plates, Pontypool.....	24	—	@	—	—
Canada Plates, Staffordshire.....	22	6	@	—	—
Tin Plates, Charcoal, IC.....	50	—	@	52	6
Tin Plates, Charcoal, IX.....	60	—	@	62	6
Tin Plates, Charcoal, DC.....	47	6	@	48	—
Tin Plates, Charcoal, DX.....	57	6	@	58	—
Tin Plates, Coke, IC.....	43	9	@	45	—

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NEW YORK MARKET.—MAY 29.

**FLOUR**—The flour market is heavy and unchanged. Sales of 3,400 bbls at \$5 30 @ 6 25 for superfine State; \$6 75 @ 7 15 for Extra State; \$5 60 @ 6 25 for common to good superfine Western; and \$6 75 @ 7 25 for common to good Extra Western; and \$6 90 @ 7 25 for common to good extra round hooped Ohio. Closing steady. Canadian Flour nominal at \$7 25 @ 8 50 for common to choice extras. Rye Flour at \$4 25 @ 5 50.

**GRAIN**—The market for Wheat dull and depressed. Sales 5,500 bush. at 176c for white Michigan; and 200c for choice white Kentucky. Barley dull and nominal. Corn market heavy and a shade easier. Sales 19,000 bush. at 83 @ 87c for inferior yellow; 90 @ 92c for good to prime do of all kinds; 78c for damaged mixed Western; and 90c for sound. Rye dull at 98 @ 100c. Oats dull at 53 @ 54c for State; 56 @ 58c for Western and Canadian.

**PROVISIONS**—The Pork market is dull and prices are heavy. Sales of 3,500 bbls: at \$17 25 for new mess; and \$15 12 @ 15 25 for prime. Including 2,000 bbls mess last evening at \$17 25. Beef steady and prices are unchanged. Sales of 500 bbls at \$7 00 @ 7 50 for country prime; \$9 00 @ 9 75 for country; \$12 00 @ 15 00 for repacked Chicago mess; and 15 00 @ 17 00 for extra mess. Prime Mess beef quiet. Sales at \$22 00 @ 28 00. Beef Hams dull at \$14 50 @ 17 00. Bacon dull. Cut meats are quiet. Sales at 7 @ 7½c for dry salted shoulders; and 8½ @ 9c for hams. Lard heavy—Sales 400 bbls at 11½ @ 12½c for No. 1 to prime Western. Butter is steady. Sales at 16 @ 19c for new Ohio, and 18 @ 20c for do. State. Cheese dull at 5 @ 10c according to the quality.

**WHISKEY**—Market is lower. Sales of 250 bbls at 27 @ 27½c.

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## MISCELLANEOUS.

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### WINDS AND THEIR CAUSES.

Nothing in nature seems more variable than the succession of winds; yet a careful investigation discloses a regular system of circulation in the atmosphere, which would manifest itself in a rigid regularity of phenomena, if all the disturbing causes were removed. The variableness exists chiefly in the temperate zones, while in the tropics the regularity of winds is remarkable. One of the phenomena which most strikingly impressed the companions of Columbus was the constancy of the east wind, which blew their ships steadily toward the west, and seemed to prevent all possibility of return to Spain. Even on the coasts of England and France, the wind blows about two-thirds of the year from the southwest, verging more directly towards the west in the higher latitudes. There is thus an approach to regularity, even in the temperate regions. Winds result from the disturbances of the equilibrium of the atmosphere. The atmosphere is composed of successive layers of air, of different degrees of density. When these successive layers of air are in equilibrium, they produce calm; when in motion, wind. They are set in motion chiefly by heat. Thus an air thermometer—formed of bulbs filled with air, in which the two columns of air are separated from communication with each other by a drop of alcohol between—is so sensitive that, on the approach of a person within two yards of it, the heat radiated from the human body will immediately cause the drop to move. If, in nature, an upper layer of air is of equal or greater density than a lower one, there will be a downward current toward the earth; if in one part of a layer the density is greater than in another part of the same layer, there will be a horizontal motion parallel to the earth's surface. Thus a fire in a stove heats the air inside till it becomes exceedingly rare, when the outside air rushes in with a strong draft, corresponding in nature to the rarification of air in one locality, and the rushing in of colder air causing a gale of wind. A grand general cause of the unequal temperature of the earth's surface is the spherical form of the planet, which causes an unequal distribution of the sun's rays, and gives us the great zones of temperatures, or the astronomical climates—the torrid, the temperate, and the frigid. To this inequality other causes are to be added. Thus the whole would be less variable if the sun were to remain stationary at the equator, instead of moving, as it does, over the wide space between the tropics. The hottest part of the earth's surface is that which is most directly under the sun's rays; and as this region is continually changing from one tropic to another, the great system of winds will in like manner keep continually changing with the motion of the sun. Another cause of disturbance is found in the different effects of the same degree of heat upon the land and water. The land absorbs the sun's rays more rapidly than the water, and also more rapidly gives up the heat which it has received. On a summer day, if a piece of cold iron be put by the side of a bucket of cold water, the iron will become warm to the touch, while the water will be still cool. Land

is thus sooner heated and sooner cooled than water. A further cause of inequality of temperature and variableness of winds is in the succession of day and night. For example, in a small island lying under the tropical sun, soon after the sun rises, the island and the atmosphere above it become warm; by noon the surface is intensely heated, and the atmosphere exceedingly rarified. The surrounding ocean, not so readily absorbing heat, remains cooler, and keeps its atmosphere denser. As a consequence, the denser air begins to flow in currents, to fill the partial vacuum caused by the lighter; and the most needed compensations of a tropical climate. Toward evening the land begins rapidly to give up the heat which it rapidly received during the day; while the surrounding ocean and its atmosphere, retaining their heat longer, come at last, about sunset or shortly after, to be of the same temperature with the land, and the result is the almost calm which is so often observed at the close of the day. After sunset the land soon becomes colder than the sea, and its atmosphere, becoming more dense than that of the water, begins to flow gradually into it, constituting the well-known "land breeze." Four great causes are thus operating to establish a system of winds: first, the spherical form of the earth, which, from the sun's position in reference to it, occasions a general gradation of zones of temperature; second, the elliptic motion of the sun, from one side of the equator to the other, by which variation the centre of greatest heat is continually changed; third, the division of the earth's surface into land and water, causing variations of temperature under the same degree of heat; and fourth, the succession of day and night, causing land and sea breezes.

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### CRIME IN FRANCE.

From statistical compilations prepared on the subject, under the orders of the French Minister of Justice, and which are quoted by one of the New York journals, the average number of crimes committed in France is 1 to 5,885 inhabitants. From 1826 to 1856, progress of crime increased with frightful rapidity. France appeared to grow more and more vicious, every year augmenting the long list of misdeeds of all grades. The culminating point seems, however, to have been reached in 1855. In 1856 there was a notable falling off: and, since that epoch, crime has continued to lose ground, and honesty to grow apace. In the city of Paris itself the change commenced in 1854.

Paris now feels encouraged in the knowledge that the present average is only one outlaw to 1455 citizens, a decrease of a third in the number of evil deeds committed within its walls. An eminent lawyer of the Imperial Court of Paris, one of the most learned of the French writers on criminal jurisprudence, M. de Booneville has lately published some remarkable notes upon criminality in France. According to this gentlemen, it is to the decree of December 19th, 1854, that Paris is indebted for the improvement which has

taken place in this particular, without reference to any voluntary change in morality whatever. The decree in question entirely abolished the old state of affairs, and ordered the reorganization of the Paris Police upon the plan of that of London. The number of police agents was tripled, and the effect has been a diminution of a third in the number of malefactors.

At the present moment, there is no city in the world, in which the quiet townsman or stranger may stroll about the street at any hour of the night in more perfect safety. On every corner, you are certain to meet one or more policemen; and adventures with highwaymen, in even the meanest and worst quarters of the capital, are entirely out of the question. The operations of robbers are now conducted in broad day light, in the midst of the crowd.

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### STERLING MONEY ORDERS.

The Post Office here has received in structions to begin the new system of sterling money orders on the 1st of June next. Any money order office in Canada may issue money orders on every money office in Great Britain and Ireland. The orders may be drawn from the amount of 1s to £5 stg. No order to be issued for less than 1s., or more than £5 stg. The fees for orders are as follows:—25 cents for any sum over £2 and under £5 stg. Thus, an order for £1 stg. would be made out in this way:—The pound, at the par of Exchange (according to the printed instructions) is \$4.89—add 25 cents and we have \$5.14 for the order. £2 stg., at par \$9.78, at 25 cents, same as in last case, would be \$10.03, the rate being a little cheaper per cent. But for any fraction over £2 stg., 50 cents are added for the order. The new system will be of great convenience to the public. Post masters are to receive  $\frac{1}{2}$  per cent for their remuneration.

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### COMMERCIAL VALUE OF ENGLISH NEWSPAPERS,

The London newsmen furnish the *Times* or *Post* on the day of publication for \$5 75 a quarter. For the *Herald* \$6 50 a quarter is charged. The second edition of the London *Times*, *Sun*, *Globe*, or *Standard*, is furnished at \$7 50 a quarter or, or \$30 a year. Copies of the *Times* one day old, are furnished at \$4 a quarter; so that the difference in the cost, in England, between a paper of the latest edition on the day of publication, or the day next succeeding, is equal to the subscription price of the largest commercial newspaper in the United States. A file of the London *Times*, taken in this country costs about \$52 a year, or nearly seventeen cents for each copy of the paper. The English papers are conducted on the cash system exclusively. They have no subscribers, but are furnished to newsmen by the ream, who supply "patrons" in the city and country districts.

## THE STRYCHNINE OF COMMERCE.

The source from whence this poison, which has gained so world-wide a celebrity recently, is obtained, is thus noticed in *Dickens' Househo'd Words*.

In Ceylon, and several districts in India, grows a moderate sized tree with thick, shining leaves, and a short, crooked stem. In the fruit season it is readily recognized by its rich orange colored berries, about as large, as golden pippins. The rind is hard and smooth, and covers a white, soft pulp the favourite food of many birds, within which are the flat, round seeds, not an inch in diameter, ash gray in color, and covered with very silky hairs.—The Germans fancy they can discover a resemblance in them to gray eyes, and call them crow's eyes, but the likeness is purely imaginary. The tree is the strychnine nux vomica, and the seed is the deadly poison nut. The latter was early used as a medicine by the Hindoos, and its nature and properties understood by Oriental doctors, long before it was known to foreign nations. "Dog Killer," and "fish scale," are two of its Arabic names. It is stated that at present the natives of Hindostan often take it for many months continuously, in much the same way as opium eaters eat opium. They commence with taking the eighth of a nut a day, and gradually increasing their allowance to an entire nut, which would be about twenty grains. If they eat directly before or after food, no unpleasant effects are produced ; but if they neglect this precaution, spasms result.

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**RAILWAY SAFETY.**

It appears from the best statistics, that in the last four years the risk to each passenger of being killed in travilling one mile, was ; by railroad in France, 1 in 100,000,000 ; in England, 1 in 65,360,000 ; in the U. S., 1 in 47,164,000 ; and by steamers, 1 in 240,000. If these estimates are correct the chances of being killed are not near so great as most travelers are willing and often anxious to risk, or we should hear of more frequent and urgent requests to railroad companies to reduce the speed and thereby increase the safety.

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