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FOUR DOLLARS PER ANNUM IN ADVANCE.

THE



CANADIAN

MERCHANTS' MAGAZINE

AND

COMMERCIAL REVIEW.

AUGUST, 1859.

Toronto:

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CANADIAN
MERCHANTS' MAGAZINE
AND
COMMERCIAL REVIEW.

VOL. V.

AUGUST, 1859.

No. 1.

AGRICULTURAL EDUCATION.

Canada, and particularly Western Canada, is pre-eminently an agricultural country. Her broad lands now furnish employment for seventy per cent. of her population, while even those engaged in other pursuits are mainly dependent upon the success of the farmer for their means of support. The success of this branch of industry cannot then be a matter of indifference to any class in the community, and we hail the increasing interest that is being manifested on this subject as one of the most encouraging signs of the times. Agricultural Associations and agricultural journals now occupy a prominent position, and have already conferred, and must continue to confer, immense benefits upon those engaged in the cultivation of the soil. It is, however, matter for surprise and regret, that while much has been done to stimulate the efforts of the agriculturists to greater proficiency in their honourable calling, little or nothing has been effected to aid them by a sound practical education, to master the details of a science, of which, from circumstances beyond their control, nine-tenths of them are deplorably ignorant.

In the principal agricultural countries of Europe, as well as in many States of the American Union, agricultural schools and colleges have been established, and the beneficial results of such institutions are already universally acknowledged. In Canada, however,

with all her liberality to agricultural institutions, and all her contributions to Provincial Exhibitions, nothing has been done to lay the foundation of agricultural success, by imparting to her young men a knowledge of the simplest rudiments of the science.

“Is it not to be deplored,” says Inspector Crepault, in his Report to the Chief Superintendent of Schools for Lower Canada, “that amongst our School books there is not a single page on the subject of agriculture ; and this for children who are nearly all destined to become farmers ?” And is it not still more strange, we may well enquire, that in Upper Canada itself there is neither an agricultural text-book nor an agricultural college in the whole country. Considering the class of settlers which compose the great bulk of our rural population, this is indeed matter for surprise. Trained to other branches of industry in their native country, they have emigrated to Canada with little knowledge of rural pursuits, and once buried in the back woods of Canada, their means of increasing that knowledge is limited indeed. Associated with neighbours only one step in advance of themselves, their whole life becomes a continued struggle, the hardships of which are vastly increased by the absence of a practical knowledge of agricultural pursuits. To this absence of a thorough acquaintance with the principles of agricultural science may be ascribed not only many of the difficulties of the early settlers, but the disastrous results of over-cropping, which are now so painfully visible in many parts of the Province.

Such being the position of Canada at the present time, the importance of Agricultural Education cannot be too strongly impressed upon the public mind. Our system of national education, however highly applauded, is sadly deficient in this respect. Our young men are trained in every other branch of knowledge but that which is to them of the highest importance. Nay, their whole course of study is rather calculated to wean them from, than attach them to agricultural pursuits, and just in proportion to their educational acquirements, are they considered unfit to engage in them. It is surely time that an effort was made to bring about a state of things more in accordance with the requirements of the country. A sound practical education is no less necessary to the success of the farmer than it is to that of the merchant or professional man, and until this truth is acknowledged and acted upon, we must despair of seeing the cultivation of the soil occupy that high position to which it is fairly entitled.

The European traveller in Canada, while he recognizes the fertility of the soil, does not fail to observe the almost total absence of that high state of cultivation which imparts to an English farm its more attractive aspect. In the latter country, the improved system of agriculture now pursued has rendered the cultivation of the soil so attractive and remunerating, that notwithstanding the exorbitant rents and taxes with which it is burdened, there is a keen competition for every vacant farm. In Canada it is otherwise. Many farms are at this moment unoccupied, while our cities are full of intelligent young men from the country, either in want of employment, or wasting their time behind a counter, scarcely earning sufficient to meet their present wants, and utterly hopeless as to the future.

We are not insensible to the difficulties with which our Canadian farmers have to contend. The high rate of wages, the distance from markets, the ravages of the fly, and many other circumstances combine to increase their risks and lessen their profits. But these things so far from arguing against the success of improved methods of agriculture, are the strongest arguments in their favour, and the clearest proof of their absolute necessity.

The means to be employed to accomplish the object we have in view will readily suggest themselves to reflecting minds. We require an intelligent treatise on agriculture as a text-book in our common schools, and the establishment of one or more agricultural colleges, where a practical as well as a theoretical knowledge of the most approved system of agriculture could be obtained on easy terms. On this subject the *Springfield Republican*, (U. S.), remarks in a recent article :—

“ A few years ago, a newspaper exclusively agricultural, was considered a wonder. Now almost every public journal has a column or more devoted to this object. Academies and Colleges whose professed object is to teach the young those things which they will be called to practice when men, never thought they had anything to do with agriculture. Now farm schools and agricultural departments in institutions of learning are demanded and created. Westfield Academy has such a department, with a ten thousand dollar endowment, and an agricultural library containing almost every work in English published on this subject. We hope to see this old institution and its new edifice filled by the sons of farmers and others who desire thorough agricultural instruction.”

And the *Buffalo Express* in recommending the establishment of an agricultural School in that city thus writes :

“A school connected with an experimental farm—and with the means perhaps for conducting the operations of other healthy scientific pursuits of practical life,— would not only be immensely beneficial as a much needed institution of practical education, but would be superior to all others in point of mere theoretical efficiency. The abstract studies of the school room would gain doubly in their result from the invigorating exercises with which they were alternated. The strength of muscle gained in the field, and elsewhere, would be transposed into new powers of mind. The health of body ensured by such exercise would reproduce itself in the mental faculties. And more than all, the practical application of theoretical knowledge, even limitedly, would tend to give a solidity, and substantial worth and meaning to all the acquirements of the scholar, which nothing else could effect. It would make his education real, sound, doubly profitable. It would serve to create a true sense of the life objects of study in the mind of the student. It would give that living and active realization of the purposes of education, without which the scholar is an automaton, and his education a mere mechanical process. It would also, besides its comprehensive influence upon the mind, work a great benefit to every distinct faculty. Applied facts take a strong hold upon the mind, and the application of truths and facts, taught in the school room, could not but invigorate the memory. Thought too must be induced by the demand for practical effort, and the forcible suggestions of practical results; and the great—almost sole secret of successful education, is the excitement of the mind to an active absorption and digestion of the mental food bestowed upon it,—or to think for itself, and analyze and examine what is presented to it.

But it is not necessary to discuss the benefits and advantages of a system of education which combines theory with practice, and study with rational exercise. It must be admitted by all, that an institution upon such a plan would be far superior to any school for mere abstract instruction, even without taking into account its value to those whose after callings in life would be directly referred to, in the practical training and instruction given. The only question which needs discussion, is, whether the suggestion which we have repeated cannot and ought not to be acted upon. Whether the city of Buffalo might not lay claim to a proud honour, by setting the example of founding such an institution upon the broad basis of municipal support, and making it the crowning glory of her common school system. Is it beyond her means, or are the advantages to accrue beneath her attention and effort? A few acres of land in some well chosen locality in the adjacent country, would cost but little more than the few feet necessary for a city school building. The edifice required for the purpose need not—until the institution has become an object of pride—be one of more than moderate pretension and cost; and the whole scheme might be so gradually developed—in proportion to the awakening of public interest and favour,—that it would be scarcely felt by the community, as a burden of expense. We can readily see how such an institution might be built up for our city, and become its

chief boast and greatest blessing; and we can see that sensible men of wealth would recognize its substantial advantages, and prefer for many of their sons, such a solid education as it would furnish, rather than the classical cramming of a college, which makes more conceited fools than trained intellects, by half."

If such institutions are considered necessary in the neighbouring States, and even in those where the cultivation of the soil engages but a small part of the population, surely they are still more so in Canada, dependent as she is to so great an extent on the success of her agriculture.

It should never be forgotten in referring to this subject, that hitherto the rich products of our soil have been almost entirely the result of its natural fertility. Cultivation has done nothing towards improving the land, but on the contrary, has, to a large extent, destroyed its fertility. A continuance of this system is more to be feared than all the scourges to which our crops are liable, and we trust, for the interest of Canada, that a better system of agriculture will be speedily introduced.

A NEW THEORY OF THE BALANCE OF TRADE.

It is a singular fact that most American political economists have one class of arguments which they use among themselves and quite a different class when addressing Canadians. They are constantly reminding the American people that their interest lies in fostering every branch of industry and promoting every manufacturing enterprise. They are equally diligent in assuring Canadians that their true policy is to confine their attention to the pursuit of agriculture, and the carrying trade, and to depend upon their Southern neighbours for their supplies of manufactured goods. That it is the interest of the United States to supply Canada with a large share of her manufactures, cannot be denied, but that it is the interest of Canada to remain so entirely dependent upon other countries for these articles, is a more doubtful proposition. The experience of the past ten years has proved to us that while manufactured goods have always brought a fair price, seldom varying more than ten per cent, our agricultural products have fluctuated more than one hundred per cent, so that when we buy our million dollars worth of manufactures in the United States in the Spring, we cannot tell whether it will require one or two million bushels of grain to pay for them in the fall. The result of this dependence upon foreign markets, is a periodical depression in

the trade of Canada, whenever through low prices or indifferent crops, we are unable to meet our engagements. The importance of this fact having been frequently urged by the friends of Canadian manufactures, Mr. P. Barry of Chicago has lately published a treatise on the International Trade, in which he endeavours to show that instead of being a sufferer, Canada is really benefitted by the adverse balance of trade which a poor harvest, low prices, or a dull lumber trade, so frequently produces.

In the first chapter of his work (page 28), Mr. Barry says:

“Foreign trade, like domestic trade, has for its object an increase of those utilities which all desire, and how any increase could be made if we were to receive really less than we really gave, is not easy to understand. If we send a thousand dollars’ worth of wheat from Illinois to Liverpool and it nets two thousand dollars, the thousand dollars profit which we would receive, would stand against us if the theory of the balance were to be believed; and in the case supposed, the nearer we approached to receiving nothing we would be the better off. With that doctrine it would be also difficult to reconcile the utility of a fishing expedition to the Southern ocean, which would possibly involve the receipt of one or two hundred thousand dollars worth of oil; or a trading voyage from New York to somewhere else and back, which quintupled the amount of capital originally embarked. Such a theory is therefore quite absurd, and quite unworthy of the intelligence of the present day.”

And again in referring to the causes of our depressed condition, he observes:

“In the first place it is alleged, that present business stagnation in Canada arises from excessive importations of foreign manufactures and from an undue proportion of the population being engaged in agricultural pursuits. In the second place it is alleged, that under the Treaty of Reciprocity with the United States, Canada receives more than it gives, and as a consequence, is carrying on a disadvantageous and exhaustive trade. That last statement is based, of course, on the assumed statement of the soundness of the theory of the balance of trade, and being so, has already been fully answered in the opening chapter. A nation, like an individual, is benefitted by what it gets, and impoverished by what it gives, and if the United States keep Canadian shops and warehouses full to overflowing, and are chary in taking Canadian produce in return, Canada should be the last to be dissatisfied, and to make a noise. Supposing, as is not unfrequently the case, that Canadian merchants, in good standing, buy too freely in New York; in fact, have cottons, wollens, hardware, drugs, groceries and such things, forced upon them to an extent out of all safe proportion to their trading capital, and out of all proportion to the wants of the customers they design to serve. That, says the protectionist, creates a balance against Canada, which balance must be paid, and the New York firm, dealing in such articles, does not touch produce of any kind, but must be paid in coin, or what is all the same; and hence the impoverishment of the people, and the derangement of business matters.

“ But it is notorious that all the purchases made by Canada in the United States are not paid, no more than are all the purchases made by the United States. There are such circumstances as commercial failures and assignments, and sometimes there are no payments made at all; and in exact proportion as a merchant buys beyond his capital, or beyond his ability to exchange the purchased article into other things, he incurs the risk of being unable to pay his way. Suppose then, that a Canadian merchant has bought excessively in New York, and is unable to pay his notes when these mature, whether has Canada or the United States profited by the operation? Is it any advantage to Canada to receive merchandize which has not to be accounted for, and any advantage to Canadians to buy imported bankrupt stock below its value? The advantage is equivalent precisely to the market value of the goods, no matter what the goods have sold for. So much has been added to the general stock of useful products, without equivalent being taken in exchange, and to the extent that Canada has gained, the United States have lost.

“ A glance at the January report of Douglas' New York Commercial Agency, for the years 1856 and 1857, shows that the Canadian failures for the period have been considerable, and as a consequence, have added materially to the wealth of the Province; one half or more of the liabilities, no doubt being due to New York. The statement is as follows:

Failures in Canada from Dec. 26, 1855. to Dec. 25, 1857.

CANADA WEST.				CANADA EAST.			
Places.	Present number of Stores.	FAILURES.		Liabilities.	Number.	Present number of Stores.	Place.
		Number.	Liabilities.				
Toronto,	389	25	£2,714,000	£523,000	15	909	Montreal, Province.
Province,	3,444	109	2,172,000	1,267,000	15	1,764	
	<u>3,833</u>	<u>134</u>	<u>£4,886,000</u>	<u>£1,790,000</u>	<u>30</u>	<u>2,673</u>	
		Totals, - - -		<u>£6,676,000</u>	164		

“ Taking in connection with these figures, that while the exports of the United States to Canada, are in the main sold on time, those of Canada, to the United States, are in the main sold for cash, the conclusion is irresistible that Canada has the butter pretty much on its own side, and ruin under such circumstances is absurd. If Canada, as a general thing, does not give credit, but as a general thing takes it, and is delinquent to the above named extent, in the space of two years, it is inconceivable that present prostration there has anything to do with importations from the United States, or from other parts. Besides, the number of bankruptcies, in two years, only bears the proportion of a sixteenth to the whole number of existing stores, a relation which even were the number of bankruptcies a proper test of the condition of a country, would not account for the condition in which the Province is. Some other connection of effect and cause must be, therefore, looked

for, than that implied in the receipt of property which is retained and never paid for. Obviously a recipient is no worse off after receiving goods than he was before, but his position is so far improved, and so is the position of the community in which he lives. An addition has been to the aggregate of useful products or of wealth, and no possible difficulty or embarrassment can result from such a cause. If difficulty were sought for in connection with such a case, it would be found undoubtedly, on the side of the sender, who had parted with something for which no return had been received. Supposing an English capitalist died, bequeathing to Canada a million of dollars' worth of ready made and other clothing, would a mercantile revulsion be apprehended, after the bequest had been received? and what practical difference to Canada if, instead of a bequest, two or three Montreal clothesmen bought a million of dollars' worth of clothing in New York, and give notes for the amount, which were never paid? The position of Canada in either case would be the same; it would be one million dollars' worth more wealthy than it was before, and if it chose, might reship the clothing to England or New York, and draw its market price at the time of sale in the precious metals. Such is trade, and such the uncompromising demolition of an old protection dream. Every business man is aware, that coals will be sent to Newcastle if they cannot be sent elsewhere, by the needy trader, and that even these coals are convertible into coin, and consequently are as good as gold."

Now we admit that the table of imports and exports alone furnish no correct data as to a country's financial condition, but we maintain that when a nation possesses no other sources of income, or when its other sources of income are balanced by other disbursements, the trade returns furnish a pretty correct index to its condition. "If," says Mr. B., "we send a thousand dollars worth of wheat from Illinois to Liverpool, and it nets two thousand dollars, the thousand dollars profit which we would receive would stand against us if the theory of the balance of trade were to be believed. In reply we would ask; if, as is generally the case, the money which bought the wheat in New York, belonged to, and was advanced by English capitalists, how much of the profits would Brother Jonathan be entitled to claim? It is true that many American wheat and flour merchants ship their own produce and realize handsome profits, but for every dollar's worth of produce so shipped, English merchants ships on consignment two dollars worth of European manufactures to the United States, on which on the average they realize equally handsome returns. In this respect the balance will always be in favour of the wealthiest country, and Canada being the poorest of those under consideration, the balance on this description of trade will be against her.

This will be best illustrated by the present Spring and Summer business of Toronto. Considerable quantities of wheat and flour are purchased here

for the Eastern markets, but being in nearly every instance bought by the agents of Eastern buyers, none of the profits ever come to Canada. Of course we are equally exempt from loss, but this does not affect the argument on either side, as both parties admit that in the aggregate trade must yield a profit.

But the most startling theory advanced by Mr. Barry, is that "Canada should be the last to be dissatisfied if she buys more than she can pay for." "Suppose," says Mr. B., a Canadian merchant has bought excessively in New York, and is unable to pay his notes when these mature, whether has Canada or the United States benefitted by the operation? The advantage" (to Canada) he continues, "is equivalent precisely to the market value of the goods no matter what the goods have sold for." We deny both the soundness and the morality of this argument. As well might it be urged that if a farmer has half a dozen boys and girls at home, and instead of employing them in cultivating the soil and spinning the yarn, he bought his provisions and his clothing without paying for them, he would be benefitted "precisely to the market value of the goods." Is it not on the other hand clear that he would be benefitted to the extent of losing his farm, and if that was not sufficient to meet his engagements, that he would be further benefitted by becoming embarrassed for the remainder of his life.

If Canadians were a band of wandering Arabs, without fixed homes, or valuable properties, we could understand while we could not applaud this new doctrine. Fortunately this Rob Roy style of living, is neither suited to the tastes nor the interests of the Canadian people, and if the protectionists have been guilty of no greater crime than urging that "honesty is the best policy," their cause really needs no defence at our hands. Our new mentor expresses astonishment at the proposition, that, because Canada has bought more goods than she can pay for, that therefore she should be embarrassed. How otherwise we would ask could she get into difficulties? "Obviously," he continues, "a recipient is no worse off after receiving goods than he was before, but his position is so far improved, and so is that of the community in which he lives." Is he not, we would enquire, in debt for the goods, and does he not by forcing the sale of his stock in the hope of being able to meet his engagement, embarrass his customers? If he fails to meet his payments, his debtors must be pressed for payment, and their property sacrificed to meet claims against them, at the very time when over importations have drained the country of its cash capital and rendered many kinds of property almost unsaleable. We are further told that we get cash for

what we sell, and take credit on what we buy, and therefore the butter is pretty much on our own side. In other words, Brother Jonathan takes nothing from us but what will bring cash in any market in the world, while he sells us goods that will bring cash nowhere, and which are almost unsaleable in any other country.

To cap the climax of absurdity, we are told that coals will be sent to Newcastle, if they cannot be sent elsewhere, and that even these coals are convertible into coin, evidently hinting that the goods may be returned and resold in the United States, while he must know that the protective policy of his own country, subjects even their own manufactures to a heavy duty should they seek an entrance into their markets after being exported. We have not yet adverted to the disastrous effects of over-importations on the industrial interests of the country, but these are so patent to all as to require no comment or illustration at our hands. Of one thing our Chicago friend may rest assured, and that is, that Canada will not at the present day become embarrassed through an over-importation of his new system of political economy.

THE CHINESE SUGAR CANE.

We have on former occasions referred to the cultivation of the Sorghum, or Chinese Sugar Cane and its adaptability to the soil and climate of Western Canada, and we have now the pleasure of laying before our readers, a very able essay on the same subject from the pen of Charles Robb, Esq., C. E., of Hamilton, and read before the Literary Association of that city. Mr. R. also gave a very interesting account of the African Sugar Plant, which we propose to give in a future number :

“The consideration of the subject to which I shall have the honor on the present occasion, of directing the attention of the Association, has been suggested to me by my esteemed friend Mr. Adam Brown, who, on a recent visit to New York, procured a copy of a work by Mr. Henry S. Olcott,* an eminent Agriculturist of N. Y. State, embodying the fullest, most recent, and authentic information on the subject. Being strongly impressed with the opinion that the introduction of this new branch of Agricultural Industry into Can-

* Sorgho and Imphee ; the Chinese and African Sugar Cane. A Treatise upon their Origin, Varieties and Culture. By Henry S. Olcott. New York ; A. O. Moore, 140 Fulton St., 1858.

ada, on a scale commensurate with its importance, would be of signal benefit to the Province under its present circumstances, Mr. Brown did me the honor of requesting me to investigate the subject in detail, with the view of bringing it under the notice of farmers throughout the country, in the event of the result of the inquiry proving satisfactory. I have, with the consent of the Council, taken the liberty of laying my observations, in the first instance, before the Society, hoping thereby at once to elicit some further valuable information on the subject, and to obtain the benefit of your verdict as to the propriety of directing public attention to it.

This is by no means the first time, as you are all probably aware, that these interesting Plants have been brought under notice in this Province. For upwards of five years they have been cultivated with more or less success in the neighbouring States, chiefly, however, in an experimental manner, and on a small scale; and during last year, patches of the Sorgho, or Chinese Sugar Cane, were grown by some enterprising farmers in this neighbourhood with fair success and encouraging results, considering the rudeness of the apparatus employed, and the general want of information on the subject. The inducements to continued and extended operations are at the present time vastly more powerful than ever before in the history of the Province. Circumstances seem to conspire to point to this enterprise as an important means of retrieving somewhat of our national prosperity. The continued and most disheartening failures, during the past two successive years, in our wheat crops, to whatever cause this may be attributable—the increasing demand for Sugar, Molasses and Syrups, now no longer to be regarded as luxuries, but absolute necessities of life—the rapid and alarming decline in the yield of Sugar in the West Indies, Brazils and the Southern States, and consequent rise in the prices—the expediency, (rendered but too manifest by the commercial crisis through which we are now passing), of restricting to the utmost the drain of money from the Province—and last, most powerful of all, the operation of our new Tariff in virtually shutting us out from our accustomed markets in New York and Boston. Such a combination of circumstances cannot fail to secure a hearty welcome and a fair trial to a Sugar-bearing Plant, which appears capable of immediate acclimation in Canada, and promises, even were it only partially, to afford a supply within ourselves.

During the present year, in anticipation of the enhanced price of Sugar, the farmers in all parts of the country are devoting an increased amount of attention to the manufacture of Maple Sugar, but this product must obviously be available to a very limited extent as a substitute for the article to which we are accustomed. In various parts of the country, chiefly in the counties of Norfolk and Lincoln, farmers are already this season preparing to cultivate the Chinese Sugar Cane. But it is to be feared that, from want of proper information—from forming too sanguine anticipations—and from omit-

ting the requisite precautions both in cultivating and applying the products, much disappointment may ensue, and a corresponding delay in the general introduction of these most useful plants.

The success of the Chinese Sugar Cane in the neighbouring States, both as respects its capability of cultivation and of yielding crystallized Sugar, is no longer a matter of doubt ; and my object in the present Essay is to prove that the climate and soil of Western Canada are equally well adapted for the growth of such plants—to explain the most approved modes of culture, and the treatment after harvesting—to point out the various uses to which they may be applied—and finally to illustrate the economy and advantage which will result from their general introduction on a large scale into this country. For the practical instructions embodied in the Essay, I am mainly indebted to the work of Mr. Olcott, already referred to.

THE SORGHO, OR CHINESE SUGAR CANE.

Of the two varieties of Sugar-bearing Plants now under review, and called respectively the Sorgho and Imphee, or Chinese and African Sugar Canes, I give the precedence, on this occasion, to the former ; not that its superiority in circumstances such as ours, has been clearly established, but because, having been for a longer period more extensively tested in the neighbouring States, we can speak more positively as to its merits. Under this head, therefore, it should be distinctly understood that my remarks are applicable only to the Chinese variety, reserving the consideration of the African plants till the sequel.

HISTORY.

The name *Sorgho*, or *Sorgho Sucre*, as it is called in France and Algeria, where it has been pretty extensively cultivated, is believed by some authorities to be incorrect ; but I consider it safest to adhere to the generic name SORGHUM, which is recognized as the legitimate one by Dr. Gray, in his “Manual of the Botany of the Northern United States.”

It was introduced into America from France in 1854, by Mr. D. Jay Browne, of the United States Patent Office ; from which in accordance with the admirable system pursued in that Institution, packages of the seed were distributed to some of the more enterprising farmers and men of science in various parts of the Union. In spite of the feeling of suspicion with which all new projects are apt to be met, the success which attended these trials was so marked and so encouraging as at once to give rise to the demand for seed upon an extensive scale ; but although the juice has been turned to profitable account in the manufacture of syrup for several years past, it was not until the beginning of last year that its complete success, as a source of crystallized sugar, was demonstrated in the

detailed account of his experiments and observations, presented to the United States Agricultural Society by Mr. Joseph S. Lovering, a practical Sugar Refiner, as well as Agriculturist, in Pennsylvania.

APPEARANCE.

This Plant presents much of the appearance of Maize, or Indian Corn ; and I may state here that the same analogy holds, in a general way, with respect to the mode of cultivation, the soil and climate required, and the seasons of growth and maturity. The *sorgho* is, however, much more graceful in appearance than the Indian Corn, growing to an average height of about eleven feet, and each stalk being surmounted by an elegant tuft, forming the panicle or seed head ; and, unlike the Maize, this is the only fruit produced by the plant. As it approaches maturity, the seeds undergo progressive changes in color and density, passing from green to violet, brown, and finally to a deep purple, almost black ; at which latter stage, and when the seed has become quite hard, the plant is ripe, and will yield its greatest amount of sugar. The stalks rarely grow single, but in groups, issuing from the same seed, forming a large stool, and occupying a considerable space. The general thickness of the stalk, when ripe, is about one and a quarter inch at one foot from the ground.

ADAPTATION TO CLIMATE.

In the systematic treatment of the subject, climate is the first essential element which claims to be considered ; and the method which I propose to adopt is, not to enter into any abstract or theoretical enquiry on this head, but simply to state the results of experience in climates similar to our own. From long habits of association, we are accustomed to regard sugar as the product of tropical and juxta-tropical regions ; and it is an undoubted fact that the plants which yield this precious commodity most luxuriantly and abundantly flourish best in proportion as they are grown nearer to the Equator. But waiving in the meantime all such considerations, I shall proceed to shew that this plant is capable of being successfully cultivated in Western Canada ; reserving the results for the concluding part of my Essay.

Mr. Hind, in his admirable "Comparative view of the Climate of Western Canada," has expressed the opinion that all those portions of the Province lying south of the 44th parallel of latitude, enjoy a climate superior to those parts of the United States which lie to the north of the 41st parallel ; the latter comprising the whole of the New England States, together with the whole of New York, Michigan, Wisconsin and Iowa, and the Northern half of Pennsylvania, Ohio and Indiana. Mr. Hind's enquiries were made with special reference to the agricultural capabilities of the Province, and embraced all the considerations which these involve ; such as—adaptation to the growth of certain cereals—uniformity of distribution

of rain over the agricultural months—humidity of atmosphere—comparative immunity from spring frosts and from summer drouths—and the favorable distribution of clear and cloudy days. These are all important elements in the question; but in so far as our present enquiry is concerned, the most important of all, and that which chiefly regulates the growth of such crops, is the mean temperature of the summer months. This, so far from being over-rated, is, I believe, rather under-estimated by Mr. Hind. From our worthy Secretary, Dr. Craigie's Meteorological Observations, extending over a period of upwards of twelve years from the present, I find that the mean temperature at this place of the three hottest months of summer, is 69.29° , whereas it is stated by Mr. Hind at only 66.54° * The year (1855) in which this mean temperature was lowest, was not more than two-and-a-half degrees below the average.

For the sake of comparison, I have compiled a Table of the mean temperatures of the months of June, July and August; and also, of the mean temperatures throughout the year, at various points on the Continent, from 44° to 32° North latitude inclusive:—

TABLE OF MEAN TEMPERATURES AT VARIOUS LATITUDES.

PLACES.	LATITUDES.	MEAN TEMP. OF HOT MONTHS.	MEAN TEMP. OF WHOLE YEAR.
	0	0	0
Maine	44	67.71	45.3
HAMILTON	$43\frac{1}{2}$	69.29	48.5
Wisconsin	$43\frac{1}{2}$	69.5	46.5
Massachusetts	$42\frac{1}{2}$	68.1	47.0
Providence, R. I.	42	69.1	49.0
New York City.....	$40\frac{1}{2}$	71.6	52.0
New Jersey	40	72.43	52.0
Pennsylvania	$39\frac{1}{2}$	72.17	52.0
Kentucky	38	71.6	53.8
North Carolina.....	$35\frac{1}{2}$	73.3	60.4
South Carolina	34	78.5	62.0
Arkansas	$33\frac{1}{2}$	79.0	64.0
Georgia and Mississippi.	32	80.0	67.0

From the above Table we perceive a remarkable regularity in the increase of temperature of the summer months in proportion as we approach the Line; but at 43.3° , the latitude of Hamilton, we find that we enjoy the same summer heat as at 41° , a point between Providence, R. I. and New York City.

With this and other well known advantages to compensate for our more northerly latitudes, and which are due, no doubt, mainly to our

* Possibly this discrepancy may arise from the fact that Mr. Hind's observations were made at Toronto, and those of Dr. Craigie at Hamilton. The latter city, indeed, is popularly regarded as being hotter than the former,

proximity to the Great Lakes, we are enabled to compete successfully, in point of climate, with all those States of the Union which I have enumerated.

I find from a Table printed in Mr. Olcott's interesting work, that records have been preserved of not less than 48 experimental crops of the Chinese Sugar Cane, raised during the year 1857, within the area referred to, and that of these the great proportion reached maturity, and were cut down in good condition, although some failed; no doubt, owing to the very unfavourable season, the mean temperature of the whole year being 3° , and that of the summer months 2° below average—the rains during these months being usually protracted and severe—and the frosts having set in unusually early. Even in the State of Maine, the most northerly and most unfavourably situated of all, the experiment was successful. These facts set at rest the question as to the adaptation of our climate to the growth of the plant, and it is unnecessary that I should say a word more on this part of the subject.

SOIL AND MANURES.

It is equally unnecessary to dwell upon the subject of Soil, for it is well known that the soils of Western Canada, are unsurpassable for the growth of all kinds of cereals. With reference to the Sorgho, however, all accounts agree in giving the preference to soils which contain a considerable proportion of carbonate of lime, and where this is naturally deficient, frequent liming is recommended. But in this respect, the soils of the Western Province are most specially adapted to the growth of this plant. As I had the honour of pointing out to the Society on a former occasion, the sub-soil clays overlying the Niagara Limestones, embracing the area comprehended between the Niagara and Grand Rivers, contain not less than 15 per cent of carbonate of lime, while those in the neighbourhood of London, (and which may be taken as an exponent of the constituent elements of the clays of the whole Western District,) contain nearly 30 per cent. On the other hand, the soils of the more easterly portion of the country are preferable as being warmer, dryer and lighter, and less heavily charged with vegetable detritus, which, however, favorable to the luxuriant growth of the plants, is deleterious in so far as the production of sugar is concerned.

The description given by Mr. Hunt of the soils covering the uplands on the East side of the Grand River, from Galt downwards for about 20 miles, approaches most nearly to that which has been found most favorable for the growth of these plants. With careful cultivation they will most probably succeed on all our soils, but where a choice is to be had, land of a medium quality, between a black loam and a pure sand or gravel, calcareous, and of moderate richness, is to be preferred. Good drainage is, of course, indispensable; and where means of artificial irrigation can be obtained, it will be found advantageous in the early stages of growth.

In the preparation of the soil for this crop, when intended for sugar making, animal manures, and all such as abound in ammonia, should be avoided, or very sparingly applied, as although these tend to the formation of a large luxuriant plant, the juice which it yields under such circumstances is so mucilaginous and saline as to render it extremely unsuitable for sugar making. As I have before stated that rich soil is not requisite, the land will probably be found to be sufficiently manured by ploughing in clover or other green crops or stubble. Should further manuring be required, ashes and bones would probably be found the best, and as sulphuric acid enters largely into the composition of the stalks, gypsum will be highly beneficial. After a crop of the sugar cane has been taken off, the *bagasse*, or crushed canes, should invariably be returned to the field and ploughed under, provided the same field is to be used for the same crop in the succeeding season. The land should of course be well worked and deeply stirred both before sowing, and in the earlier stages of growth; as it is essentially requisite that the progress of the plant to maturity should be stimulated to the utmost, which is best effected by the free access of the atmospheric influences to the parent seed and the roots. Notwithstanding the great size to which the plants grow, it is not an exhausting crop because the parts which are employed in manufacture, consist only of carbonaceous matters, while the nitrogenized matters in the stalk and leaves are, or should be, returned to the soil.

CULTIVATION.

Having procured seed which can be relied on as genuine, it should be soaked before planting for twenty-four hours or even longer, in tepid water, to which is added a small quantity of saltpetre, say about one ounce to six gallons of water. Previous to sowing (which should be done about the middle of May, or even a little later,) it should be rolled in plaster. This treatment will expedite the germination of the seed by four or five days. About eight pounds of seed will be required per acre.

The seeds, when intended for sugar making, should be planted in drills (*not in hills*), about three feet six inches apart, and the plants in the row thinned out to eight or ten inches apart. An excellent plan for at once marking out the rows and preparing the ground for the immediate reception of the seed, is to use a small *one-horse* subsoil plough, thus thoroughly loosening the soil directly under the row of plants. The seeds when planted should be covered very loosely and lightly, as otherwise, should continued wet weather supervene, they will most certainly rot. A moderate degree of moisture in the ground at the time of sowing, is however advantageous. As soon as the rows can be seen—and this will be facilitated by dropping a radish seed at intervals in sowing—the cultivator or horse-hoe should be run through the piece to destroy the weeds

while young, a man following with the hand hoe as in the case of Indian Corn. As soon as possible thereafter the one horse subsoil plough should be passed twice between each contiguous pair of rows, going up alongside one row and down by the other. This operation should be repeated at least once in the course of the season.

In about eight or ten days after sowing (unless rains intervene) the plants will become visible. The Sorgho is a very slow grower in its earlier stages, and for this reason will be very apt to discourage persons experimenting with it for the first time. In about a month, however, it will begin to shoot upwards with great rapidity, throwing out suckers which should be removed when the plants are about eighteen inches high, and developing long and graceful drooping leaves at each of the internodes on alternate sides of the stalks. About the middle of September the panicle, or seed-head, will be formed, and in about a month or five weeks thereafter, the crop will have reached maturity, as indicated by the color and hardness of the seeds, already adverted to. Neither leaves nor seeds should be removed from the stalks until ripe. Frosts do not appear to affect injuriously the yield of sugar, but rather the reverse; but warm Indian Summer weather coming after frost has a very marked injurious effect, both as respects quantity and quality. Consequently the period of cutting may be deferred until the middle of October, the usual period of Indian Summer, or it may take place at any convenient season between the time of ripening and the reaction of the weather, should any occur. I mention this to shew that a little latitude may be allowed in the time of cutting in order to suit the convenience of individuals in regard to the subsequent process, but it should be borne in mind that there is a culminating point in the development of the sugar which experience alone can determine. But even if it should be inconvenient to proceed with extraction of the juice immediately after the plants reach maturity, they may, *if fully ripe*, be cut and housed or stacked in the field for a considerable time without sustaining any damage, provided rainy weather does not ensue. On no account should the crop, if destined either for the production of sugar or syrup, be cut down before it is perfectly ripe, nor should the juice be extracted until the subsequent processes can be carried on continuously and without delay, as in either case fermentation will immediately ensue, and the crop will be utterly ruined.

HARVESTING.

When the proper time arrives the leaves are first stripped as far as the joints extend, the seed-heads, with from eighteen inches to two feet of the top of the stalks, are then detached, and finally, the canes are cut off close to the roots with a corn-cutter, a large carving knife, or small sharp hatchet; then cut each cane into two parts, separating the eight lower joints from the upper ones, which

contain but little sugar, but will make good syrup or molasses. Pile each sort into separate bundles, to be hauled to the press as soon thereafter as convenient. If necessary to keep them for some time before crushing, do not divide the stalks. The leaves may be cured and preserved as fodder, of which I shall say more hereafter, and the seed-heads should be made up into bundles and stored for future use as seed, if the crop proves to be of good quality.

The process of crushing the canes and preparing the syrup, we will give in our next issue.—Ed.

EDUCATION IN UPPER CANADA IN 1857.

We learn from the report of the Superintendent of Education for Upper Canada that the total receipts of Common School moneys in 1857 amounted to £323,604 1s. 7d., being an increase of £34,681 19s. on the receipts of the year 1856.

The amount of Legislative School Grant apportioned to the Municipalities in aid of Common Schools in 1857, was £32,951 13s. 4d. The law required an equal sum to be raised by Municipal assessment to entitle the Municipalities to this aid. The sum actually provided by Municipal assessments was £61,954 1s.—£29,002 7s. 8d. more than the law required, and an increase of £7,427 5s. 3d. on the Municipal assessment of the year 1856. The Municipalities, therefore, voluntarily assessed themselves in 1857 nearly twice the amount required by law in order to entitle them to the Legislative Grant.

The school section *free school* rates in 1857 were £146,285 13s. 3d., being an increase on those of 1856 of £10,930 19s. 4d.

The rate-bills on children attending the schools in 1857 amounted to £37,624 13s., being an increase on those of 1856 of £2,658 8s. 11d. Even under the disadvantageous circumstances under which Free Schools are established and maintained—namely by an annual vote at each school section meeting—the public opinion of Upper Canada in 1857 in favor of free, over rate-bill Schools was in the proportion of £146,285 13s. 3d. to £37,624 12s. Were this small sum of £37,624 raised by a rate on property, instead of on children attending Schools, all the Common Schools of Upper Canada would be free. It is true that less than one-half of the Schools are actually free; but in a very large proportion of those in which a rate-bill on children is imposed, it is very small—almost nominal.

The amount paid to teachers in 1857 was £215,057 16s., being an increase of £20,136 19s. 3d. on that of the preceding year.

The amount paid for maps and other school apparatus in 1857 was £4,349, being an increase of £1,909 0s. 2d.

The amount raised and expended for school sites and in the building of school houses in 1857, was £51,972 6s. 5d., being an increase on that ex-

pended the preceding year of £9,164 17s. 4d. No aid is given for these purposes by the Legislature. The whole is done by voluntary assessments of Municipalities and school sections.

The amount raised and expended for rents and repairs of school houses in 1857 was £9,401 13s. 4d, being a decrease of £795 3s. 3d. This and the preceding item taken together show that fewer school houses were rented, and more built and secured in 1857 and than in 1856.

The amount raised and expended for text-books and stationery (that is by Trustees) fuel and other incidental expenses in 1857, was £22,258 9s. 5d., being an increase of £3,096 6s. 6d. For these purposes no aid is granted by the Legislature.

The balances of school moneys in hand the 31st December, 1857, amounted to £30,564 10s. 9d., being an increase of £1169 18s. 11d. on those in hand at the end of the preceding year.

The total expenditure for Common School purposes during the year 1857 was £303 10s. 10d., being an increase of £33,512 0s. 1d. on the total expenditure of the preceding year.

As the whole of the £303,039 10s. 10d. expended in 1857 for the support of Common Schools, with the exception of between thirty and forty thousand pounds, was provided by local voluntary assessment or rates, it indicates not only the universally powerful working of this branch of the school system, but the progress of the public mind in a primary element of educational advancement—provision for its support. And when the financial condition of the country is considered during the last half of the year 1857—the part of the year during which the greater part of the school rates are levied, and nearly all of them collected—the fact that the receipts and expenditures of the year are more than one hundred thousand dollars in advance of any one of the preceding prosperous years, presents a remarkable phenomenon in the educational history of Upper Canada, and an extraordinary contrast to its receipts in every other branch of revenue and industry.

COMMON SCHOOL POPULATION.

The number of pupils between 5 and 16 years of age attending the schools in 1856, was 227,992; in 1857, 247,434—increase, 19,442. The number of pupils attending school between the ages of 16 and 21 years, in 1856, was 23,153; in 1857, 25,203—increase, 2,050. The total number of pupils attending the schools, in 1856, was 251,145; in 1857, 272,637—increase, 21,492.

The number of *boys* attending the schools in 1857 was 150,029—increase, 12,609. The number of *girls* was 122,608—increase, 8,883. A much larger number of girls than boys attended private schools, as the law makes no provision for a higher class of girls' Schools.

The number returned as indigent children attending the schools in 1857 was 4,820—increase, 725. This distribution does not, of course, obtain where the schools are *free*, as all children then attend them by right, and none as paupers.

TEACHERS, NUMBER, SEX, DENOMINATION, RANK, SALARIES.

The whole number of teachers employed in the course of the year 1857 was 4083 (in 4083 sections)—increase, 394. The whole number of *legally* qualified teachers reported was 3933—increase, 478.

Of the teachers employed, 2787 were males—increase, 165; 1296 were females—increase, 229; 742 were members of the Church of England—increase, 58; 438 were Roman Catholics—increase, 24; 1201 were Presbyterians (including all clas-es)—increase, 296; 1165 were Methodists, including all classes)—increase, 63, 211 were Baptists,—decrease, 13; 57 were Congregationalists—decrease, 35; 21 Lutherans—increase 10; 35 Quakers—increase, 26; 85 reported as Protestants—increase 39; a few are returned as belonging to the minor denominations.

The whole number of teachers holding legal certificates of qualification was 3933—increase, 478; 640 held first class certificates—increase, 88; 2064 held second class certificates—increase, 318; 962 held third class certificates—*decrease*, 53. This is so far encouraging. It is to be hoped that third-class teachers will soon disappear altogether. The number of un-certified teachers reported was 150—decrease, 84.

The *highest* salary paid in any County was £160; in a City, £350; in a Town £200; in a Town Municipality, £137; in an incorporated village, £200. The *lowest* salary in a County was £24; in a City £48; in a Town, £35; in a Town Municipality, £50; in an incorporated village, £75. The *average* salaries of male teachers in Counties, with board, were £54—*increase*, £11 19s.; without board, £96 12s.; in Cities £129 17s.; in Towns, £118; in Town Municipalities, £114; in incorporated Villages, £116. The average salaries of *female* teachers in Counties, with board, were £37 2s. The average salaries of *female* teachers in Counties, without board, were £51 18s.; in Cities, £55 15s.; in Towns, £70 7s.; in town Municipalities, £61 14s.; in incorporated Villages, £79 2s. The average salaries of *male* teachers in Counties, Cities, &c., were £115 5s.—*increase* on those of the preceding year, £24 19s. The average salaries of *female* teachers in Counties, Cities, &c., were £63 10s.—*increase* on those of the preceding year, £10 5s.

Number of Schools, School Houses, Titles of School Property, School Houses Built, School Visits, Lectures, Time Schools are kept open.

The number of school *sections* in 1857 was 4017—*increase*, 383. The number of schools reported, 3731—*increase*, 259. The number of Schools open and not reported, 286. These, of course, did not share in the School Fund.

The number of *free schools* was 1707—*increase*, 444; the largest *increase* for any one year for several years. The number of schools *partly free* was 1559—*decrease*, 8. The number of schools with one and three pence rate-bill per month for each pupil, 1354—*increase*, 205. The number of schools with less than one and three pence rate-bill per month for each pupil, was 444—*decrease*, 99. From these figures it appears that the highest rate-bill by law was adopted in less than one-third of the schools; 3266, or about

seven-eighths of the schools are partly; that 1707 schools are entirely free—being an unprecedented increase of 444.

The returns of school houses appear very imperfect, 87 not having been reported at all, there having been reported 39 stone school houses and 110 brick school houses *less* in 1857 than in 1856. The one or the other of these returns must be incorrect. The aggregate number of stone school houses reported was 278; of brick school houses, 240; of frame school houses, 1425; of log school houses, 1542.

As to the *title* of school premises, the number of houses held as *freehold* was 2738—*increase* 301; held by lease, 444—*decrease*, 25; number rented, 147—*decrease*, 178; not reported, 243.

Of the school houses built during the year, 21 were of brick—*increase*, 7; 26 were of stone—*increase*, 20; 55 were frame—*increase*, 3; 27 were log—*decrease*, 47; not reported, 72; total built during the year, 201—*increase*, 8.

The whole number of school visits in 1857, was 49,196—*increase*, 5090. The number of school visits by Local Superintendents, (many of whom are clergymen.) was 7323—*decrease*, 222; by clergymen, 4025—*increase*, 608; by Municipal Councillors, 1704—*decrease*, 44; by Magistrates, 1634—*increase*, 138; by Judges and Members of Parliament, 366—*increase*, 14; by Trustees, 17730—*increase*, 1460; by other persons, 16,325—*increase*, 3136.

The whole number of educational lectures delivered in 1857, was 2540—*increase*, 117; lectures by Local Superintendents, 2245—*increase*, 250; by others, 295—*decrease*, 133.

The average time during which 3458 of the schools were kept open in 1857, has been reported, and is ten months and 6 days—*increase*, 4 days; an average of two months longer than the schools are kept open in either the State of New York or the State of Massachusetts.

SEPARATE SCHOOLS.

The establishment of the most of these schools is of recent date—since the vehement agitation of the question—the greater part of those established in former years having been discontinued.

The number of Roman Catholic Separate Schools in 1857 was 100—*increase* 10.

The amount apportioned from the Legislative School Grant to those schools was £2,128 15s. 10d.—*increase*, £730 2s. 9d.

The amount raised by local tax on the supporters of Separate Schools was £2599 10s. 7d.—*increase*, £862 19s.

The amount raised by rate-bill on the children attending the Separate Schools was £1,177 14s.—*increase*, £479 14s. 1d.

The amount subscribed by the supporters of Separate Schools was £2,186 1s. 8d.—*increase*, £901 4s. 6d.

Total amount received for the support of Separate Schools was £8,092 2s. 8d.—*increase*, £2,974 0s. 6d., or nearly one-third. This large increase is highly creditable to the supporters of Separate Schools.

As to the *expenditure* of these moneys, the amount paid to Teachers was £4,685 17s. 6d.—increase, £1,600 14s. 6d. The amount paid for other purposes was £3,406 4s. 8d.—increase, £1,373 6s. 0d.

The whole number of pupils in the Separate Schools was 9,964—increase, 2,754, or more than one-third.

The whole number of *teachers* employed was 112—increase, 17; of whom 60 were males—no increase—and 52 were females—increase, 17.

The average time the schools are reported as having been kept open was 11 months—increase, one month.

Forty-seven schools are reported as furnished with *maps*—increase, 3; 27 with other apparatus—increase, 15; 39 with blackboards—increase 1.

The other columns of this table refer to the exercises and subjects taught in the schools.*

THE CANADIAN POST OFFICE.

From the Report of the Postmaster General for 1858 we learn many interesting particulars respecting the past and present condition of this important branch of the Public service.

The number of offices, says the Report, added to the list has been 60, bringing the number in operation in September, 1858, up to 1566.

The number of miles of new post route organized was 350, with 140,000 miles of additional yearly mail travel.

The number of letters annually passing by post, was 9,800,000, and of newspapers, 13,500,000; the newspaper circulation having apparently decreased somewhat since last year's return.

When considering post office statistics, and their importance as indications of the progress of a country, it must always be interesting to look back upon the records of past years, and mark the comparative advance made.

In this view the following table has been prepared, shewing the changes of the last thirty years in the Canadian Post Office, in its main features, at intervals of ten years, and the contrast between the figures of 1828 and of 1858 will be found sufficiently striking:

Years.	Number of Post Offices.	Miles of Mail Route.	Miles travelled by the post in a year.	Gross postage	Estimated No. of letters Annually.	Estimated No. of Newspapers annually.
1828	101	2,363	455,000	£15,000	340,000	400,000
1838	380	5,486	1,345,000	35,000	1,000,000	1,250,000
1848	539	6,985	2,225,000	65,000	2,000,000	3,000,000
1858	1566	13,600	5,520,000	151,000	9,800,000	13,500,000

Note—There were 189 changes in Postmasterships during the year, as follows:

Resignations	164
Dismissals	16
Deaths	9

Total 189

* A summary of the Report of the Grammar and Model Schools will be given in our next.

REVENUE AND EXPENDITURE.

The amount of Revenue has been as follows :

Gross Postage	£151,324	13	2½
Less—			
Balances in hands of Postmasters....	£2,542	10	1
Balance of Brit. Post. col. in Canada,	13,493	17	5
	16,036	7	6
Net available Revenue.....	£135,283	5	8½

The Postage collected from ordinary sources exceeds that of last year by upwards of £3,000, and, considering the depression under which all kinds of business labored during the year, it is doubtless a matter of legitimate surprise and congratulation, that the Postage Revenue should not only have made head against its share of unfavorable influences, but should have advanced, even to this extent, upon the Revenue of 1857.

In conformity to an order in council, the sum of £16,000 has been assumed as Post Office Revenue in the yearly statement, in lieu of an estimated equivalent amount of postage, which would have been due at ordinary rates, on the Legislative and Executive correspondence transmitted without charge during the year.

The Revenue of the current year will, it is anticipated, advance considerably upon that of 1858. The revival of business, the commencement of weekly mails by the Canadian Ocean Steamers in the approaching Spring, the Parcel Post Collections, and other causes, may be calculated on to aid in producing this result.

EXPENDITURE.

The disbursements were—FOR MAIL SERVICE :

By stage, on horseback, or on foot....	£45,004	0	4
By steamboat	2,973	7	6
By railroad.....	24,576	6	6
To and from Railroad Stations.....	8,534	15	8
For mail bags, locks, keys, &c.....	846	13	7
Total Mail Service.....	£81,935	3	7
Salaries and Commissions.....	67,106	0	9
Allowances to Postmasters, office rent, &c.....	1,828	11	9
Stationery to do.....	1,505	2	10
General Stationery, Printing and Advertising	4,799	3	5½
Post Office Stamps and Seals, Scales and Weights, and miscellaneous items.....	4,000	16	7
	£161,169	18	11½

This year's disbursements exceeded those of last year in the items of mail service and salaries and commissions.

The expenditure for Mail Conveyance includes a large payment for Railway Mail Service, on account of this and previous years;—that item, with the cost of service to and from Railway Stations, being £33,111 2s. 2d. this year, against £28,117 12s. under the same heads last year. As hereinafter stated, the general rate of payment for Railway Mail Service has been decided, and all unsettled claims are now in course of adjustment.

The excess in the item of Salaries and Commissions is caused partly by the commission charge upon the additional postage collected, and which all accrued at the country offices where Postmasters are paid by commission—partly upon the addition of Assistant Postmasters to the six City Post Offices, under the Act of 1857—and partly by the adjustment of salaries to the officers and clerks through out the Post Office establishment, under the same act.

The Revenue collected in the country offices was :

In 1857.....	£88,064 15 11
In 1858.....	91,241 11 4

All the ordinary items of outlay have been carefully watched, with a view to keep down expenditure as much as practicable, but every item of Post Office disbursement so directly represents some distinct equivalent in public convenience, that it becomes extremely difficult to circumscribe the objects of expenditure without trenching upon the accommodation which the public demands from this branch of the service.

And the extent of the service to be provided for being thus in a measure arbitrarily fixed, fully 95 per cent. of the expenditure necessary to maintain it, takes place according to rates prescribed, either by law or by special contract, and cannot therefore be influenced by the financial freedom or exigency of the moment.

After several years of rising prices for all descriptions of Mail Service, it has been observed, with much satisfaction, that the more recent lettings of Mail Contracts have shewn a decided tendency towards a reduction in the rates demanded.

CORRESPONDENCE WITH THE UNITED STATES.

The correspondence exchanged between Canada and the United States was for the year,

Collected in the United States.....	\$95,005 46
Collected in Canada.....	88,831 17
Total	\$183,836 63

REGISTRATION.

About 500,000 letters were registered last year.

It is considered that it would be an improvement on the system if the charge for registration were made pre-payable by a stamp, instead of by money as at present.

DEAD LETTERS.

The following is the return of Dead Letters for the year, shewing unfortunately a considerable increase in the number as compared with last year:—

Provincial Dead Letters.....	203,500
Originating in the United Kingdom, and transmitted unopened to the General Post Office, London.	15,665
Originating in the United States, and transmitted unopened to Washington	22,869
	242,034
Total number of dead letters.....	242,034

On number of letters passing by Post for delivery in Canada:

Received from Washington, Dead Letters originating in Canada, and of which delivery in the United States had failed	31,369
Received from General Post Office, London, Dead Letters originating in Canada, and undelivered United Kingdom.....	3,281

MONEY ORDERS.

The Money Order System has continued to occupy the vigilant attention of the Department.

After watching for some time with much solicitude the result of the experiment, commenced in 1857, of advancing the limit of the amount to be granted on a single order from £25 to £100, circumstances led to the conclusion that, though the change might occasionally have promoted the convenience of remitters of large sums, it was on the whole prejudicial to the safe working of the system.

Moreover, it appeared manifest that the experience already had was sufficient to demonstrate that the rate of charge at which Money Orders were being granted to the public, was too low to yield a revenue adequate to make the system self-sustaining within any reasonable period; and further, that even with such a moderate advance in the rate of charge as could be maintained, the result aimed at, might yet be undesirably postponed, unless the sources of business and revenue could be enlarged by extending the sphere of operations.

To give effect to these views several measures have been adopted—

First, as regards the re-modelling of the business already originated. The limit of a single Money Order has been reduced from £100 to £25, the former maximum; stringent rules have been enforced to secure prompt transference to the credit of the public, of the funds, as they accrue in the hands of the Postmasters; and also to forbid a practice which it was discovered had begun to creep in at some offices, of granting Money Orders upon credit, or upon uncertified cheques.

Further, the charge for a Money Order has been advanced from one-half to three-quarter per cent. on all amounts over £7 10s.

The result of these alterations has, it is believed, been most beneficial; the business has been freed from a class of doubtful transactions which appeared to have grown up under the high range of Money Orders, and has been brought into safer channels; whilst the regular and legitimate course of business is in a progressive state, and yields a considerably larger rate of contribution towards defraying the expense of management.

To enlarge the field of business and of profit, a number of new Money Order Offices have been opened at advantageous points, and a further number will be added from time to time as the public convenience appears to require it. Those recently selected have justified the choice by the amount of Money Order business already transacted by them.

Further, a negotiation has been opened, with every assurance of a successful issue, with the Imperial Post Office, for the introduction of a system for the mutual exchange of Post Office Money Orders, for small sums, between this country and the United Kingdom; a measure which, when perfected, will, it is hoped, conduce materially to the public convenience, and prove a valuable source of income towards the general maintenance of the system.

No loss, by fraud or otherwise, has been sustained in Money Order operations, during the past year.

The number of Money Orders issued was 24,865.

The number of Money Orders paid was 24,853.

Amount of Orders issued, \$2,198,869 27c.

Amount of Orders paid, \$2,197,679 21c.

Amount of Commission accrued thereon, \$11,408 65c.

Of which allowed to Postmasters, \$5,108 74c.

Remainder to Revenue, \$6,299 91c.

The cost of the maintenance of the Money Order branch was \$8,673 91c.

The number of Money Order Offices in operation during the year was 171.

Present number, 196.

It is understood that the attention of the Governments of the Lower Provinces and of the United States, has been turned to the desirability of adding a Money Order system to their respective Post Office establishments. A movement of this nature, will, of course, be watched with interest by this Department; for the existence of a Money Order system amongst our neighbours would probably render it easy to agree upon some mutually convenient plan for the interchange of Money Orders between our respective

countries, and thus afford to the people of Canada a valuable extension of Money Order facilities, and relieve our Mails from large amounts of money remittances which now pass to and from the United States. New Brunswick, Nova Scotia, &c., in the shape of bank notes.

THE WHEAT CROP OF 1859.

The New York *Courier & Enquirer* has an able and elaborate article on the national wheat crop of 1859, based on the Patent Office Reports of previous years, and such information as it otherwise possesses. The following table contains the essential portion of the statistics adduced.

The production of wheat in the several States for 1858 and 1859 may be stated as follows :

WHEAT.			
State	1857. Bush.	1858. Bush.	1859. Bush.
New York.....	22,000,000	20,000,000	22,000,000
Pennsylvania.....	20,000,000	20,000,000	25,000,000
Virginia and N. Carolina	20,000,000	18,500,000	20,000,000
Kentucky.....	10,000,000	8,000,000	11,000,000
Ohio.....	25,000,000	22,000,000	26,000,000
Indiana.....	15,000,000	13,000,000	17,000,000
Illinois.....	18,000,000	14,000,000	20,000,000
Other States.....	50,000,000	42,000,000	60,000,000
Total.....	68,000,000	58,500,000	201,000,000

The production in the Western States, which have the largest surplus for export, is shown by the following figures :

WHEAT.			
State.	1857. Bush.	1858. Bush.	1859. Bush.
Kentucky.....	10,000,000	9,500,000	11,000,000
Ohio.....	25,000,000	22,000,000	26,000,000
Indiana.....	15,000,000	13,000,000	17,000,000
Illinois.....	18,000,000	14,000,000	20,000,000
Total.....	68,000,000	58,000,000	74,000,000

The surplus for the present year in these States may be estimated as follows :

Crop 1859.....	Bush.	74,000,000
Consumption, five bushels per head.....		36,000,000
Surplus crop 1859.....		38,000,000

It is estimated that in addition to this, from one sixth to one-fifth of the surplus crop of 1858 is yet in the hands of the producers. We therefore have in the States, estimating last year's surplus crops of the West at twenty-four millions of bushels, as the gross :

Surplus crop of 1859.....	38,000,000
Sixteen 2-3 per cent on 1858.....	4,000,000
Total for export.....	42,000,000

The transportation of this at 40 cents per bushel, will give nearly seventeen millions of dollars to our canals and railroads.

The prominent figures are those stating the entire crop at 201,000 bushels, and the surplus for the year at 38,000,000. Of course these figures are only intended to be approximative, as the entire crop can only be got at by loose general estimate; no truly accurate statistics being in existence. We have, however, a means of partial comparison in the statistical records of our own office, which, while they do not cover the national crop, are perhaps the most reliable of any, so far as the grain movement out of the West is concerned. In them we necessarily include Canada, as under the Reciprocity Treaty no distinction exists between it and the production of our own country. Our basis of estimate is derived from the railroad and custom-house returns of the principal receiving points of western produce. All the surplus grain of the west, on its way eastward, passes through certain ports of entry and is there recorded. We have endeavored to cover all of these.

In 1858 the following points received the amount of wheat stated. (Flour included and reduced to wheat:)

Received at	Wheat. bush.
West. Ter. Baltimore and Ohio R. R.	3,411,570
West. Ter. Pennsylvania C. R. R.	2,250,000
Dunkirk	1,821,484
Buffalo	18,807,509
Suspension Bridge	304,744
Oswego	7,051,632
Ogdensburgh	2,698,298
Cape Vincent	773,256
Montreal	5,090,857
Rochester (by lake)	301,065
Total western export.....	42,530,915

We claim for these figures a strict accuracy, and if they are correct, the *Courier & Enquirer's* estimate of only 38,000,000 bushels is too small. It is less than the surplus of 1858 with its crops. If we add to these the receipts at Cincinnati and St. Louis, which cities have a considerable grain trade for southern export, we shall probably express pretty nearly the total surplus of the west for 1858:

Received as above.....	Bush.	42,530,915
“ at St. Louis.....		5,696,956
“ at Cincinnati.....		4,378,133
Total western supplies for 1858.....		52,606,003

This fifty-two millions of bushels of wheat is what the west exported last year. In the west we included Canada West and Kentucky as well as the

States south and west of the great lakes, an immense area. But few eastern statisticians are aware of the greatness of this trade in agricultural products. The Patent Office estimate of 1855 was accused of exaggeration, in stating the entire national wheat crop at one hundred and sixty-five millions of bushels; but we do not doubt that it was much smaller than the reality. The population of the producing region included in our table is not less than 9,000,000 souls. At the usual estimate of consumption, five bushels per head, they would consume on the ground 45,000,000 bushels. Add to this the surplus exported in 1858 and we have a total production to that region of nearly one hundred millions of bushels. In order to get at the national product we must add the entire crop of the New England States, New York, Pennsylvania, and all the southern States and Territories, except Missouri and Kentucky, which are otherwise included. The *Courier & Enquirer* therefore cannot be far wrong in putting the national production of 1848 at 158,000,000 bushels, or in estimating that of 1859 at 200,000,000. It only errs, therefore, if at all, in the smallness of its surplus from the west. And as the product of the Atlantic States is about equal to their consumption, the surplus of the west really expresses pretty accurately the surplus for export across the seas. Estimating the population of the United States and territories at 30,000,000, and allowing five bushels per head, we have a home consumption of 150,000,000 bushels; and a surplus of 50,000,000 for export, provided we have any export demand, a contingency which we fear will depend upon low prices here rather than high prices abroad.

But with this immense agricultural production on a single staple, should not our national policy look to some means for its consumption—some outlet for the wealth of the national granaries? We have none now. In order to find a consumer for our surplus 50,000,000 bushels of wheat, enough to feed ten millions of people for a year, we must send it three thousand miles across the ocean, to a country where manufactures are prosperous. We quote from the *Courier & Enquirer* on this point as a fitting lesson to be derived from the consideration of these statistics:—

With export prices we should doubtless have a movement of the crop never before witnessed, but as this is dependent upon two things, namely, the continuation of the war and poor crops in Europe, we shall perhaps witness no unusual movement. Our people have not in getting political independence got or even learned the value of commercial independence. We are, therefore, dependent upon a foreign demand. If now the producer and consumer were both in this country, if our manufacturers used our raw material, and our producers our home manufactures, we should not have the anomaly of a people almost fearing too large a crop and hoping for disasters to their neighbours almost, to enable them to sell their surplus. When will we learn wisdom?

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	\$ 990,400	\$ 518,555	\$ 170,033 86	\$ 250,335 64	\$ 117,071 79
City Bank of Montreal	1,200,000	1,197,496	418,698	90,402 67	390,322 31	233,598 50
Bank of Montreal	6,000,000	5,972,320	2,145,347	378,928 11	1,583,677 25	1,170,160 12
Commercial Bank	4,000,000	4,000,000	1,226,936	74,717 02	1,081,723 19	879,018 67
Bank of Upper Canada	4,000,000	3,126,570	2,038,064	735,252 71	2,570,233 67	1,819,112 67
Banque du Peuple	1,200,000	1,098,090	250,167	67,015 87	201,753 68	236,643 05
Molson's Bank	1,000,000	947,773	270,548	32,249 15	350,487 31	174,736 37
Bank of B. N. America	4,866,666	4,856,656	941,344	12,411 00	991,113 00	571,314 09
Niagara District Bank	1,000,000	251,793	136,763	33,513 89	61,999 26	22,525 92
Bank of Toronto	2,000,000	510,050	286,821	30,649 18	52,286 26	158,868 79
Ontario Bank	1,000,000	439,799	217,257	43,692 90	67,425 52	41,747 71
International Bank	1,000,000	132,500	70,600	.....	17,953 39	.....
Colonial Bank	2,000,000	112,000	78,600	5,206 23	.....	9,386 17
Total	22,000,000	23,042,460	8,649,700	1,673,202 65	7,570,292 54	4,962,179 75

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

ASSETS.

NAME OF BANK.	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	518,833 33	.....	.....	.....	.....
(b) Niagara District Bank	11,670 00	.....	.....	.....	.....
Molson's Bank . . . . .	.....	.....	.....	.....	.....
Provincial Bank	110,000 00	1,000 00	4,218 05	.....	31,475 00
Bank of the County of Elgin	100,000 00	.....	1,328 00	5,347 35	108,909 28
Total	770,503 33	1,000 00	5,546 05	5,347 35	146,384 28

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

(b) Withdrawing its circulation under this Act.

CHAS. CAMBIE, Registrar.

June, 1850.

FOR THE MONTH OF JUNE, 1859.

Total Liabilities.	ASSETS.							Total 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.		
1,091,996 24	\$101,178 45	\$14,985 40	.....	45,523 47	20,876 98	2,039,685 15	2,222,249 43
1,173,722 49	139,038 50	34,000 00	191,838 35	107,016 8	35,753 34	1,923,869 73	2,445,548 77	
2,277,218 48	651,757 30	302,072 78	302,264 00	217,293 24	173,639 64	9,998,437 29	2,165,464 25	
2,765,397 8-	464,421 1-	208,553 2-	1,000,000 00	139,790 00	125,531 13	5,786,378 99	7,428,674 64	
7,218,653 58	552,963 97	239,340 00	10,561 80	187,382 75	2,885 56	8,371,048 89	10,949,120 97	
755,585 60	107,540 47	50,915 89	119,442 05	49,040 16	6,943 83	1,713,415 49	2,047,300 83	
828,020 89	148,787 08	20,513 85	300,000 00	46,705 6-	35,165 13	1,390,952 03	1,842,123 89	
2,516,182 00	517,515 00	.....	726,833 00	129,284 00	63,794 00	5,835,310 00	7,272,736 00
256,832 07	17,798 48	8,647 55	44,402 98	2,345 59	18,754 72	452,955 52	511,942 84	
526,615 22	64,521 85	.....	102,400 00	23,254 11	67,729 13	851,297 83	1,109,207 95
370,123 63	45,591 62	9,168 21	59,000 00	12,234 00	35,304 31	673,156 27	834,454 41	
88,535 39	18,557 0-	.....	10,000 00	6,913 00	28,681 29	123,445 54	187,996 91
93,192 40	17,229 46	262 18	19,400 00	5,741 00	63,518 72	93,677 41	205,828 80	
22,561,375 92	2,836,900 14	948,459 17	3,480,218	972,468 86	170,610 75	30,359,628 15	49,184,149 55	

JOHN LANGTON, AUDITOR.

Banking Act, to June 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.	\$
.....	.....	.....	618,833 33	130,024 00	.....	.....	.....	130,024 00
.....	.....	.....	11,670 00	11,667 00	.....	.....	.....	11,667 00
97,169 16	5,690 79	.....	279,753 00	138,582 90	1,171 00	.....	.....	139,753 00
3,815 19	9,371 65	.....	228,771 47	41,564 00	26,638 41	18,374 83	39,922 07	126,496 31
100,948 35	15,262 44	.....	1,039,027 80	321,834 00	27,809 41	18,374 83	39,922 07	407,940 34

JOHN LANGTON, AUDITOR.

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	7,935,777
May 31.	18,165,652	30,068,176	2,107,873	8,057,114	7,144,090
June 30.	18,326,020	30,279,684	2,152,236	8,188,288	9,159,329
July 31.	17,757,635	30,300,069	2,075,230	8,438,313	8,616,393
August 31.	18,448,710	30,351,386	2,229,045	8,688,356	8,436,410
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	8,880,822
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	9,134,360
Jan. 1859.	19,025,334	33,020,906	2,652,451	9,679,391	10,204,005
Feb'y 1859	18,988,490	32,560,861	2,642,553	9,758,491	9,688,289
March 31	19,189,901	33,178,185	2,617,628	9,202,698	10,450,560
April 30	19,243,893	33,092,162	2,518,009	8,914,015	10,951,700
May 31	19,432,246	33,554,914	2,523,620	8,446,574	11,448,130
June 30.	24,412,963	39,400,012	2,866,162	8,971,534	12,538,471

N. B.—The June Return includes the Canadian Branches of the Bank of British N. America.

BUSINESS OF CANADIAN BANKS, 1859.

BANK OF UPPER CANADA.

	Capital. \$	Circulation. \$	Deposits. \$	Specie. \$	Discounts \$
January 31...	3,122,190.....	2,445,700.....	2,813,417.....	556,000.....	7,363,106
Feb. 28.....	3,124,980.....	2,268,728.....	3,345,488.....	686,595.....	7,466,911
March 31.....	3,125,050.....	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
May 31.....	3,126,250.....	2,171,432.....	4,604,038.....	619,129.....	8,025,530
June 30.....	3,126,570.....	2,058,064.....	4,425,335.....	552,963.....	8,371,049

QUEBEC BANK.

	Capital.	Circulation.	Deposits.	Specie.	Discounts.
	\$	\$	\$	\$	\$
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
May 31.....	996,400.....	563,312.....	421,682.....	95,961.....	2,110,507
June 30.....	996,400	518,555.....	403,406... ..	101,178.....	2,039,685

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
May 31.....	1,196,448.....	462,200	572,650.....	136,444	1,929,432
June 30.....	1,193,496.....	448,638.....	533,921.....	139,038.....	1,923,869

BANQUE DU PEUPLE, MONTREAL.

January 31...	968,700.....	323,737.....	580,430.....	136,877.....	1,747,403
February	973,330.....	323,516.....	533,150.....	113,471.....	1,721,286
March 31.....	1,073,950.....	300,895.....	495,059	121,800	1,727,424
April 30.....	1,084,665	303,638.....	504,833.....	97,747.....	1,749,995
May 31.....	1,087,610.....	277,084	509,570.....	124,944.....	1,746,443
June 30.....	1,098,090.....	250,167.....	438,412.....	107,540.....	1,713,415

MOLSON'S BANK, MONTREAL.

January 31...	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.....	472,006.....	90,579.....	1,428,304
May 31.....	934,760.....	320,764.....	528,842.....	111,527.....	1,428,651
June 30.....	937,773.....	270,548.....	525,223.....	148,787.....	1,390,952

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.....	206,650.....	88,018.....	916,369
April 30.....	507,300.....	345,886.....	190,121.....	79,473.....	881,576
May 31.....	509,170.....	318,862.....	219,985.....	81,856.....	887,460
June 30.....	510,050.....	286,821.....	209,144.....	64,521.....	851,297

COMMERCIAL BANK.

January 31...	4,000,000.....	1,144,506.....	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.....	1,457,481.....	1,280,427.....	451,129.....	6,013,282
May 31.....	4,000,000.....	1,275,535.....	1,318,696.....	528,283.....	5,790,274
June 30.....	4,000,000.....	1,226,936.....	1,463,744.....	468,421.....	5,786,378

BANK OF MONTREAL.

	Capital.	Circulation.	Deposits.	Specie.	Discounts.
January 31...	5,927,260.....	2,660,331.....	2,896,691.....	775,148.....	9,825,511
February 28..	5,928,060.....	2,635,361.....	2,804,630.....	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.....	3,021,570.....	754,080.....	9,928,763
May 31.....	5,928,820.....	2,226,787.....	3,018,442.....	720,528.....	10,135,253
June 30.....	5,972,320.....	2,145,347.....	2,753,843.....	651,757.....	9,998,437

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
May 31.....	418,551.....	217,814.....	120,631.....	31,302.....	695,959
June 30.....	439,799.....	217,257.....	109,168.....	45,591.....	673,156

NIAGARA DISTRICT BANK, ST. CATHARINES.

January 31...	251,050.....	189,586.....	73,704.....	21,505.....	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.....	173,094.....	82,316.....	21,732.....	441,090
May 31.....	251,734.....	155,276.....	101,872.....	17,261.....	484,622
June 30.....	251,796.....	136,763.....	86,524.....	17,798.....	452,955

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.....	45,250.....	6,350.....	21,100.....	90,096
April 30.....	100,000.....	57,974.....	4,631.....	22,157.....	86,659
May 31.....	100,000.....	72,659.....	3,770.....	24,987.....	94,569
June 30.....	132,500.....	70,600.....	17,935.....	18,555.....	123,445

COLONIAL BANK.

May 31.....	112,000.....	60,400.....	724.....	15,923.....	86,669
June 30.....	112,000.....	78,600.....	9,386.....	17,229.....	99,677

REPORT OF THE ONTARIO BANK.

Proceedings of the Second General Annual Meeting of the Stockholders, held at the Banking House of the Institution, in Bowmanville, on Monday, the 6th June, 1859.

The meeting was organized by appointing G. H. Low, Esq., M. D., Chairman, and W. Allison, Esq., M. D., Secretary.

At the request of the Chairman the President read the following

REPORT:

The Directors, in submitting their Second Annual Report to the Stockholders of the Bank, with a statement of its affairs up to the 31st ultimo, have much pleasure in being able to exhibit so favorable a result of the year's operations.

While the great and general financial depression, that has existed over the Province for the two past years, has been only partially removed, your Bank has, nevertheless, been able to do a safe and reasonably profitable business; and with returning prosperity to the agricultural, commercial, and manufacturing interests, your Directors believe, that your Institution will more fully prove its adaptation to secure the ends for which it was originated, viz:—profit to the proprietors, and aid to all classes interested in its operations.

It is impossible to foresee, at present, what effect the war, now existing in a part of Europe, may have upon the finances of this country; but your Board deeming it advisable, at all times, to pursue a cautious course, have, more especially since its commencement, thought it necessary to do so. If Great Britain is able to retain a position of neutrality, it is probable we will not be injuriously affected; but should she unhappily be drawn into it, the consequences to us may be seriously otherwise.

It appears that the Imports this Spring have been largely in excess of the amount, in value, for a corresponding period of last year; this your Directors deeply regret, as our only *hope* of speedily surmounting our past and present embarrassed condition, is, to *produce more*, and import less.

Should a kind Providence give us a bountiful harvest, your Directors believe, that we may reasonably hope, that the financial difficulties of the Province will be materially relieved.

Since the date of our last Report your Directors have considered it expedient to make two calls upon you for instalments on your Stock; the first payable last October, was promptly met, and the one payable on the first instant, will, no doubt, be equally so.

In accordance with the original understanding, entered into when the Bank was first projected, your Board have opened an office in the Township of Whitby, locating it at Oshawa. The office was opened on the first of November last, and the business done there has been large, and of a highly satisfactory character.

An office has also recently been opened at Prescott; and as over Eighty Thousand Dollars of the Capital Stock of the Bank has been subscribed by parties living in that immediate vicinity, and over Forty Thousand Dollars paid thereon, your Board has not the least doubt of its ultimate success.

Changes of a very satisfactory character have been made with our English Agents, through the instrumentality of Alex. Simpson, Esq., and the same gentleman—who has very lately left for Europe—expects to make others, equally beneficial to the Bank.

As you will perceive, the paid up Capital of the Bank has more than doubled within the last twelve months. The call made last Fall furnished a part of the amount, but the greater portion has been realized from new Stock, placed by your Manager in Montreal, Henry Starnes, Esq.

Your Directors believe that it will be for the interest of the Bank and Stockholders, if the unsubscribed Stock, amounting to \$80,000, should be withheld from the public. We therefore recommend, that a resolution be

passed, giving the present Stockholders the right to take up the balance above named, allowing them until the first of July next to do so.

Amount of Stock now subscribed.....	\$920,000
Amount paid up.....	\$429,588
Amount paid on 1st June, 1858.....	206,400
	<hr/>
Increase.....	\$223,188
Nett profit for the year, deducting all expenses.....	\$38,641 59
Add balance profit 1st June, 1858.....	6,531 13
	<hr/>
	\$45,172 92

D E D U C T

Government Tax.....	\$ 1,335 93
Dividend paid 1st September, 1858, 4 per cent....	8,185 46
Ditto 1st March last, ditto ...	11,158 59
Carried to reserve account.....	11,480 25
Ditto property account.....	800 00
	<hr/>
	\$32,960 33
	<hr/>
Leaving as profit for the current half year to date.....	\$12,212 49

In conclusion, your Directors beg to report, that the accounts and assets of your Bank were thoroughly inspected by your Board, and found perfectly correct and satisfactory.

All of which is respectfully submitted.

J. SIMPSON,
President.

The following is the Report of the Scrutineer's:—

To D. Fisher, Esq., Cashier, Ontario Bank.

SIR, — We the undersigned Scrutineers, appointed at the Annual Meeting of the Shareholders of the Ontario Bank, held this day, do declare the following gentlemen duly elected as Directors for the current year, viz.:—

James Dryden,
Wm. McMurdy,
John Simpson.

T. N. Gibbs,
Wm. McIntosh,

James Mann,
Alex. Simpson,

(Signed,)

CHESTER DRAPER,
W. J. MACDONELL,
A. McNAUGHTON.

Bowmanville, June 6th, 1859.

The Board newly elected met immediately after the Report of the Scruti-

neers, and re-elected the Hon. J. Simpson, *President*, and James Mann, Esq., *Vice-President*. The following Resolution was also adopted:

Moved by Mr. Gibbs, seconded by Mr. McIntosh,—That the subscriptions for the \$80,000 Stock, referred to in the proceedings of the Annual Meeting held this day, be received, subject to the payment of 40 per cent., being the amount of calls already made on the present subscribed Stock.

REPORT OF THE BANK OF TORONTO.

The Annual General Meeting of the Bank of Toronto, (being the third since the commencement of business,) was held, in conformity with the Charter, at the Banking House of the Institution in Toronto, on the 20th of July, 1859.

On the motion of Captain Wallace, seconded by Mr. Haworth, J. G. Chewett, Esq., was called to the chair, and Mr. Hague requested to act as Secretary.

By request of the Chairman, the Cashier, on behalf of the Directors, presented the following

REPORT AND GENERAL STATEMENT.

The Directors of the Bank of Toronto, in meeting the shareholders on the present occasion, beg to lay before them a report of the operations of the Bank for the past year, and a statement of its present condition.

As the Shareholders are generally aware, the year has been one of continued depression in agricultural and commercial operations. During this time, however, the capital of the Bank has steadily increased, not only by payments on account of the call made in September last, but by subscriptions of new stock.

It has been the aim of the Directors, while affording reasonable facilities to the customers of the Bank, to consolidate the Institution, and on a careful consideration of the assets and liabilities at present existing, as well as a review of the year's business—making needful allowances for contingencies—they believe both objects have been attained.

Particular consideration has been given to the character of transactions engaged in, both at the Head Office and the Agencies, and the business of the year, though not large, has been safe and profitable.

The year's profits, after payment of expenses, have amounted to twelve per cent. on the average capital.

The Directors have thought it advisable only to make one call during the year, and the Capital, which on the 30th June, 1858, was \$427,290 00, now amounts to \$610,050 00.

Net Profits during the year.....	\$57,391 86
Rest and Reserve Accounts brought forward.....	28,423 64
	\$85,815 50

APPROPRIATION.

Tax on Circulation, paid to Government.....	\$ 1,661 34
Dividend No. 5 at 4 per cent.	17,866 65
Dividend No. 5 at 4 per cent.	19,551 01
Rest.....	30,000 00
Balance remaining at credit of Profit and Loss Account.....	16,726 50
	<u>\$85,815 50</u>

(Signed,)

J. G. CHEWETT,

President.

GENERAL STATEMENT OF LIABILITIES & ASSETS ON JUNE 30

LIABILITIES.	ASSETS.
To Promissory Notes in Circulation \$280,821 00	By Specie..... \$ 64,521 85
To Balance due to other Banks... 30,649 18	By Government Securities..... 102,400 10
To Deposits..... 209,664 79	By Notes of other Banks..... 23,259 14
Total Liabilities to the Public \$527,134 97	By Balances due from other Banks 67,729 13
To Capital..... 510,050 00	By Notes discounted, and other debts 851,297 83
To Dividends unclaimed..... 3,794 67	
To Dividend payable 1st of July... 19,551 01	
To Interest Reserved..... 1,940 80	
To Rest..... 30,000 00	
To Balance at credit of Profit and Loss Account..... 16,736 95	
\$1,109,207 00	\$1,109,207 95

(Signed,)

ANGUS CAMERON, *Cashier.*

The above having been read, it was moved by Mr. A. M. Smith, seconded by Mr. Fraser, and carried unanimously,

1. "That the Report now read be adopted, and printed for distribution amongst the shareholders."

Moved by Mr. Haworth, seconded by Mr. A. M. Smith,

2. "That the thanks of the Stockholders are due, and are hereby tendered, to the President and Directors of the Institution for their efficient management of its affairs during the past year."—Carried.

Moved by Mr. Macbie, seconded by Mr. Warren,

3. "That Messrs. A. M. Smith and T. Haworth, be appointed Scrutineers of the election of Directors for the ensuing year, and that they report the result to the Cashier"—Carried.

Moved by Mr. Fraser, seconded by Captain Wallace,

4. "That the polling do now commence, and that it be closed this day, but if at any time ten minutes shall elapse without a vote being tendered, the poll may be closed by the Scrutineers."—Carried.

It was then moved by Mr. Williams, seconded by Mr. Haworth, and carried unanimously,

5. "That the thanks of this meeting be tendered to the Chairman for the manner in which he has conducted the business of the day."

REPORT OF THE SCRUTINEERS.

We the undersigned Scrutineers at the election of Directors of the Bank of Toronto, held this day, do hereby declare the following gentlemen elected for the ensuing year:—

JAMES G. CHEWETT,
JOHN B. WARREN,
JAMES G. WORTS,

GEORGE MICHIE,
WM. CANTLEY,
CAPT. P. WALLACE,

WILLIAM FRASER.

As witness our hands at the Bank of Toronto, this twentieth day of July, one thousand eight hundred and fifty-nine.

(Signed,)

{ A. M. SMITH,
THOS. HAWORTH.

The new Board met on the afternoon of the same day, when J. G. Chewett, Esq., was unanimously elected President, and J. G. Worts, Esq., Vice-President.

By Order,

ANGUS CAMERON, *Cashier.*

Toronto, July 20, 1859.

TRADE AND NAVIGATION.

BRITISH TRADE AND NAVIGATION ACCOUNTS FOR MAY.

The May accounts of the Board of Trade show an increase in the total declared value of the British manufactures and produce exported during the month, from £10,264,648 in the corresponding month of last year to £10,485,744. In the same month of 1857, the amount was £11,382,204, but, looking at the character of much of the export trade of that period, the increase which has taken place upon last year's business may be regarded as a satisfactory rate of progress. During the five months ended May 31st, the exports amounted to £52,337,268, against £43,226,371 last year, and £50,195,541 in 1857. The value of the principal manufactures is shown in the following table:—

	Months ended May 31st.		
	1857.	1858.	1859.
Cotton Manufactures.....	£2,738,100	£2,875,615	£2,968,391
Cotton Yarn.....	779,818	819,547	586,633
Earthenware and Porcelain....	131,866	95,511	104,854
Haberdashery and Millinery....	332,977	265,265	313,954
Hardwares and Cutlery....	354,489	280,974	327,512
Leather Manufactures.....	196,682	135,141	134,288
Linea Manufactures	354,424	247,298	326,631
Linen Yarn	152,640	148,741	82,762
Machinery	387,376	466,888	298,285
Silk Manufactures	160,319	113,220	102,899
Woolen Manufactures	1,020,593	698,446	983,061
Woollen Yarn.....	241,006	251,160	184,420

The imports appear, on the whole, to have increased in value, though sugar, coffee, cocoa, rice, tobacco, and wool, are among the number of those commodities which have fallen off. The quantities of the following commodities imported during the month are shown in the subjoined table:—

	1857.	1858.	1859.
Flax.....cwt.	51,274	7,892	120,453
Hemp and Jute.....	125,340	8,533	226,083

AGRICULTURAL STATISTICS, (IRELAND.)—The usual return of the crops in Ireland for 1858, has just been printed. The extent of land under crops last year, included—wheat, 546,964 acres; oats, 1,981,241; potatoes, 1,159,707; flax, 91,646; and hay, 1,424,495 acres. The estimated total produce was—wheat, 1,746,464 qrs.; oats, 8,953,541; barley, 8,020,828 qrs.; of potatoes, 4,892,225 tons; turnips, 4,364,788 tons; flax, 17,583 tons; and hay, 2,701,606 tons. 12,682 acres have fallen out of culture for wheat since 1857, and 13,060 acres have been added to the potato ground; 68,093 persons (31,658 males and 30,435 females) emigrated from the “Emerald Isle” last year; 64,337 of these were Irish. This shows a net diminution of the population of Ireland for the year (allowing for the concomitant increase) of 3990 only.

AUSTRIAN TRADE.

The following compilation, condensed from the *London Times*, must be of importance as well as of interest at this juncture. “The expenditure for a long series of years has far exceeded the revenue. The public revenue has increased from £21,790,000 in 1851 to about £27,400,000 in 1856; but the expenditure still keeps about six or seven millions in excess, having been about £29,000,000 in 1851 and 33,000,000 in 1856—the average of the three years being £37,500,000. Nearly every year since 1849 a large loan has been called for, and in 1856 the national debt of the Austrian empire stood at £241,700,000. And now we have a fresh loan of £20,000,000 called for, two-thirds of which are to be raised by an increased issue of notes by the national bank of Vienna. This establishment had already given credit to the Government of £41,000,000. A national loan of £50,000,000 in 1854, of £20,000,000 in 1858, besides various other enormous drains and heavy expenditures for military establishments, must press heavily on the productive resources of the people. Specie payments, which were only beginning to be resumed after ten years of a forced paper circulation, are now again definitely suspended. Duties are, however, to be paid in silver or its equivalent, and a tax of 5 per cent. is to be levied on the receipts from all capital invested in securities.”

JOURNAL OF MANUFACTURES.

THE SEWING MACHINE.

Though there had previously been used in England a machine in some respects similar for embroidering, it is believed that the first invention of a sewing machine originated in the U. States. and resulted in an impracticable plan for sewing the common hand, or through and-through-stitch in leather, which was patented February 12, 1842, by John V. Greenough, of Washington, D.C., but it is said no machines were made. March 4, 1843, Benj. W. Bean, of New York City, patented a machine for sewing with the common needle, and making the hand stitch by crimping, or corrugating the cloth. Never used. George R. Corlie, of Greenwich, N. Y., patented a machine Dec. 27, 1843, which was similar to Mr. Greenough's, and shared the same fate.

After some experiments by Walter Hunt, of New York, in adapting the eye-pointed needle and shuttle of the embroidery machines to sewing a seam, in which he was unsuccessful in perfecting a device for insuring the accurate and timely passage of the shuttle through the loop formed by the needle. Elias Howe, jr., of Cambridge, Ma s., applied his genius to the idea and like many other successful inventors, by merely changing some simple mechanical devices, produced the desired effect, making the original design useful, and thus procured a patent, dated Sept. 10, 1846, covering all the practical ground, which at once placed in his hands the means of accumulating a large fortune, while Mr. Hunt, in this as well as in all the other products of his original genius, just missed the requisite for pecuniary benefit, and lived and died nearly penniless.

In this machine the eye-point of the needle passes through the cloth, carrying the double thread with it, forming a loop on the opposite side, through which the shuttle passes another thread, when the loop is drawn back firmly against the cloth, forming a perfectly strong lock stitch, as little to break or ravel as the hand-stitch, and is called the lock or shuttle-stitch.

Though the original devices in this machine were nearly perfect in principle, like most other new things, it required time and a diversity of talent to perfect the details of its operation, such as simplifying and improving the mechanical devices, to produce the accurate and timely movements of the needle, shuttle feed for the cloth, &c., all of which have been the subjects of different patents, by other parties; but all machines using two threads, with the needle and shuttle, or otherwise making the lock stitch, are subject to Mr. Howe's original claim. And we are informed by three of the leading manufacturers, Messrs. Wheeler & Wilson, Grover & Baker, and J. M. Singer & Co., that they are each now selling at the rate of from 8,000 to 25,000 machines per annum, for each of which these enterprising firms pay Mr. Howe a large tribute. One of the above manufacturers informs us that within this year they shall have completed their arrangements for making

about 200 machines per day, or from 50,000 to 60,000 per year. As we were unable to get the exact number from Mr. Howe's books, we were obliged to take the assertion of the interested parties themselves, and cannot vouch for its exact correctness. In addition to these, there are now working under this patent many smaller manufacturers whose combined production, greatly enhances the above figures.

We think it is due to the three firms above named to say, that whoever may claim the original design of the Sewing Machine, we are mainly indebted to their enterprise and perseverance as pioneer improvers, manufacturers and introducers, for the benefits we are now reaping from its general use.

The next patent granted was for an unimportant improvement on the shuttle machine, in 1846; after which, November 27, 1848, John A. Bradshaw, of Lowell, Mass., patented a single thread machine, which made the tambour, or chain stitch, by means of an eye-pointed needle and hook, working in combination; the hook catches and holds the loop in such a position that the needle passes the next loop through it, when this second loop is held in like manner, and so on, making a continuous chain of interlocked loops. This makes a strong seam until one stitch gives way, when, unless immediately discovered and fastened, the whole seam will ravel out like knitting. For sewing garments or other work requiring a strong seam, this machine is far inferior to those using two threads; being much more simple construction, however, it is afforded for about one quarter the price of the latter, and those who cannot buy the best may think this better than none.

From the date of this patent up to December 10, 1850, all the patents issued were for improvements on the shuttle and chain stitch machines, when F. R. Robinson of Boston, Mass., patented a hand-stitch machine, which makes many kinds of stitches, by drawing the needle and thread entirely through the cloth, as by hand-sewing, making a good, strong seam; but its objectionable features, which have prevented it from coming into general use, are complication, slow action, and using thread in needlefuls, instead of taking it from the spool. But very few have been made.

February 11, 1851, Messrs Grover & Baker of Boston, Mass., patented a machine for making the double loop or Grover & Baker stitch, as it is called, by the use of two threads and an ingenious device which passes the loop of one thread through the loop of the other, in such a manner as to form a continuous, firm lock-stitch seam, without the use of the shuttle. Though somewhat similar to the single-thread chain stitch, it is not subject to the same fault. While it requires a larger quantity of thread for a given length of seam, it is more simple in construction and operation than the shuttle machine. This is a good machine, and has a large and rapidly increasing sale.

HOW CAN A MECHANIC BE CERTAIN OF SUCCESS ?

First, let him enter a trade for which he has an enthusiastic love. Then, let him resolve that he will be content with no subordinate position in that trade. Let him consider that the first duty that he

owes to himself, is to make himself eminent in his avocation, and make everything bend to the attainment of that eminence. When he has succeeded in this, constant employment, high wages, and competence, if not wealth, will be sure to follow.

Let us again caution parents, that nothing is more destructive to their sons than to place them at trades and avocations for which those sons have no natural tastes. If you wish your children to become skillful and expert, you must furnish them with an employment which is congenial to their desires. A failure in doing so, is the greatest mistake which can be committed. If parents have not sufficient intelligence to discover what the natural tastes of their children best qualify them for, let them apply to those friends who have observed their children, and who know their proclivities better than they themselves.

Were this doctrine carried out, industrial society would soon change places, to the advantage of individuals, as well as that of the community. Many clergymen, physicians, and lawyers would leave positions in which they never can be successful, and engage in something more congenial to their tastes, and wherein they could work with profit to themselves and benefit to their fellow men. Many a mechanic who is chafing at his ill adopted employment, and who is conscious of a germ within him which might be developed in a different sphere of usefulness, would leave his shop, and become the adviser of his fellows and the ruler of men.

The only respectable occupation which there is for an individual is that for which he has the best natural adaptation. If he takes any other, he can neither make himself respectable nor wealthy. What he can do best is the most appropriate occupation for him. Better, far better is it to be at the head of any trade than at the foot of any profession. In the former position, there is usefulness and profit; in the latter, nothing but mortification, poverty and uselessness. Let our mechanics ponder upon these suggestions. Let them resolve to make themselves eminent in the trade to which they are engaged, and, our word for it, they never need complain of want of employment, or lack of remuneration. But if they content themselves with mediocrity, they will certainly be unsuccessful, because skill, not mere labor, is the criterion of profit.—*Mech. Advoc. &c.*

MINING A THOUSAND YEARS AGO.

In the seventh, eighth, and ninth centuries lead was, it appears, used in covering buildings, and found at home, but the Anglo-Saxons wholly neglected the tin mines, or employed "Arabs or Saracens," most probably Germans, in them. There were ironworks near Gloucester in the time of Edward the Confessor, and which, in all probability, had been kept up from Roman times. The city of Gloucester paid him among other things 100

dieres of iron, each of 10 bars, and 100 rods of iron drawn out for the nails of the king's ships—or iron rods wrought to a fit size to make nails. In 1153 a silver mine was worked in Cumberland by King David. In 1296 the miners in Devonshire were either too few in number, or not sufficiently skilful, for this year 337 miners were brought from the Wapentake, or the Peak, in Derbyshire, to Martinstowe, who fined and cast into bars 704 lbs. weight of silver. In the next year 341 miners brought from the same place, 25 from Wales, and other natives of the country were employed, but the quantity of silver is not stated. In 1330 Milan steel was celebrated for cutlery and armor. Froissart mentions that of Bordeaux also as excellent for armor, and another says that it was equally famed for swords. In 1354 no iron was manufactured in England. Parliament, to prevent its rising in price, enacted that none wrought or unwrought, should be exported under heavy penalties, and the dealers were subjected to the inspection of the justices. During this and the succeeding century the market was supplied from Germany and Spain. In 1414, though tin and lead had been wrought in England from early times, the English miners were not considered so skilful as those of some other countries where the art had not been so long practiced. Henry VI., having failed in his attempts to obtain gold and silver by the art philosophical, brought over in 1430, Michael Gosselyne, George Harbryke, and Matthew Laweston, three famous miners, and 30 other miners in their company, from Bohemia and Hungary, to superintend and work the royal mines, and instruct the Cornwall men in their art. In 1478 the art of making gold by an occult process was still cherished at court. Edward VI. granting a license to John Frensh, "to practise a true and profitable conclusion to the cunnynge of transmutacion of metals to our pr'yte and pleaseire." In 1548 forging gaddes to imitate steel was prohibited. "Iron gaddes called Bilboa iron, like to the fashion and manner of gaddes of steel, whereby the grreatest part of edge tools that have been made of them have no value or goodness." This was apparently in imitation of the Spanish gaddes. In 1564 Queen Elizabeth granted to two foreign miners, Houghsetter and Thurland, whom she had brought over, a patent to search for mines and ewers of gold, silver, quicksilver, and copper, in eight counties, and to convert the proceeds to their own use, with the reservation of a certain portion to the queen. They were to make compensation in certain cases to the owners of the land, and were not to dig or undermine houses or castles. All persons were prohibited digging for any kind of ore without the license of Houghsetter. This German established copper works at Keswick, in Northumberland. In 1565 the patentees were incorporated into a company. They found an abundance of rich copper ore, which for many years afforded great profit to themselves and the nation, until by the death of the first German immigrant workman, and neglect of continuing the stock, and want of fuel, the works greatly languished. The silver mines worked by this company were situated on the site of the old Roman works at Skibber Coed. These were erected by Houghsetter, and brought large sums to the company, and 150 years after the name and family were distinguished in the district. In 1566 a patent was granted to Cornelius de Vos, a Dutchman, for making "allom and copperas," and Humphreys and Shute received a patent to dig and work all mines and minerals, "except allom and copperice," and subterranean treasurers not mentioned in the patent to

Houghsetter. In 1585 it was decreed that no new ironwork should be erected in Kent, Surrey, or Sussex, on account of the destruction of the wood, and increasing scarcity of fuel. In 1588 a license to dig for tin in Cornwall was granted to Sir W. Raleigh. From 1590 to the present time mining has been continuously progressing, the last official returns published stating the value of the minerals raised to be nearly 40,000,000*l.* per annum.—*Scientific Artisan.*

MANUFACTURE OF WROUGHT IRON.

Mr. J. Stenson, of Northampton, proposes a peculiar arrangement of the bars in forming a pile, such bars having grooves which fit into one another. The employment of grooved bars in forming the pile prevents the existence of straight lines of cleavage through the joints. In manufacturing angle iron, he proposes that each forge-bar of the series shall be so arranged that when the whole are piled together the other edges of all the forge-bars, whatever number may be required, will be level, or nearly level, with each other. The pile when heated is to be passed through the rolls in the ordinary way, such rolls being so turned as to enable the pile to be passed through them without changing the relative position of the angular forge-bars with each other, so that in the finished bar of angle iron each half of the bar may consist of an equal number of forge-bars, reduced by uniform pressure to one homogeneous substance.

STATISTICS OF AGRICULTURE.

DESTRUCTION OF THE WHEAT MIDGE.

The Remedial Measures which have been adopted and suggested with a view to lessen the Ravages of the Wheat Midge.

We abridge from Prof. Hind's Essay on the Insects, and Diseases injurious to the Wheat Crop the following suggestions which we commend to the attentive perusal of such of our readers as are engaged in agricultural pursuits:—

The Wheat Midge, a small orange colored fly, (or flies, as there are several species) with delicate, transparent, iridescent wings, and long slender legs. The length of this insect is about the tenth of an inch, rather less than more; the breadth of its expanded wings slightly exceeds the tenth of an inch.

We can employ remedial measures to check the destructive increase and devastations of this insect, but we cannot provide a remedy against its general appearance from time to time, under favorable conditions.

The following plans have been adopted in the United States, and also recommended in Canada. The general result is, as before, attached in a few brief words:—

1. *Smoking the flies when in the act of depositing their eggs*—Not generally practicable, and too much dependent on wind to be of much utility.

2. *Sowing with lime, or ashes, or gypsum* when the flies are in the act of depositing their eggs. Experience and observation have shown this artifice to be without any effect. Instances have often been cited when it has proved of value, in Ohio, Vermont, and Canada. The true reason must have escaped observation. Wheat in blossom *strewn* with lime did not deter the insect from depositing their eggs, as observation has most distinctly shown.

3. *Early Sowing*.—In the *absence* of the Hessian fly this artifice is no doubt valuable with regard to winter wheat.

4th. *Late Sowing of Spring Wheat*—of value where rust is not likely to prove equally destructive as the midge. With *good* varieties of wheat this remedy is probably the best that can be suggested. Many instances are recorded of the very successful employment of this simple artifice. In the Canadian Agriculturist for September, 1856, the late Mr. John Wade, of Hamilton Gardens, county Northumberland, describes a kind of wheat adapted to late spring sowing, which appears to possess the required qualities.

“The Fife is now as good after being grown 7 years as it was at first; without the least sign or vestige of failure in any shape *except* from weevil; and to know that you can be sure of a crop of wheat sown as late as the 10th of June, and to fill and ripen without a speck of rust, and yield 20 to 30 bushels an acre, is surely a consideration.”

5th. *Fumigating with sulphur*.—Is not the remedy, when practicable, as bad as the disease? Sulphurous acid—the result of burning in the air, is a most deadly vegetable poison.

6th. *Fly-proof wheat* (so called). See paragraphs 108-112. The Black Sea wheat has long been a favorite in Canada, it is now fast deteriorating in some of the qualities which commended it some years since; it has become acclimated. Fresh seed would no doubt be in full possession of its most valued properties.

The *Turkish Flint Wheat*, from near Mount Olympus, in Asia, is a hardy fall variety, and has recently been introduced into the United States through the Patent Office. It has a dark coloured chaff, a very heavy beard, and a long, flinty, white-coloured berry, and is thought by the Commissioner of Patents likely to prove highly profitable to the farmer and miller, from its superior weight and the excellence of the flour it produces. It has withstood the severity of an American winter in the middle States, and “from its long thick beard will probably be protected in a measure from the depredations of insects in the field as well as from heating or moulding in the stalk.” P. O. R. 1855.

7th. *Burning of Orpiment*.—This is a most dangerous recommendation. If it were attempted on a large scale, sufficient to be of practical utility, the destruction of many flies would be very probable, but the poison

ing of a manipulator now and then would be absolutely certain. This suggestion has been copied from a "Canada Journal," into the Patent Office Report for 1847.

Sound and practical advice on this subject is given to a correspondent whose wheat was beginning to suffer from the 'Weevil,' in the county of Middlesex, by the editor of the Canadian Agriculturist, in the September number, (1856) of that Journal. The extract is subjoined.

1st. Prepare your land *well*. 2nd. Sow early (*winter wheat*);—for this neighbourhood, we should say not later than the second week in September, (of course, the *absence* of the Hessian fly is here supposed) 3rd. Select early and hardy varieties of wheat, such as the *Improved White-Flint*, *Kentucky White-bearded*, or as it is commonly called, *Hutchinson's*;—*Bluestem*, *Soules'*, and *Hume's White Wheat*. There may be other kinds equally valuable, but the above are the earliest, hardiest, and produce the best flour of any with which we are acquainted. Ploughing wheat stubble in the fall has been recommended, with much show of reason in its favour, but it is evident that the practice must become general before much good can be expected from it. One large field left unploughed would furnish flies enough in the spring to spread the mischief over the whole neighbourhood, or settlement (?) (?)

There is no variety of wheat entirely exempt from the attack of insects. The *Mediterranean* is said to be less liable to their attacks than any other, but it is a coarse, red-bearded wheat, and makes inferior flour. It is an early kind, but the grain is as dark as the rye, and seldom plump. It is not grown in Upper Canada to any great extent.

It will be well here to draw attention once more to the suggestions of Mr. Hutton, although given at length in paragraph 137.

"One fact is well established, that in *early* situations, on early spots, where the seed was sown early there was no Weevil, (wheat midge.) In low, damp, late situations, and where late sown it has been extremely destructive. This important fact ought to be well remembered by our neighbours west of us, where they will have it undoubtedly in a very short time, and exertions ought to be used by them to sow early, and early kinds of seeds, to drain the land well and make small ridges, and otherwise expedite the growth as much as possible. The early sowed Soule wheat escaped last year in many instances, in the very centre of the Weevil's destructive ravages." Prize Report, county of Hastings, by W. Hutton, Esq., 1852.

With reference to change of seed of the same variety it should be borne in mind that it is advisable to obtain the fresh seed from a soil and climate better and earlier than those of the locality in which it is sown. In America where our winters are so prolonged that vegetation in the summer months progresses as in a hothouse, it seems very probable that seed obtained from the north would ripen earlier for a year or two in southern districts, than acclimated varieties.

The remedial measures which appears to be immediately suggested by a study of the habits of the wheat midge, is of the simplest description, and everywhere practicable. It will be seen from paragraphs 152, and 156, that the maggot of the midge, previous to assuming its larvæ condition,

buries itself an inch or a little more below the surface of the ground. That when the time arrives for their assuming the fly state, they *wriggle* themselves to the surface for that purpose. It is only by a series of alternate contractions and expansions of one side, and the other that they can make their way up from an inch below the surface to the light and air, for they possess no feet or other exposed members when in the pupa case. If, therefore, the pupa be buried, say six inches below the surface, it is *permanently imprisoned*, for nature has not provided any apparatus to enable it to effect its escape under such circumstances. If, therefore, at any time between August and May of the following year the ground be ploughed to a depth of at least 6 inches, and in such a way that the furrow slices lie as compactly as possible, there can be no doubt that a vast majority of the pupæ will perish from inability to escape from their imprisonment.

But how much greater will be the probability of every individual pupa perishing if the ground be ploughed seven inches deep immediately after harvest, and left untouched until the following August? Every one knows that it is not possible in ploughing, to turn a sod or furrow completely over, so that all parts shall be altogether reversed. The furrow slices may be made to lie with great compactness, but there will be interstitial spaces into which the pupa may fall or wriggle themselves, and eventually escape. When the field is ploughed immediately after harvest, and not only will the autumnal rains fill the spaces beneath and between the furrow slices by washing down fine particles of earth, but the influence of the many months of winter and spring will consolidate the furrow slices, and their compactness may be ensured by rolling in May or the early part of June, before the fly appears.

Rolling the land immediately after ploughing is accomplished, will give further security to the prison in which the pupa are enclosed by this simple artifice.

We may now consider the feasibility and adaptation of this artifice of *after harvest ploughing* and *rolling*, to those sections of Canada where the fly has not yet appeared. The country about Lake Simcoe has not yet apparently suffered from the depredations of this insect, and we know that the districts between London and the Detroit River are now only threatened at their borders with the invasion of the wheat midge. The question proposed is, what ought the farmers of these favored districts to do in order to avoid the slow but sure progress of the devastator.

Every one will say, first banish the idea from your minds that you are safe from an invasion; let the experience of half a continent foreshadow the contingencies of a few townships. Acknowledging, then, the necessity of preparing for the invasion, what is to be done? The answer depends upon presence or absence of another insect. 1st, Are you liable to the attacks of the Hessian fly? No; then sow early, &c., &c.

Yes; then sow late; prepare your seed with steeps, choose *earliest* varieties, and have your land in good order. Watch the progress of the midge, but do not depend upon that; plough as soon after harvest as possible, and let that field remain untouched, except by the roller, until after harvest the succeeding year. Whatever invaders may have appeared unobserved, (and millions will have so done, sooner, or later,) will be buried beyond their powers of restoring themselves to light and air.

To the Editor of the Canadian Merchants' Magazine.

THE WHEAT-FLY AND THE REMEDY.

SIR—

The attention of the country seems now to be fully roused to the importance which must attach to this subject, and it is certainly time that the evil threatening Western Canada, through the destruction of the wheat crops, should cause farmers to devise some means by which to save their grain; or in case that cannot be done, to adopt in time a system of culture that will enable them to turn their attention successfully to the raising of products heretofore much neglected.

The midge advances gradually through the country, at the rate, it is supposed, of about 10 or 12 miles each year, but its progress varies according to the nature of the ground, and through peculiarities of the season. A few lead the way, their numbers gradually increase, and the unwary and hitherto inexperienced farmer is seldom aware of the presence of his unwelcome visitor till the second or third year of his occupancy. Once established, there *he remains*, and sends forth fresh broods to cover new territory. The writer first encountered the wheat fly in a remote parish of Lower Canada, in the year 1837, the grain was then being partially destroyed, and the inhabitants looked upon their loss as temporary, supposing their enemy would soon pass away, as does the Hessian fly and others; in this, however, they were mistaken, for the evil rapidly increased, and is in full force there to the present day.

In the island of Montreal are to be found some of the best farmers that Canada can boast of—these gentlemen and others, more than twenty years ago, went through a series of experiments in order to find the vulnerable point, if any such existed, of their apparently insignificant enemy. They tried the effect of top dressing and manuring the soil with substances thought to be destructive to insect life; they steeped their seed in poisonous solutions; they avoided seeding down with clover; they sowed lime broadcast over the standing grain, till the heads sometimes presented the appearance of having been whitewashed, and Mr. Evans, late of the Cote St. Paul, applied in the same way a mixture of scotch snuff and wood ashes, sown when the dew was heavy, but all to no purpose. By means of various paragraphs in the newspapers, is revealed the fact, that our farmers here are enacting over again, the expedients above detailed, and long ago exploded as worthless. They, in the end, will probably arrive at the same conclusion that the others did, viz.: that nature has so protected from outward attacks the life of the fly and its young, that nothing is likely to exterminate them but an entire cessation in the production of wheat throughout the land. The researches made, as above mentioned, however, did not cease upon finding that the midge effectually resisted all attempts to destroy it, and it was found that very early or very late wheat could be grown quite uninjured by its ravages. In so far as Lower Canada was concerned, early wheat was out of the question, and the result of long and bitter experience shows, that a late sown hardy variety of spring wheat, one not liable

to rust, is all that our sister Province can venture to cultivate.

In our more favored portion of Canada, we have every reason to believe that our staple crop, the winter wheat—on the preservation of which would seem almost to hang our destiny as a country—may yet be saved, and we may be spared the tremendous loss that would fall upon us, had we to go through years of banishment to the wheat plant, such as have been the lot of our friends in the neighbouring state.

The fly makes its appearance above ground from the 1st to the 5th of July, two or three days after which time it rises to the level of the wheat ears, and deposits its egg; this, to come to maturity, must on being hatched, find the grain in what is known as the milk state; for should the wheat be late, the young worm will soon perish from want of sustenance, or should the plant be sufficiently early for the grain to be formed, the worm can at its then age make no impression, and fails to convert it into food. Most of these facts are well known where the fly has established its sway, but we are writing also for the information of those who inhabit a number of townships where it has not been seen, that they may from the first bend their energies to the right direction to counteract the mischievous operations of an enemy that seems determined, sooner or later, to have a look at every part of Canada.

The deductions we make from the foregoing are, that wheat, to escape the fly, must either be made to ripen late, and thereby incur a great risk of being rusted or grown, or some such culture must be adopted, as will cause it to come into ear earlier than is usual with us. Early sowing, thorough draining, and good preparation in other ways, will sometimes effect this object, but they cannot be depended on alone for the purpose of avoiding the fly,—an *early variety of winter wheat* used for seed, is, we believe, a sure means of making the crop perfectly safe from its ravages, and from the effects of rust.

We have for a long time past had this subject brought forcibly before us. The writer farmed till 1848 in Lower Canada, where the fly systematically devoured all but the late sown spring wheat; he has watched with anxiety its gradual progress from east to west, and has visited the State of New York at harvest time for the last four years, where he has seen, with alarm for Canada, the gradual discontinuance of attempts to raise winter wheat, and at last its final abandonment in the once famed valley of the Genesee. This year, however, a circumstance came to our knowledge, bearing very materially upon the subject under consideration, and seemed, if borne out by fact, to point out the antidote required. A man, it was said, had sown southern wheat in a northern latitude, and had been entirely successfully in reaping a good crop therefrom. The writer proceeded to his farm in the northern part of the State of New York, where he found the crop, then being harvested, was as it had been described; he found that this was the *third* year of his having grown southern wheat, escaping each time both fly and rust, while his neighbours, who from ordinary seed had tried to raise small patches of winter wheat, lost by the rust any thing not eaten by the fly. That he had sown on

the 7th of September, which he considered to be too late, and that the sample was good, and such as a miller would like. The writer afterwards went through another field of wheat, raised from southern seed, it was situated at about forty miles from the first; it had entirely escaped the fly, as had also the crops of neighbours who had used the same kind of seed, of which not less than 300 bushels had been distributed in that vicinity. We have since heard from good authority of two other instances of farmers in other parts of New York having pursued a similar course with the success. As soon as we had satisfied ourselves of the advantages which the southern wheat as seed, possessed over other kinds, we lost no time in securing a few hundred bushels for this year's seeding, of a similar kind to what we had seen growing, and now have it on hand to supply those agriculturists who may agree with our estimate, of the vast importance the matter is to the farmers particularly, and to our country generally. The seed should be put in by the first of September, it is brought from Kentucky where it ripened the seventh of June, and (judging by the time the New York wheat ripened) will be fit to cut here by the 7th or 10th of July next. The wheat may be seen at our office, where every information concerning it will be cheerfully given. We are of opinion that quite a large breadth of land in New York, will, this autumn, be sown with this variety, and we see no reason why Canada should wait till she lose a whole crop, before she consent to adopt a suggestion originated among our neighbours, whose ideas were perhaps sharpened by several years' light feeding on corn meal and buckwheat flour, as the best substitute they had for their missing "Extra Genesee." We do not recommend our farmers to throw aside their old seed all at once, but we say put in a few acres of southern wheat, and give it a trial along-side of your own.

The operations of the fly in our part of the country have been very partial this year, if farmers will take a little trouble to compare dates of heading out and ripening, they will find that the earlier the fall wheat was, the less they would find of the fly about it. We know of one gentleman in Etobicoke, who has a reasonable expectation of thrashing out at least fifty bushels of good wheat to the acre, while we could mention the name of another, whose farm is in Scarboro' (both adjoining townships to this), that will, out of a fine looking field, scarcely get his seed back, so severely has the fly treated it. Some are misled into thinking that because of there being so little of the midge this year, there may be none in time to come.

The reason of so fortunate an escape as many are now experiencing, is the accidental circumstance of our having wheat earlier than usual, while the season on the whole, has been cool and backward—this, in the natural course of events, may not occur again for years. That the fly is present with us, is but too evident from the condition of late *winter*, and *early* spring wheats, and we have found *late ears* in an early field, full of insect, while the other heads were free. Having some time before harvest personally examined the growing wheat between this and Thornhill, and over a good breadth of country east and west of Yonge street, we found abundant indications of fly in nine-tenths of crop, but the grain there had advanced so far towards maturity before having been attacked, that but a comparatively trifling injury will be sustained, (we should estimate to an extent of not more than 20 per cent. of the whole.) In Nelson and Nassagaweya, we, on inspection, found the wheat to be a few days earlier, and almost free from insect, confirming what

we have above advanced with regard to the important bearing the time of ripening has upon the preservation of the grain. And in conclusion we have to say, that whether our suggestion, for which we can not claim the merit of originality, be a benefit or not, farmers must prepare to see the whole of this fine wheat growing country covered, sooner or later, with what has hitherto proved the worst enemy that Canadian agriculture has ever contended with.

F. A. WHITNEY & Co.

We have much pleasure in calling general attention to the above article; we have long required that an idea of the kind should be started, and it seems most fortunate that Messrs. Whitney & Co., should have pushed their researches to a successful issue, in a matter so intimately connected with the vital interests of our country. We hope that leading men all through the agricultural districts, will take such an interest in the introduction of southern seed, as will insure its thorough trial at a period when we are threatened with the worst consequences from the action of the fly.

DISASTROUS SPECULATION IN WHEAT.

At no period, says the *Chicago Press*, in the history of the grain trade of our City, has the wheat market undergone such sudden fluctuations as have occurred during the past eight or ten weeks; and in no previous year has there been as much money lost on the same amount of wheat. On the 12th of April last, standard spring wheat sold at 90c in store. Shortly after this date the European war broke out, and breadstuffs all over the world advanced, so that on the 1st of May the above grade sold at \$1 to \$1 05—daily advancing the 16th, when it reached \$1 30. Since that date its course has been steadily and alarmingly downward. On the 1st of June it was \$1 15; on the 1st of July, 92c; and yesterday it closed dull at 56c—a decline of seventy-four cents per bushel in sixty-two days! We give its downward course in the following table:—

May 16.....	\$1 30 to 0 00
“ 23.....	1 12 to 1 20
“ 30.....	1 12 to 1 17
June 6.....	1 09 to 1 11
“ 13.....	1 03 to 1 05
“ 20.....	0 94 to 0 96
“ 27.....	0 92 to 0 80
July 2.....	0 89 to 0 91
“ 9.....	0 75 to 0 80
“ 18.....	0 56 to 0 62

This altogether outstrips the decline of 1857, which has hitherto been quoted as “the sudden decline.” In that year, standard spring wheat rose on the 3d of July to \$1 30 f. o. b., and fell to 50c in store on the 24th of November following—a heavier but a more gradual fall. The result of the

Recent decline has been very disastrous to grain dealers and speculators all along the lakes. Commission merchants, bankers, and nearly all concerned have suffered more or less. True a few have come out of the trouble unscathed, but it has been to the sacrifice of the many. The losses at Chicago, Milwaukee, Racine, and other points cannot be less than half a million dollars! It is a lesson not to be soon forgotten; and we trust that the spirit of speculation will never again be allowed to run wild as it did in May last, leaving its track strewn with bankruptcy and general ruin. Some no doubt think that extreme prices benefit the producer. It is a mistake. The reaction which generally follows an unnatural advance, sinks the market as much below its natural level as it was above it; and no better example of this can be cited, than the simple fact, that corn sold in this market yesterday at a price *eleven cents per bushel higher than standard wheat.*

THE VALUE OF THE COMING GRAIN CROP.

The expectations of every interest in the United States, says the Chicago *Democrat*, are towards the coming crop as the great panacea for our present financial difficulties, and there is no doubt that it is the sheet anchor of our safety. The railroad, banking, shipping, mercantile, and every other interest, is dependent upon the prosperity of agriculture.

The business of the country is still under the influence of the paralysis of 1857, and all the losses of the over-trading, over-speculating, and the consequent panic, are to be made good by the yield of another earth in this and subsequent seasons.

The wealth derived from a single year's crop is immense. But we can only promixately arrive at it, as we have had no census since 1850.

The Albany *Atlas* and *Argus* gives the result of the census of 1850, with a column of values, which table will give some idea of what we wish to arrive at.

Productions of the United States for the year ending June 1, 1850, as given by the United States' Census of that year, with an estimate of their value:

Wheat, bushels.....	100,485,944	\$100,476,944.
Rye ".....	14,188,813	8,453,287
Indian Corn ".....	592,071,104	236,828,441
Oats ".....	146,584,179	43,975,252
Rice, lbs.....	215,313,497	43,975,252
Tobacco, lbs.....	189,752,655	19,973,265
Ginned cotton, bales of 400 lbs. each....	2,469,093	74,072,790
Wool, lbs.....	52,515,959	13,129,239
Peas and Beans, bushels.....	9,249,901	4,604,950
Potatoes, Irish ".....	65,797,805	8,869,683
" sweet ".....	38,268,248	9,567,037
Barley ".....	5,167,015	2,325,156
Buckwheat ".....	8,956,912	2,687,073
Orchard products.....		7,723,186
Wine, gallons.....	221,249	221,249

Market gardens.....		5,280,030
Butter, lbs.....	315,345,306	31,334,530
Cheese ".....	105,535,893	5,276,794
Hay, tons.....	13,838,642	110,709,136
Clover Seed, bushels.....	468,678	1,410,934
Other grass seeds, bushels.....	416,841	416,841
Hops, lbs.....	3,497,020	209,821
Hemp, tons.....	33,871	3,487,100
Flax, lbs.....	7,709,676	462,580
Flax Seed, bushels.....	562,312	562,312
Silk cocoons, lbs.....	10,483	50,000
Maple Sugar, ".....	34,253,436	1,712,671
Cane Sugar, hbds. of 1,000 lbs.....	247,577	9,963,080
Molasses, gallons.....	12,700,866	3,175,224
Bees-wax and Honey, lbs.....	14,853,790	3,713,447
Grand Total.....		\$715,929,311

The above does not include the value for the year of the animals, such as horses, cattle, sheep, and swine, grown on the soil. The "value of animals slaughtered" during the same year is reported in the census at \$111,703,142.

There are some features of the foregoing table which will attract the attention of the reader. The wheat crop exceeds in value the cotton crop, the hay crop surpasses the former, and the corn crop overtops the whole.

Supposing that the crop of 1859 is only equal to that of 1850, and we still have an immense addition to the wealth of the country; but taking the natural increase of the country, and adding the gold product of California, and we should have the following figures:

Grain crops, &c.....	\$1,000,000,000
Animals, &c.....	200,000,000
Gold.....	70,000,000
	<hr/>
	\$1,270,000,000

This, we think, is a moderate estimate, but does not include iron, lead, copper, coal, and a large number of other articles.

However, it will illustrate the immense value of the agricultural interest of the country, and how entirely dependent we are upon it.

A WORD IN SEASON.

"'Another good crop will bring us out, and the West will be all right,' is the form of consolation by the aid of which Western men have borne the burden of the hard times. The good crop is here; but the prevailing prices of all the great staples bid fair to rule so low, that the economy that has been practised for two years past must still be enforced, else the country's troubles will not be relieved."—*Chicago Press and Tribune.*

The warning is as applicable to Canada as to the Western States. With the apparent certainty of an abundant harvest, we are war

ranted in hoping that as the Fall trade progresses, a return of the confidence, long a wanting, will be exhibited. The farmer, the mechanic, and the storekeeper, whom short crops have reduced to despondency, if not to greater difficulty, may now look hopefully upon the future. They begin to see a road through prevailing troubles, and with the confidence which this perception implies, we shall witness the advent of better times.

But it were a ruinous mistake—as our Chicago contemporary well points out—to suppose that a single good harvest will relieve our population from their manifold business troubles. The necessity for the exercise of a judicious economy will continue in all quarters; for the prices of grain will rule comparatively low, and there is a mountain of indebtedness to be cleared away before incurring a single liability not indispensable for the prosecution of one's regular pursuit. The farmer has store bills to clear away, perhaps arrears of interest and principal to pay to mortgagees; and the country storekeeper stands in a similar relation to the city merchant. The settlement of these balances is the first duty that will follow the sale of new wheat; and upon its prompt performance in a large degree depends our extrication from difficulty. Pay your store-bills, and your mechanics' bills, before indulging in needless expenditure. And buy not another rood of land until overdue notes are met, and outstanding mortgages removed. Excessive and rapidly accumulating charges in the shape of interest should be got rid of, and then let the emancipated borrower register a vow which a bitter experience has made him wish he had taken long ago.

Emerging from tight times, and with wheat saleable only at low prices, need we remind the merchant or the retailer of the necessity of caution on his part? Of "plain things" the farmers may be expected to purchase largely. But there will be no money to spare for superfluities—none to waste upon costly tawdry or social luxuries. The last two years will not have been wholly evil if they leave behind them lessons suited to the circumstances of the country. In the flush of a momentary prosperity, our people forget that Canada is yet poor, and that steady thrift alone can save them from constantly recurring disaster. Extravagance in dress, or dwellings, or furniture, or wines—if tolerable in any circumstances, which we are not prepared to admit—is certainly not suited to Canada; and the sooner the fact is learned by all classes the better. For the present, let luxuries be left to the few who can honestly pay for them.—*Globe*.

F A R M D R A I N A G E . *

It is but a few years since the subject of systematic drainage has received the attention of scientific men. In the olden time, if land was not so situated as to allow the surplus water which fell thereon, or was contained therein, in form of springs, to be easily conducted off, by means of ditches, dug with the plough or spade, it was considered of little value, and allowed to remain

uncultivated, the portions better situated being only devoted to tillage. This plan answered very well for a time, but it was found that as population increased, the crops that could be raised from these tillable portions were scarcely sufficient for their support. An increase in the price of land and high rates for provisions was the consequence. This being the case, thinking men began to inquire, how shall this state of things be remedied? Judge French, in the work before us, gives accounts of deep drainage having been advocated in England as early as 1650, and occasional reference being made to it thereafter, but nothing of importance until 1795, when the British Parliament voted to Joseph Elkington a reward of \$5,000 for his valuable discoveries in the drainage of land. Mr. Elkington was a Warwickshire farmer, of considerable genius, but illiterate. The Board of Agriculture consequently appointed Mr. John Johnstone to visit Elkington, and study his system, which he did, and afterward published a work popularly known as "Elkington on Draining," which, according to Gisborne, was a poor exponent of the principles and practice of Elkington. The book, however, had an extensive circulation, and was reprinted in 1838, by Edmund Ruffin, of Petersburg, Va., as a supplement to the *Farmer's Register*, of which he was the editor. Elkington's system seems to have been the tapping of springs by boring. He seemed to have a peculiar faculty for discovering these springs and their underground water-courses, which has died with him, as no one will undertake to do now what he did.

Next to Elkington, in point of time, came James Smith, of Stirlingshire, in Scotland. His peculiar views first came into notice about 1832. His system differs from that of Elkington, in that he advocates systematic operation over the whole field, at regular distances, and shallow depth, believing that more injury arose from the retention of rain-water than from springs; while Elkington considered springs as the chief source of the evil.

Next, in point of time, we find Josiah Parks, who advocated less frequent but deeper drains, with pipes of one inch bore. The committee appointed by the House of Lords, in 1846, adopted his plan, so far as *depth* was concerned.

About 1854, Mr. Joshua Trimmer introduced, under the patronage of Lord Berners, what is now known as the Keythorpe system, the peculiarities of which consist in that the parallel lines are not equi-distant, and that they cross the line of the greatest descent. The success of this plan seems to have been consequent on the geological structure of the ground where it was tried. Next is the Wharnccliffe system, which proposed drains four feet deep, from eighteen to twenty yards apart, and others between and leading into them, only two feet deep. This plan cannot be adopted in the Northern States, because the drain at two feet would be frozen in winter, and disturbed where the subsoil plough is used in summer.

These are the principal systems that have been in use in England—a combination of all of which forms the system now practiced there.

A history of draining in America is soon given. Before 1835, with the exception of occasional brush and stone under-drains, nothing but surface-drains were to be seen here. In 1835, Mr. John Johnstone, of Seneca Co., N. Y., by birth a Scotchman, imported patterns, and made drain tiles by hand, for use on his own farm. The effect of the drainage was so striking, that in 1848, John Delafield, of the same county, imported a machine for

making tiles, since which time, in that county, draining has been thoroughly tested with satisfactory results. Tile works are now established in many of the States, but there is not yet sufficient competition to enable us to purchase them, except at prices that pay exorbitant profits to the manufacturer.—*Life Illustrated.*

* Prepared from *Farm Draining; the Principles, Processes, and Effects of Draining Land with Stones, Wood, Plows, and Open Ditches, and especially with Tiles, including Tables of Rain, Fall, Evaporation, Filtration, Excavation, Capacity of Pipes; cost and number to the acre of tiles, &c. etc., and more than 100 illustrations.* By Henry F. French. New York, A. O. Moore & Co. 12mo, cloth, pp. 384. Price, \$1 25.

COAL ASHES AS A MANURE.

But few experiments have been made by American farmers, says a writer, to test the fertilizing properties of coal ashes. While we are importing guano and other manures, from foreign lands in enormous quantities, and at great expense, it may be well to employ substances nearer home, which are now neglected and cast aside as worthless. Thousands of tons of ashes might be obtained in cities, where coal is extensively employed for fuel, which, when applied to the soil, would doubtless greatly augment its productive powers. It is stated in "Faulkner's Farmers' Manual," an English publication on manures, that coal ashes contain sulphate of lime, with some potash and soda, all of which are known, when separately applied, to produce a good effect on clover crops, and to constitute an important part of the food of all grasses.

The following experiment by an English farmer, may shed some light on the subject:—The ground selected contained three perches of clover; the first had no manure, and produced thirty-eight pounds when cut in full head; on the second, where four quarts of sifted coal ashes, which had not been exposed to the weather, were applied, the produce was fifty pounds; on the third perch, one quart of plaster was sown, and the crop weighed fifty-four pounds. It will be seen that the ashes increased the clover nearly one-quarter above that on which no manure was applied, which goes to prove that this substance is a valuable fertilizer. Coal is said to be of vegetable origin; therefore we can see no reason why its ashes should not contain the food of plants. Experiments on various soils and crops might be made by any farmer at a small expense, as coal is employed as fuel in nearly every town.

RAILWAY STATISTICS.

A VALUABLE IMPROVEMENT FOR PASSENGER CARS.

On last Saturday we were invited to take a short trip on the evening train of cars going out upon the Hamilton and Dayton Railroad, for the purpose of trying an improvement which gives, thus far, great promise of utility.

The improvement is the invention of Isaac E. Jones, of this city, or more familiarly "Friend Jones the Silkman," who, in introducing his silks all along the lines of railroads, very easily discovered that the sparks, dust, and cinders, from the locomotive, were objects not pleasant in the cars, and should, if possible, be prevented from entering. He has, therefore, arranged and patented, what he terms "an adjustable canopy," which covers over the space between the cars and above the platforms, and finds, by experiment, that it very effectually stops the great suction that is always observable to persons standing upon the platforms, when the cars are in motion, and thus the cinders and dust, etc., that would be drawn in with the air, is driven back to the rear of the train. During the experiments it has also been discovered, that the train can be drawn with much less power than with ut the canopy, and hence there will be a vast saving in the expense of fuel, etc.

The arrangement is quite simple, easily added to the cars, gives no trouble in making up trains, and is certainly worthy the attention of car builders and railroad-men. The brakemen are all decidedly in favor of it, and the travelling public will soon demand it as they have done sleeping cars. Parties can learn all about it by addressing "Friend Jones," care of the American Patent Company, Cincinnati, Oh.o. — *Scientific American*.

THE NORTH SHORE RAILWAY.

The *Three Rivers Inquirer* gives the following translation of an article that lately appeared in the *Journal de Quebec* on the result of the mission of Messrs. Langevin and Cassault to England:—

"We at present know the result of the mission of Messrs. Langevin and Cassault to London. The bankers and capitalists, whom we know personally, and whom we know to occupy the highest position as financiers, are ready to submit the project of the North Shore Road to the London public, on the conditions following:

1st. The Corporation of the City of Quebec to become subscribers to the amount of £25,000 sterling, shares, in the Company, and renounce for ten years their claim to all interest; to the advantage of all other shareholders, those latter holding stock to the amount of £1,250,000 sterling.

2nd. The Corporation to renounce its right to the land it might claim as shareholders, namely 25,000 acres.

"We stated before Mr. Langevin made known the nature of the propositions of which he was the bearer, that they were so onerous, that it would be preferable for Quebec to forego the railway, rather than accept them; but we then referred to a guarantee of five per cent. interest on the capital of the company, that is on a million and a quarter. It must be avowed that this would be more than the road would be worth, and more than we could pay. This would have proved a far harder proposition than brought by Mr. Langevin. Still, this does not prevent us from saying that the latter proposition is already sufficiently onerous, and that nothing but the urgency of the case should cause us to accept it. Situated as we are personally to day, free from all relations mediate or immediate with any enterprise; thus occur

pying a favorable position to rightly estimate what is for the public interest, while none will accuse us of being carried away, as those naturally are, who are identified with the work, and who desire its accomplishment, cost what it may. None will deny the depressive state of our commerce, and of all our industrial pursuits; none will deny the progressive decrease in the value of immoveable property; in a word, none will deny that we are advancing rapidly toward decay and ruin. The corporation is obliged to spend each year from £12,000 to £15,000, apparently to furnish work to our best artisans, but in reality to prevent them from starving of hunger; a philanthropy that is fast tending to subversion and decay. Economy does not consist in not spending, or yet in spending unproductively. If then, instead of thus employing city money, it were spent in paying the interest of the debt necessary to be contracted for the construction of the North Shore Road, we would not only lay it out advantageously, but attract to this country a million and a half of foreign capital, at least one third would be expended within the city. We would create a work not only useful but remunerative, we would double at once the value of immoveable property, and while furnishing labour to all hands lacking it, we would open an active source of commerce and industry to the general benefit of all the inhabitants of Lower Canada. Doubling the value of all the property in Quebec is creating a capital four times the amount of the cost of the entire road; and the same result would follow along the shore of the St. Lawrence. But a more serious reflection remains to be considered. The citizens of Montreal have the enterprise to take in hand to prove the truth of the prophecy of one of their journals: 'that Quebec would see the grass growing in her streets.' They have succeeded in drawing from us the extensive commerce we before possessed; they have monopolized the ocean steamers, and are now preparing for the deepening of immense docks to receive our ships. Once these are constructed they will exert the same influence on Quebec, that the Erie Canal exerted on the navigation of the St. Lawrence; the Erie Canal has preserved the advantage of its prodigious commerce. There must, therefore, be no hesitation, because for us it is an affair of life or death, ruin or prosperity, even our existence as a city."

REFRIGERATOR CAR.

A car to be known by the above name has been built by the Northern Railway Company, expressly for Mr. Vicars, for the conveyance to this city of fish and other perishable articles, from Collingwood and the stations along the route. The "Globe" says it will be separate from the usual express car, and intended to be run every day in charge to Mr. Vicars' agent. The provisions will be protected by a quantity of ice sufficient for their preservation during the transit. Hooks for meat are placed in a separate compartment from that set apart from the fish. There is a double lining to the car, the top and sides of which are packed with sawdust. The car is admirably adapted for the purpose required, and the fish brought by it to Toronto, regardless of the state of the weather, will continue as fresh as when first taken out of the water.—*London Free Press, August 10.*

AMERICAN RAILROADS.

An impression prevails in London, that American railroads are, in reality, notwithstanding their fair dividends, poor properties, because the iron of which they are constructed is comparatively bad—bad as compared with the metals generally used for the rails of our lines.

It is, no doubt, the fact, that the rails of American lines generally are indifferent stuff. The iron had to come from this country; and being paid for in bonds, it is said the ironmasters took advantage of their position, and palmed off on the "Yankees" inferior material. It may be remarked that they did the same on some of our modern English railroads. But let that pass. Admit that the American railroads are composed of poor rails. As a question of £. s. d. what does it amount to? It amounts to costly working. Nothing more. The cost is annual, and it resolves itself into an enlargement of the working expenses. Be it remarked that the American lines, as compared with the English, are extremely costly in working, which Messrs. Zerah Colburn and Alexander Holley, two distinguished authorities, ascribe principally to this very effect of the permanent way. The dividends of American railroad stocks would, doubtless be higher, were they to substitute good rails for bad, which we may expect they will do, as they have now found their error out. The additional cost would not be much, comparatively speaking, and they would soon make it up in savings of working expenses. According to the last Board of Trade Report of English railroads (by Capt. Galton,) the average working expenses of heavily taxed British railroads were 47 per cent., while those of American railroads were 54 per cent.

If American railroads were as substantial as our English lines generally are, they would yield even higher dividends than they now do. Their capital accounts would not, as we have said, be much increased, while their savings in working would pay a high per centage on the additional capital. Notwithstanding their extremely high rate of expense for working, the American lines in 1857 yielded a traffic profit on their capital of 6.7 per cent., while the British railroads in 1857, yielded only 4.11 per cent. Thus as a property, the American lines are now more than 50 per cent better than ours; but if the condition of their rails, etc., admitted of as much economy in working, they would be better still. They have the great advantage, which nothing can take away, of economy in capital outlay, such as avoiding frightful law, parliamentary land noncompensation, and other expenses, which, in this country, have run away with capital wholesale without purchasing any substantial property. Nearly every old American line could not now be made for what it originally cost, the land and labor having so much advanced in value.

Some of the best paying new English railroads, and there *are* paying new lines here, have been laid with poor iron, which detracts from their value but does not destroy it. They would have been better properties had they been blessed originally with better iron, the badness of which adds and will add for years to their working expenses. In course of time good rails will be substituted for defective ones, and then the profits will be as they originally would have been had the construction been fair in the first instance. Let it never be forgotten that such a thing as a worn-out sound rail is almost unknown. Extremely heavy rails are not good. They are destroyed as soon

as lighter ones, if they are unsound. Get rails of the best material, and well laid, and no amount of traffic will produce any sensible effect upon them during a long series of years or in a life time. Ask the Stockton and Darlington Company their experience in the matter.

We have written these few remarks to correct the popular, but really very silly notion, that American railroad dividends are unsound, because their rails are unsound, the truth being that the dividends would increase were the permanent way in better order. The American heavy repairs and renewals are charges against their current revenue accounts.—*Herapath's Journal*.

RAILROAD LAW.

The following statement of rules and regulations is based upon actual decisions of courts in the various cases relating to subjects mentioned:—It has been legally decided that applicants for tickets on railroads can be rejected from the cars if they do not offer the exact amount of their fare. Conductors are not bound to make change. All railroad tickets are good until used, and conditions, "good for this day only," or otherwise limiting the time of genuineness, are of no account. Passengers are bound to observe decorum in the cars, and are obliged to comply with all reasonable demands to show tickets. Standing upon a platform, or otherwise violating a rule of the company, renders a person liable to be put from the train. No person has a right to monopolize more seats than he has paid for, and any article left in a seat, while the owner is temporarily absent, entitles him to the place upon his return.

LOCOMOTIVES IN THE UNITED STATES.

The first locomotives in the United States, says the *American Railroad Guide*, were brought over from England by Horatio Allen, of New York, in the Fall of 1829, or the Spring of 1830; and one of them was put upon the Delaware and Hudson Railroad, Carbondale, Pa., but being found too wide for the track, its use was abandoned. The first Stephenson locomotive ever imported, was the Robert Fulton, and was brought out in the summer of 1831 for the Mohawk and Hudson Railroad, afterward rebuilt and named the John Bull. The first locomotive built in this country was constructed by the West Point Foundry, in 1830, for the South Carolina Railroad, and named the Phoenix. A second engine was built the same year by the same establishment, and for the same road, and named the West Point. In the spring of 1831, a third engine was built by the same establishment, for the Mohawk and Hudson road from Albany to Schenectady, and called the De Witt Clinton, and this was the first locomotive run in the State of New York. David Matthew, a skilful engineer, first run this engine, and was residing in Philadelphia last winter, still engaged in railroad improvements.

NORTHERN RAILWAY OF CANADA.

A special general meeting of the stockholders of this Company was held recently in the Company's offices, York street; the President, Hon. J. C. Morrison in the chair. This meeting was necessary for the election of the Company's officers, as, according to the act of last session, the offices held under the then Board were vacated on the 15th instant. Under the provisions of this act, therefore, it became necessary to elect new directors, to fill those offices till the second Tuesday in February next, when the annual meeting will be held, and the bondholders as well as the stockholders will be represented. At the election yesterday, the old Board of Directors was re-elected; and at a subsequent meeting, Hon. J. C. Morrison was re-elected President, and F. C. Cumberland, Esq., Vice-President, of the Company.

GRAND TRUNK RAILWAY RETURNS.

				1858	1859.
Week ending	July 2nd	-	-	\$44,081 99	\$41,265 65
"	" 16th	-	-	36,982 17	33,401 78
"	" 23rd	-	-	36,267 43	37,434 65
"	" 30th	-	-	39,429 55	44,364 69

GREAT WESTERN RAILWAY RETURNS.

				1858.	1859.
Week ending	July 1st	-	-	\$32,848 04	\$30,952 66
"	" 22nd	-	-	31,557 74	26,877 64
"	" 29th	-	-	28,337 46	26,636 68
"	August 5th	-	-	32,187 57	32,674 27
"	12th	-	-	32,337 14	28,734 58

BANK NOTE REPORTER.

BANK OF BRITISH NORTH AMERICA

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

		DISCOUNT IN	
		Montreal.	Toronto.
BRANCH at	Montreal.	Robert Cassels, Manager	par
"	"	Brantford. James C. Geddes, Mang'r	par
"	"	Halifax, N. S. S. N. Binney, Mang'r	5
"	"	Hamilton. Geo. Taylor, Mang'r	par
"	"	Kingston. Samuel Taylor, Mang'r	par
"	"	London, C.W. Walter Watson	par
"	"	Quebec. C. F. Smith, Acting Manager	par
"	"	St. John, N.B. Thomas Christian	5
"	"	Toronto. W. G. Cassels, Mang'r	par
Agency at	Dundas.	W. Lash, Agent	par
"	Ottawa.	A. C. Kelty, Ag't	par
Agents in	New York.	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*

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

BANK OF MONTREAL (CONTINUED.)

		DISCOUNT IN	
		Montreal.	Toronto.
Agency at	Guelph,	R. H. Moore,	..... $\frac{1}{2}$ par
" "	Lindsay,	Hartley Dunsford,	..... $\frac{1}{4}$ par
" "	Perth	M. Stevenson	$\frac{1}{2}$ par
" "	Windsor,	A. Macnider	$\frac{1}{2}$ par
Agents in London—	The Union Bank of London		
" "	Liverpool—The Bank of Liverpool.		
" "	Edinburgh—The British Linen Company, and Branches.		
" "	Glasgow—	Do. do.	do. do.
" "	New York—R. Bell and J. Rae.		
" "	Boston—The Merchants' Bank.		

BANK DU PEUPLE.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Montreal.		
		President.	
		B H Lemone, <i>Cashier</i>	par par
Agents at	Toronto,	E. F. Whittmore & 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>	$\frac{1}{2}$ par
Branch at	Brockville ...	R. F. Church, "	$\frac{1}{2}$ par
" "	Hamilton ...	Alfred Stow, "	$\frac{1}{2}$ par
" "	Chatham ...	C. P. Sisson, "	$\frac{1}{2}$ par
" "	Kingston ...	W. G. Hinds, "	$\frac{1}{2}$ par
" "	London ...	Jas. Hamilton, "	$\frac{1}{2}$ par
" "	St. Catharines ...	H. C. Barwick, "	$\frac{1}{2}$ 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, "	$\frac{1}{2}$ par
" "	Clifton ...	James Macklam "	
" "	Goderich ...	John McDonald "	
" "	Lindsay ...	T. Heliwell, jr. "	
" "	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.)

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.

DISCOUNT IN
 Montreal. Toronto

BANK OF TORONTO.

Head Office—Toronto	...	J. G. Chewett, <i>President</i> .
		Angus Cameron, <i>Cashier</i>
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.

DISCOUNT IN
 Montreal. Toronto.

$\frac{1}{2}$ par

CITY BANK, MONTREAL.

Head Office—Montreal.		Wm. Workman, <i>President</i> .
		F. Macculloch, <i>Cashier</i>
Branch at	Toronto ...	Thomas Woodside, <i>Manager</i>
" "	Quebec ...	Daniel McGee, "
" "	Sherbrooke ...	W. Ritchie, "
Agent at	Dublin ...	National Bank of Ireland.
" "	London, Eng...	Glyn, Mills & Co.
" "	New York ...	Bank of the Republic.

DISCOUNT IN
 Montreal. Toronto.

par par
 $\frac{1}{2}$ par
 par par
 no issues

INTERNATIONAL BANK.

Capital, \$1,000,000.

Head Office—Toron'o.	Wm. Fitch, <i>President</i> .	J. M. Kennan, <i>Cashier</i>	par
Agents at	New York, Metropolitan Bank.		

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

Head Office—Toronto.	W. BETTES, <i>President</i> .	E. C. HOPKINS, <i>Cashier</i>	par
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COMMERCIAL BANK OF CANADA.

(Formerly ommercial Bank of the Midland District.)

Head Office—Kingston.	Hon. John Hamilton, <i>President</i> .	C. S. Ross, <i>Cashier</i>
Branch at	Belleville ...	Andrew Thomson, <i>Manager</i>
" "	Brookville ...	James Bancroft "
" "	Galt ...	William Cooke, "
" "	Hamilton ...	W. H. Park, "
" "	London ...	J. G. Harper, "

DISCOUNT IN
 Montreal. Toronto.

$\frac{1}{2}$ par
 $\frac{1}{2}$ par
 $\frac{1}{2}$ par
 $\frac{1}{2}$ par
 $\frac{1}{2}$ par
 $\frac{1}{2}$ 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	" Berlin, Robert N. Rogers.....		
"	" Chatham, J. Pottinger, <i>Pro Agent</i>		
"	" Ingersoll, W. Sage.....		
"	" Perth, James Bell		
"	" Peterboro, Wm. Cluxton		
"	" Prescott, John Millar.....		
"	" Stratford, George E. 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>ashr.</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>ashier.</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>	$\frac{1}{2}$	par
Branch at Montreal ...	H. Starnes, <i>Manager</i>	par	par
“ Prescott ...	W. D. Dickinson “	$\frac{1}{2}$	par
Agency at Oshawa ...	Agent.....		
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>	$\frac{1}{2}$	5
Agents in Montreal.....	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> ..		$\frac{1}{2}$	par
Agency at Montreal, Banque du Peuple, Agents			
“ Ottawa, H. V. Noel, “			
“ Three Rivers, John McDougall, “			
Agents at 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, <i>President</i> .		
J. W. Dunklee, <i>Cashier</i> .		$\frac{1}{2}$
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.	

COMMERICAL SUMMARY AND REVIEW.

REVIEW OF THE TORONTO MARKETS.

TORONTO, August 17th, 1859.

Since our last issue, an effort has been made by the principal merchants in this city to reduce the current value of the British shilling to 24 cents, and, notwithstanding the opposition this movement has met with, both in Montreal and Hamilton, it has been remarkably successful here, as this coin is now almost universally received and paid at the reduced rate.

It is to be hoped that all our commercial cities will follow the example of this city, and not allow any temporary advantage they may gain over Toronto by taking silver coin at an advance upon its real value, to deprive them and the Province at large of a much needed reform. If they insist upon doing so, our merchants must, of course in self-defence, fall back upon the old system, which, now that our Banks, Public Offices, and Railroads have repudiated, will entail great loss and inconvenience upon the mercantile community.

Business continues dull. In Produce there is a partial revival of trade, which will doubtless continue to improve as harvest operations are completed.

The demand for wheat, says the *Colonist* of this morning, opens very favourably;—based, we believe, principally on orders for milling purposes, with a slight speculative enquiry. Dealers, as a general thing, have suffered recently too severely by heavy losses to rush into the market in the present unsettled state of prices, and it is likely that the purchases for the next few months will be made to supply a milling demand, in which case the market will probably rule steady with fair prices. So far rates have been satisfactory, and the present disposition of foreign markets is to encourage this agreeable state of things. Good wheat has freely commanded 5s to 5s 3d (\$1 to \$1 5c) per bushel, while extra samples have occasionally brought 5s 6d (\$1 10c) but only in one or two instances, resulting generally from competition, which bids fair to be sufficiently active to keep the market stiff. Inferior and undried wheat does not command over 4s 6d (90c) per bushel.

The flour market was never more flat. There is no disposition at all to purchase, and probably in view of slightly better rates there is not much pressed upon the market. No sales have transpired, and it is impossible to come at accurate quotations. We have no doubt, however, that flour could be bought at \$5 for superfine; \$5 25 for fancy; and \$5 50 to \$6 for extra. Retail rates for good flour range from \$5 75 to \$6 per barrel.

SPRING WHEAT has not been offered at all this season. The opening price will probably be about 4s per bushel.

RYE.—New rye has been bought in small quantities at 3s per bushel.

A few loads of Barley were bought at 2s 6d a 2s 7d per bushel. The sample is very fine, and the yield in our immediate vicinity will be large. The high prices of last year have induced farmers to sow largely, and we anticipate that this grain will form a prominent feature in our produce market this year.

OATS.—A large arrival from Milwaukee of Western oats of last year's crop has depressed the market, and 2s per bushel in lots not less than 100 bushels is accepted. Canadian Oats are worth 2s 3d a 2s 6d per bushel.

PEAS are not so much in demand, with prices considerably reduced. One or two loads only have been offered, which have realized 2s 9d a 2s 10d per bushel.

PORK.—There is but little doing in cured meats. Quotations are, bacon \$9 a \$9 50; hams, smoked, \$10 a \$11; not smoked \$9 a \$9 50 per 100lbs. Barrelled pork is in very light stock; mess \$19 a \$20; prime mess \$16 a \$17. A small consignment of the former brought a ready sale at good rates.

HAY is in moderate supply, about equal to the demand at \$16 a \$19 per ton.

POTATOES are coming in very freely and prices have declined to 2s 6d per bushel retail, and 2s wholesale.

NEW APPLES are held at \$2 a \$2 25 per barrel.

BUTTER.—Fresh comes in slowly and brings freely 9d to 10d per lb. Good tub butter is not plentiful and finds ready sale at 7d to 8d per lb by the firkin.

EGGS are now and then plentiful prices being from 8d to 9d per dozen, retail.

FOWLS are scarce, young chickens bringing 2s 6d to 2s 9d; old 2s 3d per pair. Ducks 1s 10½d to 2s per pair.

SHEEP are very plentiful at unusually low rates, say \$2 50 to \$3 50 each. Lambs 6s 3d to 8s 9d. Calves are in poor demand at \$3 to \$4 each.

BEEF is unusually plentiful, and the best cattle can now be had at \$4 50 to \$4 75 per 100lbs. Inferior cattle are unsaleable. The retail business is exceedingly dull, and butchers grievously complain.

WOOL is not in large supply. Prices are steady at 1s 4d to 1s 4½d per lb. Sheep skins 2s 6d to 3s 6d each. Beef hides \$6 50 per 100lbs. Calf skins 6d per lb.

SALT.—Old American salt has been sold by the quantity at \$1 per barrel. Freshly imported is held at \$1 15 per barrel.

Wood from the wharves is delivered at \$3 75 to \$4 per cord.

S T O C K S .

There is little doing in the Stock Market, and prices may be said to be almost nominal. The Bank of Upper Canada has advanced, and is now firm at our quotations.

Bank of Upper Canada.....	82 to 84
Bank of Toronto	10 to 12 dis.
Toronto Gas.....	100 to 100½
Municipal Loan Fund Debentures.....	90½ to 91
Municipal Debentures.....	} 1 to 2 per cent. per annum discount.
Canada Life, \$50 Shares.....		85 to 90

PRICE OF CANADIAN SECURITIES ON THE ENGLISH STOCK EXCHANGE.

GOVERNMENT SECURITIES.

Canada Government 6 per cent., January and July.....	112 to 113
Do. do February and August.....	113 to 115
Do. do March and September.....	113 to 115

RAILWAYS.

Atlantic and St. Lawrence, leased by the Grand Trunk.....	79 to 81
Buffalo and Lake Huron.....	5 to 5½
Do. Preference.....	6 to 7
Buffalo, Brantford and Goderich—	
6 per cent. Bonds, 1872.....	
Do. do. 1873.....	
Do. do. 1874.....	
Grand Trunk.....(ex. d.)	33 to 34
Do. 6 per cent. Pref. Bonds.....	92 to 93
Do. 6 per cent. Debentures.....	71 to 73
Do. 7 per cent. 1862.....	75 to 80
Do. 7 per cent. 1867.....	66 to 71
Great Western Shares.....	14½ to 15
Do. New.....	9 to 9½
Do. Bonds payable 1876 with opt.....	102 to 104
Do. do. 1873 do.....	102 to 104
Do. do. 1873 without opt.....	101 to 103
Do. 5½ per cent. 1877 do.....	97 to 100

MISCELLANEOUS.

Bank of British North America.....	55 to 56
Canada Land Company.....(ex. d.)	110 to 116
British American Land.....	25 to 29
English Consols.....	94½ to 95
New Brunswick Gov. 6 per cents.....	108 to 109
Nova Scotia Gov. 6 per cents.....	108 to 109
Atlantic Telegraph (£1000).....	220 to 260

MONTREAL STOCK MARKET—PREPARED BY THE BOARD OF BROKERS,
BOARD ROOM, EXCHANGE, MONTREAL, AUG. 17th, 1889.

DESCRIPTION.	Shares.	Paid Up.	Dividend Last Six Months.	Buyers.	Sellers.
Bank of Montreal	\$200 00	whole.	4 per cent.	115	115%
Bank of Montreal, New Stock	200 00	70 per ct.	4 per cent.	None	None
Commercial Bank of Canada	100 00	do	4 per cent.	111	111½
City Bank	50 00	do	4 per cent.	119	110
City Bank, New Stock	50 00	do	4 per cent.	85	86
Bank of Upper Canada	50 00	whole.	4 per cent.	110	110
People's Bank	50 00	do	4 per cent.	111½	112
Montreal Mining Company's Consols	20 00	40 per cent.	4 per cent.	\$3 00	\$3 10
Quebec and Lake Superior Mining Company	5 00	\$15 10	None.	None.	None.
Lake Huron Silver and Copper Mining Company	5 00	4 10	.....	None.	None.
Canada Mining Company	5 00	0 75	.....	None.	None.
Huron Copper Bay Mining Company	4 00	0 25	.....	80	50
Champlain and St. Lawrence Railroad Company	200 00	whole.	None.	10½	16%
Grand Trunk Railroad Company	100 00	whole.	6 per cent. per annum.	32	None
Great Western of Canada	100 00	whole.	3 per cent., per annum.	68	68
Montreal Telegraph Company	40 00	whole.	4 per cent., 6 mos.	112	113
Montreal City Gas Company	40 00	whole.	4 per cent., 6 mos.	111	111
Government Debentures, 20 years	.....	.....	6 per cent. per annum.	103	103
Con. M. L. F. Debentures	.....	.....	6 per cent. per annum.	93	94
Champlain and St. Lawrence Railroad Bonds	.....	.....	7 per cent. per annum.	80	80
Montreal Exchange	400 00	whole.	8 per cent. per annum.	105½	80
Montreal Harbour Bonds	.....	.....	6 per cent. per annum.	92	107
Do Water Works Bonds	.....	.....	6 per cent. per annum.	.....	94

STOCKS.

BANK OF MONTREAL.—Owing to the limited amount on the market, the transactions have been confined to two or three small sales of the "paid up" at 115 to 115½, which is readily obtainable.

BANK OF MONTREAL NEW STOCK.—None offered.

BANK OF BRITISH NORTH AMERICA.—No sellers.

CITY BANK.—Exchanged hands to a small extent for 109, at which it is firmly held, with few sellers.

COMMERCIAL BANK.—Was taken at 111½ to fair extent, with limited supply.

BANK OF UPPER CANADA.—Small sales at 85 and 86, at which it is procurable.

PEOPLE'S BANK.—Several transfers this week at 110 for the "paid up." The usual Semi-Annual dividend of 4 per cent. has been declared payable 5th proximo, transfer books closing this day.

Ditto "New Stock"—Asked for at 105. No sellers.

MOLSON'S BANK.—Enquired for, and 111½ offered and refused.

CHAMPLAIN AND ST. LAWRENCE RAILROAD.—No transactions this week either in Stock or Bonds.

GRAND TRUNK RAILROAD.—Nothing whatever doing.

GREAT WESTERN OF CANADA.—Ditto.

MONTREAL MINING CONSOLS.—A few sales at \$3 to \$3.10. Holders generally looking for a rise, in anticipation of a demand.

MONTREAL NEW CITY GAS COMPANY.—In fair re-quest at 111; with few sellers.

MONTREAL TELEGRAPH COMPANY.—Although there have been no recent transactions, holders are to-day firm at 113.

MONTREAL HARBOUR BONDS, 8 per cent.—No sales, offered for 107.

GOVERNMENT DEBENTURES.—Nominal at 103.

CONSOLIDATED MUNICIPAL LOAN FUND DEBENTURES.—Several sales were made early in the week at 92½, 93 being offered and refused to-day.

EXCHANGE.—No alteration.

Bank, 60 days, London, 110% to 111½

Private, 60 days, London, 110 to 110½

Bank, sight, New York, 100% to 100½

REVIEW OF THE MONTREAL MARKETS.

Montreal, 13th August, 1859.

The return of Imports at this port for the first six months of the present year shows a large increase over those of 1858:—

The gross importation of the first six months of 1859, at this port ^l amounted to.....	\$8,550,696
Ditto, for the corresponding period of 1858.....	4,974,377
Increase this year.....	<u>\$3,576,319</u>

The importations have not doubled, but have travelled rapidly towards that point.

The free goods during the first six months of 1859 amounted to \$1,813,962; for the corresponding period of 1858, 1,204,095. Increase in 1859, \$609,867.

The value of goods in warehouse on June 30, 1859, was \$738 667; at the same time in 1858, \$1,188,595. Decrease in 1859, \$449,928.	
Duties collected in first six months of 1859 were.....	\$1,275,304
Ditto. ditto. ditto. 1858.....	<u>650,994</u>
Increase this year.....	624,310

The duties collected thus appear to have very nearly doubled.

We have here, says the *Montreal Gazette*, the fact of enormous increase of importation, and it is well that there is to set off against it a good harvest. Without this last there would undoubtedly have been commercial disaster. As it is, the produce of this year will have quite enough to do to meet the engagements against it.

The importations for the first six months of 1859 are not so great as were those of those of the first six months of 1857. A comparison may be made in this way:

Importations for the first six months of the following years:	
1857.....	\$8,983,604
1858.....	4,975,377
1859.....	8,550,696

The revival of trade exhibited by these figures is doubtless mainly due to two causes,—one, the prospect of an abundant harvest; the other, the necessities of the country after a period of self-denial through which stocks of all kinds have been greatly reduced. We must however again remind our importing friends, that *one good harvest* will not warrant heavy importations, although crops are abundant, prices are likely to rule low for the next three or four months.

The following table condensed from the *Montreal Herald* exhibits a few of the leading articles imported for the first six months of 1859, compared with the corresponding period of last year:—

GROCERIES, &c.

Coffee, green, in 1858, 213,212 lbs—value, \$22,398; 1859, 278,142 lbs—value, \$32,480; increase in 1859, 74,970 lbs, and \$10,082.

Molasses, in 1858, 603,047 gallons—value, \$115,448; in 1859, 217,679 galls—value, \$53,480. Decrease, 1859, 385,368 galls., and \$62,008.

Brandy, in 1858, 3,695 galls—value, \$8,594; in 1859, 50,259 galls—value, \$54,447. Increase in this year, 46,564 galls, and \$45,853.

Gin, in 1858, 12,578 galls—value, \$4,925; in 1859, 46,464 galls—value \$21,749. Increase in 1859, 33,886 galls, and \$16,824.

Rum, in 1858, 7,716 galls—value, \$5,779; in 1859, 12,114 galls—value, \$8,456. Increase in 1859, 4,398 galls, and \$3,317.

Sugar, refined, in 1858, 116,747 lbs—value, \$9,938; in 1859, 534,158 lbs—value, 43,377. Increase in 1859, 417,411 lbs, and \$33,439. Sugar, other kinds, in 1858, 5,020,960 lbs—value, \$253,637; in 1859, 11,199,756 lbs—value, \$630,406. Increase in 1859, 6,178,796 lbs, and \$376,769.

Tea, in 1858, 1,237,525 lbs—value, \$287,112; in 1859, 1,238,330 lbs—value, 309,300. Increase in 1859, 805 lbs, and \$22,188.

Tobacco, in 1858, 525,147 lbs—value, \$81,052; in 1859, 573,430 lbs—value, \$87,763. Increase in 1859, 48,283 lbs, and \$6,711.

Wine, in wood, in 1858, 16,542 galls—value, \$7,320; in 1859, 106,499 galls—value, 81,864. Increase in 1859, 89,957 galls, and \$74,544.

Wine, in bottles, in 1858, 1,201 doz.—value, \$6,272; in 1859, 2,185 doz.—value, \$11,078.

Starch, in 1858, \$7,903; in 1859, \$16,109. Increase, in 1859, \$8,206.

Spices, in 1858, \$12,681; in 1859, \$29,419. Increase, \$17,178.

Boots and Shoes, in 1858, \$29,027; in 1859, \$22,393. Decrease, \$6,634.

Leather Manufactures, in 1858, \$15,523; in 1859, \$17,351. Increase \$1,828.

India Rubber Manufactures, in 1858, \$4,867; in 1859, \$3,432. Decrease, 1,435.

Fancy Goods, in 1858, \$101,250; in 1859, \$69,728. Decrease \$31,422.

Glassware, in 1858, \$11,177; in 1859, \$22,219. Increase, \$11,042.

Stationery, in 1858, \$26,735; in 1859, \$54,474.

Books, in 1858, \$66,131; in 1859, \$60,813.

DRY GOODS.—As usual in the early part of August there is a perfect lull in this department of trade. The last two steamers brought to hand a considerable quantity of fall goods, which are now being opened. We expect at the end of this month to see a fair amount of business doing in this line. On reference to the figures as we publish below, it will be seen that the spring importation of dry goods has been very heavy, and that every article of import shows a large per centage of increase.

Comparative statement, showing the leading articles of Dry Goods entered at the port of Montreal for the six months ending June 30, 1858 and 1859:

	1858.	1859.
Carpets.....	\$8,109	\$34,631
Cottons.....	817,531	1,594,989
Linens.....	36,932	43,836
Silks.....	158,692	265,121
Woolens.....	414,053	1,006,145
Cotton Yarn.....	19,785	34,816

HARDWARE.—The following statement will show the value of Hardware entered at the port of Montreal for the first six months of 1859, compared with the corresponding period of 1858:—

	1858.	1859.
Hardware.....	\$262,969	\$462,440
Machinery.....	11,446	13,463
Iron.....	159,025	426,009
Steel.....	8,803	22,899
Tin and Zinc.....	29,367	80,251
Lead—Pig and Sheet.....	11,123	10,421
Pig Iron.....	34,113	35,256

TONNAGE.—The following statements exhibits the number of vessels from sea, and tonnage at the port of Montreal, up to the 11th of August, for the following years:

	Tonnage.	No. of Vessels
1854.....	43,098.....	135
1855.....	24,623.....	86
1856.....	37,185.....	102
1857.....	59,812.....	104
1858.....	34,785.....	33
1859.....	47,893.....	86

TORONTO HIDE AND LEATHER MARKET.

In the Hide and Leather trade, there is very little doing, but dealers anticipate a heavy fall trade. Stocks however are at present light and principally held in first hands:

We Quote:

Spanish Sole per lb.....	\$0 32 a 0 35c
“ Saugiter “.....	0 28 a 0 31
“ Upper “.....	0 45 a 0 50
French Calf “.....	1 05 a 1 15
Comma “.....	0 78 a 0 90
Kips “.....	0 40 a 0 60
Green Hides per 100 lbs.....	6 50 a 6 75
“ Calskins per lb.....	0 10 a 0 12½

PRICES OF PRODUCE.

				\$	c.	@	\$	c.
<i>ASHES</i> —Pots, per 112 lbs.,	-	-	-	5	65	@	5	70
Pearls, do.	-	-	-	5	85	@	0	00
<i>FLOUR</i> —Canada Fine, per brl.,	-	-	-	0	00	@	0	00
Superfine, No. 2, per brl.,	-	-	-	4	75	@	0	00
Superfine, do.	-	-	-	4	90	@	5	00
Fancy, do.	-	-	-	5	00	@	5	25
Extra, do.	-	-	-	5	75	@	0	00
<i>OAT MEAL</i> , per brl, 200 lbs.,	-	-	-	6	50	@	0	00
<i>INDIAN MEAL</i> , per brl., 196 lbs.,	-	-	-	0	00	@	4	25
<i>WHEAT</i> —U. C. White, per 60 lbs.,	-	-	-	0	00	@	0	00
do Mixed, do	-	-	-	0	00	@	0	00
do Red, do	-	-	-	0	00	@	0	00
L. C. Red, per minot	-	-	-				None.	
<i>OATS</i> per minot,	-	-	-	0	35	@	0	40
<i>PEAS</i> , do	-	-	-	0	80	@	0	00
<i>BARLEY</i> do	-	-	-	0	50	@	0	55
<i>INDIAN CORN</i> , per 56 lbs.,	-	-	-	0	85	@	0	00
<i>PROVISIONS:—</i>								
<i>BEEF</i> —Prime Mess, per brl,	-	-	-	12	00	@	12	50
Prime do	-	-	-	9	00	@	0	00
<i>PORK</i> —Mess, do	-	-	-	16	25	@	0	00
Prime Mess, do	-	-	-	14	00	@	14	25
Prime do	-	-	-	13	50	@	14	00
<i>BUTTER</i> —Choice, per lb.,	-	-	-	14		@	0	15
Ordinary, do.,	-	-	-	10		@	0	12½

NEW YORK MARKETS.

NEW YORK, Aug. 16.

FLOUR—Market more active but unsettled, and 5c. to 10c. lower; sales 6,800 barrels at \$3 85 to \$4 25 for Superfine State; \$4 25 to \$4 50 for Extra State; \$4 25 to \$4 55 for Common to Good Extra Western; \$4 40 to \$5 for old fresh ground shipping brands of round hoop Extra Ohio. Canadian quiet and nominal. Rye Flour dull at \$3 75 to \$4 62.

GRAIN.—Wheat very dull and easier; sales 5,030 bushels including Chicago Spring at 70c., and new white Michigan at \$1 40. Rye dull. Barley dull and nominal. Corn scarce and nominally firmer; sales of new mixed Western at 78c. Oats steady at 36c to 40c. for State, Western, and Canadian.

PROVISIONS.—Pork—Market dull and lower; sales 1700 barrels at \$13 75 for mess, and \$9 70 for prime. Beef unchanged. Bacon quiet. Lard firm; sales 150 barrels at 10½c. to 11c. for No. 1 to prime Western. Butter steady at 12c. to 16c. for Ohio, and 16c. to 20c. for State.

WHISKY steady; sales 100 barrels at 25½c.

ASHES dull; sales 50 barrels at \$5 25 for pots, and \$5 50 for pearls.

Money easy at 6 to 7 per cent. on call, and 7 to 8 for short first class paper.

STERLING EXCHANGE dull at 110½.

STOCKS without activity or material change in prices; Illinois Central Bonds 85½; Michigan Southern and Northern Indiana Railroad 7; Michigan preferred 24¾; New York Central 71½.

At the port of New York the importations this year have been very great, as compared with the previous year, and they are greater than they were in 1857. The figures for that port, for the first six months of the three years stood as follows:—

1857.....	\$147,709,635
1858.....	75,931,618
1859.....	152,892,086

Returns from other ports, both in Canada and the United States, show the same result. But this important fact must be borne in mind, that the importations of 1859 follow a year of very scanty importations, which were scarcely sufficient for the wants of the Continent. The great importations in the first half of 1857 followed ten years of what may be called inflation. The inference is obvious.

MISCELLANEOUS.

THE UNITED STATES PATENT OFFICE—SKETCH OF ITS HISTORY.

To the student in pursuit of knowledge upon any branch of science and invention there is no museum or collection of material in this country at all to compare with that so beautifully and artistically arranged in the spacious halls and galleries of the Patent office. Like the other institutions of the Federal Government, the growth of this office has increased with the development of the resources and rapid expansion of the power and population of the Republic. A glance at its history shows that such an establishment early attracted the attention of the wise and able men of the revolutionary era. Hence we find that, on the 10th of April, 1790, Congress passed an act authorizing the Secretary of State, the Secretary of War, and the Attorney-General, or any two of them, to grant patents for such new inventions and discoveries as they should deem sufficiently useful and important. This act, which originated the Patent Office was repealed, and a new act passed on the 21st of February, 1793. Under this latter act patents were confined to the citizens of the United States, and they were to be granted by the Secretary of State, subject to the revision of the Attorney-General. By the act of the 17th of April, 1800, the privilege of issuing out a patent was extended to aliens of two years' residence in the United States, and the act of July 13, 1832, only required the alien to be a resident at the time of his application for a patent, and to have declared his intention, according to law, to become a citizen. By the act of Congress of July 4, 1836, all former laws on the subject were repealed, and the patent system was re-enacted with important improvements, embodying a new organization of the office, and conferring upon it much more extensive powers than it had heretofore possessed. Under this act the establishment was organized essentially as it exists at this day, except that by subsequent acts the power of appeal was allowed from the decision of the Commission to either of the Judges of the Circuit Court of the District of Columbia. The Patent Office occupied a part of the General Post Office building, which was destroyed by fire on the 15th of December, 1836. All its valuable contents were lost by this sad accident; and by the act of the 3rd of March, 1837, Congress provided for the recording anew of patents and assignments of patents recorded prior to the date of the conflagration, and for issuing new patents for those destroyed.

The Officers of the Patent Office were also directed to procure duplicates of the most interesting models destroyed, at an expense not exceeding \$100,000. The loss of the Patent Office, or rather of its contents, caused a deep sensation throughout the country, and universal regret was expressed on all hands at this untoward event. Even the ruthless Admiral Cockburn, who fired the Capitol and President's House, and other public

edifices in this city, had spared the Patent Office, and yet accident in a few hours, destroyed the labours of many men for many years, which even that modern barbarian feared to touch.

This sketch of the legislation of Congress on the subject of patents, familiar as it is to the professional man, may give to the general reader an idea of the early and continuous importance attached by the law-makers to this important branch of the government. Growing out of, and forming as it were an integral portion of, the patent system is what may be termed the patent law branch of our jurisprudence. The minds of the most eminent of our jurists, both on the bench and at the bar, have been taxed to the utmost by the intricacy and subtlety of the investigation of many cases which have arisen and been adjudicated upon under these laws. A legal writer justly terms the patent law branch of our jurisprudence "the metaphysics of the law." And so it must continue to be and to increase because of the increasing spirit of improvement in agriculture and manufactures, and machinery, both here and in Europe. The Patent Office is essentially and necessarily a national institution in every sense of the word, and will always remain so, inasmuch as it would be impracticable for the States separately, to make provision for the effectual protection of the rights secured to inventors under the patent laws.

All parties concerned in patents, whether as inventors or users of the machines for which they are granted, are fully aware of the importance of the faithful execution and enforcement of the patent laws; and there is no class of cases tried in our courts in which the community generally take more interest.

In all countries, and in all ages, inventors or discoverers of any new agent or implement, useful to man in his varied pursuits, have been considered among the most valuable citizens of the State, and deserving of its encouragement and protection. Of late years this appreciation of such men seems greatly to have increased, both in the United States and in Europe. We trust that it will ever be so, and that worth and merit, in whatever walk of life it may develop itself, may always meet with recompense and reward.

BRITISH SHILLINGS.—There is a great and well-grounded outcry against the currency of the British shilling, and there are numerous plans to get rid of the nuisance. But there can be only one effectual one—the adoption generally by business men of the plan taken at Toronto—the steady refusal on all hands accept them for more than they are worth. Government cannot call them in, for, to say nothing of the loss, they would be immediately put again into circulation, so long as there was a profit on the operation. Nor can their importation be prevented by law. We are not going to hang people for bringing British shillings into the country, and the hanging of several people every year, under the old laws, made before the laws of trade were understood, did not prevent the prohibited trades in coin. The British shilling is not a legal tender for twenty-five cents, and, there

fore, no one is obliged to accept it at that rate in payment; but so long as the people do accept it, so long the country will be flooded with them. Something may be done by a large issue of genuine money, like the 20 cent pieces, because people will not then have the inducement to take the old *trente sous* in order to have change: but even this remedy is of doubtful success, because dealers in money will replace the 20 cent piece, which only passes for its value, by the English shilling, which goes for some 4 per cent. more than its value. If people would take an English sovereign for thirty shillings, sovereigns would speedily replace the existing note currency. The only way to drive out the *trente sous*, therefore, is for business men to **refuse to accept them**, except for their real value. It rests wholly with them.—*Montreal Herald*.

EMIGRATION FROM THE UNITED KINGDOM.

Although the emigration movement greatly abated in intensity in 1858, the falling off was mainly in the direction of the United States. The total emigration of the year was 113,972 (9,704 to the North American colonies, 59,716 to the United States, 39,295 to Australia and New Zealand, and 5,257 to other places,) against 212,875 in 1857; 176,554 in 1856; 176,807 in 1855; 323,429 in 1854; 329,937 in 1853; 368,764 in 1852; 335,966 in 1851; 280,849 in 1850; 299,498 in 1849; 248,089 in 1848; 258,270 in 1847; 129,851 in 1846; 93,501 in 1845; 70,686 in 1845, and 57,212 in 1843. The following table, which exhibits the route taken by every 100 emigrants since 1844, shows that Australia has virtually superseded the Canadas as an emigration field:—

Year.	North American Colonies,	United States.	Australia and New Zealand.	Other Places.
1843	41	49	7	3
1844	32	62	3	3
1845	34	62	1	3
1846	34	63	2	1
1847	42	55	2	1
1848	13	76	9	2
1849	14	73	11	2
1850	12	79	6	3
1851	13	80	6	1
1852	9	66	24	1
1853	10	70	19	2
1854	14	60	25	1
1855	10	59	28	2
1856	9	63	26	2
1857	10	60	29	1
1858	5	52	34	5

The collapse of emigration to the Canadian Provinces is the more re-

markable, as during the last few years strenuous efforts have been made to advance them in popular estimation. Another curious feature in the foregoing analysis, is that not even the gold discoveries in the Australias have prevented "Brother Jonathan" from obtaining the lion's share of the surplus population of these islands—a circumstance no doubt to be explained by the tendency of the Irish to emigrate in whole families to the great republic, and the readiness with which the unoccupied land of the States has been rendered available for purchase and cultivation.

IMPROVEMENT IN STEAM POWER.

We learn from the Portland papers that the fuel saving invention of Mr. Blanchard has recently been successfully tested in that city, in the presence of a number of experienced engineers. It consists in wholly dispensing with the use of a chimney on a boat while running and by a peculiar construction of the engine, the heat that usually passes off from the top of the smoke pike, oftentimes at so high a temperature as to ignite the gasses, is made available to do duty in the engine. The experiments lasted several days, and according to the certificate of the engineers, shows the quantity of fuel by Blanchard's improvement over the best made boilers to be the amount of over one-half. They also express the opinion, that had the test been made with an expensive working engine, still more remarkable results would have been proved.
