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THE  
ONTARIO FARMER;

A MONTHLY JOURNAL OF

Agriculture, Horticulture, Country Life, Emigration, and the Mechanic Arts.

VOL. I.

TORONTO, FEBRUARY, 1869.

No. 2.

THE RECLAMATION OF OUR SWAMP  
LANDS.

In various parts of this Province there are extensive tracts known as swamp lands, the reclamation of which by drainage would greatly promote both the health and wealth of the country. These lands are rich, some of them having two feet in depth of black soil, but while saturated with moisture they are worthless, for no crops worth raising will grow in earth that is soaked with stagnant water. In their present condition they are not only useless for tillage purposes, but are fruitful sources of disease to the contiguous regions that lie somewhat higher. It is here that ague, fever, and other "ills that flesh is heir to" have their lurking places, whence they come forth to prey upon poor oppressed humanity. Higher considerations, therefore, than those of material gain call for the improvements of these lands. A couple of reports in reference to two of these tracts have been made to the Minister of Public Works, and by him read before Parliament. They embody the results of some surveys and estimates which have been made with a view of ascertaining what can be done with the tracts to which they relate. One has reference to the low, swampy region about Baptiste Creek, with which every one who has travelled on the Great Western Railway from Chatham to Windsor must be familiar. The other relates to the "Greenock Swamp" in the County of Bruce. The "Greenock Swamp" has only been examined in a general way, and requires to be regularly surveyed, but it has been ascertained that some 20,000 acres of valuable land can be reclaimed by a proper system of drainage. The other and more exten-

sive region in the Western peninsula of the Province has been subjected to a preliminary survey, and estimates have been gone into, so that a pretty good idea can be formed as to what is practicable in regard to it. These lands lie in the townships of East and West Dover, Chatham, Raleigh, East and West Tilbury, Mersea, and Romney. Although they appear to the unaided eye to be a dead level, yet a large portion of them have a fall in such directions that they can be drained by natural flow, while the remainder admit of being dried by artificial means. These lands have been divided by the engineer who surveyed them into "high level" and "low level," and sub-divided into five districts, three of which are in the "high level" and two in the "low level" class. The *Globe* condenses that part of the report which gives details respecting them as follows:—

"No. 1 is composed of parts of East and West Tilbury and Romney, and covers an area of 30,000 acres. There is abundance of fall for leading main drains to Lake St. Clair. The main drain will have an inclination of 24 inches in the mile, and in freshets will carry off 79 millions of gallons every 24 hours. The estimated cost is \$20,253 for drying these 30,000 acres. In 18,000 of these the estimated increase of value to the land effected by this would be \$3 per acre; in 12,000, \$1 per acre. In other words, for the outlay of \$20,000 the land would be increased in value by \$66,000, to say nothing of better health and comfort.

No. 2 comprises lands in West Tilbury, Mersea, and Romney, to the extent of 12,000 acres. The main drain in this would lead into Lake Erie, and would discharge, in freshets, 39 millions of gallons per diem. The estimated cost is \$9,425. For that, 8,700 acres would be benefitted to the extent of \$3 per acre; and the rest of the 12,000, about 50 cents each, or upwards of \$27,000 in all.

No. 3 comprises 6,000 acres, and lies so high

above the Thames as to be drained into that river in the ordinary way.

By the proposed works, which are estimated to cost a little more than \$12,000, 4,000 acres would have an enhanced value of \$5 each, and 2,000 of \$1 each—or \$22,000 in all.

In this "high level" division, then, we have 48,000 acres thoroughly drained, or at least so drained that municipal and individual effort could easily accomplish all the rest for an outlay of \$41,839.60, and that so as to raise the value of these lands to the extent of \$115,750, a clear and immediate profit of \$73,910.40, besides the increased facilities for individual effort in the same direction.

No. 4 covers 22,000 acres in Raleigh, East Tilbury and West Tilbury. The soil for over two feet in depth is a rich black vegetable loam, which, if drained, would be exceedingly rich and fertile.

The rainfall of 100,000 acres passes through this, or at least over it, and this rainfall would need to be cut off in the first place. The report enters into details to show how this and the rest of the drainage is to be done. Drains, embankments, flood-gates and pumping works would all be required.

The works would cost by estimate \$102,054, and the annual cost for working the pumping machinery, &c., \$2,000.

For this, it is calculated, that 16,000 acres now nearly valueless, would become valuable farming lands, fit for the plough, without any other outlay but fencing. Their value would be increased about \$10 per acre, while the other 6,000 acres of the district would be increased in value about a dollar each, or \$166,000 in all.

No. 5 embraces also an area of 22,000 acres, in East and West Dover. The plan of drainage is similar to that recommended for No. 4. It is estimated that 16,000 acres are, at present, worth almost nothing. If the drainage were carried out, they would bring \$10 per acre. Of the remainder, 2,000 would be increased in value \$5 per acre, and the other 4,000 \$2 per acre. The pumping works would not involve a yearly outlay of more than 10 cents per acre. The estimated cost would be \$97,936, and the increase of value to the lands \$178,000.

Let us look at all this in one table:—

	Cost of Works.	Increase of value.	Acres.
No. 1	\$20,253 20	\$66,000	33,000
No. 2	9,425 90	27,000	12,000
No. 3	12,090 00	22,000	6,000
No. 4	102,054 00	166,000	22,000
No. 5	97,936 00	178,000	22,000
	<u>\$241,669 10</u>	<u>\$459,000</u>	<u>92,000</u>

Nearly 100 per cent. for the outlay, saying nothing of the amount of fever, ague, rheumatism, and what not, banished from the district."

It is very evident that it is for the public interest that these improvements should be made, and that with as little delay as possible.

The best method of going about them, is a question that needs to be well considered. Plainly, the land to be reclaimed should bear the expense of the reclamation, and the enterprise should be under government supervision and control, so far as to secure its being carried through in a thorough manner. The Minister of Public Works might take hold of the thing, receive tenders, let contracts, and hand over the lands when marketable to the Commissioner of Crown Lands. Or a company might be formed to buy the lands from the Crown, improve and settle them. Whichever course is taken, the Government will have to lay its account with being clamoured at by that class of economists whose principle it is that every thing is to be done for the public in the most disinterested manner and that nobody is to make a cent out of any national work. In the one case the contracts will be let too high, and in the other the lands will be sold too low. But regardless of these clamours, that course which seems likely to do the greatest good to the greatest number should be taken fearlessly, and without delay.

#### AMERICAN DAIRYMEN'S ASSOCIATION.

The annual meeting of the above named organization was held in Utica, on Wednesday and Thursday, January 13th and 14th, Governor Seymour in the chair. We glean a few particulars of the meeting from the *Utica Weekly Herald*. Passing over the preliminary routine business and coming at once to what is matter of general interest, viz.: the discussion of dairy questions, the first subject considered was announced in the following terms:—

"Cooling of milk before making cheese therefrom, and the cause of the early decay of American cheese." Mr. Arnold, of Tomkins County, said that English cheese was undoubtedly preferred in the markets of Britain to American cheese. The causes of the inferior quality of the latter were such as bad rennets, inattention to cooling, bad odours not being expelled from the milk, unsuitable food and bad water. He recommended thorough exposure of the milk to the atmosphere, while cooling. Dr. Wight, of Oneida County, urged the importance of cooling milk as quickly as possible after it is drawn from

the cow. Dr. Westcott, of Onondago County, thought that the best method of cooling milk was that which allowed the most ready egress to the gases, and those coolers most easily cleaned and the cheapest were the most desirable. He would apply the cooling process at the top of the fluid, as to commence at the bottom is an uphill business. Mr. Joseph B. Lyman, Agricultural Editor of the *New York Tribune*, and of *Hearth and Home*, followed on the same subject, and recommended all dairymen to keep ice on hand, and have an ice-house of their own. Ex-President Peters, of the State Agricultural Society, expressed his views, which were in accordance with those of preceding speakers. Mr. Bartlett, of Ohio, was of opinion that the odour in milk was contributed by the cow, and was augmented by "lazy boys and smart dogs" inducing a feverish condition by unnecessary driving. Putrid and other decomposing matters in the pasture also sometimes gave rise to bad odour in milk.

The next subject on the programme, "New features and Improvements during the past season," was laid over, and that of "Systematic experiments in cheese-making" was taken up.

Mr. Farrington, of Canada, adverted to a number of experiments which he had instituted in reference to the previous subject of discussion, the cooling of milk. He thought we needed experiments in different temperatures of salting and putting to press. These experiments should be made under the same conditions, and one point taken up at a time. Carefully conducted experiments could alone decide many doubtful questions. An experimental dry house should be made of wood, with non-conducting walls. This, he believed, would do away with the strong flavour, and make American cheese the best in the world.

"The present position and future prospects of American cheese in the English market" was the next topic.

Mr. Webb, who represented the shippers from New York to England, was the chief speaker on this point. He stated that the last July make of both American and Canadian cheese was very inferior. Not a single dairy stood the test of the British market. The August and September make proved much better, and in fact was of fine quality, raising both the demand and price.

Colour was important in manufacturing for the English taste, a bright straw colour being preferred. It was also very important to make a cheese that will keep well. Mr. Peters concurred with Mr. Webb, especially in regard to colouring for the English market. Mr. Farrington expressed his objection to colouring cheese, which he considered decidedly injurious to its quality, and contended that instead of providing for the prejudice in this respect, we ought to educate the people of England to a better taste and judgment in the matter.

The President, Mr. Seymour, next made some remarks on the factory system on this continent, which was yet but imperfectly developed. With regard to the question of over-production, he contended that, provided the quality of American cheese was good, the European market would take all the surplus produce of this country. It was important, however, that a home demand should be created, and he considered cheese to be one of the cheapest and most wholesome articles of food.

The following resolutions were adopted in the course of the session:—

"That the Government be requested to include cheese in the army and navy rations.

"That the recent extension of the contagious lung disease among cattle demands instant action on the part of graziers and the Legislatures of the several States in which the disease is found.

"That the American Dairymen's Association respectfully urge on Congress to furnish such aid to the Department of Agriculture as may secure the regular publication of information regarding diseases of animals, and the adoption of means for the prevention of such diseases.

"Whereas the subject of abortion in cows has been a matter of consideration in this Convention, and

"Whereas the malady in question is one that has long devastated the herds of America, and is one upon which larger information is needed,

"Resolved,—That this Association refer this question to the trustees of the Cornell University, and respectfully request them to institute a careful and thorough investigation of the malady, its probable cause, its prevention or cure. Also, that we likewise request the trustees of the said University to furnish to the Association full information respecting the chemical properties of milk and rennet."

On the evening of the first day's session, Professor Gamgee delivered an able and interesting address on "Diseases of cattle and their influence on milk."

The following officers for the ensuing year were duly elected:—

*President*—Horatio Seymour, of Oneida.

*Vice-Presidents*—T. G. Alvord, of Onondaga; L. L. Wight, of Oneida; S. T. Miller, of Lewis; A. Barnham, of Chautauqua; John W. Bush, of Chemung; B. G. Moss, of Green; C. E. Chadwick, Canada West; N. Dwight, Mass; W. G. King, Illinois; A. Bartlett, Ohio; R. C. Wickham, Vermont; T. S. Gold, Connecticut; E. H. Wilder, Wisconsin; S. Howard, Michigan; N. W. Woodbine, North Carolina; J. Stanton Gould, Poughkeepsie; M. J. Harden, Kentucky.  
*Secretary and Treasurer*—Gardner B. Weeks, of Syracuse, N. Y.

After passing votes of thanks to Prof. Gamgee, the President, the Secretary, and the representatives from Canada, the Convention adjourned.

#### CANADIAN DAIRYMEN'S ASSOCIATION.

This important and useful Association, held its annual meeting at Ingersoll, on Wednesday and Thursday, Feb. 4th and 5th. The meeting was well attended, the discussions were ably sustained, much valuable information was elicited, and every indication given of vigour and energy as characterizing the organization. As it is intended to issue, in pamphlet form, a full report of the proceedings, we shall content ourselves with a brief synopsis of them. After organization, the President, C. E. Chadwick, Esq., delivered an address, in which the factory system of cheese-making was sketched, its advantages pointed out, and the present position and prospects of the dairy business dwelt upon. Last season's operations were narrowed by the heat and drought, but the results had nevertheless been more satisfactory than those of the previous year. The publication of reliable weekly cheese markets in some leading newspaper was a thing greatly needed. Cleanliness, punctuality, thoroughness, and push were necessary to secure success.

The following subject was then taken up, viz.:—"The best method of cooling milk before cheese is made therefrom."

Mr. Farrington remarked that this was the question at the recent Annual Dairymen's Convention which he had attended. It was an important meeting. More scientific men were

present than on any previous occasion of a similar kind, and the subject was discussed scientifically. In his opinion, the *dairy* and not the *factory* was the place to cool the milk. If it must be done at the factory, several means were available. It was not for him to decide which was best. A tin buoy filled with ice, and floating in the vat of milk, had been regarded as an excellent device at the recent American Convention. He had, however, hit upon a simpler and less costly plan, viz.:—A pailful of ice, suspended by a rope over a pulley, so as to balance properly. Ice was not so hard to provide as many thought. Three waggon loads of 2500 lbs. will cool the milk of a 15 cow dairy all through the hot season, six a 30 cow dairy, and so on. The ice-house need not be a costly structure. Mr. Raymer exhibited a model of a contrivance for cooling milk at factories.

Mr. Clarke, Editor of the *ONTARIO FARMER*, asked Mr. Farrington to state whether he considered ice essential to proper cooling of milk, or whether some contrivance for cooling with atmospheric air would be sufficient?

Mr. F. replied that the air was too warm when cooling is needed. He thought the use of ice necessary.

Mr. Collet said that in Gloucestershire no cooling is needed. He exhibited a bottle of mixture, prepared and patented by him, which some parties present had tried.

Mr. Farrington said he had long thought some chemical preparation might be found that would be useful.

The construction of ice-houses was then discussed, Messrs. Farrington, Clarke, the President, and Mr. Losee taking part in the discussion, all of whom urged that they might be very cheap and simple.

Mr. Cunningham, of the *Toronto Globe*, exhibited a model of a milk cooler and ventilator which had been given to him to lay before the Association.

The next subject brought before the Convention was—"Has the system of making cheese once a day been successfully practised the past year, and can its general adoption be recommended?"

Mr. Losee had tried the once a day plan last season with good success. Prepared himself

with ice, and a good supply of cold water. Had to use a steam-pump, having only a well. Wouldn't make cheese on any other plan than once a day. He used "Allguire's Agitator" to keep the cream from rising. Mr. Losee answered several questions about his methods. Mr. Farrington called attention to Mr. Losee's facilities. These were necessary to success. A dairyman without an agitator, ice, cold water, and more than one vat, trying to keep his milk on a warm night, might fail.

Mr. Carswell (a buyer) found in his experience that the best cheese was that made on the once a day plan. Recommended all to adopt this plan. One speaker had referred to their not cooling the milk in England. Reason was the climate. This year, the extreme heat in England caused the same difficulty we have had.

Mr. Graham, M.P.P. (Front of Sydney Factory), near Belleville, spoke strongly in favour of once a day making, and gave the experience and history of 13 factories in his region of country. The milk is made up once a day, and, as a rule, we have moved our cheese when thirty days old; our milk is kept in a pure state by agitation. It has been found almost impossible to make a good, first-class cheese from new milk. If we wish to compete with the American dairy-men, we must make a good article, for it is just as expensive to transport a bad pound of cheese as a good one. Cheese that was not coloured brought as good a price in England as that which was. He had prepared statistics of the product of cheese in his section, and he should like to compare them with those in the same business in this section. Milk must be delivered to the factory in proper order and in season. Our cows give as good milk as those of others, and there is no reason why we should not make as good cheese. There was a prejudice in England against Canadian cheese, owing to a trick of some American makers who, when they had a poor article, would mark it "Canadian." They had shipped some of their cheese through New York with an American brand, and it had realized a higher price than that shipped through Montreal.

A member wished to know if any one had tried receiving milk from patrons only once a day?

Mr. Gardner had never received it twice, and

had found no difficulty in so doing. Mr. Losee condemned the receiving of the milk only once a day, as it debarred them from properly ventilating it, which could only be done at the factory. Mr. P. R. Daly said in his neighbourhood, patrons kept over their Sunday evening's milk by putting a piece of ice into the can, but the next morning's milk was not mixed with it.

The next subject on the order of business was "What new features and improvements have suggested themselves the past season?" No one seeming to be prepared to offer anything on this subject, it was laid on the table.

The following questions were then propounded by members of the Convention, to be answered by any member who could give information on the various topics.

1st—What is the cause of floating curds?

Mr. Farrington—One cause is inflamed milk.

2nd—Is liquid annatto better than ball annatto?

Mr. Farrington—Not a bit.

3rd—Does coloured or uncoloured cheese realize the highest prices in the English market?

Mr. Willard—This is a very difficult question to answer. It mainly depends upon what market it is to be taken to. In Manchester, they want a pale cheese, whereas, in London, the coloured cheese brings the best prices. Mr. Hasket had been able to sell ten coloured cheeses, where he could only sell one white. Mr. Graham would not recommend too high a colour—a pale straw colour was best. Mr. Farrington said at the Utica Convention, colouring had been voted a nuisance. Mr. Willard had received a letter from England complaining that some American coloured cheese had been coloured with red lead. He had 50 samples of annatto analyzed, and nearly all were more or less adulterated. Mr. E. Carswell then read extracts from an address delivered before the Utica Convention by Mr. Webb. This gentleman was in favour of educating the consumer not to use coloured cheese. But with the present taste, it was necessary to colour cheese, in order that the highest prices might be obtained.

4th—What salt is best for cheese-making? Is Canadian better than foreign salt?

Mr. Hamilton had used the Góderich, and found it fully as good as any other.

5th—Has any one made an estimate of the product of each cow during the past season?

In answer to this question, there were three replies given, but the circumstances were so different in each case, and the estimates not being made upon the same basis, we deem it would hardly be fair to name them. The Committee on nominations gave in their report, recommending the appointment of the following officers:

President—C. E. Chadwick, Esq.

1st Vice-President—K. Graham, Esq.

2nd Vice-President—Geo. Hamilton, Esq.

Secretary and Treasurer—James Noxon, Esq.

The report was adopted.

Considerable discussion arose in reference to the place of meeting next year, several members contending for Toronto or some eastern place. Ingersoll was, however, carried by a large majority.

An address by X. A. Willard, Esq., on the Wednesday evening, formed a very important feature of the proceedings. It would be doing it injustice to give any brief digest of it, and we have not space in this issue to report it at any length. Suffice it to say it was most able, interesting, and instructive, occupying two hours, and delivered with a degree of animation and effect which kept up unflagging attention throughout. It is, we believe, to be published in full along with the proceedings of the Association, but we shall, if possible, give at least a few extracts from it in our next number.

#### LEAKS IN FARMING.

This was the subject of a recent discussion by the Farmers' Club of Bedford, Westchester Co., N.Y. It does not seem to have been treated exhaustively, although some serious leakages were pointed out, such as, feeding cattle at stacks, want of warm stables, random grazing, failure to cut hay in season and to cure it well, waste of manure, exposure of milch cows on very cold days in turning them out for water, having no compost heap for all sorts of rubbish, &c. This is a good subject for thoughtful farmers to ponder. "A small leak will sink a great ship," and many farms are like a water-logged vessel by reason of leaks. Find out the leakages by all means, and put a stop to them. "A penny saved is a penny gained."

#### SPRING SHOW OF SEED GRAIN.

We have received a handbill announcing that the South Riding of Bruce Agricultural Society will hold a Spring Show of seed grain at Walkerton on the 24th inst., being the regular Monthly Fair Day for the sale of stock, when prizes will be given for the best samples. The placard also makes the following announcement:—

"It is ordered that the ONTARIO FARMER shall be supplied to members of the Society for 50 cents a year, the regular subscription price being one dollar. Parties requiring it to apply through the Secretary, on or before the Show Day."

#### AMENDMENTS TO THE AGRICULTURAL AND ARTS ACT.

During the late Session of the Legislature of Ontario, an Act was passed to amend the Act, Chap. 29, 31 Vic., "For the encouragement of Agriculture, Horticulture, Arts and Manufactures." Section two provides for the proper banking of the funds of the Agricultural Association, mailing corrected prize lists to prize holders, and prompt payment of prizes and other liabilities. Section three extends the aid to Institutes for books, to works of every class but fiction. Section four gives the Fruit Growers' Association thirty days wherein to make their report to the Department, after its annual meeting. Section five provides for analyzed statements of Agricultural Societies' accounts. Section six provides for the legal separations of Union Township Societies, and for the holding of Township shows. Section eight defines the rights of members to vote at the annual meetings, and for the filling of vacancies of office-bearers. Section nine relates to the incorporation of Township Agricultural Societies. Section ten enacts that in all matters of doubt or dispute, the decision of the Commissioner shall be final. Section eleven legalizes informal votes in January, 1869. Section twelve repeals all Acts prior to the one hereby amended. Section thirteen enacts that the amending Act shall be read as a part of the Act thereby amended, and may be known and cited as "The Agricultural and Arts Act."

The Commissioner is having the Act, as amended, printed in the form of a manual, which will be circulated in a few days.

#### WENTWORTH AND HAMILTON AGRICULTURAL SOCIETIES.

A special meeting of the Agricultural Societies of North and South Wentworth, was held recent-

ly at Mrs. Cook's hotel. From the report of the Turnip Match Committee, it appears that they visited the farms of over twenty competitors, awarding the prizes as follows, viz :—

For four acres of Turnips—1st prize, Peter Grant, Boston; 2nd prize, John W. Betzner, West Flamboro'; 3rd prize, William Thompson, Beverley.

One acre of Turnips—1st prize, John Sutton, East Flamboro'; 2nd prize, James Church, West Flamboro'; 3rd prize, James Black, West Flamboro'.

Quarter acre Carrots—1st, Thomas Stock, East Flamboro'; 2nd, Nelson Howell, Ancaster.

Quarter acre Mangolds—1st, Peter Grant, Barton; 2nd, Edward Markle, East Flamboro'.

It will be noticed that these prizes go mostly to East and West Flamboro', a fact which ought to stir up the farmers in other townships somewhat.

The City of Hamilton Agricultural Society, at its annual meeting, appointed Mr. F. C. Bruce, Secretary and Treasurer in the place of Mr. A. E. Walker, resigned. The sum of fifty dollars was granted to the Wool Grower's Association, for exhibition next Queen's Birthday.

Letters were read by Mr. W. A. Cooley, Secretary of the S. R. Wentworth Agricultural Society, enquiring as to the terms upon which the tickets of this Society were to be issued, in view of the amalgamation of the North and South Wentworth Societies with the Electoral Division Society of this city.

After some discussion the following rates were agreed upon :

For Member's Ticket.....	\$1 00
“ “ “ with choice of <i>Canada or Ontario Farmer</i> .....	1 50
“ Member's Ticket with both the papers	2 25

The same rates and conditions were adopted also by the County Societies.

THE BOARD OF AGRICULTURE.

[OFFICIAL REPORT.]

A meeting of the Board took place at the Agricultural Hall on Wednesday and Thursday, 27th and 28th ult., the following members being present, viz. :—Hon. David Christie (President), Hon. A. Burnham, Hon. G. Alexander, Dr. Richmond, Mr. Stone, Professor Buckland, Dr. Beatty, Mr. Stock, Mr. Mills. (The latter two gentlemen were not present the second day).

Mr. Osler, of the firm of Patton, Osler and Moss, was sent for to give information as to the securities offered by the Treasurer, Mr. Denison.

A Committee of the Board, consisting of Messrs. Christie, Mills and others, was appointed to visit Mr. Denison, with the view of effecting a satisfactory arrangement for the payment of the amount due by him.

The Committee returned, and reported that they had not found Mr. Denison, but had left a

message requesting him to attend the Board at seven P.M., or at nine o'clock next morning.

The Board adjourned at 10 P.M. on Wednesday evening.

The Board resumed at 9 o'clock A.M. on Thursday.

Mr. G. T. Denison, jr., solicitor, appeared on behalf of Mr. Denison.

Mr. Osler was also again sent for to confer with the Board.

The following resolutions were adopted :—

*Resolved*, That the Treasurer be requested to prepare his accounts immediately for auditing, and that the auditors be telegraphed to commence the audit to-morrow.

*Resolved*, That in the case of the Treasurer's accounts with the Board, the following appears to be the state of indebtedness, so far as the present state of affairs presents :

Amount due on 30th Nov., as per Mr. White's report.....	\$10,725 74
Amount due on Paris Exhibition account.....	1022 02
Amount due on Provincial Visitors' Fund.....	300 00

\$12,047 76

Add note and interest and discounts

4252 85

\$16,300 61

That Mr. Denison claims to have paid on said amount, since 30th Nov., \$4634, and also that he is entitled to a percentage on moneys disbursed, amounting to \$5138; these two sums, amounting to \$8772, deducted from the sum of \$16,300.61, leaves \$6528.61; the Board agrees to accept Mr. Denison's proposal to pay the latter amount in cash in three weeks from date of mortgage, meantime to give satisfactory security in a mortgage for \$800.00 at three months; the position of the item of \$5138.00 not to be prejudiced in relation to either party by this arrangement, as the Board does not admit the validity of said claim, provided that whatever sum the auditors find has been paid by Mr. Denison shall be endorsed upon the mortgage, provided further that this arrangement is upon the condition that the auditors find the statement to be correct.

After some further business, the Board adjourned.

EDITOR'S BOOK TABLE.

A HANDBOOK OF VACCINATION, p.p. 383, by Edward C. Smeaton, M.D., Medical Inspector to the Privy Council. We are indebted to Messrs. Adam Stevenson & Co., of this city, for a copy of this work, which appears to be a most complete treatise on the subject to which it relates. It first discusses the natural cow-pox, then the horse-pox, and analogous pocks in other animals, after which, it goes thoroughly into vaccination, taking up all matters of interest

bearing thereupon. The chapters on the protection which vaccination affords against small-pox and on re-vaccination are particularly good.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1869.—Messrs. Luther Tucker & Son, of Albany, N.Y., publishers of this attractive and useful annual, have sent us a specimen copy of it. So also has Mr. T. J. Day, bookseller, Guelph. It is, as usual, filled with choice and valuable articles. The opening essay on the "Culture of Wheat" is worth four times the price of the work to a farmer. Mr. Day will send the publication to any address on receipt of twenty-five cents. See his advertisement.

THE ENGLISH MECHANIC; a record of Mechanical Invention, Scientific and Industrial Progress, Civil and Mechanical Engineering, Electricity, Photography, &c.

THE NORTH BRITISH REVIEW.

HARPER'S MONTHLY.

GODEY'S LADY'S BOOK.

GOOD WORDS FOR THE YOUNG.

HEARTH AND HOME: a new illustrated weekly journal for the farm, the garden, and the fireside. Edited by Donald G. Mitchell (Ike Marvel), and Mrs. Harriet Beecher Stowe. Samples of the above periodicals have been laid on our table by Mr. T. J. Day, Guelph.

## The Farm.

### MY MISTAKES IN FARMING.

To the Editor of the ONTARIO FARMER :

DEAR SIR,—Do not suppose that I intend to describe, or even to mention, *all* the mistakes in farming which I have committed during the nearly ten years in which I have spent my summers at Peekskill, on the Hudson. I have not the time, nor you the space.

My farm of thirty-six acres is on an east and west ridge at right angles with the Hudson River, and is one of those swells by which the Highlands subside from a mountainous to a hill form. The whole of Westchester County is described on geologic maps as underlaid by metamorphic and plutonic rocks. This particular hill is overlaid with drift, and filled with waterworn rock from the size of gravel up to boulders of many tons weight. The surface is a

sandy loam, the subsoil a tenacious and indurated pan of clay and gravel.

I took no proper *account of water* in my early management. By breaking up the top and the sides of the hill, without provision for the safe flow of surface water, I soon found that heavy spring and summer rains brought down quantities of soil and gravel, choking up my roads, swamping the grass along its course, and doing mischief generally. I returned to grass speedily, and where trees and fruit comparatively-kept the surface open, I interposed broad strips of grass as water-ways, thus preventing the waste of soil.

Having little experience, and less capital, I was penurious in making *drains*. I used too small a tile-drain, and sunk the drains but half deep enough (two feet). The result was that I had my work to do over again. I committed a capital error, also, in allowing my surface drains, near the house, to communicate with the tile drains. One of the largest and most expensive has been almost ruined by the amount of silt which has been poured into it; and generally, having had at the beginning *no plan of drainage* for the whole farm, I have felt my way along by successive mistakes, to a condition of only tolerable success in managing the surface and the secret water.

If I were to take a new place, my work should begin by a thorough *ventilation of the soil*, for such I regard as the chief end of drainage.

I think that I acted wisely in the next step of management. I have broken up my subsoil over the whole farm to an average depth of eighteen inches, and have gathered out all the boulders and stones as large as a goose-egg, using them for walls, road filling, and for drainage.

I committed a serious error in not establishing a *nursery* for fruit and ornamental trees at once. Had I taken an acre of ground, sown the seeds of shade and ornamental trees, put in pear, cherry, apple and quince stock for budding, I should have supplied my wants at a quarter of the expense now incurred, and with better trees.

Another grave error it has been that no books have been kept, either of expense or of experiments. I have every year tried various manures, and a great variety of seeds, fruits, and vegetables. I have conducted these trials on definite theories, and have formed certain cen-

clusions; but the trials have not been reduced to sufficient accuracy, nor has any record been kept of them. Only in my own head has the result been registered, and while I have gained much general knowledge, much has faded, and many interesting trials are of no use to any one.

And here I would say that every intelligent farmer should take one or more agricultural journals, and should, besides the subscription, repay the benefit derived from them by some account of his year's experience, and particularly by a plain statement of his mistakes and failures, which are, in their place, full as instructive, and sometimes far more so, than the history of success.

I have employed my farm as an amusement and a means of health to myself, but this might have been done without sacrificing profits. It has failed to be an example to my neighbours. It is not enough to deepen the soil, to drain it, to give it abundance of manure, to raise better crops per acre than is usual. Farmers look on and say—"You have money to spend, and do not depend for a living on the returns of your farm. We cannot afford good farming unless it pays." They are right. Gentlemen who sport fancy farms might be of great service to farmers of moderate means, if they would subject the farm to the same vigorous financial treatment that they do their factory, their ship, or their store—*oblige it to pay*. I regard my farming, in so far as its influence on others is concerned, as a great failure, inasmuch as I have not demonstrated that thorough tillage is *profitable*, and that it is better to be an enterprising farmer than one of mere routine.

This inheres, however, is the very nature of such purpose as mine. To live ten months in the city, and two months on a farm; to do the work through others, and not the year round under one's own eyes, is not the way to conduct agriculture successfully.

I should not have done half as well as I have, if my good fortune had not provided me with a superintendent of honesty and probity, of industrious habits, of exceeding fidelity, and of good intelligence. My desultory efforts are largely indebted to Mr. Turner for their success.

HENRY WARD BEECHER.

### A CONVENIENT TWO-HANDED SEED SOWER.

Every practical farmer knows the advantage of having some arrangement for carrying seed in the field, by which sowing can be done with two hands. The best in general use at present, is made of tin, and can be got of tinsmiths. We have lately met with one which is far superi-



or to it, however. It consists of an ingeniously contrived iron frame which fits to the body of the sower, and has an outer rim to which is attached a canvas bag, so made that the smallest quantity of seed always falls into the middle, where it is easily grasped. This contrivance excels the tin one in being so fixed and balanced that it does not sag down in front. It is also lighter. From its peculiar make, it prevents the seed being thrown in strips, as the hand of the sower must be well raised to get a good sweep, and the work is, therefore, done more evenly. The whole stress does not come on the waist of the operator, as it is partly supported by shoulder straps. Only the frame touches the waist, so that no inconvenience is caused by its heating the wearer, as is the case when a bag, sheet, or tin pan is used. It holds about three pecks, and balances best when pretty nearly full. For sowing grass seed it is particularly convenient. This contrivance is the invention of Mr. Charles Mason, Simpson's Corners, Garafraxa, and has

been well tested during the past season. Some who have used it say, that with a boy to carry the seed, they can sow thirty acres per day with it. Believing it to be a most useful affair, we have persuaded Mr. Mason to bring it before the public, and we are confident that no farmer will give it a trial without being pleased with it. The price of it is \$2. On remitting this amount to Mr. Charles Mason, Box 96, Guelph Post Office, it will be sent to any address desired. The following certificate has been given by well-known farmers in Garafraxa:—

"This is to certify that we have used the Two-Handed Seed-Sower made by Mr. Charles Mason, and can confidently recommend it as the best thing for the purpose that we have met with."

ANDREW GERRIE. THOMAS BISHOP.  
GEORGE GERRIE. FRANCIS MASON.  
WILLIAM SCALES. JOHN BISHOP.

GEO. W. GERRIE.

Garafraxa, Jan. 21st, 1869.

### THE RESTORATION OF EXHAUSTED LAND.

One of the best expedients for bringing worn-out land up to fertility again, has been in vogue in Britain for more than half-a-century. It is a crop of turnips consumed by sheep where they grew. Very poor land may be made to yield a fair crop of turnips, by drilling in with the seed some light and powdery artificial fertilizer, such as guano, superphosphate, or gypsum. This acts so quickly and directly on the young plant as to stimulate rapid growth, and so soon as the leaves begin to spread out they absorb a large amount of nutriment from the atmosphere, whereby they are enabled to perfect a large yield of bulbs. The difficulty of having this crop eaten where it grew, which arises from our early and severe winters, is not so insuperable as it may at first appear. Suppose the feeding process to begin Oct. 1, there are two months during which it can be carried on, and a large flock of sheep would consume a good sized turnip patch in that time. It would be wise policy to buy up a lot of sheep for the purpose, and with the addition of some meal, fat them for market. A supply of hurdles is needed to carry out this plan, so that the sheep may be daily moved, and their droppings regularly distributed over the surface of the land. While revolving plans for the year, let farmers "make a note" of this.

### TIM BUNKER ON THE HAY TEDDER.

"What sort of a consarn is that, Squire?" asked Jake Frink, one hot day last July, as I drove my new tedder to the field.

"You just come down to the horse-pond lot and I'll show you," I replied. So Jake followed on, where we found at least a dozen of my neighbours standing round to see the last novelty in farming. The field had just been mowed, and though I say it that shouldn't, it was the stoutest grass in Hookertown, plump three ton to the acre of Timothy, just in bloom, upon a lot where water used to stand half the year, and nothing but rushes, hardhack, and sour grasses ever made a crop. It is astonishing to see how underdraining improves land, and how much more good manure does upon a soil that has had the bottom knocked out of it. Jake Frink groans every time he goes by that horse-pond lot, to think that he sold it for twenty dollars an acre. It pays the interest on three hundred now easy. I had never tried the tedder on so heavy grass, and I felt considerable worried about the result. I started alongside the wall, and the grass flew up in a cloud behind the machine just as if a whirlwind had got hold of it. "A sort of patent compound grasshopper, ain't it?" said Jake inquiringly, as he noticed the kicking motion of the forks.

"You can't say that's no great shakes," said Seth Twiggs emphatically, as he puffed away at his stump pipe.

"It's a shakey consarn anyhow," said Uncle Jotham Sparrowgrass, striking the ground with his cane a little harder than common. "It will never amount to anything, see if it does. Job Miller had a thing a good deal like it thirty year ago, over on the Island. It was too hard on the horse, and didn't pay."

"It leaves the grass very light and even," said Deacon Smith. "I shall have to get one."

"It must dry very rapidly," Mr. Spooner remarked.

"That's so," responded George Washington Tucker; "but it means less work for poor folks, and harder times. Every new machine drives another nail in their coffins."

"Less work, you lazybones!" exclaimed Seth Twiggs. "It's hard telling how you could do any less and live."

"You may as well put up your stirring sticks and old rakes' tails. You wont want 'em any more," said Benjamin Franklin Jones.

"It will cure the hay too quick," said Uncle Jotham. "The sun gets at it so on all sides that the grass will break like a pipe stem."

"The quicker hay is cured, the better," said Deacon Smith. "Two hours are better than two days, if you can get the water out of it."

Nothing has awakened so much interest as the tedder since the subsoil plow was introduced. The times have changed a good deal since then, and the presumption now is that a new tool is good for something, especially if it makes its appearance in my fields. So many of my jobs have turned out well, and so many of my neigh-

bours have imitated my example, that public opinion is very much changed. I had heard and read a good deal about tedders, but never saw one work until this season. I had a good many doubts. The English tedder is a heavy affair, quite likely to get out of repair, and entirely unsuited to our Yankee ways. But the first time I saw one of our sort of tedders I made up my mind to have one. You see, Mr. Editor, it just supplies the last tool we wanted in hay-making. The mower, rake, fork, tedder, all going by horse-power, make haying as light and pleasant as any work upon the farm.

The tedder saves a good deal more work than I had thought for. To begin with, it does the work of at least ten men. You can stir two acres of heavy grass in an hour easy, and it is more thoroughly stirred than it is possible to do it by hand-power. It is sent up into the air with a sudden jerk, that shakes all the water out of it, and it falls back upon the ground so loose that the sunshine can reach every particle. This work is done in the hottest part of the day, and the drying goes on very rapidly. The tedder works so fast that you can go over your field three or four times, if it is necessary, and get heavy grass cured enough to go in the same day it is cut. This is a very great saving of labour. By the old method it frequently takes three days of tolerably good weather to cure heavy grass. The cocks have to be made and opened twice or three times before the hay can go into the barn. Now, with the tedder, we can have the hay all shaken out by eleven o'clock, if it is all mowed by that time, and by keeping it stirred up it is pretty well cured by three in the afternoon, especially if the grass is fully fit to cut. It makes the mowing machine worth a good deal more to us than formerly, for now we can mow all we want to in a fair day, and have no fears but we can get it up. Sometimes we used to get so much down that a part of it would be injured before we could get it secured. One grand thing about the tedder is, that it cures the grass very uniformly. There are no wet, green locks in it, and even if it is not quite cured enough the first day, by leaving the cocks in the field covered with hay caps over night, they will often be just right to go in the next day without opening. The quicker you can get hay nicely made and out of the sun, the better.

We have had the tedder up for discussion in the Hookertown Club, and it has passed muster, after a pretty severe overhauling. If we keep on inventing new tools, I expect we shall get the farms so that they will run themselves pretty soon.—*American Agriculturist.*

#### SHALLOW TILLAGE.

At the first meeting held this year by the American Institute Farmers' Club Mr. J. P. Trimble read a paper advocating shallow ploughing. Among other things, he said:—

"Some years ago, when so much was written

about subsoiling and trenching, I supposed that we were on the very borders of a great advance of agriculture—that our lands were soon to be made doubly productive by deeper tillage. But my own experience—careful observations of the experiments of others, and especially the testimony of the farms and farmers of Salem County, New Jersey, have caused me greatly to change that opinion. Fifty years ago these lands of Salem County had become greatly impoverished by the old style of farming, while in many parts of our country, lands subjected to similar hard usage remained uninjured. Two years ago a committee from this club reported that they had seen in a ride of 30 or 35 miles in Salem County about 70 corn fields, and they and the gentlemen they travelled with estimated the average crop of shelled corn per acre of these 70 fields at between 70 and 80 bushels. That was in August. The clover at this time was so rank that the stubble where wheat had been gathered a few weeks before could not be seen. Other indications of first-class agriculture were constantly manifest. I have travelled more or less in nearly all of the United States, and I have a passion for watching the agriculture everywhere. I have seen good farms and good farmers often, but that community of farmers in the several townships bordering the old town of Salem, in Salem County, New Jersey, are the very best I have ever seen. Their rule of ploughing is five inches or under—some so shallow as three inches—the average probably four inches. This shallow tillage with them is comparatively recent. The labouring men of some of these farmers in their absence have disobeyed orders, and have been what Mr. Fuller calls very lazy. Fields were only half ploughed. In some of these cases of very shallow ploughing, where the owners expected nothing, they have had the best crops of the neighbourhood. The best crop of the neighbourhood becomes the common talk, and the reason why is thoroughly investigated. These accidental successes have led to the general adoption of comparatively shallow tillage by the intelligent, painstaking, and successful farmers of that county."

#### SALT FOR MANURE.

The use of salt for manure is increasing in a most rapid way in England. People are beginning to find out that from one-fourth to one-third of the special agricultural manures sold, consists of salt, and many have used salt to the extent, in the field, of twelve hundred weight per acre, and in the garden to even a greater extent, and always with benefit. The refuse salt at the Goderich Salt Wells is more extensively used, and we are assured with the best results, particularly on worn-out land. It now begins to be the opinion of some of our best

English agriculturists, that want of salt is the cause of "clover sickness" in land; also that the disease called "finger and toe" in turnips is found to yield to salt. The following fact may be relied on. The writer having to make a path through an old worn-out sod of a meadow, for the purpose of getting rid of earthy matter which soiled the feet (and the meadow being on a very thin shaly sand and yellow loam), removed the turf to a sufficient depth to leave the sheer sand alone, and for a time made a nice clean path; but it being below the surface of the adjoining land, which was foul with weeds, all the seeds drifted with the wind into the path, and became very troublesome. To remove and kill the weeds, he sprinkled the whole path with dry salt, and hoed it. This killed the weeds; but the heads of clover having drifted into the path, there came a most luxuriant growth of clover, which smothered the weeds, and took thorough possession of the soil, and for years the clover there flourished ten times better than on any other spot on the premises. Try it.—C. in *Globe*.

#### GLEANINGS FROM THE AGRICULTURAL PRESS.

Under the above head, we shall collect brevities from all sources, and we request those to whom we are indebted for items, to accept the acknowledgment implied by the word "Gleanings," when more express mention of authorities is not made.

##### NEWS ITEMS.

Oxen are scarce in Oregon. The average price is \$1000 per yoke.

The Michigan Agricultural Society offers premiums for velocipede racers.

A boy died lately in Pennsylvania from hydrophobia, brought on from the bite of a cat.

It has recently been found that waste coal dust makes an admirable mulch for plants.

The Tree Planting Committee of Guelph report that they have spent \$221 in that praiseworthy undertaking.

A young man named John Arnett was killed in the Township of Amabel, on the 16th inst., by the kick of an ox.

Two prizes, one of \$200 and one of \$300, are offered to the ones most successful in cultivating fish in Massachusetts.

The January fair in Galt was very well attended, and a better supply of cattle than was expected were on the ground.

A Wisconsin genius climbed on the roof of a shanty at Green Bay lately, and imitated an owl so successfully that a hunter shot him.

General Lee, in addition to teaching the young idea how to shoot, has bought a farm, and proposes to teach blades of wheat the same lesson.

A Massachusetts inventor is patenting an arrangement by which all the cattle in a burning barn can be turned loose without loss of time.

Thousands of new farms have been opened this year in California, and many improved ones have been bought to be paid for in wheat next year.

The Iowa Agricultural College takes young ladies, and there is to be a Professorship of Theory and Practice of Butter-making. So *Health and Home* says.

Last week, Mr. Chateauvert, of St. Raymond, while fishing for trout at Seven Island Lake, Gosford, captured with the line a splendid otter, weighing eighteen pounds.

A Minnesota farmer says:—"We raise four hundred bushels of potatoes to the acre here, which would be a big thing if we didn't also raise bugs enough to eat 'em all up."

Levi Bartlett, a well-known New Hampshire farmer, says he has tried all kinds of artificial fertilizers—some are good and some not—on the whole, he prefers barn-yard manure.

The Chicago cheese trade now boasts an annual business of \$900,000. Three thousand tons of cheese were sold there last year. Most of this amount came from the State of New York.

The *Galveston Civilian* says that cattle over a year old, which have not been marked or branded, are everybody's property in Texas, and may be killed by any one who meets them.

An enormous business is done in the States in gathering corn husks, which are used in the manufacture of mattresses. Hackled husks delivered in Boston are worth over \$30 per ton.

At a late sale of sheep, at Worcester, England, fifteen Shropshire Down rams brought from £6 6s. to £23 2s. Twenty Leicester rams averaged £16 16s. 6d. Ten Oxford rams from 14½ to 70 guineas.

A fellow was detected at Ipswich, Mass., in weighing in a load of hay he was selling, four hundred pounds of iron, which of course he meant to smuggle out of the way before the hay was delivered.

A farmer in Michigan, finding that his sheep were disappearing recently, placed a wolf-trap in the field. A few days afterwards he found it sprung, and now one of his neighbours is laid up with a sprained ankle.

A young man, 22 years old, advertises in an English paper that, having had five years' experience, and being well-informed, he wishes to place as an assistant to some practical farmer for his board and clothes. References are given.

At the annual meeting of the South Wellington Agricultural Society, a resolution was passed throwing the County Show open to the whole Province, and not, as at present, confining competition to the county. A resolution was also carried that the present rule applying to the ages of thorough-bred cattle be applied to all cattle.

The first Bactrian camel ever born on this continent saw the light at Cincinnati a few days ago. It is pure white, and "a little larger than a yearling calf." The mother belongs to a travelling menagerie.

A gentleman in Western New York some years ago bought a pair of elk, and put them in a park of eighty acres. Since then, he has sold sixty young elk at \$500 a pair. He also raises mink, otter and beaver, for those who like such pets.

A Kentucky farmer recommends that wool-raisers pasture their sheep with cattle as an effectual preventative of ravages by dogs. He has followed this practice for many years, and he has never lost a single member of the flock by dogs.

Mr. George Geddes of Onondaga County, New York, is to give the results of his long agricultural experience on ploughs and ploughing and kindred subjects, to the readers of that excellent newspaper the *New York Weekly Tribune*.

At the port of Buffalo alone, a vast amount of business has been transacted during the last year. The exports to Canada amounted to \$300,000, while the imports from the Province of Ontario amounted to \$3,000,000. Who pays the duty?

The *Prototype* says Mr. Jas. Hayley, of Adelaide, sold to Mr. Hamilton ten hogs averaging 220lbs. each. He received for the same \$9.87½ per 100lbs., half bills and silver! At those rates, farmers ought to proclaim a "truce" to "grumbling," and live contented.

A pair of rats, happily situated and undisturbed, will, in three years, increase to 666,808. Calculating that ten rats eat as much in one day as a man, the consumption of these rats would be equal to that of 65,680 men the year round, and leave eight rats over.

A correspondent mentions the loss of a number of valuable sheep from their eating the dung of fowls to which they had access. The hens roosted in the upper part of the shed in which the sheep were sheltered. Not one of the sheep kept in another yard were affected.

Many farmers out West are, we are told, in a dreadful condition. They live miles from the railroad and church; there is a mail only once a week; they are unable to buy manure, or to go to the theatre, and everything is so cheap they are obliged to eat all the good victuals.

The sheep farmers in Australia have a shrewd eye for business. Some of the leading men among them have recently spent considerable sums of money in the construction of apparatus for sheep-washing with hot water. From water at a temperature of 110 degrees, into which they are at first plunged, the sheep are floated to a tank of cold water, where the cleansing is completed by a kind of douche. So much grease is taken out of the fleeces by this process that henceforth Yorkshire will be willing to give a better price for the wool.

Mr. Samuel Westlake, of Knoxville, who has farmed in Iowa for twenty years, says he has never known it to fail that a winter which froze the ground very hard, was followed by excellent crops the next summer. All will remember that last winter and summer were a notable example of this rule.

The *Hamilton Spectator* says that so far in that section of the country the Fall Wheat exhibits a most promising and healthy appearance, and if the weather from this to next May is favourable, there will be a larger and much better crop of Fall Wheat than has been reaped in this Province for many years past.

A correspondent in Nassagaweya informs us that Messrs. Hunter & Blacklock cut eighty cords of hardwood for Mr. J. Lawrie, in eight hours, with the sawing machine manufactured by John Abell, Woodbridge. If there is any other machine can beat that, he would like to know where it is.

Wilson Isham, Watertown, N.Y.; E. Coryell, Hooper's Valley, Tioga County, N.Y.; Lewis Andrews, West Winsted, Conn., and C. C. Wyckoff of Skaneateles, all reply to the inquiry of Edward Jennison of Winchester, N.H., that they have cows, born twins with a bull calf, that bear young, and give milk just like any cows.

There is much alarm felt at Fishkill Plains, Dutchess County, New York, over the sudden death of several cattle. The animals died in great agony in six or eight hours after the attack. A *post mortem* examination has revealed nothing, and the farmers generally are much excited. It is feared that the whole of the stock on the same farm will be lost.

There was a letter a few days ago in *The New York World* from Mr. Henry Bergh, that friend of the brute creation, where he says that the ground feed sold is as much as half made up by plaster of Paris. Gypsum is very good on clover land, and does very well to make images for the little Italian boys to sell; but it has no business in a horse's stomach.

At a recent meeting of the American Institute Farmers' Club, three letters were read from parties who had tried the Norway Oat. John Davis of North Underhill, Vt., and Orville Flint of Cattaraugus Co., N.Y., have found them worthless; "inferior," says Mr. Flint, "in every respect to the common oats." Mr. J. W. Stevens of East Corinth, Vermont, has found them good.

A swarm of bees and a beautiful store of wild honey were found in a tree on the west side of the Sierra Nevada mountains. The incident is recorded as the first discovery of the kind on the Pacific slope. There were no wild bees beyond the Sierras when that portion of the country was first occupied by emigrants from the Atlantic board; but it was soon discovered that bees imported from the States thrived well, and several persons who engaged early in the business acquired large fortunes from the production of honey for the markets.

The Government of France has established what is called a "Commission of Inquiry," for examining into the condition of French Agriculture. It holds its sessions in Paris. It receives statements and opinions from the leading agriculturists of the Empire. District exhibitions are to be held in various parts of France, and the Society of Agriculture will act as a National Society.

The *Prairie Farmer*, published at Chicago, says: "Six car loads of hops were sent from Oshkosh to New York, about four weeks ago, and the agent who accompanied them writes that he has made several sales at ten cents, but has not been able to make one of them stick." It is to be hoped that Wisconsin will produce no more hops next season than are required for home consumption.

A new cattle disease has appeared in England. The symptoms are dullness, increasing to extreme prostration, difficult breathing, small and frequent evacuations, colourless urine, membrane of the mouth discoloured and ulcerated as in the cattle plague, pulse weak but not rapid, and the temperature does not rise. The disease is not inflammatory, and *post mortem* examinations show that the blood has been poisoned.

A process of artificially drying and curing hay and sheaves of grain in wet seasons has been brought before the notice of British agriculturists. The process, which has been subjected to the test of actual experiment, consists in passing the hay or sheaves to be dried through a shed supplied by a furnace, and fanned with a continuous current of hot air. The method is endorsed by the approval of some of the best agriculturists in the kingdom.

The most extensive farmer in France is M. de Candaine. His farm in Touraine is valued at two million francs, and the income he derives from it is considerably above 500,000 francs a year. He sells every year one thousand head of fat cattle, and has on his farm a distillery, a beet and starch sugar factory, and a large linen and woollen factory, and all his factories and farm buildings are lighted with gas. His farm is said to be the most productive in Europe.

It is estimated from reliable data that something over 15,000 acres of hops were poled in Wisconsin alone in the spring of 1868, and that 25,000 acres more were planted. Again, it is estimated that 15,000 acres, producing 1500 pounds per acre, will supply all the hops needed in the United States for one year. If these calculations are correct, it is easy to see where the hop business has been driven, and what prospects of profit are before the hop grower. New York, Michigan and Ohio also produce largely, and when a wide margin is allowed for failure caused by lice, &c., over production must still ensue. No wonder the hop growers of the West are turning hop poles into fire wood and fence rails. Farmers should learn from this the danger of rushing headlong into the growing of special products.

Every day we receive testimony that money expended in reclaiming swamp land is not lost. Near our large cities, land is valuable owing to market facilities, and many tracts hitherto deemed worthless are being brought under the plough. Mr. Pike, the New York opera house proprietor, recently purchased 4000 acres of Jersey salt marsh meadows, at a cost of about \$16 an acre. After draining and reclaiming it at an average outlay of \$83 an acre, he is now offered \$900 per acre for the entire property, thus yielding him a profit of millions, if he chooses to close the bargain.

PRIDE OF ACRES.—The bane of agriculture in one half of the Republic is the idea that a man who owns four hundred acres is probably four times as rich and prosperous as he who owns and tills one hundred. As a general practice, Southern and Western farmers have depended on a hundred acres, plough three inches deep, for three thousand bushels of corn, when the same store could have been gathered from fifty acres, ploughed six inches deep, and well manured.—*Am. Ex.*

A CURIOUS SUPERSTITION.—Mr. W. C. Ledger, M.A., writing in the *Athenæum*, says "A horse's head has been dug up from beneath the floor of a room in the house I write in. It was buried there, I am told, to cause an echo in the room. Can any of your readers throw light on this very curious practice? Some years ago, a horse's head was introduced into one of the parish churches in a city in the south of Ireland, and placed under the organ by an enthusiastic parishioner, with the object of giving increased effect to the music!"

STEAM IN AGRICULTURE.—It is estimated that there are now at work in England about 300 steam ploughs, and that these ploughs are securing some remarkable effects in English agriculture. Half a million acres, perhaps more, have been deeply and thoroughly pulverized by this style of ploughing. It is said that a steam plough, penetrating to a depth before unknown, and moving with a rapidity of four miles an hour, breaks up and disintegrates the soil four times more than the ordinary horse plough moving at the rate of two miles an hour. By the depth to which the plough penetrates, new elements are brought into the working soil, and surprising crops are the consequence.—*Globe.*

THE STEAM PLOUGH.—The steam plough has lately invaded France, at the instance of M. Leconteur, editor of the *Journal d'Agriculture Pratique*. The preliminary trials were a grand success, and the opinion was openly expressed that the day is not far distant when steam will, to a great extent, displace the horse in farm operations. The great obstacle in the way of the introduction of steam ploughs is the want of capital. It seems to us that this may be obviated by the method we have adopted in some sections of the country in relation to the threshing machine. Let some enterprising man procure a good machine and do the whole work of a neighborhood.—*Country Gentleman.*

The *St. Catharines Journal* says, that so far the fall wheat exhibits a most promising and healthy appearance, and if the weather from this until May next is favourable, there will be secured this year a larger and much better crop of fall wheat than has been reaped in the Niagara District in ten years past. A foot or two of snow would prove very acceptable, for then no fears would be entertained of "winter killing." The danger from mice and the wire worm is not very great, and as the midge seems nearly "played out," farmers may rest content on the hope of securing as good returns for their labours as they did last year. Very little winter barley or rye is sown in this section, and therefore no report can be given in reference to the state of those crops.

Those who reside in regions where timber is plentiful, and of little or no commercial value, can carry cattle and sheep through the winter by supplying them with browse daily. The trees suitable for this purpose are sugar maple, beech, basswood, and birch. Cattle and sheep will leave the best of hay to feed on the buds and tender twigs of these trees, and we have known them to come out in the spring in fine condition on this food, with an occasional feed of corn in the year. Where land is being cleared up, this aid is readily supplied, as the chopping is usually done in the winter season, but where this is not the case, let trees be felled daily, and the limbs chopped down, so that the stock can reach the twigs readily, and they will get along finely. The safer way is to fell the trees before the stock is let out of their enclosure, lest being on hand when the trees fall, they should be injured or killed in the operation.

**GREEN MANURING.**—Ploughing under green crops for manure has been found very profitable with soils poor in organic matter. The philosophy of its fertilizing action may be thus explained. The green plants decay and evolve carbonic acid, which is absorbed by water, and the solution of carbonic acid dissolves minute portions of mineral matter, which are insoluble in water alone, and thus makes such mineral matter capable of assimilation by plants. When deep-rooted plants like clover are used, considerable proportions of plant-food are brought up from great depths, and thus add to the richness of the surface-soil. Many plants have been used in different countries for this purpose, among which may be named spurry, white mustard, turnips, white lupin, and rape, in addition to the well known use of clover, rye, and buck-wheat.

**A NEW FEATURE IN THE GRAIN TRADE.**—Touching the price of barley, the *Chelmsford Chronicle* makes the following remarks:—"A demand for foreign barley has sprung up, we believe for nearly the first time, in America, and the merchants of that country are buying it up here and making preparations to carry supplies across the Atlantic, notwithstanding an import duty of 4s. on the other side, as it there realizes 62s. in bond, and will insure a fair profit. The fact appears to be that the emigration from

Germany, which has been great, and is still going on, has provided a large beer-drinking population in the United States; consequently a regular demand of the means of producing the beverage. In ordinary times the American farmers provide for this; but in some States the effects of the war are still felt, and generally this year, the nature of the season has left the supplies of barley very deficient. Hence the resort to other countries for this grain; and it is stated that orders are on hand for at once buying up 10,000 qts. of it in England. This is the secret of the late rise, and if the demand goes on it will not stop here. It may affect the corn trade in other departments. If that which is regarded as the natural element of beer should become too dear to be used with profit, wheat will be resorted to for the purpose of malting. It is beginning, it is alleged, to be used in that way already, as, taking weight into consideration, it is now the cheapest. If this should be carried to any great extent it will soon have an effect upon the quotations; and thus, singularly enough, the failure of the barley crop in the United States will rise the price of wheat and consequently the price of bread here."

#### BRIEF MENTIONS.

A Michigan farmer reports that he followed a clover root into the ground four feet and three inches.

If you would not have your horse acquire the habit of hanging at the halter, do not strike at him in front when young.

A bluff old farmer says: "If a man professes to serve the Lord, I like to see him do it when he measures onions, as well as when he hollers glory halleluyer."

Every farmer should have a compost heap. Collect every kind of fertilizer, and to prevent any from liberating the gases, keep the whole covered with earth or muck.

Joseph Harris, in the *American Agriculturist*, thinks much of the talk in favour of small farms shoots wide of the mark. Teams must lie idle, more money, comparatively, must be buried in tools, etc.

When felling a valuable timber-tree with axes, let the largest kerf or chip be taken on the side where the tree is to fall. And to prevent splitting, leave the outside until the heart is entirely cut.

*Alsike clover* will stand more hard freezing than any other that is cultivated for feed. It has a long tap-root, with side roots which take fast hold in the soil. It is best adapted to moist rich soil, and grows luxuriantly in wet, loamy meadows.

A veterinary surgeon of Dunkirk, Ireland, of considerable experience, states that sand is not only an excellent substitute for straw, as bedding for horses, but that it is, in many ways, superior to it, as the sand does not heat, but saves the hoofs of the horses. He states that sand is exclusively used for bedding in his stable.

An Ohio farmer has raised forty bushels of corn in two years from four kernels.

*Hearth and Home* says that the time to feed poultry is not in the morning. Let them do the best they can for themselves in the early part of the day, but just before they go to roost, fill their crops with pudding. Active digestion can go on in the crop and gizzard of a chicken while it is asleep.

There is a great advantage in having plenty of help on the farm, but when that help must be boarded, there is a disadvantage to the women folks, and almost a total breaking up of the family relations. The house is much like a boarding-house, of which the man is steward, the wife cook, and the children and hired men boarders.

The English patent harness blacking, which is commended for keeping leather soft, and giving it a good polish, is made by dissolving together, over a slow fire, three ounces of turpentine, two ounces of white wax; then add one ounce of ivory-black and one drachm of indigo, to be well pulverized and mixed together. When the wax and turpentine are dissolved, add the ivory-black and indigo, and stir till cold. Apply very thin, and brush afterwards.

## The Live Stock.

### ON CROSS-BREEDING CATTLE.

The general improvement of our Canadian cattle must be mainly effected by the use of pure blood sires; as it would be perfectly utopian to expect the majority of farmers, even in the older settled districts, to become the possessors of pure herds of any of the approved modern breeds. The skill, perseverance and capital required for the establishment of a pure herd of Shorthorns, for instance, are so great that very few individuals indeed are competent to the undertaking; and the Province owes a debt of gratitude to the small number of enterprising agriculturists among us who have so honourably distinguished themselves and increased the wealth of the country by the judgment and zeal with which they have prosecuted this important and patriotic work. While, therefore, we should encourage cross-breeding in every practicable way, as the readiest means of raising the average value of cattle, we would insist with equal earnestness on the importance of maintaining and increasing the number of our pure breeds in their utmost purity. The amount of capital, labor and skill expended in bringing the different races of pure bred stock to their present advanced condition, in different parts of the

world, cannot possibly be estimated; it has been a work of time, and a necessary preliminary to any successful attempts at cross-breeding.

In the preparation of this article we shall make free use of a very valuable paper on cross-breeding cattle, that appeared in the *Journal of the Royal Agricultural Society of England*, for 1866, by Mr. G. Murray, who observes:—"The importance of using, even for cross-breeding, none but first class bulls, can hardly be sufficiently insisted on. Indeed, the marked success which has attended the use of Shorthorn bulls may be attributed not less to their established position than to the intrinsic merits of the race." The time, talent and capital which have been expended in bringing this world-renowned breed to a state closely bordering on absolute perfection cannot be expressed either by words or figures; and the permanent stamp of character which the modern Shorthorn has thereby acquired, inspires the breeder with confidence that the high qualities of the parent will be, more or less, transmitted to the offspring. Many of the failures which have occurred in cross-breeding can readily be traced to the inferiority of the parents, especially the sire. A decidedly inferior bull, therefore, ought never to be used for any purpose whatever.

Illustrative of the advantages of judicious cross-breeding, especially for the butcher, facts literally without number might be adduced; a few, however, will answer our present purpose. The beautiful breed of North Devon, some cows of which have been crossed by Hereford and Shorthorn bulls, has produced a progeny that has occupied distinguished positions in the fat cattle markets of England. In Hampshire, the use of Devon bulls was found to produce an offspring deficient in milking properties, and recourse was had to the Shorthorn, Ayrshire and Alderney, to correct this defect, and generally with success. The two last improved the milking qualities, the first almost invariably increased the size and aptitude to fatten.

The Hereford cattle have now for many years been under a course of constant improvement, and all the more prominent breeders are scrupulously exact in maintaining in their herds purity of blood. This valuable breed, when crossed with the Shorthorn, produces an animal posses-

sing very high grazing qualifications. In Wales, and several western counties of England, the Hereford bull has been extensively used in crossing the native breeds, with decided success; and the Shorthorn has been less used for this purpose with similar results. By thus increasing the size and fattening qualities of native cattle occupying elevated and exposed situations, it has been found necessary to improve their pasturage by the gradual ascent of a better cultivation, or bring them down to the rich feeding grounds of the lower lands. The native cows of Gloucester, Warwick and Worcester, having to a considerable extent several of the characteristics of the Shorthorn, have frequently been crossed by a well bred bull of the latter breed, with much success. The offspring are large and weigh well, have a great tendency to fatten, produce beef of the best quality, and, it is said, that many butchers prefer them to the average run either of Herefords or Devons. Trials have frequently been made in crossing the polled Suffolks with the Shorthorn bull, the offspring retaining in a high degree the milking properties of this well-known dairy breed, with increased size and earlier ripening. Crosses between the Shorthorn bull and Alderney cows have been made of late; the offspring increase in size and the quantity of milk, of a somewhat deteriorated quality. The steers fatten rapidly, but the meat, particularly the fat, retains much of the yellow tinge characteristic of the breeds of the Channel Islands.

We now proceed to consider a few of the more prominent northern breeds, so deservedly esteemed in Scotland. The Galloways, which chiefly occupy the Counties of Wigton, Kirkcudbright, and Dumfries, are not unknown to many of our Canadian readers, and are gradually increasing among us, being found well adapted to our climate and pastures. "The improved Galloway is almost faultless in form, and is well adapted to crossing, as it readily amalgamates with other breeds, more particularly the Shorthorn. We have the authority and precedent of the late Richard Booth as a guarantee of the superior value of this cross, since one tribe, and that not the least valuable in the invaluable Warlabay herd, traced their descent to a cross between a red Galloway heifer and a Shorthorn bull. When only one cross is attempted, the

produce is highly prized by the feeders of the South and Western Counties of Scotland, as well as by salesmen at the Liverpool and other markets of the north of England. Here, as elsewhere, the only cause of failure has arisen from the use of inferior sires. We should have much cause for regret if the Galloway breed, which has already been much encroached upon by the Ayrshires, were endangered by indiscriminate cross-breeding. It is of great importance that a selection of the best animals, both male and female, the most perfect in form and pure in descent, be reserved for coupling together, and at the same time that the practice of spaying the heifers, which is more general here than elsewhere, be discontinued. A much greater number of the inferior heifers would then be available for putting to Shorthorn bulls of the best kind, which, after breeding one calf, would grow much larger, and attain a greater weight with but little loss of time, and consequently be of greater value for feeding purposes than the spayed heifer."

The Ayrshires have long been distinguished for their superior milking properties, and the breed has received very great improvement within the last quarter of a century. They occupy a large tract along the Frith of Clyde, the moist climate and pastures of which are well adapted to dairy purposes. The Ayrshire, when transported to the warmer and drier climate of the South of England, does not succeed so well, a change by degrees is produced in the organs of secretion and assimilation, so that the nourishment instead of being converted into milk takes the form of fat. In their native districts they have frequently been coupled with the Shorthorn, with marked success; also, more rarely with the Galloway, Aberdeen, and polled Angus, with results less encouraging.

In the north-eastern section of Scotland, the prevalent breed is the black polled Angus, which are subject to but little variation throughout this extensive district. This breed greatly resembles the Galloway, but inhabiting a drier climate and treated with more liberality, it has a less rough appearance and attains usually to greater weights. It is particularly adapted to crossing with the Shorthorn, producing animals of large size and a quality of beef unsurpassed and rarely equalled by other breeds. The Fif-

shire breed, of large size and distinguished milkers, have been crossed with the Angus, Ayrshire, and Shorthorn, with results more or less satisfactory. In this, as in most other instances, the Shorthorn bull is generally preferred, combining a larger amount of milking and flesh forming qualities, weight, and tendency to early ripening and fattening, than any other.

We now come to consider a modern instance of cross-breeding with a view of eliciting a new breed. Mr. John Beasley, of Chapel Brampton, Northampton, an extensive farmer and experienced breeder, after much deliberation, determined in 1850, on engrafting the Shorthorn blood on the West Highlander, as found in his native glens of Argyleshire, with his broad chest, springing ribs, and capacious trunk, possessing in a high degree the external characteristics indicative of a robust constitution, and a disposition to fatten readily. "Ten carefully selected cows were purchased, some at Falkirk, others from well-known breeders in Argyleshire. They were all of a red color, inclining to the lighter or yellow shade, and had the orange tinge of the inside of the ears and skin, so much valued in many pure breeds, as indicating a kindly disposition. They were all put to a pure bred Shorthorn bull, and, after having produced their second calf, were fattened off, or otherwise disposed of. Of their offspring, the steers were all fed off at from two and a half to three years of age, but the heifers were put to the best Shorthorn bulls that could be procured, either bred by or descended from the herds of Lord Spencer, Sir Charles Knightley, Mr. Robinson, or that of the late Mr. Richard Booth. It was an interesting study in itself to watch the effects of the cross with the different bulls, and it was remarked that the Booth blood always left the clearest impression. In some cases it was difficult even for a practised eye to distinguish the second cross from a pure Shorthorn; but invariably the last traces of their mountain origin were to be detected in the length and thickness of the horns, width of the forehead, and shortness of nose or distance from the eyes to the muzzle. The original cows, like all mountain breeds in a semi-wild state, were shallow milkers, though the milk was of a very superior quality. As the produce receded from the Scot and merged in the Short-

horn, the quantity of the milk increased with each cross, yet retained much of the quality of the original dam."

The first cross between the Shorthorn and West Highlander was found inferior in size to that between the Shorthorn and Aberdeen, or polled Angus, and some other large breeds; but it was not surpassed by any in aptitude to fatten and quality of meat. Steers under three years old, having been kept in the ordinary way, and fattened in a very economical manner, reached a dead weight of 130 to 135 stones of 8 lbs each, and the beef was considered to be of the finest quality. A number of steers of the second cross, a little over two years of age, after similar treatment to the above, reached a weight averaging 115 stones of 8 lbs. Every promising animal with three crosses of Shorthorn blood was sold as a bull for £30, at ten months old, and got stock of a highly satisfactory character. Another of a fourth cross could scarcely be distinguished by the most practiced eye from a pure Shorthorn, and most of the heifers became excellent breeders. "Without a single exception the stock bred has been free from any approach to black, even in the muzzle, which has been invariably of a light or fresh color—a distinguishing mark of a thrifty animal. The first and second crosses were principally red roans, with a few blood reds. It is, however, remarkable, that of the first cross a considerable number were white, or white with red ears; all the bulls used have been either red, red and white, or dark roan." It appears that the wild and restless habits of the Highlander were strongly manifested through the first and second crosses; afterwards, the docility of the Shorthorn became largely, and in some instances, rapidly acquired. Heifers from this herd have obtained first premiums at local shows as breeding stock, and steers and oxen have been equally distinguished in the leading fat cattle markets.

"The beef of cross bred cattle is now generally admitted in the English markets to possess superior quality, as having a greater quantity of lean than that of most of the pure breeds, and also from the fat being well mixed with the flesh or muscular parts, besides carrying a greater quantity of meat on the more valuable parts, and consequently presenting more roasting meat and less offal than most other animals. Again, a

regards profit, reckoning from birth to maturity, we may safely assert that they may be equalled, but cannot be surpassed by any of our pure breeds for producing an equal weight of meat at a given age. To those about to commence breeding crosses, whatever be the race to which the cows may belong, our observation and experience incline us to recommend Shorthorn sires, as their purity can better be depended upon than that of other bulls; and we are fully convinced that even for the purpose of cross-breeding, the purer the blood on the paternal side the more clearly will excellence be stamped on the progeny."

Without attempting rigidly to define what constitutes a *pure bred* animal, we may observe that Mr. Strafford, the Editor of 'Coates's Herd Book,' will enter none but such as can show a direct descent through *four generations* from pedigree sires; and several of the crosses before mentioned have already been added to that long and world-renowned list. "Those which have attained this stage possess the general character of the improved Shorthorn; they are straight in the back, well ribbed, short in the leg, with abundance of hair, and of very superior quality; in short, in appearance they could not be distinguished from that breed, and promise, if their management be carried out with the same liberality and intelligence which have hitherto been displayed, to become at no distant date a most important and valuable breed of cattle."

### THE BUTTER HUMBUG.

In our advertising columns may have been seen the announcement of a "patent manufacture" of "How to make a pound of butter out of a pint of milk." The advertisement is so transparent a humbug, that it carries its own antidote with it, and none but a fool could for a moment suppose that any one could really make a pound of butter out of a pint of milk. The "patentees" do not do so. Had they said that they had found a way to mix a pint of milk up with a pound of butter, it would have been the truth. They have done so; but after it is mixed the result is not butter. Butter is a grand necessary of life; it has become an article of export from Canada, and a very important one, and any tampering with it cannot be allowed to pass without censure. The course adopted by the party is, to take new sweet milk and good, real, honest butter, in the proportion of a pound of the latter to a pint of the former, a third substance is added, and the whole churned;

the result is what is called "Patent Butter." But it is not butter, it is a mere emulsion of butter, containing foreign substances in dangerous quantities.

To prove this—take some of the Patent article, heat it until it is all fluid, keep the heat up some time, not at the boiling point but nearly so; let it rest in this hot state, and in a short time the butter will separate and float on the top, while the lower portion consists of a white fluid, which really is curds, whey, and whatever extraneous matter has been added to cause the temporary admixture of the three matters into a seemingly solid substance like butter. The public will very soon find out the fraud, which, like all frauds, will meet the fate it deserves. We may safely leave the exploding of the humbug to public discernment.—*Globe.*

### THE SHORT-HORNED COW "GOLA."

Annexed is an engraving of "Gola," a three year old short-horned cow of great beauty and promise, imported by John Miller, Esq., Pickering, Ontario. Last summer she was purchased from that noted breeder of shorthorns, Mr. Torr, Aylesby Manor, Great Grimbsy, Lincolnshire. From her pedigree it will be seen that she was sired by one of the most noted bulls of the Booth blood. "Gola" took the highest honours in her class at the late Provincial Exhibition at Hamilton, [as well as at one or two before she left England.

The following is her pedigree:—

GOLA, red and white, calved Nov. 9th, 1864; bred by Mr. Torr, Aylesby Manor, Great Grimbsy, Lincolnshire; got by Booth Royal, 15673.

Dam—Guardian Princess, by British Prince, 1497.

gr. d—Gauntlet, by Vanguard, 10,994.

g. gr. d—Gorget, by Crown Prince, 10,087.

g. g. gr. d—Glisten, by Vanguard, 10,994.

g. g. g. gr. d—Gleam, by Baron Warlaby, 7813.

g. g. g. g. gr. d—Glitter, by Londesboro', 6142.

g. g. g. g. g. gr. d—Glowworm, by Rauunculus, 2479.

g. g. g. g. g. gr. d—Golden Locks, by Remus, 4932.

g. g. g. g. g. g. gr. d—Golden Beam, by Prince Comet, 1342

g. g. g. g. g. g. g. gr. d—by Count, 170.

g. g. g. g. g. g. g. g. gr. d—by Constellation, 163.

g. g. g. g. g. g. g. g. g. gr. d—by Young Favorite, 225.

We have been favoured with some account of Mr. Miller's herd, the leading items of which we add to the foregoing particulars concerning the cow "Gola."

The "Thistle-Ha" herd consists of thirty Durhams and seven high-bred grades. It is headed by the bull "Oxford Muzurka," which was im-

"Lorena," a red cow, bought at Mr. Hills' sale of Illinois last fall. She was got by "Havelock" (2598), out of "Miss Ruth" by "Lord Vantemptest" (669½), and on the train, coming home from Hamilton, she dropped a fine red heifer calf—sired by "Minister" (6363); both cow and calf are doing well.

"GOLA,"

Winner of the First Prize in the three-year-old class at the Provincial Exhibition of 1868.



Imported and owned by John Miller, Esq., Brantford, Ontario.

ported from Kentucky a year ago, last Dec. He was bred by R. A. Alexander, of Woodburn Farm, Kentucky, sired by Royal Oxford (18774), out of Muzurka 10th by Duke of Airdrie (12730). His dam is a red cow out of a red cow out of the same dam that bore Muscaton; Muzurka 10th is the very best of the whole Muzurka family.

"Gola" imported from England in September. "Nelly Bly" a heifer imported from Illinois in December, 1867. The rest are all either imported or from imported stock. There are four full-bred calves, three bulls and one heifer, all red in color, and promising well. Success to the "Thistle-Ha" herd.

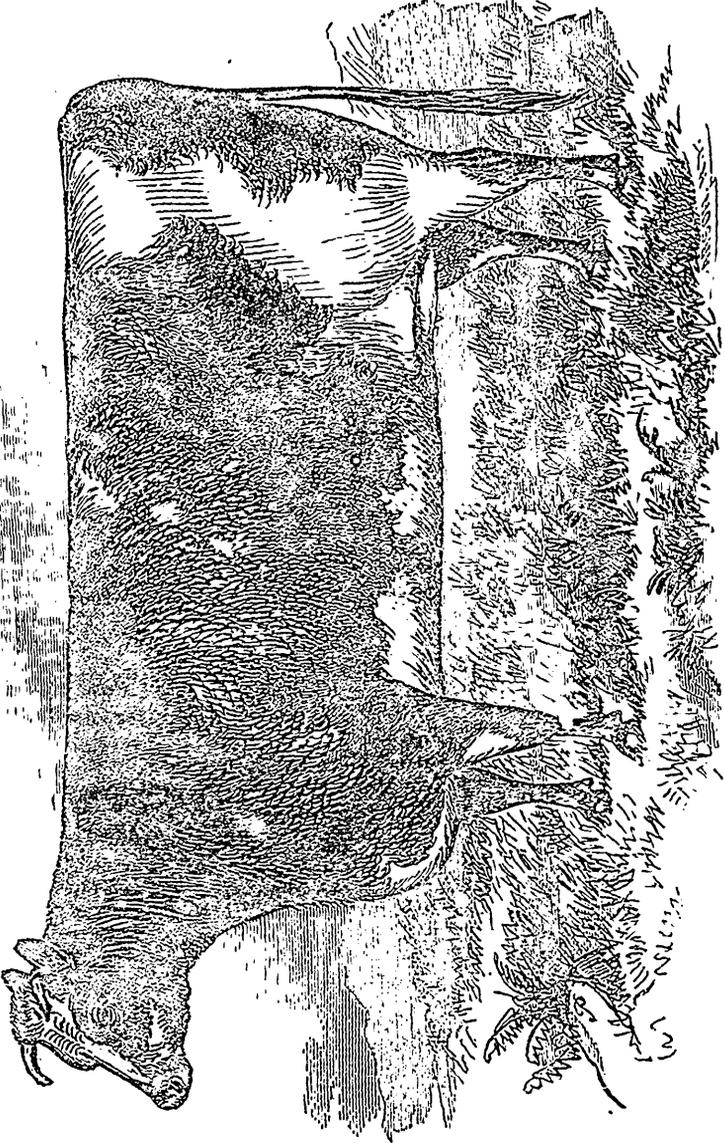
### THE SHORT HORN COW, "MAID OF ATHA."

Herewith we present our readers with a cut of the three year old short horn cow, "Maid of Atha," a very fine, clean-limbed, symmetrical and promising young animal, owned by Mr.

being a fresh importation were the considerations that turned the scale in her favour. Not a few outside the show ring, who are considered to know a thing or two about Short Horns, promptly expressed their surprise at the decision of the judges, and their dissent from it. We place

### "MAID OF ATHA."

Winner of the Second Prize in the three-year old class at the Provincial Exhibition of 1868.



The property of M. H. Cochrane, Esq., Compton, Quebec.

Cochrane, of Compton, Quebec. It was a matter of some perplexity to the judges at the last Provincial Exhibition whether to award the first prize in their class to her or to "Gola." Their claims were so evenly balanced that some point of superiority in pedigree, and the fact of "Gola"

their portraits on opposite pages to give our readers an opportunity of comparing the rivals, and forming their own opinion as to their respective merits. Our artist has aimed to give an impartial and faithful likeness of the two animals, and has, we believe, succeeded admirably in so doing.

We subjoin "Maid of Atha's" pedigree:—  
 "MAID OF ATHA," red and white, calved June  
 9th, 1865. Got by Prior, 7155.  
 dam "Lizzie Logan," by imported "Captain,"  
 (12,240).  
 gr. d. "Lizzie Logan," by "Duke of Wellington," (3654).  
 g. gr. d. "Countess 9th," by "Bonaparte," 273.  
 g. g. gr. d. "Countess 2nd," by "Leopold," 91.  
 g. g. g. gr. d. "Countess 1st," by "Son of Comet," 991.  
 g. g. g. g. gr. d. imported "Princess," by "Lancaster," (360).  
 g. g. g. g. g. gr. d. "Golden Pippin," by "North Star," (458).  
 g. g. g. g. g. g. gr. d. "Golden Pippin," by "Favourite," (252).  
 g. g. g. g. g. g. g. gr. d. "Golden Pippin," by "Favourite," (252).  
 g. g. g. g. g. g. g. g. gr. d. "Golden Pippin," by "Favourite," (252).  
 g. g. g. g. g. g. g. g. g. gr. d. "Golden Pippin," by "Hubback."

#### THE LATE BARON SOLWAY.

The death of this noble short-horn bull, which we regret to say occurred on the 1st ult., is a Provincial loss. He was one of Mr. Simon Beattie's importations, having been brought to this country by that gentleman, in 1861, and sold by him to Mr. John Snell, of Edmonton, who showed him in the class of bull calves at the Provincial Exhibition of 1861, when he easily won the first prize. At successive exhibitions, with but one exception, he invariably won the highest honours. The last time he was exhibited was in Sept., 1866. He was an excellent breeder, and has left a numerous progeny to perpetuate his characteristics. His death was caused by a cold, after being overheated. At the date of his decease he was owned by Messrs. Garbutt and McCoy, of Toronto Township, who purchased him of Mr. Snell in Jan., 1867. Mr. J. C. Snell, in a communication to the *Globe* respecting him, says: "The leading characteristics in the personal appearance of the Baron were a rich roan colour, a large massive frame, with deep ribs, flanks and brisket, full crops, unusually soft and mellow skin and hair, a remarkably strong loin, and a mild expression of countenance, indicative of the quiet, gentle disposition, which made him so tractable that 'a little child could lead him.' He was one of the largest of short-horn bulls, his weight at four years old being 2,700 lbs., and yet it was the common remark of good judges, that he was the *finest* big bull they ever saw. His feeding

qualities were of the very best description, and he impressed this feature in a marked degree upon his offspring."

#### ONTARIO VETERINARY COLLEGE.

The Toronto Veterinary School was re-opened on Wednesday, the 13th ult., the introductory lecture of the term being delivered by Professor Smith before a considerable audience of students and other members of the profession. The large attendance presented a most satisfactory and encouraging evidence of the steady progress of this most valuable institution, and must have been highly gratifying to Mr. Smith, who has, from its commencement six years ago, laboured assiduously and successfully in promoting the cause of Veterinary science in this Province, and to whose ability and energy the present promising condition of the school is mainly due.

The opening lecture was listened to with much attention, and warmly applauded. The numbers now included in the school are more than during any previous term, the students of all classes amounting already to nearly thirty. The term will extend over about ten weeks, with three lectures daily. Besides Mr. Smith's instructions, Professor Buckland and Dr. Thorburn deliver lectures regularly at the Agricultural Hall, and the students have the opportunity of attending those of Dr. Bovell at the Toronto School of Medicine. It is gratifying to find an institution of such importance to the country in so flourishing a condition.

Twenty pullets of improved breeds, like the Black Spanish, will lay more eggs during the year than fifty of the old-fashioned. What is the extra cost of the former when eggs sell for thirty cents a dozen?

An apparently new disease has attacked the bees in Ohio, and destroyed several apiaries situated miles apart. Some of the dead bees have been sent to the editor of the *Bee Journal*, Washington, D. C., a gentleman who is thoroughly posted in all that concerns bees, but who can make nothing of this case.

HINTS FOR COLD WEATHER.—In feeding farm animals, remember that when you place food before an animal, it is eaten for three purposes: to give muscular strength, to supply heat, or to make fat or butter. The more a cow consumes to supply muscular waste the less goes to milk. The more she needs to keep herself warm, the less she can yield of milk or of flesh. Course, rough food, as swarpy hay, butts of corn-stalks and straw yield some starch or carbon. This is the reason why an animal in an open shed will eat trash which it would reject in a warm stable. Yet there is nothing gained by starving them to rough fodder. Good shelter would be cheaper. The richer the food in albumen, the more vigorous and muscle it will make. The farm gains more by a few high fed animals than from much half-starved, ill-housed stock."

## The Garden.

### FRUIT GROWING IN TORONTO.

The annual meeting of the Toronto Electoral Division Society was held on Saturday, January 18. From the report we give the following extract, in relation to fruit growing.

"Your directors beg to draw attention to the great advance made in fruit culture, within the past few years, in this section of the country. Until a very recent period, this city was principally supplied with fruit from the United States; and large quantities of apples, pears, grapes, strawberries, &c., &c., were annually imported. This climate has been found so favorable to the production of the above fruits, that the market is now supplied with our own productions; and large sums of money, that used formerly to be sent out of the country, now go to remunerate our own cultivators. For the past two years, large quantities of apples have been shipped from this port for the Montreal Market, and the demand is steadily increasing; and as the superiority of the fruit shipped becomes better known, the demand will continue to increase. Orchardists must, however, exercise care, and grow the best varieties, and have them carefully gathered and packed. The farmers are now—owing to the information diffused through the country by this and kindred societies—beginning to cultivate the best varieties; and those that are disposed to plant, could not do better than visit our fall exhibition, and take note of the kinds usually the most successful in obtaining prizes. Pears are now being extensively cultivated all over the country; and from the splendid specimens produced at our exhibitions, it is evident that our market will ere long be as well supplied with this fruit as it now is with apples. The cultivation of the European grape, under glass, has made great progress in this city and vicinity; and Toronto is now one of the best supplied cities on this continent with hot-house grapes. Nearly all the best varieties can be grown in glass-houses, without fire heat; and the specimens shown at our exhibitions during the two past years, would do credit to any country. Hardy grapes are also being extensively grown around Toronto, and with every prospect of success. The following varieties were ripe here on the 15th September, on vines two years planted, viz., *Delaware*, *Concord*, *Iona*, *Hartford Prolific*, *Rogers' Hybrids*, 4, 15, and 19, and a few others. One vine of the *Hartford Prolific* ripened about 10 lbs. of good sized grapes. Good wine made from open air grapes, is now becoming pretty plentiful; in fact, there is less difficulty in growing grapes than there is in growing currants, and the former will shortly be more plentiful here than the latter. Strawberries, for the past three or four years, have only been imported from the United States in the early part of the season. The general supply is produced here.

"Raspberries are being cultivated in large quantities, and bid fair to become a profitable market crop. They were rather a failure last season, owing to the excessive heat and drought. The favourite varieties are *Franconia*, *Pastolff*, and *Brinckle's Orange*."

A Horticultural Society has been formed in Goderich. Success to it.

An old farmer says that fruit trees should never be trimmed in February, March or April. The time to trim is when they are in blossom.

Advices from the St. Joseph fruit region state that at this season of the year the prospects for a fruit crop were never more flattering than now.

The St. Thomas *Home Journal* instances, as a proof of the exceeding mildness of the winter, a sprig of privet, shown by Mr. Askew, with buds in almost every grade of expansion to full leaf.

The Gravenstein apple is one of the most valuable of the autumn sorts. It is of large size, handsome appearance, and superior quality, and sells for the very highest price in the Montreal market.

Inquiry is often made for a rose that is a constant bloomer. *Mrs. Bosanquet* and *Malmaison* have the reputation of being the most continuous bloomers, but *President* is even better than these—literally blooming all the time.

A writer in the *Cincinnati Gazette* thinks fruit-growers may expect a good fruit year next year. He says that the year next following that of the seventeen year locusts, has heretofore invariably been remarkable for an abundance of fruit.

A correspondent of the *Missouri Republican* adds his testimony to the good effects arising from allowing hogs to ramble and root in orchards. Our own experience leads us to believe that every fruit-grower that has tried the plan will endorse it.

Some one says that where mechanics have land they generally give better cultivation than farmers; they have more grapes, pears, strawberries, and water-melons, and earlier potatoes and cucumbers. They devote more care and labour to the small space, and so reap a larger profit from it.

To keep plants in the winter is always difficult, but to those who have a love for the plants, it is not difficult in case of very cold nights, to have them so fixed on a stand, that the stand can be easily moved, plants and all, back from the window, and so arranged that the whole can be covered with some material that would protect them from frost.

Those who have an abundance of rhubarb roots may have the leaf stalks during the winter with but little trouble. Take up some strong roots and place them in a barrel with a little earth. Cover the barrel and set it in a warm place, and the leaves will soon push. Grown in this way rhubarb is crisp, tender, and well blanched. Roots that have been thus treated are not worth planting out again.

All fruit trees need a little iron in the soil. If none is present naturally, some iron filings, or tin waste, or old iron may be buried over the roots. It will appear not in the growth of the trees, but in the soundness and colour of the fruit.

In a German work called "The History of the Rose," the writer mentions that the largest rose tree known to exist is in the marine garden at Toulon, France. It is of the species known as the Banks' rose, bearing white flowers. The branches stretch over a length seventy-five feet high. The stem near to the root measures two feet eight inches in circumference, and the plant yields fifty thousand roses during the months of April and May.

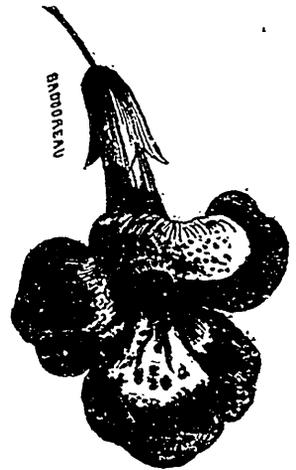
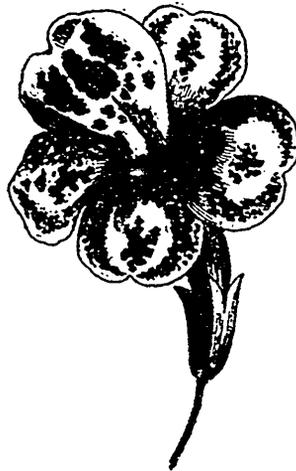
The fountain on the grounds of Seth B. Hunt, at Bennington, Vt., is the highest but one in the world. It is drawn from the hills through a six-inch pipe, throwing a stream 168 feet, presenting the appearance at a short distance of a single silver bar. Its cost was \$25,000. The grounds about it are thrown open to the public on Tuesday and Friday evening.

REA'S SEEDLING QUINCE.—This was originated by Joseph Rea, Green county, N. Y. It is a splendid fruit, averaging considerably larger than the apple or orange quince. The quality is good, and the tree a strong grower, with large, dark foliage. In planting for market we would choose this and the orange or apple shaped variety.—*Rural New Yorker.*

### MIMULUS CUPREUS.

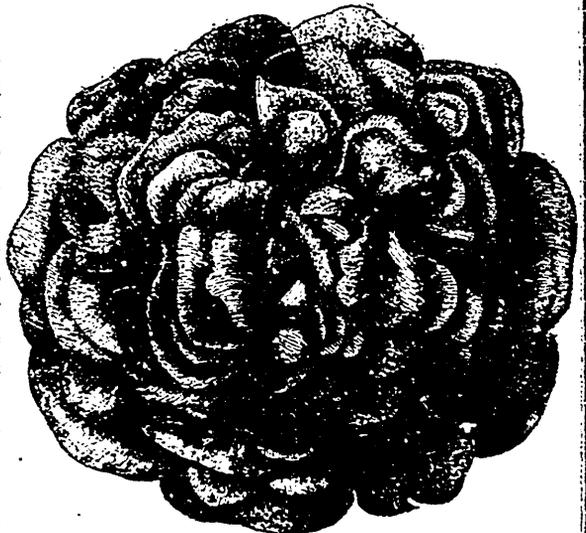
We find the following description of this charming little flower in Mr. J. A. Simmers's catalogue:—

"*Mimulus cupreus*, a new biennial, half-hardy species, six to eight inches high, with handsome, glossy foliage, and large, finely formed flowers in great variety of colours, spotted, marked, dotted and blotched; very free flowering, valuable for borders and bedding."



### ROSE BALSAM.

The balsam is too well-known to need describing. It is a universal favourite. More perhaps than any other flower, it is a comfort and joy to poor people, who have little time and space for gardening. How often do we see a box of balsams in full bloom shedding beauty from the window of a very humble dwelling, and showing that the inmates are not without taste and refinement, though their lot is hard, and their fare none of the best. A love of flowers ought to be encouraged in all classes for many reasons. It is well also that choice kinds should be cultivated, as they need no more attention than common ones. Very ordinary looking balsams are often grown when better ones might easily be had. The one above illus-

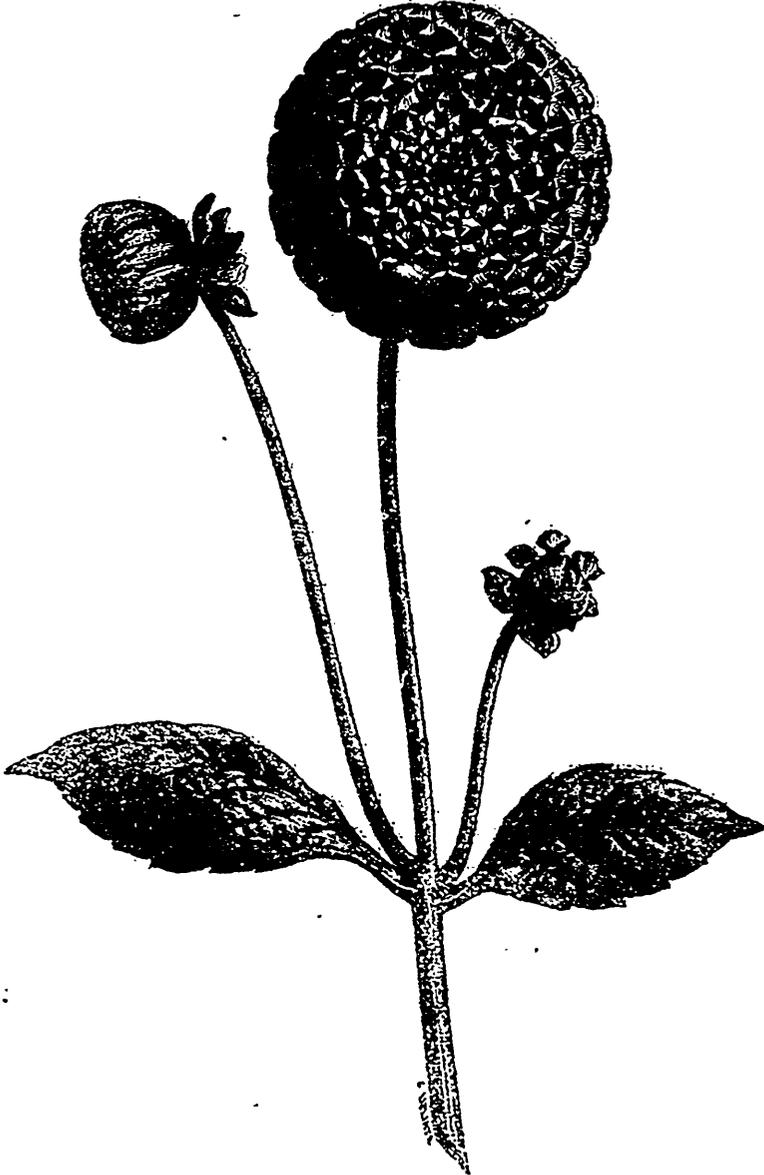


trated is known as the Improved Rose or Andrieux Balsam, and is one of the finest varieties in cultivation.

DAHILIA LILLIPUT.

The dahlia is a superb flower, and so easy of cultivation that the wonder is it is not more extensively grown. With the exception of its re-

ing new varieties, can buy a package of seed at from 10 to 20 cents. By sowing early, blossoms may sometimes be got the first year. Our engraving represents a new and dwarf variety, which is deservedly becoming a favourite among



DAHILIA LILLIPUT.

quiring to be taken up and housed in the cellar during winter, it gives as little trouble as the commonest flower that blooms in our gardens. The bulbs can be had at a low rate from any florist, and those who wish to experiment in rais-

lovers of flowers. It seldom attains a height of more than two feet, is of very compact habit, and produces a most striking and beautiful effect whether in beds or borders. We advise our readers to try it.

## Our Country.

### WHAT CLASSES OF PEOPLE MAY ADVANTAGEOUSLY EMIGRATE FROM GREAT BRITAIN TO CANADA?

Having recently spent several months in the old country, on a tour of observation, I may be reasonably supposed to have some qualifications for answering the question which stands at the head of this communication. In doing so, I must premise that in travelling through large portions of England and Scotland, I found scarcely anywhere a redundancy of labor. The people seemed, generally, to be fully employed, both in town and country, and wages in most branches of industry have of late received an advance. There are, of course, exceptions to this remark, but there never was a time, perhaps, when the working classes of Britain were generally so well employed and remunerated as at present. Under such circumstances the motive to emigration becomes necessarily weakened.

In a country like Britain, however, with a teeming and constantly increasing population comprised within a comparatively small area, and having commercial relations with every part of the world, a migratory spirit will always more or less animate the hearts of her people. At particular periods, when the agricultural or mercantile interest has been depressed, large numbers have left their native homes to seek livelihood and health in other lands, chiefly the colonies or the United States. In this, as well as in other ways, the United Kingdom has largely contributed to the civilization and happiness of a great portion of the habitable world.

The class of people at home that would most immediately benefit themselves by emigrating to Canada, are the agricultural laborers. There, as a general rule, they have little or no chance to rise above the condition in which they are born; and, notwithstanding the causes which of late have very much tended, in many instances, to ameliorate their condition, that condition still remains a hard one to no inconsiderable number. With a large and young family the labourer has a constant struggle to procure the means of the barest subsistence. Now, I never held out a hope in my late intercourse with this class, that by going to Canada they would have to

work less, but that the same amount of labour would, in general, command more of the necessaries and comforts of life, with a prospect of becoming the occupiers, and even owners, instead of being the mere tillers of land. Among the strongest motives to human exertion is the desire to rise, to improve one's condition, and thereby make some provision for a family and for old age. A life without the probability of attaining, in some degree, at least, these objects, must be, to a great extent, aimless and hopeless. I often mentioned to these people instances that had come under my own observations in Canada, of men originally in their own position, but now the occupiers or owners of well-cleared-up farms, affording them and their families an abundance of the necessaries and many of the comforts and even luxuries of life. The fact is that the majority of our now well to do farmers came to this country with little or no means. Often they commenced operations in the unbroken forest, and by the exercise, at first, of some self-denial, accompanied by frugality and persevering industry, they gradually won for themselves a solid independence, and made "the wilderness to blossom as the rose."

Another strong inducement Canada holds out to this class is in the facilities afforded to boys and girls of getting situations in which they can, from the first, maintain themselves, learn the ways of the country, and by degrees become prepared for commencing something on their own account. How many happy mothers of families have I seen in this fair Province of Ontario, surrounded by all the solid comforts of life, and with equally good prospects for their children, who, had they remained in the old country would scarcely have had a chance of rising higher than becoming the wives of farm laborers, who must struggle hard for the barest means of physical existence. I told the people at home that Canada was pre-eminently the country for the poor man, who, possessing the qualifications of health and strength, sobriety and industry, need have no fear of making progress, although he might arrive among us without a penny. The experience of thousands will confirm this statement. But it must never be forgotten that success essentially depends upon the possession and exercise of the qualities be-

fore mentioned, and that this is no country for the frivolous, the idle or the dissipated. People of this sort usually blame the country for their want of success, instead of blaming themselves, as they ought to do.

Another class, very much smaller than the foregoing, that might emigrate to this country with advantage are the small tenant farmers, who are to be found in various places of the United Kingdom, particularly in the southern and south western parts of England, and over nearly the whole of Ireland. Such people usually acquire habits of thrift and industry, with tastes higher than those of mere labourers, and with capitals varying from one to three or four thousand dollars. They would make the most desirable settlers we could have, and by coming here they would lay the foundation of success and independence for themselves and families. I was much among this class of people in different places, and made myself acquainted with the wants and difficulties common to their situation. I found among many of them a strong desire for definite and reliable information respecting Canada, and there is good reason to believe that with proper exertions in diffusing such information, valuable results might be obtained.

In order to understand the true position of small tenant farmers, at the present time, it must be borne in mind, that the tendency of an advancing agriculture, involving as it necessarily does, the employment of expensive implements and machines, is to consolidate farms; that is, to make a large farm by uniting two or more smaller ones. This practice is still likely to continue, till farms under one or two hundred acres will be rarely found anywhere. The reasons assigned for this policy are that on large farms a more systematic and economical course of agriculture can be carried on thereon than on small holdings, and that better and comparatively less expensive buildings can be erected. Whether these changes are in the interest of the British people and their agriculture or not, I shall not now take upon myself to express an opinion. It must be apparent on the slightest reflection, that they materially affect the social condition of a considerable number of the rural population, and that while farmers are increasing, the number of farms is constantly diminishing. In this state of things young men of intelligence, industry, and perseverance, possessing small means, have no opportunity of rising in the world as farmers; the most they can ever expect is to attain to situations as foremen, shepherds, &c.; and thus the line of separation between the capitalist or employer of labour and his dependants, becomes gradually wider and more sharply defined.

The agricultural population of Britain is considered, in point of number, to be stationary, and in some places actually diminishing, while the manufacturing and mercantile community is rapidly increasing. The now general application of improved implements and machines, and the recent introduction of steam power, naturally

tend to promote better cultivation at a cheaper cost, and to abridge rather than increase manual labour.

In this state of things it is obvious that but few of the sons of British farmers can follow the pursuits of their fathers; the majority must either emigrate or seek employment in some of the large centres of manufacturing and commercial industry. Each of these methods is adopted; thousands annually emigrate to the colonies or the United States, but a far greater number find employment of some kind or other in the large towns, and generally at wages much higher than they have been accustomed to in the country. Railways, which now intersect the country in every direction, furnish an immense amount of employment of various grades, that were unknown a few years ago.

Canada also holds out inducements to mechanics and persons generally connected with the building trade, especially such as have an aptitude to turn their hand to more than one of the several allied branches of industry. The demand for skilled labour in this country is of course limited within comparatively small bounds, but ordinary carpenters, bricklayers, masons, &c., will usually not only meet with employment at remunerative rates, but if industrious and enterprising, will have a moral certainty of ultimately becoming the employers of labour themselves. I consider that the prospect of rising in the social scale which all new countries more or less hold out to the intelligent, sober, and industrious working people in all pursuits, to afford one of the strongest motives to emigration. It is curious to observe in a young country with what facility and success some people can turn their hand to new branches of industry; a thing—the thought of which would never have entered their minds at all in the country they left. Some of our most successful farmers had little, if any, practical knowledge of the art in the old country, and they often turn to very great advantage their ability to use ordinary tools in constructing or repairing farm buildings, waggons, implements, &c. In the older settled districts of this province the division of labor becomes of course more distinctly marked; but in new settlements the aptitude which enables a man to turn his hand with facility from one kind of work to another, though not absolutely essential, is unquestionably among the surest and most powerful means of success.

Another class may be mentioned, that would, with the exercise of ordinary judgment and care, be materially benefited by emigrating to this country, such as possess large means, and have children to put into business. The latter can be done here with much greater facility and with more encouraging prospects of success, than falls to the ordinary lot of young men in England. Capital, too, can be safely invested here that will yield a much larger return than is usually obtained in the old country. Persons of this class could readily select in the neighbourhood of our towns and cities, picturesque and salubrious sites for the erection of resi-

dences, with ornamental grounds, and whatever extent of land they might desire. All this might be done for a comparatively moderate outlay, and the owners would find themselves and families surrounded by the appliances of our advancing civilization, by educational and religious privileges, and the pleasures of social intercourse. People of this class, by coming here, might in many important respects benefit themselves and families, and at the same time afford most desirable and important aid in developing the great but as yet almost latent resources of our young and rising country.

It is of importance to remark that what Canada particularly needs, and for the exercise of which she offers a wide and profitable field in her agricultural, manufacturing, and mining resources,—are capital and labour; two elements intimately related, and mutually dependent, in all their applications, to the great purposes of life. For the learned professions, book-keepers, and others of a similar class, the demand is small, and in some places the supply is already in excess. People without means, and unable or unwilling to work, either with their hands or heads, would find here no congenial home, and should by all means keep away. Intelligent, persevering, and honest labour will meet with ample reward. It has done much in the past, it is doing a great work at the present, and it is destined, I trust, under the guidance and blessing of a gracious Providence, in connection with other necessary means, to make the future of our Dominion increasingly prosperous and happy.

GEO. BUCKLAND.

Department of Agriculture,  
Toronto, Jan. 1869.

### JANUARY, 1869.

"January brings the snow," the school rhyme says, but this is not always the case. The snowy characteristics of January, 1869, have not been at all very marked. True, it had a blow-out on New-Year's Day, but then it sobered up all at once, and ever since has conducted itself in as decorous a manner as any January could well be expected to do. The sun has shone out in so pleasant a way as to induce the very snow-drops to waken out of their winter sleep, and even the flies have been so far misled by the general cheerfulness as to emerge from their hiding-places—wherever these may be—to enjoy themselves in the sunshine. And all the people have wondered with a great wonderment at this unparalleled condition of things. The "oldest inhabitant" has been consulted on the matter, and this infallible oracle has given the response that no such weather has ever been experienced in the month of January in Canada within the memory of man. We have a great respect for the "oldest inhabitant" and his recollections; but in this matter he is altogether at fault, for we have had finer weather in January, more heat and less snow, and that not so very long ago, as the following

table which Professor Kingston, of the Observatory, has kindly constructed for the benefit of our readers:—

	1869. 1st to 23rd.	1850.	1858.
Mean Temperature.....	28.57	29.26	30.03
Difference from average	+5.63	+6.32	+7.09
Highest Temperature..	45.0	46.4	47.4
Lowest Temperature...	6.8	9.9	6.5
Snow in inches.....	9.4	5.2	4.0
Days of Snow.....	10	8	7

From the foregoing table, it will be seen that at least two cases are on record, 1850 and 1858, where the mean temperature of the *whole* of January exceeded the mean temperature of the first twenty-three days of January, 1869. Besides these, the mean temperature of the same month of 1843 was above the temperature of January, 1869; but as a considerable quantity of snow fell in Jan., 1843, that month is excluded from comparison with the present January.

By comparing the columns in the table, it will be observed that in 1850 and 1858, the mean temperatures and the maximum temperatures of the *whole* month were higher. The minimum temperature of January, 1850, was considerably higher, and that of January, 1858, only a trifle lower than the corresponding temperatures in January 1—23, 1869.

The number of days in which snow fell, and the amounts of the fall were also less, both in January, 1850, and January, 1858, than in Jan. 1—23, 1869.

From these remarks, it will be seen that, though the temperature of January hitherto has been considerably above the general average, it is not unparalleled, as some imagine; and the oldest inhabitant ought to have remembered that in January, 1858, ploughing for spring wheat was going on, and that pansies were in full bloom in the open air.—*Globe*.

### BIRDS OF PASSAGE.

Enough immigrants pass through the Province of Ontario to make an important annual addition to our population, if inducements could be brought to bear which might have the effect of inducing them to remain. As it is, the operation is far too sieve-like. Last season witnessed some slight improvement over the preceding one, yet there is room and need for something to be done to amend the matter. Mr. John A. Donaldson, Emigration Agent, giving a statement of the arrival of immigrants at this point, says:—"In 1867, only 2105 remained with us at this agency out of a total of 16,288, the balance, 14,092, passed through to the Western States, while this season, out of 23,305, 4671 remained in this country, the balance, 19,734, passing through."

Surely we might make and prove it to the interest of a greater proportion of these people to stay with us, if combined exertion were put forth in the right direction.

## Arts and Manufactures.

### PRESENT CONDITION OF THE MECHANICS' INSTITUTES OF ONTARIO.

In our last number we presented some views on the "Position, Objects and Duties of Mechanics' Institutes." The report of the Commissioner of Agriculture, which has subsequently been issued, contains an important tabulated statement of official returns from twenty-one of these Associations. The earliest of them, the Toronto Institution, as shown by these returns, was established in the year 1830; the most recent—Kincardine and Owen Sound—in the year 1865. The whole of the twenty-one are reported as being incorporated under the general Act for the "Incorporation of Mechanics' Institutes and Library Associations," chapter seventy-two of the Consolidated Statutes of Canada. Four Institutions own the freeholds of the properties they occupy, the estimated value of which is for the highest, \$50,000; the lowest, \$1,000. Total for the four \$55,400. Of the remaining seventeen Institutions, six occupy leaseholds free from their respective Municipalities, and eleven pay annual rents ranging from \$15 to \$400, or an average of about \$72 each. The net value of property held, other than real estate, is returned at from \$100 to \$8,000 respectively; or, in the aggregate, \$27,650, being an average of about \$1,317 for each Institute.

The smallest number of members returned for one Institution is 21; the highest 1,117—being an aggregate of 3,402, or an average of 162 members for each. The rate of annual membership subscription is from \$1 to \$2.50 for full members, and as low as 50 cents per annum for junior members.

In the returns of number of volumes of books in their respective Libraries, the highest is reported at 7,430, the lowest at 104; the aggregate for twenty Institutes being 25,057 volumes, the average for each about 1,252. Of the aggregate number of books, 2,586 are on Mechanics and Science, 5,334 on History and Travels, 5,442 Works of Fiction, 3,320 are termed Miscellaneous, and 3,375 are not in any way classified. The total number of books circulated by seventeen of these Institutions during the year, was 57,658, or an average of about 3,392 for each. Of the classified returns of books circulated by five Institutions, in all 44,117 volumes, 1,276 were Mechanical and Scientific, 4,718 History and Travels, 21,078 Works of Fiction, and 18,045 termed Miscellaneous.

Ten of these twenty-one Institutes have read-

ing rooms established—nine of which are opened daily and one weekly. The total annual value of works on their tables is returned as respectively from \$14 to \$548, the aggregate being \$1,217, the average nearly \$122.

Of the twenty-one Libraries, eleven are opened daily, four semi-weekly, and six weekly.

Three Institutions only had evening classes established during the year. One of these had three classes (number of pupils not given); another had two classes, with 26 pupils; and the third eight classes, with 202 pupils. The charge for tuition for the session, comprising about forty lessons, and extending over a term of five months, was from \$1.50 to \$3 per pupil, according to the subjects taught. The average remuneration to Teachers in one Institution \$40, in another \$75, while in the third the services of the Teachers were gratuitously rendered.

The number of lectures delivered in four institutions was fifteen, and in eight others twenty-eight musical and other entertainments were given. Notes of other details are also given by the respective Institutes, and are appended to the tabulated statement of the Commissioner.

Heretofore, much ignorance has existed in respect to these organizations; and although but twenty-one of the sixty Institutions in Ontario have seen fit to answer the questions submitted to them by the Commissioner for the past year, yet much valuable information has been given; and we may confidently hope that during the year upon which we have now entered, should the same or similar questions be repeated, full returns will be obtained. The knowledge thus afforded, being communicated to the several Institutes by the Commissioners' annual reports, will be the means of inciting to more zeal in the important work of instructing our youthful artizans, and the industrial classes generally, and in providing the means for acquiring useful knowledge by the respective communities in which they are severally located.

To accomplish this work, then, of educating the youthful and adult mind, let the Institutes buy a better class of works than heretofore—fewer novels, and a larger proportion of useful or instructive books. At present, about one-third of the volumes on the shelves are works of fiction, while nearly one-half of those circulated are of a similar character; "light and airy phantoms that, shaped as ideas, are unreal—that are pretended pictures of real life, but, in reality, mere transparent deceptions." The Legislative aid now afforded Institutes for the purchase of works on Mechanics, Manufactures, Agriculture and Horticulture, Science, the Fine and Decorative Arts, History and Travels, will, we trust, do much to improve the character of their Libraries. As a guarantee that such will be the effect of the law, we may mention that a number of Institutes have already availed themselves of such aid, and have purchased, through the agency of the Association of Mechanics' Institutes, large collections of the best technical and reference books published, and others are

now making enquiries with a view to similar purchases.

In addition to the Library, let attention be paid to the winter evening class-room; and where a reading-room is practicable, let it be supplied not only with some of the best newspapers and literary magazines, but with the best illustrated mechanical and technical periodicals, such as the *London Engineer*, *Mechanics' Magazine*, *Practical Mechanics' Journal*, *Artizan*, *Builder*, and *Chemical News*; and the *Scientific American* and *American Artizan*. These would soon become as interesting to the practical man as the "latest novel," and be infinitely more instructive. Go to whatever city, town or village you may, a large number of young men will be

found loitering about the offices and bar-rooms of the hotels and inns for want of something better to do. How important to make available local talent, and attract those young men to the Institute Lecture Room, or to attend to readings or recitations. Many young men, to our knowledge, have been saved to society, and become useful members thereof, by means similar to those here indicated. To the young man away from home and home influences, and placed amid the discomforts and temptations of the boarding house, the various departments of the Institute should afford a place of healthful resort, instruction, and recreation. Let it be seen that this is practically the case.

## Hearth and Home.

### A TALK WITH THE YOUNG FOLKS ABOUT THE MONTH.

"Why, if here is not a picture of Cupid, acting as post man, and delivering valentines! How funny to find this in the ONTARIO FARMER!" Plenty of exclamations like these will no doubt be made as eager hands open the February number of this Journal, and curious eyes light on the monthly talk with the young folks.

But why is it thought surprising that a friend and counsellor of the young should have something to say on such a subject? Is there a booksellers' window from end to end of our Dominion, that is not, at the date of our present writing, he-decked with all sorts of pictorial sheets, meant to be folded into letters, and sent by our brisk-looking little postman? Are not most of our young readers either intending to send valentines or expecting to receive them, or both? Ought not something to be said now and again on a subject that appears to be so generally interesting?

"Well," Mr. Editor, our circle of juvenile readers are asking, "what do you think of observing St. Valentine's Day? Is it right, or is it wrong?" We answer, "your question can't be met by a simple 'yes' or 'no.'" "That depends"—is the best reply we can give in a breath.

It has become a custom for young folks to exchange letters of love and endearment on the 14th of February. In this there is nothing to find fault with. Young people were made to love one another, and to find happiness in social intercourse with each other. These pages will be read by many young folks who are in, and perhaps nearly if not quite out of their teens. With such, "falling in love," is a common occurrence, and quite proper. Be truthful, modest, honorable, wise, and faithful in this, as in all other of your doings, and neither God, the Bible, nor any good intelligent friend will frown upon you in it. Where sincere affection, truth, modesty, and fidelity exist, there can be no objection to their finding



suitable expression at any proper time. Why should'nt they find an expression, if custom invites it on St. Valentine's Day?

But what we have just written is too sober and sensible for most of those who employ the post-man on the 14th of February, and therefore fault-finding and reproof must be the chief business of this article.

First, what abominable caricatures are most of the pictorial sheets that hang in the windows of shops where valentines are sold! How "hard up" for money those must be who display such wretched prints for the sake of making a cent or a dime each by their sale! For one pretty, deli-

cate, refined and really pleasing valentine, you shall find hundreds that both in picture and sentiment are an offence to good taste, and every way low, vulgar, and coarse. Have nothing to do, children, with such miserable blotches of pictures,—such worthless, trashy valentines as these.

Secondly, a great number of them poke fun at people because of some defect which they cannot help, or some circumstance which is their misfortune rather than their fault. If a person has a large nose, a squint in the eye, a lameness, or any bodily infirmity, it is most unkind and improper to taunt them with it, or make sport of it. We should never seek happiness at the cost of inflicting pain on others. This is indeed a mean kind of pleasure. Like all wicked pleasure there is a sting about it, which plainly tells how wrong it is. Those valentines which pretend to rebuke conceit, or a spirit of display, forwardness, or any other failing, do it in a way that is not likely to effect any good. It is "Satan reproving sin," not goodness trying to correct fault.

Thirdly, there is a great amount of falsehood told in valentines. Professions of special regard which are not sincere, have in them the element of lying. And it is no excuse to say it was all in fun. The Book of God says "As a mad man who casteth firebrands, arrows, and death, so is the man who deceiveth his neighbor, and saith, 'am I not in sport?'" The young should grow up with a horror of lying in all forms, and should cultivate the habit of always saying what they mean, and meaning what they say. "I'm only funning," is a lame excuse for an untruth. Boys ought to have more manliness than to impose on their young friends of the other sex, by pretending to love them; and girls should shun all approach to falseness and coquetry. Always be truthful. They whole in sport, will be very apt when temptation comes to lie in earnest.

After all, you see that Valentine's Day is not such a bad subject for a picture and an article. We could say a great deal more, but long articles, addresses, and sermons don't suit young people. There is one idea, strictly a pleasant one, that stands connected with February 14th, and with a mention of it we shall conclude. An old tradition makes Valentine's Day the beginning of spring. Well, it doesn't look much like it in this Canada of ours, does it? Nevertheless the sun is every day getting higher in the heavens, the grip of winter is beginning to relax, and spring is not far off. We have the rough month of March to encounter, but it will soon pass, and before long the green grass and pretty flowers will beautify the earth again. God won't let winter stay longer than the proper time, and pleasant weather will quickly be here.

The latest definition of a "self-made man" is man who makes a "goose of himself."

Whitter says that in the name "Maud Muller," the Muller should be pronounced so as to rhyme with duller. The name is a very common one in some parts of the mountain regions of New England.

"Ma, if you will give me an apple, I will be good." "No, my child, you must not be good for pay—you ought to be good for nothing."

A DAINY DISH.—A gentleman was staying at a little French country inn, in the garden of which was a melancholy looking owl that had only one leg. Two or three days after his arrival, he had gibier for dinner. The "game" was very small, but he enjoyed his dinner immensely, and the next day he missed the owl from the garden. "Where has the owl gone to?" he inquired of the landlord. "Monsieur had a little dish of gibier yesterday," was the answer. "Why, did you kill the owl for my dinner?" he asked in consternation. "I kill the owl, m'sieur! But no; he die of himself."

## Poetry.

### THE THREE LITTLE CHAIRS.

They sat alone by the bright wood fire,  
The gray-haired dame and the aged sire,  
Dreaming of the days gone by:  
The tear drops fell on each wrinkled cheek,  
They both had thoughts that they could not speak,  
As each heart uttered a sigh.

For their sad tearful eyes descried  
Three little chairs, placed side by side,  
Against the sitting-room wall:  
Old fashioned enough as there they stood,  
Their seats of flag and their frames of wood,  
With their backs so straight and tall.

Then the sire shook his silvery head,  
And, with trembling voice, he gently said:  
"Mother, those empty chairs!  
They bring us such sad, sad thoughts, to-night,  
We'll put them forever out of sight,  
In the small, dark room up-stairs."

But she answered, "Father, no, not yet,  
For I look at them and I forget  
That the children went away:  
The boys come back, and our Mary, too,  
With her apron on of checkered blue,  
And sits here every day.

Johnny still whittles a ship's tall masts,  
And Willie his leaden bullets casts,  
While Mary her patchwork sews;  
At evening time three childish prayers  
Go up to God from those little chairs,  
So softly that no one knows.

Johnny comes back from the billow deep,  
Willie wakes from his battle-field sleep,  
To say a good-night to me;  
Mary's a wife and mother no more,  
But a tired child whose play time is o'er,  
And comes to rest on my knee.

So let them stand there, though empty now,  
And, every time when alone we bow  
At the Father's throne to pray,  
We'll ask to meet the children above,  
In our Saviour's home of rest and love,  
Where no child goeth away."

—Mrs. H. T. Perry, in *Evangelist*.

# Music.

## O SAVIOUR OF THE WORLD.

GREGORIAN, 8TH TONE.

*Slow.*

O | Saviour of the world, the | Son, Lord | Je - sus,

Stir up thy strength and help us, we | humbly be - | seech | thee

By thy | cross and precious blood' thou | hast re - | deemed us : || Save us and help us, we | humbly be - | seech | thee.

Thou didst | save thy disciples' when | ready to | per . ish : || Hear us and save us, we | humbly be - | seech | thee.

Let the | pitifulness' of | thy great | mer . cy : || Loose us from our sins, we | humbly be - | seech | thee.

Make - it ap - | pear that thou art our Saviour' and | mighty de - | liv . erer : || O save us, that we may praise thee, we | humbly be - | seech | thee.

Draw | near, according to thy promise,' from the | throu - of thy | glo . ry : || Look down and hear our crying, we | humbly be - | seech | thee.

Come a - | gain, and dwell with us, ' O | Lord, Christ | Je . sus : || Abide with us for ever, we | humbly be - | seech | thee.

And | when thou shalt appear' with | power and great | glo . ry : || May we be made like unto thee | in thy | glo . rious | kingdom.

Thanks be to | thee, O | Lord. || Al - le - | lu - | . . . ia, | A - | men.

Everybody should learn to chant. There is a simple grandeur about this style of sacred song which stirs the soul, while it is capable of much variety of expression, and is especially adapted as a vehicle for the devotional utterances of a congregation. The most ancient style of singing; it will never go out of vogue, for we learn from the Book of Revelations that it will be perpetuated in Heaven. The above chant is a very choice one, and has the peculiarity of being in the minor key. It should be sung with great tenderness.