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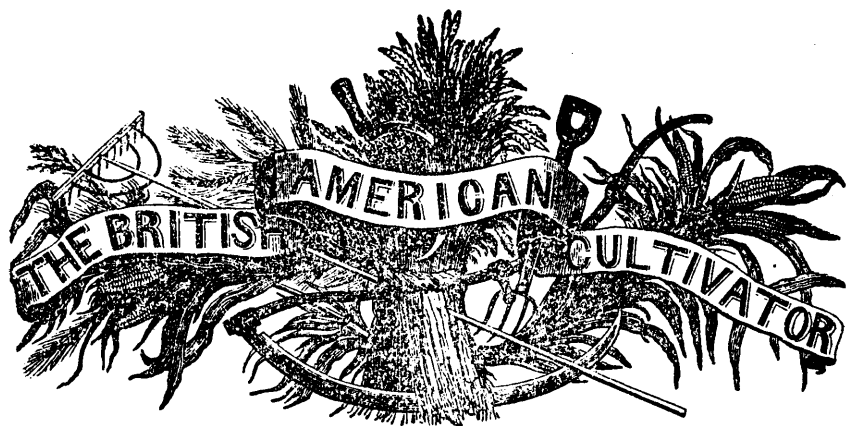
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"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

New Series.

TORONTO, JUNE, 1846.

Vol. II. No. 6.

How can the Produce of Land be increased to meet a fall in Price?

Probably at this time, no question affecting the farming interests could be put, of greater importance than the above; and its careful solution surely is a matter worthy the attention of every proprietor of land in Canada. Lower prices for breadstuffs and the other staple agricultural products will unquestionably have to be received by the Canadian farmers, under the present liberal commercial policy of England, than under the restrictive tariff that has been lately repealed;—and it is a matter of the greatest importance to know what course is best to pursue to enable the agriculturist to meet his necessary and contingent expenses and at the same time pay a liberal interest upon the capital invested in the business. If agricultural operations will pay in any country, it certainly can be made to do so in Canada.

Nature has done every thing for us that we could in reason desire; and although there may be an ebbing and flowing in the marketable value of agricultural produce, to a greater degree than in former years, still it by no means follows that agriculture cannot be carried on as profitably as when we enjoyed the most liberal protection in the British market. We certainly look for low prices until Canadians learn to become Canadians both in sentiment and interest. We feel confident that this country is abundantly able to maintain, in a most comfortable condition, a popula-

tion of 10,000,000 of souls. A fair proportion of this population would necessarily have to be mechanics and artizans, whose business it would be to furnish the agricultural population with almost every description of manufactured goods that would be required for their comfort. Ever since our connection with this journal we have been impressed with the conviction, that agriculture could not prosper to its fullest extent in the Canadas until a united and energetic movement was made to make it a manufacturing as well as an agricultural country. The period has at last arrived, when the public press of the country can advocate the manufacturing interests, without running the risk of meeting opposition by any one at all interested in the future welfare of the country. Believing that by employing a large share of the capital in manufacturing, which the commercial men now employ in importing British and foreign goods, would have the influence of establishing a permanent and wholesome market, for every description of agricultural produce, we have confidence in the belief that simply a change of this kind would open the eyes of the people so that they might see their true condition and learn the importance of encouraging home industry and enterprise. Mercantile men, tradesmen and farmers, seem now to evince a greater interest in developing the resources of the country than they have formerly done; and we have good reason to hope that a large amount of capi-

tal will be invested in manufacturing operations, by gentlemen who are deeply interested in the success of the agricultural prosperity of the country. By increasing the home demand for agricultural produce, the external commerce of the country may to some extent be crippled, but this influence will not be seriously felt by the Canadian capitalists. If Canada thrives at all under free trade principles, it must be through her agriculture and manufactures, and not as some pretend to assert, through the agency of her commerce and carrying trade. We have not advanced a proposition in this somewhat rambling introduction but what we are able to defend—and in fact whether any take exceptions to those views or not, we shall fearlessly advocate the manufacturing interests, as being the only certain means of making capital abundant, and of providing a steady and remunerating value for every description of agricultural produce that the agriculturists may have to spare. Without further preliminary remarks we shall briefly state how the produce of land may be increased to meet the lowness in price that may be anticipated through the influence of the operations of Sir Robert Peel's liberal tariff. It is difficult to conjecture what the average price of wheat and other provisions will be under the new tariff, but from the best data we have to found an opinion, we should judge that the value of wheat in years of plenty like the present, would be about three shillings currency per bushel, and other articles of agricultural produce of a corresponding value. Many will doubtless startle at such unwelcome news, and will say, that the farmer cannot keep his head above water under such prices, but to such we would state, that they would do well to quit their fears, until free trade operations have had a fair trial. The system of farming at present pursued, and the manner in which the monetary affairs of the country are managed, will ill comport with the genius of free trade. But there is not the least doubt, but that the whole machinery of the country, or at least such parts as affect the industrial resources, may be placed upon a sound footing, so that the farmers and mechanics of this fine province may defy foreign competition.

There are many influences at present that bear heavily upon the productive interests of the country, all of which shall receive attention at our hands as soon as a favourable opportunity offers. In the meantime we direct the attention of our

readers to the following excellent remarks from a correspondent of the *London Agricultural Gazette*, which will be found to have a practical bearing upon the main point at issue:—

You said you would be glad to receive my comments on our farming. The report is very imperfect; still you will be able to understand my object, viz., by soiling the cattle, or house-leeding, to keep as large, or a larger stock than is now kept, and grow more corn than is now grown. It is surprising the acreage required for 12 to 14 milk-cows out of a farm of 100 acres.—*Rickard Darker, Whitehaven.*

"How can the produce of land be increased to meet a fall in price?" I answer—first, by preserving all manures which now run to waste, and increasing the efficacy of these manures. Secondly, by keeping the stock in the house all the year as far as possible, thereby producing more manure, decreasing the breadth of pasture-land on each farm, and increasing the breadth of green crop and white crop, these being the sources whence the farmer pays his rent. I shall confuse myself as much as possible to authorities bearing on the questions, to satisfy you there are fair grounds for believing that by improved husbandry an average price of 45s. per qr. for Wheat, with other products in proportion, would enable the farmer to pay his present rent and be better off than he now is with a price of 55s., by applying the same skill and enterprise to land that is applied to manufactures. First, then, "What is the value of the manures now wasted in this country?" I always like to give the opinions of other persons on subjects of such vital importance as the one which I am attempting to discuss; and as Mr. Hannam has been engaged for a length of time in making practical experiments, and his general judgment as a chemical agriculturist and a political economist, is so well known, I shall quote him as an authority for our increased want. He says—"We learn, according to the calculations of the Poor Law Commissioners (on the sanitary condition of the people), the increase of the population in England is 230,000 per annum, and that this is an increase requiring annually tenements; 27,327 cattle; 64,715 lambs; 70,319 sheep; and 7,894 calves, which is equal to the produce of 81,000 acres of pasture land; and, at 56 oz. daily for a man, wife, and three children, 105,060 quarters of wheat, equal to the produce of 28,058 acres of land, at 30 bushels (which is more than the regular average) per acre. Being altogether the produce of 109,000 acres of good land required every year to feed the increase of our population."

With respect to waste manures, which is the subject on which we are now treating, Mr. Hannam says—"That the question of the economy of these matters is one at the present period of peculiar interest and importance, and will enable us, in some degree, to accomplish an object which we have shown to be of national impor-

rance—the production of a greater quantity of food at a less cost to the community than at present.”

This is one means whereby the farmer may, in some degree, lessen his expenses and increase his returns. If I am paying for that extra produce which I might by judicious economy obtain at no cost and am in fact farming badly; if I neglect the waste manures on my own farm and buy no other tillage, I am not producing as much as possible; and if I buy manure, I am not producing as cheaply as possible. There is another item to which I might call your attention, that is the drainage of cattle sheds, which, says Davy—“Contains the essential elements of vegetables in a state of solution. The analysis of urine will explain this; according to Sprengel, of 1000 parts of cow's urine, 926 are water, while of the remaining 74 parts, 40 parts are organic substance, containing a large portion of nitrogen, which it affords the plants in the shape of ammonia.”

“The value of liquid,” says Liebig, “is when a manure is wanted which shall supply nitrogen to the soil.” And when we consider that, by every pound of ammonia which evaporates, a loss of 60 lbs of wheat is sustained, and that with every pound of urine a pound of wheat might be produced, that each cow kept in the house would supply many hhd's annually, the indifference with which these liquid excrements are regarded is incomprehensible. The drainage from the manure heaps is scarcely less potent than that from the sheds; it is, however, certainly not less valuable, as it consists of urine and a solution of the richest matter of the dung and compost. Will it be believed that the manure heap loses no less than half of the fertilising properties, which, but for mismanagement, it would otherwise contain. The amount of loss which farmers sustain in this way is lamentable. Add to this the whole of the liquid, which is of more value, if properly applied, than the solid, as it contains twice the quantity of nitrogen and all the alkaline salts. The city of Strasburg, which is situated in a corn country receives 12,000l per annum, which is equal to 10s. per head upon the population. This sum in Great Britain would amount to 13,500,000l., and on England alone to 7,500,000l. This is independent of the loss which is sustained in our farm-yards, which would amount to even a still greater sum. The amount and the quality of manure which might be obtained by the farmer from our gas works, would be something very considerable. There is no less than 7000 gallons of ammoniacal liquid annually thrown away at our gas-works.

The author of “*Outlines of Flemish Husbandry*” says that, “We surpass the Flemish farmers greatly in capital, in varied implements of tillage, in the choice and breeding of cattle and sheep, and the British farmer is, in general, a man of superior education to the Flemish peasant, but in the minute attention to the qualities of the soil, in the management and application of manures of different kinds, in the judicious succession of crops, and especially in the economy of

land, so that every part of it shall be in a constant state of production, we have still something to learn from the Flemings; but the auxiliary of the Flemish farmer is the tank wherein are collected not only the liquid from the cows and horses, but also the drainings of the dung-hill;” which to the disgrace of ourselves as a people, are allowed to run down the ditches, fertilising as they pass along, the ground which is appropriated to no purpose. These tanks, which are about eight feet square, are frequently covered over with loose boards. The Flemish farmer would as soon think of dispensing with his plough as with his tank. The system of Flemish husbandry is well worthy of our attention: “The number of beasts fed on a farm of which the whole is arable land, is surprising to those who are not acquainted with the mode in which the food is prepared for the cattle. A beast for every three acres of land is a common proportion, and in very small occupations, where much spade husbandry is used, the proportion is still greater. In every farm a fifth at least of the land is sown with Turnips immediately after the harvest. Carrots, which have been sown in spring, either alone or amongst the Barley, Flax, or Colza, complete the winter's provision.”

Here we have a brief summary of the merits of Flemish husbandry. The cows are in the house all the year round, except perhaps on fine days for exercise. Two cows are kept for every six acres of land, that is, thirty-three cows for each farm of one-hundred acres, and yet the land is all under the plough, and producing yearly heavy crops, maintained in this high condition by the liquid manure tank and cart alone; for they pay but little attention to solid manure such as we make, or rather it goes into the liquid as it is made, because they will not waste straw as bedding. This is an immense increase on the stock supported upon farms of the same extent in this country, and at the same time growing more corn; but there is also another feature in their husbandry almost as important, which is, that they endeavour to obtain an extra crop from one portion of their land every year. As their cattle are supported through winter on roots and straw (considering hay too expensive,) they sow late Turnips, and Rape or Vetches, “immediately after harvest.” They also sow Carrots betwixt the rows of their Wheat and Flax—both drilled—and these crops pushed on with their “liquid,” yield a produce that would surprise any farmer who has never used this manure. Their summer feed is almost universally Clover. As I passed through the country from Brussels to Bruges in the month of October, 1843, I saw Carrots and Cabbages growing whence crops had been taken, which very clearly shows that by growing more hay under a five-course rotation, our cattle would always be in good condition, our manure rich, and a large farm could be almost as easily managed as a small one. The small farmers might adopt the four-course rotation after his land was in good heart, and thereby increase his profit.

## Northumberland, N. B. Agricultural Society.

The *Gleaner* of the 4th April contains an Annual Report of this Society, which has been ably drawn up, and shews in a most conclusive manner the benefits of agricultural societies. The legislature of New Brunswick has appropriated a large sum of money for the purchase of seed potatoes, which are to be distributed among the farmers of the several counties of the Province. It omens well to see so much interest felt in the cause of agriculture by those in authority, and we hope that the farmers will appreciate such aid by giving due diligence to business, and practising such improvements as will pay a handsome interest upon the capital invested.

Agricultural Clubs and Colleges are highly recommended in the report, and as the views set forth are such as we highly approve, and as those institutions, if carried out in conformity to their true spirit, are calculated to give a stimulus to improved agriculture, we have thought it proper to copy the following extracts. Our readers will please bear these important topics in mind, and if possible exert their influence in having those patriotic institutions carried into practice in their several localities.

"Few men enjoy the advantages which farmers do. Freed from the feverish and fretful life of speculation or ambition, to which so many around them are subjected, the farmer, while holding his plough, or casting his seed into the ground, enjoys fit seasons for meditation; and during the winter evenings finds abundant leisure for intellectual pursuits; but it will be admitted, that notwithstanding all these advantages, the mind as well as the body of not a few of our farmers, is totally unemployed, during the evening of many a winter's night. The Board would therefore point out a field, on which farmers may spend a portion of this leisure time, and expect to reap an abundant harvest, in the shape of valuable information. In the Agricultural Districts of the Northern Countries, the American States, and on the Continent of Europe, there have long existed what are called "Farmers' Clubs," or "Conference Meetings," at which with all the freedom and familiarity of the fireside, each farmer offers the dictates of his every-day practice, and the results of his own experience. What is there then to prevent the establishment of such meetings in various sections of this county? Much

useful information would thus be imparted; and a spirit of inquiry awakened from which most happy results might be anticipated. The Board therefore submit the consideration of their utility.

"It should be borne in mind, that although Northumberland, in point of agricultural importance, is but young and insignificant, that circumstance should by no means be used as arguments for farmers attending the more heedlessly to the improvements going on in older countries.—*They are far behind—they say—who cannot follow!*" The further behind we are, we have surely the greater need to call to our aid the light of science, and take advantage of every tried invention, of which our circumstances will admit, in order to accelerate our progress onward. Now the Board would remind this Society, that the countries to which they have lately referred, seem to have arrived at a new era in the history of their agriculture. It is a fact that in the common schools of Scotland and Ireland, Agriculture is now taught just as any other science; and in England a College has lately been erected in Wiltshire, solely for that purpose. A Catechism it seems has been compiled by Professor Johnstone, of Edinburgh, which comprises all the great outlines and divisions of the science, and imparts a knowledge of those few scientific words and important substances, with which every cultivator of the soil—in order that he may understand instruction conveyed by others—would do well to acquaint himself. There may be no harm in the Board describing the method by which the science of Agriculture is taught in these countries. The first branch is the culture and improvement of the soil; the second, the 'Rearing and improving of Stock;' and the third, the use and improvement of agricultural implements. The mode of teaching is of two kinds, *theoretical* and *practical*; that is, in the school room, and on the open field.

"It has been found, instead of occupying too much of the scholars' time, as was at first apprehended, one hour, or at the most, two hours a week for three years, are quite enough to learn all that need be taught on the subject. The Board submit, whether some plan could not be devised by which the study of Agriculture could be introduced into the schools of this county, or if some other method might not be prosecuted for its introduction."

## Revolving Iron Fanning Mill.

Mr. Matthew Jones, Secretary of the Darling-ton Agricultural Society, desires further information about the Fanning Machine described in the September number of the *Cultivator*. We inadvertently omitted to give credit to the article in question, but believe it was copied from the *Southern Cultivator*, published at Augusta, Georgia. The description given in our journal was so plain that any mill-wright could construct it. We are unable to further illustrate the principles of this machine, but we fancy that it would not be a difficult matter to build one from the drawing, that would perform all that the writer stated in its favor.

The same correspondent is anxious to purchase a Reaping Machine, and desires us to furnish him with any additional information that we may be in possession of. We would beg to state in reply, that there are six or eight patent reaping machines in different parts of the United States, each of which differs so materially in its construction, that the inventors have secured an exclusive right to manufacture them.

The following extracts are taken from the *New York Farmer and Mechanic*, which will serve to illustrate the principles of a machine invented the past summer.

"It seems to us worthy of the strong recommendation it has received from the farmers in that vicinity. It requires two hours to work it, and will cut about four acres in an hour. It is adapted to stony, uneven, and side hill grounds.

I claim, says Mr. Woodward, the following advantages over other machines:

*First.* By the combination of a sheaf-box within the platform, I am able to cut 9 feet or more in width.

*Second.* I can raise or lower my machine from 4 inches to 3 feet—cutting at these and intermediate heights.

*Third.* The grain is left in grips or quantities the right size for sheaves.

*Fourth.* The machine can be introduced in any part of the field without cutting a place for the horses to walk.

*Fifth.* It can cut a whole field of grain before any of the sheaves are bound.

Mr. W. informs us that he has cut buckwheat which was so small that it was not worth cutting with the scythe. The knives are on the self-sharpening principle, and are set in motion by

coo-wheels. The price of the machine is about \$125."

## The Art of Painting.

*Compounding Colors.*—White is considered as not only a principal color in painting, but the base or foundation of all light colored paints. White lead is the principal white in use, though a more delicate white, called *flake white*, is used in ornamental work. Several common colors, known as lead color, &c., are produced by mixing lamp black with white lead in different proportions. A small quantity of Prussian blue, finely ground and added to white lead, constitutes the common sky blue. Minute quantities of blue and yellow added to white, produce the delicate pearl color, much in vogue in parlors and halls. Straw color is produced by the addition of a little chrome yellow to white; and pea green by the addition of Paris green. A beautiful light purple, or peach blossom color is produced by adding to white lead, small quantities of ultramarine glue, and drop lake. It is needless to specify the exact proportions of the ingredients in these compounds; the only rule being to add the coloring ingredients in minute quantities, till the required color is produced. The most common color for floors, is composed of white lead and yellow ochre, in about equal quantities by weight, with the addition of one ounce of red lead to each pound of the mixture. In painting carriages or ships a variety of compound colors are used, a few of which may be here noticed. The best black is composed of lamp black and Prussian blue. A dark green consists of a mixture of chrome green and Prussian blue. A brilliant plum color is produced by a mixture of lamp black and vermilion. Olive color is produced by mixing lamp black and chrome yellow. A brilliant orange color is produced by mixing chrome yellow and orange lead—(a pigment similar to red lead, but more refined.) A stone brown is composed of lamp black, yellow ochre and Venetian red, equal parts; the addition of white to this compound reduces this color to a drab, or a light stone color. A mixture of lamp black with Venetian red, constitutes the chocolate color. A bright rose color, which is much used in ornamenting, is composed of white lead and drop lake. As a general rule, the colors should be mixed with oil and ground separately, before being compounded, or mixed together; but should not be diluted any more than is required for grinding, until the color is perfected.—*Scientific American.*

#### New York Agricultural Warehouse.

A descriptive catalogue of Horticultural and Agricultural implements and tools, and field and garden seeds, with brief directions for planting, and sowing, and rules for the application of guano, lime, plaster, bone dust and other manures; and also a choice list of fruit trees, with directions for planting and culture, with a description of the best breed of domestic animals, has been sent us by A. B. Allen, Esquire, the proprietor of the New York Agricultural Warehouse. Mr. Allen is one of the ablest advocates of improved husbandry, and appears to be well supported by the American farmers and mechanics, in the various useful enterprises in which he is actively engaged.

The Agricultural and Mechanical Warehouse, under Mr. Allen's able superintendence, will prove a great acquisition to the productive interests of our neighbouring country. The list of farming implements, seeds, &c., which are already on hand at the warehouse, is not only extensive, but on the whole complete; in fact there is not a single article that comes within the province of Mr. Allen's business, but what may be had upon the most reasonable terms for cash.

Our principle object in attracting attention to the New York Agricultural Warehouse is, to show what has been so praiseworthy accomplished in the great commercial emporium of the Empire State, and to simply ask the question, whether it would not be to the interest of the agricultural community of Canada to establish a similar warehouse in some central position in this country? We have no desire to embark in such an enterprise, but no doubt some enterprising individual could be found who would give his attention to it, in a manner that would secure success and also advance the great interests of agriculture and agricultural mechanics.

The goods on sale in an agricultural warehouse, are sold almost exclusively upon commission. It therefore will not require a very heavy capital to conduct an extensive business. We feel satisfied that an Agricultural Warehouse, conducted upon the principles of the New York establishment, is much wanted in this Province, inasmuch as Agricultural Societies and enterprising farmers, are at present much put about to obtain the agricultural machinery, seed, stock, fruits, &c. that they require to purchase from year to year. The farmers of the United States

and Canada are much indebted to Mr. Allen, for the patriotic zeal which he has nobly exhibited, in giving facilities for the sale of every description of goods appertaining to improved agriculture.

#### Provincial Agricultural Society.

Those who are friendly to the organisation of a Provincial Agricultural Society, will doubtless be delighted to learn, that the primary steps have been taken, to establish this institution. At the Home District Society's meeting, held on the 13th of May last, the President of that institution, E. W. Thomson, Esq., brought forward the following resolution, which was unanimously carried.

*Resolved* that this society is of opinion that the cause of agricultural improvement would be greatly promoted through the agency of a Provincial Agricultural Society, and in order that the various Agricultural Societies in Canada West should have a voice in its proper organisation, this society is of opinion, that a meeting of delegates from each of the general and local Agricultural Societies should be called at the earliest possible opportunity; and in order to carry this object into effect, that G. D. Wells, Esq., W. B. Crew, and W. G. Edmundson, form a Committee to appoint a period and place of meeting, and also to open a correspondence with the several Agricultural Societies in Canada West, soliciting their co-operation in the proposed general organisation.

The advantages resulting from a Provincial Agricultural Association being established in each of the two great divisions of this Province, have been so repeatedly and fully discussed in the columns of the *Cultivator*, that at this time all who have given the subject their serious attention, must feel prepared to second any rational movement that would appear likely to bring about its complete organisation. All sections of the country are to be benefited by its operations; therefore all should have a voice in its organisation. This can be done through efficient delegates; and it is to be hoped that no society in Canada will neglect to be represented at the approaching meeting. Owing to the immense press of business in hand, we are unable personally to write to our friends soliciting their co-operation in securing a general representation at the proposed meeting of delegates, and have entrusted that

part of the business to Mr. W. B. Crew, who is abundantly able to do justice to the subject. If, however, any society should not receive Mr. Crew's circular, they will nevertheless (we trust,) take the proper measures to have their society represented at the convention of delegates.

In the hope of being able to have a Provincial Show in the early part of next autumn, the committee have concluded that the convention should take place on the 15th, 16th, and 17th, of July next, at the Court House in the City of Toronto.

The great distance which the members of the committee reside from each other has rendered it almost impossible to present to the public an official circular; but it is to be hoped that the explanation previously given, will render such a course unnecessary. The officers and managers of every Agricultural Society in the Province will have the opportunity of reading this notice, and we trust, that all will act in unison with its spirit and meaning. It would, we feel certain, be highly gratifying to all who take part in the proceedings of the meeting, to see a number of delegates from the agricultural societies of Eastern Canada at the convention, who would after witnessing the proceedings, be better able to judge of the adaptation of such institutions.

#### Cheese.

It is difficult to give intelligible written directions on this subject, as success depends so much on experience that it requires practical teaching; but when this is not to be had, we must make up by care and observation in practice, what is necessarily deficient in theory. To make the cheese of a small dairy—say eight or ten cows, which would produce seven pails of milk per day, which if properly managed would make twenty lbs. of cheese, I give the following rules: one point being constantly observed—that is temperature. as too much heat not only affects the quality, making it hard and poor, but diminishes the quantity. The milk when set for curd, should be at 90 degrees, or about two degrees below milk heat. The rennet is then added, two or three spoonfuls to seven pails of milk.—The exact quantity can only be ascertained by trying its strength. If the proper measure has been used the curd will be fit to break up in one hour from the time it was set; which may be done with a long handled skimmer or curd breaker. This must be done very gently to avoid

bruising the curd, and losing the cream. It is then left one half hour to settle, a pailful of the whey is then made milk warm, and returned to the curd gradually, all the time breaking it up. Another pailful of whey is now made two degrees above milk heat, and most of the whey remaining on the curd, set into another vessel, left cold. The warm whey is then returned to the curd, breaking it up as fine as peas. It should be now one degree above milk heat: if it is not, heat more whey and put on. It is then left fifteen minutes, the strainer is then spread in the cheese-basket, the whole mass put into it, breaking it up as the whey drains out. A pail of cold whey is then put on to cool it. After being sufficiently drained, it is returned to the cheese-tub and salted, one gill of salt to 16 lbs. then put into the hoop and pressed with about half of the proper weight put on, till near night, it is then turned, the whole weight put on, and pressed until next day, when done.

If you wish to make a double curded cheese, make the second curd in the same way as the first. When it is ready to go to the press, take the first curd, (now a cheese,) out of the press, but not out of the hoop, cut and scratch over the upper surface, making it rough, that the second curd may adhere firmly to it. It is then put into the hoop with the other, pressed until near night, when it is turned into another strainer, and pressed till the next cheese is ready for the press, when it is taken out and rubbed with lard, a bandage sewed on, it and turned, and rubbed every day.

Another way of making a double curded cheese is, to make the first curd without warm whey, merely cutting it up in the basket and letting the whey drain out, kept till the next day, when it is cut into small pieces, warm whey put on it until it is a little more than milk warm, then drained and chopped; the second curd made according to the first rule, is mixed with it, salted, and put to press.—Michigan Farmer.

To drive Bugs from Vines.—Mr. Jos. Frost, of Elliot, Me., says that he has tried the following mode, and has succeeded well in driving bugs from squash and cucumber vines. Equal parts of sulphur and soot applied above and below the leaves, in the morning while the plants are wet,



## Lime.

As the question as to the advantages of lime is now determined on all sides, it may not be very interesting to the practical farmer to go into any examination of its merits as a manure, but there may be some men of this class—and there may be many but recently engaged in agriculture—who would like to know something as to the theory of its operation—as to the time when it should be used—as to the manner of using it—as to the quantity—and as to the kind of soil on which it should be used. All these are matters of great moment to cultivators of the earth. Nature appears to indicate the value of lime, by putting it in some form into all soils capable of being cultivated. All we have to do then, seems simply to continue by artificial application, what she designed should never be absent; and in this way to renew that which has been removed and exhausted by cultivation. Directed by this simple fact, the farmer must proceed next to determine as to the other points that we have mentioned, as being matters of importance. Lime has both a physical and a chemical action. By the first of these it divides soils and opens them to the influence of the air and moisture; this is one of the sources of its value as an application to clay grounds. By its chemical action it decomposes or hastens the decomposition of the humus, and renders it capable of being absorbed by the most minute fibres of the roots of plants; and is also supposed, by the carbonic acid it contains or draws from the atmosphere, to act specifically on some plants, and supply them with nourishment, or it may be that there are plants which require carbonic acid for their active growth and vegetation, and thence display a more marked manner the effects of lime, when receiving from it an additional amount of nourishment. Johnson, in his *Agricultural Chemistry*, says:—"The results of all the chemical examinations hitherto made in regard to the nature of the inorganic matter contained in the sap and substance of plants, indicate—if not the absolute necessity of lime to the growth of plants—at least, that in nature all cultivated plants do absorb it by their roots from the soil, and make use of it in some way in aid of their growth." Admitting the entire truth of this statement, it proves that lime is indispensable to a high degree of fertility and luxuriant vegetation, and that without it, land must become less productive, until it sinks to ab-

solate sterility. This remark is intended to apply to cultivated grounds alone, where crops are every year taken from the ground, and the lime it naturally contains, in this way removed, while no artificial addition is made. As to the quantity of lime that should be thrown on land there seems no fixed rule. We have never heard two farmers agree on this point, each one, no doubt, being influenced in his opinion by his own experience, and not by any general principles or observations. From forty to a hundred bushels to the acre, appear the quantity between which farmers in general vibrate—some asserting very positively that the first amount is enough, while others with equal strength, say that no advantage can be derived from less than a hundred bushels. Both these opinions may be correct, if the circumstances under which the application is to be made are considered; but we reach no conclusion and attain no principle to guide us, as a general rule. It is necessary, in the first place, to know the character, condition, and circumstances of the soil, to which the application is to be made. Newly cleared land, containing, as it must, the vegetable deposits of years, perhaps of ages, will bear a very large dressing of lime, as there is an immense amount of vegetable matter for it to act on; the whole of which it dissolves, and fits it, more rapidly than would be done by the slower process of natural decomposition, to become the richest and most lasting of manures. Of course, land the next best suited for the reception of lime, will be that containing a large portion of vegetable matter, though not equal to that of recently cleared ground. Soils containing clay, will bear far larger dressings with lime than the sandy; while newly drained ground and marshes seem to require the very largest and most frequently repeated applications; and next to these, those that are by farmers known as sour soils, which contain a quantity of some of the acids that exist in all soils, and are extremely prejudicial to vegetation when too abundant. We have little doubt that the situation of our fields must be considered, whether on low or high grounds, or whether exposed to the north or south. In a climate like ours with a scorching summer sun, the sides of hills lying to the south, will in seasons of drought suffer extremely; while those to the north will hard'y feel it. This may have been observed in Chester county during the last two summers. As a general rule, those fields

with a southern exposure, and which have the whole force of the sun through the hottest part of the day, should, it appears probable, have less lime thrown upon them than those to the north. These last would be cooler and moister in such seasons, and have a considerable advantage over the others; but taking a number of years together, those to the south, from having the full influence of sun and air, and greater equality of temperature, would be the most productive. But as it is impossible to anticipate seasons of drought, the farmer, as a general rule, cannot do otherwise than manure all his fields alike, without regard to their situation, or whether they lie to the north or the south; but if there is any truth in the remark that we have hazarded above, then he will know how to govern himself. Still the question returns on us, as to the quantity we ought to apply. We may evade, by as many negative circumstances as we please, the clear and straight forward reply to this question, still we have to meet it, and who is there that can answer it? It seems one of those questions to which no one can give anything but an evasive reply. No matter to whom the question is put, whether to one even who has had the experience of a life in agriculture; he can give you no other answer than that it depends on the quality and condition of your land; and this leaves you exactly where you were before the question was asked, so that if you happen to be engaged in agriculture, and somewhat new to the business, you must grope your way as well as you can, throwing the lead along the shore of your doubts and conjectures, till experience at length puts you afloat. A few general principles are all that can be offered to guide the young agriculturist. We have already given them, and he may rest assured that very few, unless they have been precisely in his circumstances, can do more for him. But in this question of quantity, there is another involved of almost equal importance; and here will be found the same difficulty in giving decisive and determinate replies as in the case of quantity; it is as to how often lime should be applied, whether in smaller amounts, at short intervals. We have very little doubt that the last is the best mode of proceeding. But we must be understood only to speak generally, particular circumstances must be met by particular modes of action. If one clears a piece of ground where there is a large amount of undecomposed vegetable matter, he may and

ought to throw on a large dressing of lime, and if this land is not cultivated, but remains in grass, used, we mean for grazing alone, then it will not require more for several years; but if crops are taken from the ground, then we are under the imperative necessity of replacing at least as much as we withdraw. From these remarks we can draw two general conclusions, the one, that on a virgin soil we may put a large dressing of lime, and be perfectly sure that we are doing right; while on land under cultivation, we need put no more than will preserve its fertility. Also, that in the first case, the liming need not be repeated for a long time, while in the other case a heavy dressing at first is unnecessary, and that the liming had better be at short intervals, and not in large quantities. We are inclined to think from what we have seen and know of the management of land in this quarter, that too much lime is generally put on, or perhaps it would be fairer to say, too much in proportion to the barn-yard manure used. Besides regarding lime as a nutriment to plants, and a necessary aid to their vegetation, we must also regard it as more or less of a stimulant. The not keeping this in view, has, we are disposed to believe, occasioned a good deal of the murmuring and disappointment that may be heard not unfrequently expressed, as to the effects of this agent. Lime requires something to act on, or it will be of very little use. In long cultivated soils, in which the organic matter has been exhausted, and not returned by farm-yard manure, lime will do more harm than good, or to state the thing more strongly, it will lead to barrenness. It is in this matter of barn-yard manure that our farmers in general are deficient. They do not treasure it with sufficient care or attempt to increase it with sufficient industry, and the little they have they spread over too much ground. This carelessness not only tells upon the crops, but leads to dissatisfaction in the use of lime. From there not being vegetable matter enough in the ground for the lime to act on, it of course fails, disappoints, and spends much of its force in stimulating instead of fertilizing; thence we are driven to the conclusion, that farmers use lime too liberally and too frequently, and that it would be better, while they remain inattentive to their barn-yards, in filling them with the means of enriching their lands, either to put on less lime, or to repeat it at longer intervals.

The practice of England will be no guide to us

In this matter. There they throw two and three hundred bushels on the acre, and find an advantage in it, probably from the clayey nature of the soil; while in France, sixty or seventy bushels, repeated every seven or eight years, are thought enough. In other parts of Europe, less than this, and at intervals of ten and twelve years, is found to place and preserve the soil in a fertile condition. So that as we have already said, the practice of others, whether individuals or nations, will not assist us, or but very little, unless there is an analogy in the circumstances. It would be a matter of interest to know how much lime is withdrawn from the land every year. If we could ascertain this with certainty, or any thing approaching it, then we should be able to tell how much lime was wanted each year, and whether it would be better to apply it at long or short intervals. One thing we presume will be conceded, that land only requires a certain quantity of lime to bring it to the highest degree of fertility that is possible by the means of this agent. Now, who shall decide whether this shall be attempted by applying one hundred bushels to the acre, and in this way aim at success by a bold effort, or whether we shall undertake it by a more gradual process? If the first quantity is thrown on, the land receives a surfeit, from which it does not recover for sometime; in other words, it takes sometime for so large an application to be assimilated with the soil, while with a smaller amount we gain the same end as rapidly, if not more so, and far more prudently, for we feel our way, and watch the progress of our land towards the degree of fertility we are endeavouring to reach, and in this way mark the action of the manure, and study the capacity and condition of our land.

We presume that one of the sources of complaint against lime, comes from its not showing its effect with sufficient rapidity to please the hurried and excited hopes of those who apply it, and it is perhaps for this reason that they heap on large quantities to meet their impatient expectations.

It is seldom, if ever, that this agent takes the trouble to try to make itself popular by acting in a hurry. It has, in the first place, to make the acquaintance of the new friend to which it is just introduced, and it may be a considerable time before their tastes are found so congenial as to admit of the reserve and hesitation of a first approach, ripening into the warmth of friendship.

Two or three years may pass over—in one case we heard of five—before much effect is observed, But then during this period of apparent inactivity, it is very far from doing nothing. On the contrary it is hard at work, acting upon all the materials about it worthy of its notice, or destined by nature to aid it in the great end of cultivation. These may not, however, be in a state to be easily rapidly affected by the lime. Much will depend on this, not perhaps as to the ultimate purpose, but as to the effects of the application being more or less immediately perceptible; and if its influence were rapid, it is clear that the intervals of its application must be short. While one of the great recommendations of this material is, that after a sufficient quantity is put on the ground, the farmer may fold his hands and mark how beautifully it will unfold the fertilizing and rich qualities of his soil.

There is one argument against the use of large quantities of lime at a single dressing, unless when authorized by circumstances, and in favor of small amounts at short intervals, that is perhaps worthy of notice. Every one who has seen fields ploughed that have been limed, must have remarked the very considerable quantity remaining below the surface, and at some depth. Is not this an indication that more has been put on the ground than was of any use—more than the soil could employ? and if so, this portion is thrown away, for it lies on the subsoil, out of reach of all crops, and putting at a very sullen defiance all cultivation, unless we turn it up by deep ploughing, and with it the virgin soil on which it rests; a practice, that although eminently useful, most farmers oppose. A superficial working of the earth is more to their taste—by which predilection they lose this manure, that has fallen some six inches or more out of their reach, and we have little doubt some portions of other dressings, that have subsided until they came upon a compact inert subsoil, that did not allow of any further action. Lime, as well as other manures, must be near enough to the surface to be acted on by the atmosphere, and where it has gravitated towards the centre of our orb as above mentioned, it is beyond the influence of any action or agent known to man. In the remarks that we have made, we have had to encounter great varieties and great differences of opinion, in the few that now remain, there will probably be very little difference of opinion to

reconcile. In the application of lime, the first great and indispensable end to secure, is its complete incorporation with the soil. To effect this thoroughly, the lime must be in a state of very fine division, as chemical action takes place only slightly and imperfectly, where the particles of bodies are not as minute as it is possible to make them. The manner of making the application is therefore of great importance. Our mode of doing it is, it has appeared to us, somewhat too careless and inartificial. The throwing it from a cart, very often, as we have seen, in a high wind, is a mode of distribution far too slovenly for any one who wishes to attain the character of a neat and careful farmer. It must in this manner be far too unequally distributed. The throwing it in heaps, and then spreading, is no doubt far preferable; it may take more time and labour, but does it not secure the object every farmer has in view? But what would be better than either of these common modes of spreading this manure, would be some machine on wheels, or attached to a cart, that would dust our fields as it moved along: an invention of this kind would distribute it equally over the ground and tell the farmer the exact quantity that he had used. It seems a prevailing opinion in parts of Europe, that lime is of much more use when thrown on a fallow, than when put upon the sod; and we have no doubt that it effects one important object, better in this way than in the other—that of extirpating weeds. A good deal of labour is necessary in this mode of cultivation; after the land is fallowed and harrowed, and the lime spread, it is then harrowed again, and then plowed with a very shallow furrow, to bury the manure.

A. L. ELWYN.

Feb. 2nd, 1845.

We are indebted to the *American Agriculturist* for the drawing of a Massachusetts Barn, which will be found in this number of the *Cultivator*. As many of our readers are partial to pictures, we have determined to treat them with such as would be useful as well as ornamental. The style of barn here represented is highly spoken of in those parts of Canada where they have been built, and so far as we are able to judge of their merits, we should consider them the best and most convenient barn in use.

PERTH AGRICULTURAL SOCIETY.—The Cattle Show of this Society will be held in Perth on Tues-

day the 6th October next. The premium list appears liberal and embraces almost every article of agricultural produce and domestic manufactures. A part of the premiums to be awarded will consist of agricultural books. For the information of the committee we would mention, that we afford the second and third vols. (old series) neatly bound in one; and volume 1. (new series,) for the very trifling sum of 3s. 9d. each, when ordered by Agricultural Societies, or by persons in trade. Some societies have not yet adopted the plan of furnishing their members with a copy of an agricultural periodical; probably such would find that they would greatly promote agricultural improvement, by encouraging the circulation of such works.

POTATO PICKER.—A subscriber requests information respecting the potato picker that we noticed in the last volume of the *Cultivator*. In reply to his enquiry we would state, that the machine we ordered never reached us, but we understand that it arrived safely at Montreal. It possibly may have journeyed into the United States; this opinion is formed from the fact that a similar machine has lately made its appearance in two or three sections of that country. Those who require further information in relation to the potato picker, had better write to Mr. Watts, Frederickton, N. B., who would no doubt favor them with any particulars.

*New Method of Clearing Feathers from their Animal Oil.*—Take for every gallon of clear water, a pound of quick lime; mix them well together, and when undissolved lime is precipitated in fine powder, pour off the clear lime water for use at the time it is wanted. Put the feathers to be cleaned in another tub, and add to them a sufficient quantity of the clear lime water to cover the feathers about 3 inches; when well immersed and stirred therein, the feathers when thoroughly moistened will sink down—and should remain in the lime water three or four days; after which the foul liquor should be separated from the feathers by laying them on a sieve. The feathers should be afterwards well washed in clean water and dried on nets, the meshes being about the same fineness as those of cabbage nets. The feathers must, from time to time, be shaken on the nets; and as they dry they will fall through the meshes and are to be collected for use. The admission of air will be serviceable in the drying, and the whole process may be completed in about three weeks. The feathers, after being thus prepared, will want nothing more than beating for use, either for beds, bolsters, pillows, or cushions.—*Am. Farmer.*

## On the use of Linseed.

In Norfolk generally, and in many parts of other counties, the use of Linseed, to fatten bullocks and sheep, is beginning to be understood. Many suppose that they are sufficiently acquainted with its properties, but we have yet much to learn as to the extent of its value, particularly for rearing store stock in combination with box-feeding and summer grazing. The direct advantage is seen in the rapid progress of the cattle—the indirect, in the superiority of the crops where the manure, thus obtained, has been applied. Formerly, through ignorance of management, Linseed, as cattle-food, failed to remunerate, and consequently its use had long been discontinued in this country. But, during the last four years, the demand has been greater than the supply. An incontestable proof of the efficacy of Linseed compounds! Many farm-premises have been metamorphosed through the conversion of sheds into boxes, and the addition of new ones; not by amateur farmers alone, who are too often influenced by plausible theories, but by men of long experience and sound judgment. I subjoin, with much satisfaction, an extract from a letter by Sir C. Burrell, Bart.; and those of many other landowners and tenant-farmers I purpose to embody in my forthcoming work on the cultivation of Flax, the fattening of cattle upon native produce, &c.—“I cannot lose the opportunity of repeating my entire satisfaction derived from Mr Warnes’s box-feeding system as set forth in his pamphlet, and brought into both summer and winter practice on my farm, the beasts thriving rapidly on the compound made of crushing Linseed, with Bean, Barley, or other meal boiled and formed into a mass, with which my beasts have thriven more advantageously than others on oil-cake, and at less cost and, as regards the excellence and flavor of the meat, it is superior, and especially tender and juicy. I have sound grounds for preferring the box-feeding system to every other mode; the food being cheaper, the cattle thriving faster, and the dung made being so much better, that we consider 12 loads thereof equal to 20 loads from oil-cake fed beasts, whether tied up or otherwise.—C. M. Burrell.” W. W. Whitmore, Esq., of Dudmanston, Shropshire, is engaged in transforming a barn into a double, and some adjoining bullock-sheds into a single row of boxes, with lofts for provender; all which, communicating with the cooking-house, originally a

dairy, form a complete establishment, and at a cost comparatively nominal. This gentleman’s plan embraces 40 boxes, capable of containing 50 or 60 bullocks. The Rev. J. C. B. Warren, of Horkesly Hall, has about 50 boxes, arranged and constructed upon principles alike economical. But the most compact establishment that I have yet had the pleasure of inspecting, is that of H. S. Patridge, Esq., of Hockham Hall, comprising, under one roof, accommodation for 14 bullocks, a boiling-house, with coppers, and a pump; a Turnip-house and chambers for hay, cutting and Linseed crushing machines. I mention these circumstances to show, that all farm-premises may, by a little consideration and contrivance, be similarly converted, and every farmer in the kingdom be stimulated to adopt a system that will insure profit to himself, rent to his landlord, and employment to his laborers, because it would enable him to double his usual number of cattle, to make two returns of fat bullocks in a year, and to apply to his land an abundance of efficacious manure—a system based upon fundamental principles, depending upon its own resources, requiring neither foreign food, foreign manures, nor chemical preparations. A system, simple in practice, powerful in effect, and applicable to every grade of farmer. A system, more important, if possible, to the breeder than to the grazier, if we may judge from the remarks of the Duke of Buccleuch, at the meeting of the Dumfries Agricultural Association, and from the miserable spectacles that appear in our cattle markets—spectacles at variance both with humanity and judicious management. His Grace animadverted upon the deteriorating effect of keeping cattle upon straw in winter, and advised the adoption of some method that would, at least, retain the condition acquired in the summer, and improve the manure. Linseed meal boiled for a few minutes, and intimately incorporated with straw, will achieve both objects. The allowance, whether much or little, will produce a proportionable effect, such as those only who try the experiment can believe. For instance, Mr. Patridge has 21 score of ewes, to which a peck only is given per day, at the cost of 1s. 9d., or a penny per score, including the expense of crushing, boiling, &c.

That so small a quantity of Linseed should be divided amongst 420 sheep, must, of course, appear paradoxical, but the following explanation of the means employed will remove doubt:—A

peck of Linseed, reduced to fine meal, is stirred into 20 gallons of boiling water. In about 10 minutes, the mucilage being formed, a pailful is poured, by one person, upon two bushels of cut hay thrown into a strong trough, while another mixes it with a fork, and hastens the absorption with a smaller rammer. The like quantity of chaff is next added with the mucilage as before, till the copper is empty. The mass being firmly pressed down, is, after a short time, carried in sacks to the fold, where I had the pleasure of witnessing the avidity with which sheep devour hay, before so ordinary that they refused to eat. As the lambing season advances, and circumstances require, the proportion of Linseed will be increased; a method, that all who are straitened for provender will find it their interest to adopt, remembering that this mixture is alike serviceable to lean cattle and to horses, and that the straw of Peas and the stalks of Beans are second only to hay. A few Sweed Turnips, Mangold Wurzel, or Carrots, sliced very small, and added to the water when first put into the copper, will much improve the compound.—*John Warnes, jun., in Bell's Messenger.*

#### Remarkable Properties of Charcoal.

It is well known that under certain circumstances, charcoal is almost indestructible. The stakes driven into the Thames by the ancient Britons, for obstructing the approach of Julius Cæsar, were taken up, about fifty years since, having become charred, and thus preserved from decay.—The wheat and rye found in the entombed Pompeii and Herculaneum, had become charred in the slow changes of time, and are so perfectly preserved as to be easily distinguished from each other. Fragments of charred wood are familiar to the geologist, under the name of lignite which have existed for periods inconceivably longer than those of human history. It would seem that wood, under certain circumstances has the properties of charring spontaneously, as appears in the exterior of the timbers of the houses of Pompeii and Herculaneum, as well as in the above examples. In all these cases, the charcoal was protected from direct atmospheric agency by being buried in water or earth. It is very remarkable, however, that charcoal, under other conditions, decays rapidly. A few years since, the writer dug up a quantity of gravel, containing a large proportion of fine charcoal.

The ground had once been the site of a blacksmith's shop, and was subsequently covered with a layer of other gravel. It was black with the charcoal, and was used with some barn-yard manure in making an artificial soil for a garden over clay ground, and on being well exposed by the tillage to atmospheric agencies, in two years the charcoal entirely disappeared, leaving a dark, rich looking soil, which all the while supported a dense growth of vegetation.

One of the most extraordinary, and we may say mysterious, properties of charcoal, (for science can only show us the fact, without explaining it satisfactorily,) is that a piece of charcoal will absorb, without chemical change, many times its bulk of air and other gases and vapors. It will absorb more than eight times its volume of air, and it is a fact of great interest to the agriculturist, that it will absorb more of ammoniacal gas than of any other, viz. 90 times its volume if it has been recently ignited. The porosity of charcoal seems to be the cause of this absorption, and the different elasticity of different gases has been supposed to be the cause of the different degrees in which they are absorbed. But that it should absorb more than its bulk of any gas, without chemical agency, seems truly wonderful.

How valuable are these properties to the farmer! Charred posts, well set, will give him an enduring fence. Refuse charcoal freely used about the stable, will seize on and preserve from evaporation the richest manure—ammoniacal gas—and then in the soil will gradually yield it as wanted to vegetation, and by its own decay also abundantly to the food of plants. Thus, as the traveller blew hot and cold with the same breath, so by the same process of charring, the farmer prepares a substance which will either last for centuries, or decay in as many months, as may be required.—*N. E. Farmer.*

*New Wind Power.*—A machinist at Cabotville Mass., has erected a shop at that place, the machinery of which is propelled by wind, in a somewhat novel manner. A large wheel, measuring 14 feet in diameter, furnished with wooden sails, or floats, is placed upon a perpendicular shaft, on each side of which, in a room below is an invention similar to window shutters, which, when opened causes the wind to rush in, and rising sets the sails and wheel in motion, and produces a velocity equal to that of any water wheel.—*Ex.*

## A Lincolnshire Lowland Farm.

The arable land is divided into 12 fields of nearly equal size, which are cropped in the following rotation: commencing, with a half fallow for turnips or rape; 2d, on the turnip land, Oats; 3d, Wheat; 4th, Clover; 5th, Wheat; 6th Beans, manured; 7th, Wheat. The Rape is sown to wheat; 3d, Clover; 4th, wheat; 5th beans or peas; 6th, wheat. These rotations are alternate, the land growing turnips one course being sown to rape next. Deviations, however, are occasionally made; Barley sometimes succeeding the wheat after rape, followed by clover on grass seeds. Potatoes, in some cases, are taken upon a few acres; also carrots and mangolds in small quantities only. The land to be fallowed is ploughed up in dry weather, in the autumn or during the winter, at a depth of about 7 inches. It is cross ploughed as early in the spring as possible, and left for a time. It is then well worked with a common scarifier, heavy harrows, and roller, taking care that it is not brought into a fine tilth too soon, but kept in what is termed a "chequery" state, the danger being in its running or setting into a compact waxy state from heavy rains, if too fine a mould is obtained. The root-weeds are thus kept on the top and dried up, while the land is fine enough at the same time to promote the growth of the seeds. Immediately before putting in the crop it is ploughed a third time, well worked as before, and the tilth is then obtained as fine as possible; all weeds are picked off and burnt, with sods pared from the head-lands or elsewhere, for drilling in with the seed. The whole force of the farm is now brought to bear upon the field; ridging, manuring, preparing ashes, drilling, and rolling down, are all carried on simultaneously. About 14 large two-horse cart loads of farm-yard dung are deposited in the ridges, which are 25 inches apart. Upon these are drilled from 20 to 60 bushels of ashes mixed with 4½ bushels of bones, or 1½ cwt. of guano per acre, and 3 lbs of turnip seed. If guano is sown the seed is drilled with the double or after coulters, so as not to come in contact with the guano; for if it does it dies. The same mode of operation is adopted with rape, which requires about 1 peck of seed an acre. The ridges are generally rolled again when the turnip or rape plants are from 5 to 6 inches in height, if the land is then dry enough. They are thus more consolidated, and the plants

will imbibe moisture from the subsoil and grow much faster. Both crops are repeatedly hand and horse-hoed during the summer, so that the land obtains nearly the pulverisation of a summer fallow, at the same time producing a profitable crop. Occasionally the fallowing takes place oftener than is laid down by the rotation, by giving up the last two crops, beans and wheat. The land is very subject to the small variety of couch-grass, so that it sometimes becomes necessary to fallow after the second crop of wheat. The varieties of turnips most approved of are the purple-top swede (of which Mr. C. has long been a successful grower), the green-top Scotch yellow, and the red round. After the rape crop is consumed these are fed off in succession; the red round, first, Scotch yellow second, and Swedes last. This rule is in accordance with the most approved system, it being ascertained the common varieties are best first. The sheep are folded on the field, being allowed 2 oz each of linseed cake, which is gradually increased to ¼ lb. The turnips are taken up, cut, and given to the sheep in flat-bottomed troughs, raised 15 inches from the ground. This year Mr Clarke has three sheds, constructed of large bullock hurdles, and covered with straw, as shelters for them. These are well bedded, and found to be a great benefit, for the sheep are comparatively dry and clean, and much more healthy and comfortable. There can be no doubt that the plan of hovelling in any shape is a great saving in food, but especially in winter, when a great part of what the stock consume is eaten to maintain the heat of their bodies. The oat crop is put in after the same manner as wheat, and as early in the spring as possible. The Dutch brew, Friesland, and Poland are most preferred. The Hopetown was cultivated two or three years, but did not ripen well. The Potato-oat is another kind which has not yielded well. About 12 pecks per acre is enough for seeding. Wheat: this crop is sown between the 1st of November and Christmas, but all is done in November if possible. The wheat after rape is sown much later, because of eating off the keeping, but seldom later than January. The "lands" are laid out so that the drill covers them at a round, the horses walking down the furrows; and the ploughing and harrowing are both done without a horse treading upon the part ploughed, except in the furrows. The seed is deposited at 9 inches apart, and about 7 to 10 pecks per acre,

according to the state of the soil. The favourite varieties are the Taunton dean white, Sheriff's white, the old Essex white, and the short-strawed hoary white, the spalding's red, golden drop, the Burwell red (a variety of old red lammas) and smoothy's red. Mr. Clarke has for several years cultivated many sorts in plots sometimes to the amount of 60, and has found none to exceed the above for general purposes. Clover.—This is drilled between the rows of wheat, and about 10 lbs per acre produces an excellent plant. Part of the clover is mown, and part depastured; the clover after the first crop of wheat is eaten off, and that after the second crop of wheat is mown. Beans.—These are drilled in double rows for horse hoeing, that is, the rows are placed at alternate distances of 6 and 18 inches. The varieties most preferred are the small religoland and the Cambridge white; the tick beans are never grown. The land is frequently prepared for beans by the skeleton ploughs and scarifier alone. The favorite sorts of pea are the partridge grey, the Prussian blue, the white boiling pea, and the nimble tailor pea. Mr. C. has, for the past four years, endeavored to adapt to field culture a most prolific dwarf pea, selected by an old gardener for its extraordinary yields, and has succeeded well. The implements principally in use upon the farm are Ransome's cast-iron ploughs, four-horse thrashing machine, and chaff engine; Cooch's dressing machine; Hornsby's drill; harrows in variety, Howard's patent common six bulled, &c.; large scarifier; the universal plough, invented by Mr. C.: this implement is very useful in several ways; it can be adapted so as to make a perfect horse-hoe for ridge culture, a good two-horse scarifier, a capital broad-share plough, and a very effective subsoil plough. The Rackheath subsoil plough; waggons and carts, light and heavy. The ploughs are all worked by two horses, except Ransome's B. M., one or two of which are kept to take up the mould-furrows, and other light work. Stacks.—The hay, beans, peas, oats, and barley are in long stacks; the wheat stacks or "cobs" are after the best East Lothian model, being round, and widening gradually as the height increases. The roof is short and well thatched, and the eaves are 22 feet from the ground. Mangolds, and occasionally turnips, are taken up early in November, and placed in long heaps or "graves," about 8 feet wide at bottom. They are thatched down

for two or three weeks, to give time for any fermentation to escape, and are then earthed up within a foot of the top, which is left open with an additional covering of thatch. The mangolds are never consumed until the spring. The manure made in the fold-yards remains there till required for use, being turned over about 6 weeks before leading, and is in its most fermenting state when covered up in the ridges.—*Ag. Gaz.*

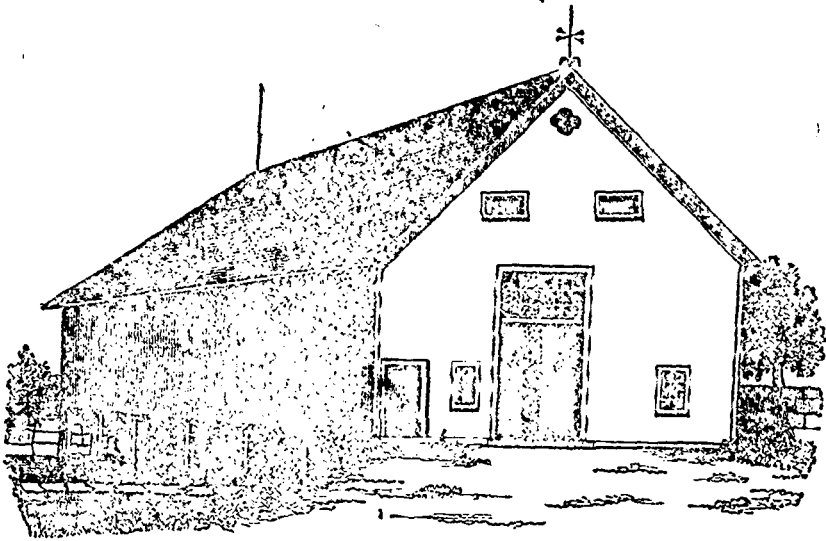
#### The Prospects of the Crops.

Having been of late through some of the best cultivated districts of this section of the country, we feel prepared to give an opinion of the present condition of the crops. Winter wheat could not possibly look better than it does at present. Many are apprehending serious loss from the fact that their crops are too gross, and present a dark green color, which, in ordinary seasons, indicates a disposition for the crop to be infected with the disease known as rust. From the period the seed was sown, up to the present, the weather and season upon the whole have been so well adapted to the growth of the wheat plant, that few instances can be found where the plants have suffered to any considerable degree. The growth being natural—not checked and afterwards forced—the probability is, that although the crops are exuberant in the extreme, unless the season should prove extremely wet, the average yield will be great indeed. The bastard fallow system which we have spoken of from time to time, in such commendable terms, will have a fair trial this season. A pea, clover, or flax-fallow is infinitely better, as a preparative crop for winter wheat, upon most soils, than a naked summer-fallow. In the course of other two months this problem will be clearly solved to the satisfaction of thousands of Canadian farmers.

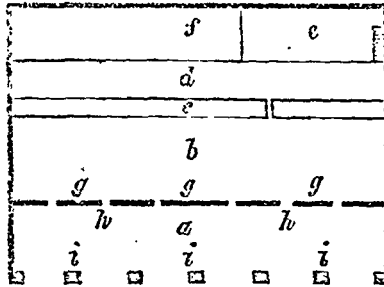
Nearly double the number of acres of winter wheat was sown last autumn than in any previous year; and so far as present indications would warrant one in forming an opinion, we should judge that the average yield per acre will be greater than that of the past year, which is acknowledged on all hands to be the best ever harvested in Canada. The hay and spring grain crops promise an abundant yield; indeed hay in some districts must be so abundant that it will scarcely find a market at remunerating prices. In short, every description of grain and fruit crops promise a most abundant return, for which the husbandman should be thankful to an ALL-WISE PROVIDENCE.



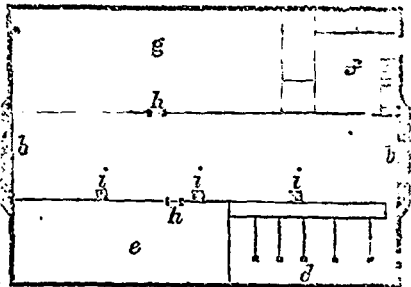
## A MASSACHUSETTS BARN.



ELEVATION.



BASEMENT.



GROUND FLOOR.

*Description of Elevation.*—*b b*, Large doors, which open on to the barn floor.

*d*, Stable door.

The windows slide back and forth, for the purpose of ventilation when necessary.

*Description of Ground Floor.*—*a*, Barn floor, 12 feet by 60.

*b b*, Doors hung on iron rods and rollers over head, like the folding doors of the parlors of our modern houses in the cities, opening and closing with equal ease; made of  $1\frac{1}{4}$  inch clean stuff, and battened on the outside with open battens, formed so as to give the doors the appearance of pannel work. The posts on each side of the doors are 14 inches wide, with a piece sawed out of the

centre, through which the doors pass. The posts are framed into the sills with a double cock-tenon, to give strength.

*c c*, Stone door sills, 16 feet long by 18 inches wide, with a lip raised on the inside, against which the doors rest, and then slanting with a bevel outward.

*d*, Stable, 12 feet by 24, with fixtures for one pair working horses, and two yoke of oxen.

*e*, Bay, 8 feet high, until it rises above the stable, then it runs the whole length of the barn, 60 feet.

*f*, Store room, 16 feet square, with a flight of stairs leading into the cellar, 8 feet high.

*g*, Bay, 16 feet by 44, until it rises above the

elling of the store room, then it goes the whole length of the barn, 60 feet.

*h h*, Upright posts framed into timbers above and below, with rungs inserted for ladders, to ascend and descend at pleasure.

*iii*, Narrow scuttle doors, through which the loam is passed down into the stable below, to cover the hardpan, over which the boards and plank are laid, as described in *b*, of the basement.

*Description of Basement.*—*a*, Open shed, facing east, 12 feet by 60.

*b*, Stable, with windows the whole length, hung with strong strap hinges to open and shut at pleasure, also a window at the south end. The object of so much window is, to throw out the manure, and to ventilate the stable, which is 12 feet by 60. The ground under the stable is a hardpan, over which is placed every summer a layer of loam 6 or 8 inches thick, and carefully leveled. On this, boards are laid lengthwise, some inches apart, and on these boards plank are laid cross-wise. Through the interstices of these the liquid manure runs down, and mixes with the loam, which is thrown out in the spring, and mixed with the manure under the shed, and fresh loam put in place of it, and the boards and plank replaced. This takes but a short time to do.

*c*, Manger, 3 feet wide, made with plank formed into timbers and pinned; not a nail about it, and perfectly tight. Stalls are divided off for two cows or oxen each, to be tied with ropes fastened at each outer corner.

*d*, Open space, 5 feet by 60 feet.

*e*, Cellar, 8 feet by 16, filled with roots in the fall, and supplied from the pits during winter as they are wanted.

*f*, Bay, 8 feet by 34, running up to the roof, 27 feet to the eaves.

*g g g*, A bank of loam the whole length of stable, except against the doors, which are guarded by a narrow plank fixture to keep the loam in its place, which is mixed in small quantities with the manure every morning as the stables are cleared.

*h h*, Stable doors.

*i i i*, Seven stone pillars 10 feet long, standing on flat stones 2 feet under ground, bolted to the sills of the upper story with iron bolts, made of  $\frac{1}{2}$  inch round rods.

The barn stands upon a strong foundation of stones on the west side; both ends are laid in lime mortar, and well pointed with the same material. The top stones of this foundation are

from 10 to 14 feet long, by about a foot square. At the south end, the walls jut out on each side of the barn doors, and the space is filled up with earth between, to make a gradual descent, and the egress easy for an empty cart or wagon to pass out into the adjoining meadow. The outside covering is of clear pine boards, well seasoned, planed, tongued, and grooved together, running up and down, painted, and the roof well shingled, and every part of the work done in the most substantial manner.

*Cost.*—The stone and timber being on M. K.'s own land, the whole cost of this barn did not exceed \$300, the work of the owner reckoned at the usual rates he paid to other mechanics. The presumption, however, in my own mind is, that if he did not do the work of three men himself, he did and saved what was equivalent to it by personally superintending every stroke, by being up at the early dawn of day with teams all fed, yoked, and harnessed, and every man placed at his proper post the moment he came upon the ground. I make these observations that no one may be disappointed who shall undertake to build a similar barn, hire his builders, stone-cutters, masons, and carpenters, find them plenty of alcohol, while he sits at the neighboring tavern taking into his own stomach copious draughts of the good creature, talking politics, &c.; &c., and finds on footing up all his bills that they amount to \$1200. Here is a building which, if kept properly covered and painted, will last a century or upwards.

The yard adjoining on the east, has a fountain of running water brought into it by pipes. A high wall supports the bank on the north side next to the road, which breaks off all northerly winds, and it is intended to be surrounded with sheds on all sides.

*Coal Tar for Seed Corn.*—Mr. Editor.—It may be of service to some of your readers to know that crows will not eat or scratch up, corn that has been saturated with coal tar. It does not prevent vegetation as the common pine tar does; is much less trouble to put on, and half a pint is sufficient to saturate a bushel, if poured over it and well stirred. It may be well to say, that coal tar can be obtained in any of the cities, and is made at the gas works, and is most excellent to preserve outside wood work. Bryer-field, near Hamton, Va., February 16th, 1846.  
—*Far. Vis.*

## Hedge Fences.

We have repeatedly stated, that few subjects of agricultural interest are of greater importance to the farmer than that of obtaining a thorough knowledge of managing hedge fences. Timber suitable for fencing is becoming extremely scarce in some sections of the country, and as no steps are being taken to propagate a new supply, this state of things argues, as a matter of course, that either stone or live-fences will have to be generally employed before the lapse of many years. In those sections where material does not exist in abundance, the thorn or some other description of live-fence will of a necessity have to be grown. It is the opinion of competent judges, that the common Canadian thorn is equal, if not superior to the English white thorn for fencing purposes. The grounds for forming this opinion are, first, that they are thoroughly adapted to the climate; secondly, that the ground mice are not so apt to bark them in winter; and thirdly, that they will much sooner be an efficient fence than the English hawthorn. The proper method to obtain a uniform thrifty hedge is, to gather the haws in the autumn, and have them placed in a box in a warm cellar, and kept in a moist state, by repeatedly applying water to them until the opening of spring. As soon as the ground is capable of pulverisation in the spring, a seed-bed should be made, and enriched with well fermented manure; after which the bed should be ribbed either with a plough or hoe, each row being about fifteen inches asunder. The seed should then be scattered pretty thickly in the bottom of the drills, and covered lightly with fine rich soil. By keeping the seed warm and moist during the whole period they are in the cellar, they will vegetate by the first of June. The only culture necessary will be to keep down the weeds, which may easily be done with a common hoe. The following spring the young trees may be planted in the fence row. The strip of ground upon which the fence is to be planted, should not only be rich in the extreme, but should be thoroughly cleaned of weeds and wild grasses. An old fence-row thoroughly summer-fallowed would be well suited to ensure a thrifty growth of young thorn. Before planting the thorn the ground should be raised about fifteen inches in the centre, which may be done by rounding up the ridge two or three times with a common plough. When the centre of the intended fence row is raised suffi-

ciently high, the surface ground may be levelled with a pair of seed harrows. A furrow may then be made with a common plough in the exact line where the fence is to be planted, and as soon as this is done, the young thorns may be planted about eight inches asunder. This process may be considerably facilitated by starting the young plants in an oblique position against the land-side of the furrow—and whilst one person is performing this work, another may be employed in covering them with the loose soil made by forming the furrow. The following spring the young wood should be shorn down even with the surface of the ground, and the stumps slightly covered with fresh mould. In three years the hedge will get sufficiently high to make a good fence; and the after-management, as it regards tunnelling, will be more a matter of taste than utility.

In our travels through different sections of the province, we have occasionally met with some excellent specimens of hedges; and the two best managed fences that we have any knowledge of were made by the late Mr. Blanchard of the Township of Toronto, and George Simpson of Newmarket Grange Farm. The former planted 500 rods, and the latter nearly 300 rods, about ten years since, all of which is now an efficient fence.

We are delighted to see our correspondent take up the matter in such a spirited manner, and hope that his efforts will be crowned with success.

I have this spring been trying the experiment of making a Hedge from the common white thorn, and would wish to acquire through the medium of your valuable journal, some information on the subject. I will state the way I have proceeded which was to assort my shoots, they being all of 2's, putting a large one and then a small one, with a view of cutting down the limbs of the large ones to fill up any vacancies that may occur, they being planted so as to accomplish this object. I have put them about one foot apart, on a rich loam, carefully planted and well embanked. I do not intend to trim them any till next season, in order that they may be fairly tried; whether this may be correct or not, I do not know, as my knowledge of their proper treatment is very limited. Are you aware of any of our common white horn having been tried for this purpose? If so, how has it succeeded? this information I am very anxious to obtain; as should they answer a good purpose, I intend, if spared till another year, to go on planting. I have large quantities of the thorn growing on my premises, which I

pipe to turn to a good account, the expense of planting, is by no means as much as I anticipated, at four days work of one man, has dug up and planted sixteen rods, the outside cost has not been over three and a quarter dollars. I think many of our farmers would find it much to their interest to turn their attention to the cultivation of Hedges; I am confident they will be found the cheapest fence in the long run, and their superiority over our common rail fence is not to be told. Perhaps I may be too sanguine in my anticipations, but I am pretty confident I can make a good hedge with what I have already tried. Any information you can impart on this subject—also, where, and upon what terms I can procure thorn quicks, will be thankfully received.

Yours respectfully,

CHARLES E. CHADWICK.

Derham, Brock District,

May 4th, 1846.

P. S.—As I see you stated in a former number of your journal, that wheat will not turn to chaff, you may hear from me again on this subject; as from my own observation and experience, I am decidedly convinced that it will.

Mr. Editor.—Should you think the annexed worth insertion in the *Cultivator*, it is at your service.

Many remedies have been proposed for the cure of Poll Evil in Horses, some of but trifling value, others perfectly worthless, completely laying open the sinus (or pipe) with a knife, has been considered, and very justly so, as the most efficient means of effecting a cure. I have on several occasions recommended to my friends the potassa fusa, (or caustic potash), which can be readily procured of any respectable druggist. The mode of using is to form a holder, by wrapping a piece of the caustic in dry writing paper, leaving about a quarter of an inch exposed, and inserting the papered end into a quill, thus fixed, it is to be slowly passed into the sinus, with a screw-rotatory motion until it reaches the bottom of the pipe, where it should be retained a few seconds, and then withdrawn—two or three applications of the caustic will generally effect a perfect cure, it is safer in inexperienced hands than the knife, and its actions the same, viz. the destruction of the secreting surface of the sinus, and the exciting a healthy action in the sore. Should the granulations appear to require a little stimulus, the ulcer may afterwards be dressed with a little red precipitate or blue stone powder, but in general, they will be sufficiently luxuriant. It is advisable in using the caustic, that the surrounding parts should be well anointed with tallow or oil, to prevent the spreading of the potash.

Potassa fusa having a great tendency to stack and abstract moisture from the air, must be kept in a perfect tight bottle, well corked, and not be exposed to the air longer than is absolutely necessary to perform the operation.

THOMAS HAWKINS.

Colchester, May 20, 1846.

Pine Grove Woolen Cloth Manufacturing Establishment.

We lately passed through the rear part of Vaughan and availed ourselves of the opportunity of calling at the above establishment. John Gamble Esq., the proprietor, was absent from the factory, but the foreman in charge took great pains in showing us through the various apartments of the buildings, together with the machinery, which rendered our visit very agreeable. There are 42 hands, 450 spindles, and 13 power-looms employed in the mill; and the annual quantity of wool worked up is estimated at 60,000 lbs. The wholesale price of cloth ranges from 3s. to 5s. per yard; 6 lb. blankets from 16s. 9d. to 21s. 3d. per pair, and other goods at the same rates of prices. The prices paid for wool at this factory varies from 1s. to 1s. 6d. per lb., and we suppose the fairest qualities of Spanish wool would be worth about 2s. per lb.

A proper division of labor is observed in this establishment, and every branch of the business is carried on upon equally as correct a style as in establishments where ten times the number of hands are employed. An invoice of the goods made during the week is taken, the whole of which are assorted and made up into cases, labeled, and sent to market in quite as good a style as is practiced in the largest factories in the United States and England. Through the efforts of such spirited men as Mr. Gamble, a permanent home market has been established for wool, by which means an additional staple has been added to the agricultural products of the country; and an article of clothing well adapted to the wants of the country is produced and afforded at cheaper rates than it could be purchased from foreign countries. We feel certain that our readers will join with us in wishing Mr. Gamble, and all others engaged in similar enterprises, much success.

**Tar for Sheep.**—A gentleman, who keeps a large flock of sheep, says that during the season of grazing he gives his sheep tar, at the rate of a gill a day for every twenty sheep. He puts the tar in a trough, sprinkles a little fine salt over it, and the sheep consume it with eagerness. This preserves them from worms in the head, promotes their general health, and is thought to be a specific against the rot.

## Manures and Cultivation.

Mr. R. L. Pell's remarks at the January meeting of the American Agricultural Association, on manures and cultivation.

On cultivation, Mr. P. said:—On the 9th of October, 1844, I cleared the tops from a dug potato field—burnt them and returned the ashes—with a view of sowing wheat. The seed was then prepared thus. soaked four hours in brine that would float an egg; then scalded with boiling hot water mixed with pearl-ash; passed through a sieve, distributed thinly over the barn floor, and a dry composition sifted on it composed of the following substances: oyster-shell lime, charcoal dust, oleaginous charcoal dust, ashes, Jersey marl, or blue sand, brown sugar, salt, Peruvian guano, silicate of potash, nitrate of soda, and sulphate of ammonia. The sun was permitted to shine upon it for half an hour, when the particles crystallized upon the grain. In this state it was sown at the rate of two-and-a-half bushels to the acre, directly on the unplowed potato ground, and immediately plowed in to the depth of five inches, with a Scotch plow; harrowed once; a bushel of timothy seed sown to the acre, and harrowed twice. At the expiration of fifteen days the wheat was so far above ground as to be in advance of some which had been sown on the 1st of September—thirty-nine days earlier, in the usual manner, without any preparation. Near it I sowed wheat prepared, on turnip and carrot ground, the tops not having been removed, and plowed the whole in together with like success. Still adjoining I sowed three bushels to the acre in a dry state, on potato ground; plowed and harrowed first; wheat then sown and twice harrowed; the first parcel, although plowed in the depth of five inches, was 2½ inches high before the last appeared above ground, although the whole field received the benefit of the following composition sown by hand, at an expense of two dollars per acre, viz.: stable manure, dry charcoal dust, hickory wood soot, bone dust, oleaginous charcoal dust, oyster-shell lime, decayed leaves, leached ashes, unleached ashes, guano, sal soda, nitrate of potash, fine salt, poudrette, horn shavings, refuse sugar, ammoniacal liquor, blood, sulphuric acid, magnesia, plaster from walls ground, decayed grass, decayed straw, decayed weeds, fish, refuse oil, sea-weed, oxide of iron, and oxide of manganese. My object was to contribute to that growing crop, every substance re-

quired for its growth. It is possible that ten or twelve of the above named substances might have produced the same effects. The wheat raised by the experiment just detailed produced flour containing 18 per cent. of gluten.

In 1843 I sowed thirty acres with prepared wheat, and top-dressed it with charcoal dust. It grew rapidly, was not attacked by rust, mildew, or blight, when fields near it were almost destroyed. A small portion of the lot, which had received by accident a large supply of charcoal dust, produced at the rate of 78½ bushels to the acre. I cut it when the straw presented a yellow appearance four inches above the ground. At that stage of its growth a milky substance could be expressed readily from the kernels. It was allowed to remain three days in the field, when it was carried to the barn, and threshed immediately. It weighed nearly 64 lbs. to the bushel, and sold by weight for 12½ cents above the market price.

A few acres were left standing, and cut three weeks after, when the farmers in the neighborhood harvested their wheat. The grain was small, shrivelled, and weighed 56 lbs. only per bushel; the straw had lost its most nutritious substances; was much lighter than that cut earlier, and consequently less valuable. I believe that after the stem turned yellow near the ground, there being no connection between the root and tassel, the kernel wastes daily. By cutting early there is preserved in the straw all its nutritive matter, and thus it is rendered almost as valuable for fodder as hay.

In conclusion, Mr. P. said that his processes looked not only to results through science, but to economy in expenditure.—Am. Ag.

## Farm Stables.

As the preservation of health ought to be considered of more importance than the mere curing of diseases, and as this can only be accomplished by proper management in respect to feeding, exercise, and general economy of the stable, I consider it proper to offer a few remarks on constructing and ventilating farm-stables. In the construction of the stable there is nothing so deserving of attention as ventilation, i. e., having proper contrivances for the ready admission of fresh air, and for the escape of that which is noxious. Let any one for a moment consider the foul atmosphere which is generated in a close

able where several horses are kept, by the constant exhalation of unwholesome vapours from the litter, the noxious air from the lungs, &c., and he will not be surprised at the long catalogue of diseases to which improper treatment has subjected the horse. Let him enter a stable early in the morning, and it will afford him ample proof of the noxious state of the atmosphere. Farm stables are in general built too low; the ceiling should never be lower than 13 or 14 feet, so that the foul air may circulate in the higher part, and find its escape through apertures made in the ceiling. These apertures should be made so as to admit rain, and to be readily opened and shut inside by means of a cord and pulley. Fresh air should be admitted by the windows, which should be large and on different sides of the building; so that when a cold wind blows from one side, fresh air may be admitted by the one opposite. By this means the temperature also of the stable can be regulated according to circumstances, and the more accurately if a thermometer is kept—a very necessary instrument in all buildings where animals are kept. Light is also of great importance in the stable; for there can be no doubt that horses' eyes are often injured by being kept in dark stables. Nothing injures that delicate organ more than being brought out of a dark stable into the light, particularly if brought immediately into sunshine. Though a light stable is desirable, the sun's rays should not be allowed to fall upon the horse while standing in his stall; this may easily be prevented. Nor should the walls or ceiling be whitewashed, for under such circumstances the eyes of horses are liable to be rendered weak. The best color for the ceiling and walls is a stone color, which can easily be made by mixing a little lamp-black with the common white-wash. The walls of all buildings, as well as stables, should be built hollow, less material will be required, and the building will be rendered drier and warmer, and will not cost half as much in building as if built solid. [1] The doors should be high and wide—what are termed folding doors are preferable, *i. e.*, doors which open in the middle. In fitting up the interior, particular attention should be paid to the size of the stalls, which should never be less than 6 feet wide, and the sides should be sufficiently high and long to prevent any communication between the animals. I have no doubt it will be argued by some, that horses are sociable animals,

and stalls are not requisite. But I am convinced, that when horses are separated by stalls they thrive much better, and numerous accidents are prevented, as kicking, biting, and otherwise injuring each other. Horses should not be too much deprived of the liberty of motion, as they too often are, close confinement after hard labor will too suddenly abate circulation, stiffen their joints, and make them chilly. The halters should be long enough to allow the animal to reach any part of its body with ease. Long halters are disapproved of by some farmers, because of the animals entangling themselves in them; but accidents of the sort rarely occur. The floor of the stable should be laid with hard bricks, as a smoother surface can be obtained than by flints, and the horses are not so liable to injure their knees in the act of lying down and rising up. Very little declivity is necessary to drain off the urine. Great inconvenience often occurs from suffering a horse to stand where the fall in the stall is considerable. It has, however, been recommended, and is in use in many stables, to place the gutter in the middle of the stall, so that the fore and hind legs of the animal may stand on a level. This is the best plan for horses. In whatever way the stall is made, the fall should never exceed 1 inch in 10 feet. The gutter if placed behind should be broad and very shallow. Where a stable is properly attended to scarcely any gutter is necessary. Iron racks are preferable to wooden ones, which should be fitted up so that the animal can feed with the greatest ease; or, what is preferable, fit the racks in one corner on a level with the manger, so that the animal may feed as he does in a state of nature. The manger should be so constructed as to slide into the wall like a drawer, and should be rather deep and wide, which will prevent them from throwing out their food with their noses, which often occurs where shallow mangers are used, particularly when chaff or cut hay is mixed with their oats. I hope the above remarks will induce some of your readers to come forward on this subject, for it is shameful in some parts of the United Kingdom to see the manner in which the companion and co-laborer of man is fed and sheltered. —*Ag. Gaz.*

*Ointment for Ringbone.*—Corrosive sublimate, Spanish flies, hog's lard and Venice turpentine. Mix. This ointment it is said will dissolve a ringbone.

We have much satisfaction in giving insertion to the following communication. It is written by a young farmer, who we are happy to perceive is a zealous advocate of Agricultural improvement. It is gratifying to learn that the wet days and leisure moments of our correspondent will be spent in writing useful matter for the *Cultivator*, and in adding to his general stock of useful information. There is not a settlement in Canada, in which there are not one, two, or more persons, engaged in agriculture and the mechanic arts, but that might render a useful assistance in moving onward the car of agricultural knowledge, and it is to be hoped that by this time every friend of the productive interests of Canada, see the necessity of uniting their efforts in sustaining such branches of business, as have for their object the creation of real wealth in the Colony. It is wily desirable, that the *Cultivator* should have a numerous list of practical and scientific correspondents, and from present indications, we are almost warranted in expressing the hope, that some scores will, without further solicitation, aid us in storing the columns of the *Cultivator*, with their experience and observations upon practical points of improved husbandry. We want practical communications, and only such should have a place in our journal. There is no want of valuable matter, but to make the work as original, and Canadian as possible, it is essential that its readers should contribute useful hints from time to time, in which they should observe to embody the most useful points of their own, or their neighbours' practice in agriculture. Great and important results are constantly being achieved in agriculture, and the friends of agricultural improvement should lose no opportunity of having such as are calculated to benefit their profession or their country, properly chronicled in some general medium of communication. Thus is the true spirit of bringing about that reform in agriculture which would enable its followers to successfully compete in the production of breadstuffs and other products of the farm, with the cheap labour of Europe and the superior national advantages possessed by their neighbours of the Western States.

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A Wet Day.—No 1.

MR EDITOR.—I have been an attentive reader of the *Cultivator* for the last two or three years, and it has become a companion that I would not willingly be deprived of. I have watched its

progress with an anxious eye, and am now satisfied that it needs but the exertions of our independent farmers, to enable it to sustain the position to which it has already attained.

Its benefit to the farmer cannot easily be estimated, and it is only those who make an investigation into the theory and practice of others contained in its columns, can appreciate its value. In addition to the pleasure I receive from a perusal of its pages, I would take it as a matter of economy, for I am confident no farmer can read it one year, without receiving twice the amount of actual benefit above its cost. May will say, it is throwing away so much money, but it is throwing it away in the same manner as the farmer throws away his seed wheat. Then is, I find, from my own observation, (though I am sorry to make the remark,) a very great indifference among our farmers to cultivate the mind; talk to them on this point, they will admit the necessity of education, and apparently evince a desire for its extension, but little indeed is the effort that is made. I contend that agriculture requires education in order to ensure success, in a proportionate extent, as much as any of the professions. There is much truth in the adage, "that farmers are the liberal supporters of every interest but their own," they willingly agree to the appropriation of public monies for literary, theological, or medical schools; but ask them for schools for the benefit of agriculture, in which their sons may be instructed in the best models of farming, and at the same time acquire the means of becoming intelligent and distinguished in life, and they deny themselves the boon. Every man must be convinced, that mind is capable of greatly aiding the operations of the hands, otherwise labour would be the mere exercise of animal strength, such as is afforded by the ox, or the horse; and if the mind is beneficial to labour by its skill and contrivance, the more it is instructed in those laws which nature has established for the government of matter, and in the experience and improvement of others, the more likely is it to prove beneficial to our physical powers. The more knowledge the more power, and every farmer has it within himself if he chooses, to increase both his knowledge and his power. The education we receive in youth, serves but as the foundation at best, of the superstructure which is to be reared in manhood, and every individual is in a measure, his own architect. To the farmer, this truth applies with as much force as to any other employment. The business of husbandry is so diversified, that the wisest men engaged in its pursuits, continue to add to their knowledge, as long as they retain the powers of intellect. All who choose, may benefit by the concentrated and increasing wisdom of the age, and advance progressively in improvement, in usefulness, and in intellectual enjoyment. The farmer is urged to the effort by a triple consideration, the improvement which it promises to his mind and his means; the benefit which his example confers upon his children, and the increased ability it may

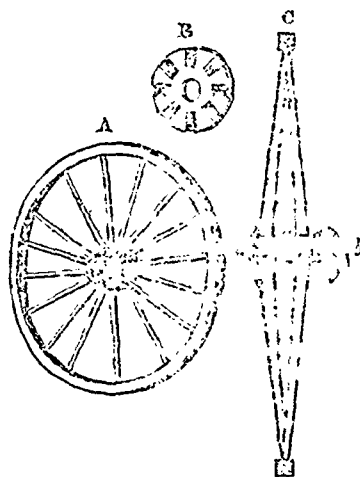
effort of doing good to those around him. If every young farmer would read regularly, and attentively some agricultural paper, the most happy results might be reasonably anticipated; it needs but pressing industry to obtain the necessary information requisite to form the scientific farmer. Now these are not the metaphorical expressions of an enthusiast, they are the plain ideas of a young farmer, one who is treading the path he is pointing out to others; and which, if persevered in, will be sure to lead him on to ultimate success. I would humbly implore that every young farmer, as he values his own wealth or reputation, or that of his country, should exert himself to procure that description of education, which shall enable him to reap the greatest pecuniary reward, and the highest honours from his profession. But I fear, Mr. Editor, I am trespassing upon your space, I will conclude, and as it is necessary to the support of the Cultivator, that practical men not only take it, but that they communicate through it, their observation, and experience, I propose spending some of my leisure moments in this manner, and if my fellow farmers derive any benefit therefrom, I shall have attained my object; if I advance any erroneous opinions, I hope those who have had more experience than myself, will correct me.

Yours respectfully,

CHARLES E. CHADWICK.

Deveham, Brock District,  
May, 1846.

Scripture's Carriage Wheel.



Description of the Drawing.—A is a perspective elevation of the wheel entire—B, is a detached, or one-half part of the nave or hub, in which rests the ends of one-half of the spokes—C, is a cross section of the entire wheel, showing

the position of the spokes and the separate parts of the hub—*a, a, a,* represent the pipe-box, passing through the two naves, or cheek pieces—*c, c,* having on the inside a connected flange of the same diameter as the naves, and covering the open end of the one next the vehicle, while at the other end a screw thread is cut to receive the screw flange, or front of the hub, represented by *d,* which, by means of a wrench, is screwed firmly upon the pipe box; by which means, the two naves being accurately fitted to the pipe, are made to approach each other, thereby causing the spokes to act as powerful levers, and producing the same effect that is sought to be obtained by resetting the tire of the ordinary wheel, but with the very important difference, that while the one is effected by a considerable expense of time and money, and with a positive injury to the wheel, the same result is brought about in the other by a few minutes application, and without incurring any expense or injuring the wheel. The advantages claimed for this wheel, are great economy, consisting in the durability of the hub, which, it is said, "will last for a generation;" and the facility with which it may be kept in order. Ordinary wheels become rim-bound in consequence of inadequate support in the hub; while by this method of constructing wheels, this difficulty is obviated at once, by applying the wrench to the hub and turning it up, more or less, as the case requires.

The inventor and manufacturer is E. S. Scripture, Stapleton, Staten Island, N. Y.—*Alb. Cult.*

For the Heaves or Broken Winded Horses.—Whoever is so unfortunate as to have a heavy or broken-winded horse, and desires to cure or make him better, should not suffer him to drink for some time any other drink than weak lime water. The horse will soon relish this, and it seldom fails to produce a radical cure.

I will state another way for those who may prefer it. Take from one to two table spoonful of ground plaster of Paris, and stir the same into hot messes three times a day. At first, if at hand, bran for two or three days—then bran and oats for two or three days, with ground plaster, as above directed, in each of the messes. L. S.

Kane co., March, 1846.

Stimulating Ointment for Horses—Yellow rosin, spirit of turpentine, tallow, flour of mustard, each one pound; rape oil, 8 ounces; red precipitate, 4 ounces. Mix.



**Gas-tarring Walks.**—Happening to be at Margate a few days ago, I observed that the public walk upon the cliff was covered over with gas-tar. Upon inquiry I found that this plan had answered perfectly upon the gravel-walk in the centre of the pier, which has been done some years, is quite smooth and hard, and has all the appearance of being covered with Claridge's asphalt. I consider this plan of gas-tarring walks a great hit. They are thus made dry in all weathers, the worms are destroyed, no weeds can grow, and all trouble of keeping them in order is saved. The gas-tar is applied hot to the gravel walk with a brush, and dry sand is sifted over the tar to harden it. I should say that some powdered quick-lime might be added to the sand with advantage. Three or four coats are required, which may be renewed every two or three years as needful. I laid down two barn-floors in 1839 with Claridge's asphalt, half an inch thick. They are now in as good a state as when first done, and have answered my wishes in every respect. They cost me one shilling per square foot, which included a heavy land carriage for the materials. After having seen the gas-tar applied to the walks at Margate, I should now not go to the expense of laying down a barn-floor with Claridge's asphalt. I should prepare the floor with a solid concrete of broken stones, and then apply three or four coats of gas-tar with sand and quick-lime sifted over the tar. I think it would pay a farmer to prepare in this way all his homesteads. He would save all loss by rats, mice, and dampness. In using gas-tar as a covering for boards, I have found great advantage in mixing a little resin with each kettle of gas-tar. Thus mixed it will last longer and have more body and glossiness.—*Gar. Chron.*

**Mr. Hurbut**—I notice in the April No. of the *Michigan Farmer* some "suggestions for preventing injury to fruit by late spring frosts." I have successfully practiced the following method. About the time the tree is in bloom, or very little before, I deposit in a heap, say, half a cart load of coarse barn-yard manure under each bearing tree: let the manure be such as you would select for making a hot bed, or even coarser, and during the process of decomposition the evaporation will protect the fruit. Place the heap near the trunk of the tree on the north side, as what little air there may be will come from or near

that cold point. On the night of the 7th of May last, (by reference to my journal,) I find we had a hard frost, which destroyed the fruit; the same was the case on the night of the 20th of May, 1844, at which times I was fully protected above, though I may add that a great portion of all my fruit was destroyed by the wind and hail on the evening of the 24th of April, last year, nearly a month prior to the frost. But some trees, sheltered from the storm, produced abundantly, notwithstanding the frost.

The old New England weather we had in December seems to have destroyed the peaches, and perhaps some other fruit. We insist, however, on a crop of apples by affording them the above protection. Try it.

Respectfully, &c.,

L. A. LELAND.

Colon, St. Joseph Co., Apr. 12, 1846.

—*Mich. Far.*

**Raising Water by a Simple Process.**—Having long felt the want of water in our barn-yard and fields, we have succeeded in bringing a plentiful supply from a spring by means of a machine for raising water, upon a simple, cheap, and durable plan, which is within reach of every one who has a spring or rivulet at command, with not less than three feet fall. With this amount of fall, we may throw up to the yard one-sixth of the amount used by the machine;—or, in other words, if a man has a stream or spring furnishing six quarts per minute, he may throw one-sixth of it into his yard for the use of his stock. If there be a greater fall, a greater proportion of the water may be thrown into the yard. Our spring furnishes three quarts per minute; we have 17 feet fall from the spring to the machine, and from the machine to the yard 42 feet rise, and while the machine is at work, it sends into the yard three quarts per minute; and as we can only get one-third of the quantity into the yard, we can consequently only work our machine eight hours out the twenty-four.

We make this communication, believing that a knowledge of our success may be valuable to the readers of the *Cabinet*.—*Farmer's Cabinet.*

**A Cure for the Piles.**—Take 1 scruple of powdered opium, 2 scruples flour of sulphur, and 1 ounce of simple cerate. Keep the affected parts well anointed. Be prudent in your diet.

**Curing Clover.**—Every farmer knows that there is a difficulty in curing clover for hay, without the loss of much that is valuable. If exposed to a hot sun long enough to dry the stems, the leaves and their foot stalks become crisped, and scatter off in the process of raking, and such as remain are much deteriorated. To prevent this, clover is sometimes raked into small ricks, as soon as wilted, and left to complete the curing, in that state.—Should a rain occur in the interval, however, injury to a greater or less extent occurs; and to guard against this, some have preferred covers of painted canvass to throw over the cocks while standing, secured from being blown off by weights at the four corners. This involves quite an expense. A method has been suggested of accomplishing the same object without expense, and with but little trouble. It is new to us, and may be so to others. We give it as a hint for experiment.

Prepare a stack bottom, raised some 18 inches from the ground, so that the air may have free access below. Take three poles, as long as the intended height of the stack, stuck them in the ground at a few feet distance from each other in the middle of the stack bottom, bear the tops towards each other, and fasten them together, so that the three poles will form a pyramid. Around this stack the clover as soon as wilted, covering over the top of the pyramid with hay to exclude the rain. As the steam rises from the half-cured clover, it will pass up the interior of the pyramid, and out through the cap or covering, and a draft will be formed from the open sides below, like that of a chimney.—*Mich. Far.*

**New Brick Machine.**—Messrs. Cuthbertson and McMillan have in operation, at Cincinnati, a new brick machine, which excels any thing of the kind in use. The clay, in a crude state, is thrown with a shovel into a hopper, in which a mill, or pulverizer, is placed over the upper press-wheel in such a manner as to discharge the clay into the mould on both sides of the press-wheel. The moulds being filled in this manner with pulverized clay, pass under the press-wheel twice—giving the brick a double pressure and shaving them smooth by means of a knife attached to the machine. The bricks are then thrown out of the moulds by an admirable contrivance on a table at each end of the machine, at the rate, the pro-

prietors say, of 5000 per hour, sufficiently hard to be attached to the kiln. As the whole works will be under cover, they can work as well in rainy or foul weather as when it is dry.—*Scientific Farmer.*

**Potato Jelly.**—The potato may with ease be made into a rich and nutritious jelly, and the process should be generally known. It is as follows: Let a couple of good sized, mealy potatoes be washed, peeled and grated; throw the pulp thus procured in a basin of water and stir it well; let it stand a few minutes, and a sufficient quantity of starch will have fallen for the purpose required; pour off the water, and pour on boiling water, stirring the starch the while, and it will soon and suddenly pass to the state of jelly. The only nicety required, is to be careful that the water is absolutely boiling, otherwise the change will not take place. On comparing this jelly with that obtained from Bermuda, a difficulty in discriminating between the two will be apparent. The difference, however, becomes more obvious on applying sugar to sweeten the jellies, for then the superior flavor of the potato jelly is at once perceived, and it is equal, if not superior, also to arrow root in its nutritious properties.

**Laquier Apple.**—Three or four years ago, we first saw the Laquier, in Ferrinton, at the house of Gideon Ramsdell, Esq., who has a very extensive orchard, and many fine varieties. Since that time we have propagated it pretty extensively. A short time ago, a few specimens of it were presented us by H. Fellows, Esq., of Penfield. From one of these we took the above outline drawing. Mr. Fellows seems to be familiar with the history of its introduction to Western New York. He informed us that it was brought from Lancaster, Pa., by Col. Antis of Canandaigua, in the early settlement of the country, some 40 or 50 years ago. It was, at that time, a popular fruit among the Dutch inhabitants of Pennsylvania. It is a very handsome, high flavored fine apple, and should have a place in every good collection.

**Fruit**—medium size, flattish and considerably furrowed. **Skin**—smooth and glossy, mostly covered with a clear red. **Stalk**—short and rather slender, inserted in a rather deep cavity. **Calyx**—closed in a deep, wrinkled basin. **Flesh**—white, crisp, and very juicy. **Flavor**—high and pleasant. It is in season from November to May.

## Planting Cranberries.

In its wild and natural state, the cranberry is found in wet situations; in boggy grounds, in damp sandy lands, and on the low margins of ponds and streams. It will live and grow in comparatively dry soils; but it will not bear fruit without its roots are immersed in water at all seasons of the year.

*Soil and Cultivation.*—The first object of the cultivator should be to select the soil for his cranberry yard. Every wet situation is not suitable. The soil must either be sand, mud, peat, or a mixture of these. There must be an abundant supply of water at all seasons of the year. If the ground is so situated that it can be flooded during the winter and spring, it is better, but it is not indispensable to success. The ground must be saturated with water, either from springs, running streams, or the drainings from high land. On the low sandy margins of ponds the water is not much affected by the season, a sufficient supply of moisture will ascend, because the little spaces between the grains of sand act as so many capillary tubes for the ascent of the water; but when the margin is compact earth or unmixed peat, the dampness will not on that principle rise to the surface. In a selection of a situation for his cranberry yard, the cultivator must observe first, whether the soil is of a loose, porous character, easily permeable to water, and second, whether there will be an abundant supply of water in the driest seasons. If either of these two requisites is wanting, it will be useless to him to attempt the cultivation of the cranberry.

*Planting and Culture.*—In boggy grounds it is advisable to retain the top sod, and cover the surface with beach sand if it can be easily procured; if not, with any sand that does not contain loam or surface soil. Till recently the common mode of setting out the vines was, after the bog was covered with sand, it was marked off in parallel rows, like a corn field, and sods of vines set from three to four feet apart each way. The usual method now is, to set in drills about two feet apart. The vines are separated, and only two or three upright stalks are set together, and are placed from six to twelve inches apart lengthwise of the drill. On wet barren sandy land, the expense of setting out the vines is much less than on a bog.

Cuttings from any part of the stem will strike root, and may be used where it is difficult or ex-

pensive to procure a sufficient quantity with roots. Where vines cannot be procured cranberries may be sown. It is not certain but that sowing will ultimately prove the cheapest and most expeditious method. We know of but one instance where cranberries were sown. The experiment was successful, and the ground is now thickly set with vines.

The best time for setting the vines, we are unable to state. The common practice has been to set them at any time when the weather would admit, from March to November. The spring we should think preferable for sowing.

During the first season they are set, vines frequently put forth numerous runners four or five feet long. The next year the runners put forth upright bearing stems, which produce cranberries on the third year. The vines do not usually become so thick set as to cover the ground before the fifth year.

Manure is worse than useless, and any vegetable or animal matter that will cause fermentation is injurious. As a general rule, the more barren the surface of the soil, the better it is adapted to the growth of the cranberry. The growth of the grasses in such situations will be feeble, while the cranberry obtaining its sustenance mainly from water and the atmosphere, grows luxuriantly and will ultimately kill out the grasses and obtain complete possession of the soil.

During the first three years it is better to pull out the grasses than to wait for the cranberry vines to overcome them. Bushes must be carefully removed as fast as they spring up, because if suffered to grow they would do great injury. No other attention is necessary, excepting that good fences must be maintained around the vines to prevent the depredations of herbaceous animals.

*Profits.*—One bushel of cranberries to the square rod may be considered a good crop from vines that have been set five years, though we could cite particular instances in which four and five bushels have been obtained. Raising cranberries is like every other business in life; if a man judges rightly, is prudent and industrious, he will commonly succeed; but if he depends more on good luck than on good management, in nine cases out of ten he will fail. The cranberry fever is now running high among us, and almost every man you meet exhibits some symptoms of the disease. That fortunes are suddenly to be made by all who embark in the business we do not believe; but that large profits can be obtained from vines set in good situations

such as are above described, there is no doubt. The experiment of Capt. Henry Hall, Hiram Hall, of Dennis; of Capt. Edward B. Hallet and Edward Thacher, of this town, and many others that could be named, prove that the raising of cranberries in good situations is a profitable business.

We know that some of the opinions which we have given in this article will militate against the theories of a few of our friends; but we cannot help it. We have carefully examined almost every cranberry bog and yard in the country, and have carefully compared the information thus obtained, and we know that our opinions are corroborated and supported by all who have had the largest experience in the business. We do not wish to discourage any from planting vines. Far from it. We say go ahead. All we wish is to discourage men from running blindfold into a business, respecting which all the necessary information can be so easily and so readily obtained — *Yarmouth Register*.

**Fire Cement.**—Inquiries are being made, I observe, after a cement that will withstand fire. For lime-kilns and such-like igneous works, in this part of the country, a strong loam alone is used; but, not having access to any such, I have lately used for the erection of one of Mr. Rivers's brick Arnott stoves the following composition:—Stiff clay, liquefied to the consistency of yeast or thick cream, and passed through a coarse sieve, two parts; sharp sand, one part; and coal-ashes, one part, passed through the same sieve. The clay should not be so loose as not to be made sufficiently stiff again by the admixture of the dry ashes and sand to be worked up as mortar. This composition assimilates so much to what appears to be that of the "fire-lumps" and fire-bricks, that I have very little doubt of its solidification when the fire comes to be applied. I propose to let the water dry out, as bricks are treated, before the fire is lighted.

**Bots in Horses.**—The stage-drivers on the routes leading from Albany to the western parts of the state of New York, in giving to their horses on the road, mix a little wood ashes with their drink, which they say, effectually preserves them against the bots.

**Cure for Colds.**—Take a large tea-spoonful of flax-seed, with two pennyworth of extract of liquorice, and a quarter of a pound of sun raisins. Put it into two quarts of soft water, and let it simmer over a slow fire till it is reduced to one; then add to it a quarter of a pound of brown sugar candy, pounded, a table-spoonful of white wine vinegar, or lemon-juice.

**Note.**—The vinegar is best to be added only to that quantity you are going immediately to take; for if it be put into the whole, it is liable in a little time to grow flat.—Drink a half pint on going to bed, and take a little when the cough is troublesome.

This recipe generally cures the worst of colds in two or three days, and, if taken in time, may be said to be almost an infallible remedy. It is a sovereign balsamic cordial for the lungs, without the opening qualities which engender fresh colds on going out. It has been known to cure colds, that have almost been settled into consumptions, in less than three weeks.

**Distemper in Dogs.**—Pass a red-hot iron through the skin on top of his neck, and pass through the aperture a thick woollen string; this must be drawn round once or twice a day, to promote a free discharge of matter. If the dog is bound, give him some laxative medicine; if too loose, give a little strong salt and water, once a day. In many instances the same medicines that would be recommended to man, would in like manner prove beneficial to dogs.

**To Mix Paints.**—In mixing paints, observe, that for out-door work you must use principally, or wholly, boiled oil, unless it is for the decorative parts of houses, &c., then mix as for in-door work. For in-door work use linseed oil, turpentine, and a little dryers, observing that the less oil, the less will be the gloss, and that for *flatted white*, &c., the color being ground in oil, will scarcely require any further addition of that article; as the object is to have it dull.

*Farewell to Winter.*—Fare thee well old Winter! After lingering thus long with us thou seemest to be 'passing away.'

Thou'st laid aside thy icy-sceptre, gathered about thee thy snowy robe, and art only pausing to bid us adieu. The trump of Boreas which first heralded thy coming is no longer heard, the spirit of the storm which proclaimed thy stay has sunk to rest, and now the united peans of ringing birds murmuring streams, and gentle zephyrs note thy departure. We sorrow not at thy going, nor would we wish to say to thee a last farewell, but hope in thine own good time to meet again. Though thy aspect is often stern, yet it is not always unlovely—it is sometimes beautiful, yea glorious. Thou art called cruel, but methinks there are some latent sparks which occasionally warm thy cold heart, and almost force a smile upon thy dark visage. In the midst of thy severity, thou art sometimes kind.

But thy reign is over. Thy fetters, which bound the blue waters, are broken, and they leap joyously in their freedom, and earth no longer wears thy snow-white mantle. Thy sparkling coronet and icy throne have melted away, as from the lucid chambers of the south, the joyous spring locked out and smiled, and thou must be gone ere thy glory has all departed. So fare ye well, till the ever moving chariot of time shall bring thee back again.

*To make a strong Water-proof Glue.*—Dissolve common glue in water in the usual way, and dip into some clean paper, sufficient to take up an ounce or more of the glue. When the paper is nearly dry, roll it up, or cut it into a wide-mouthed phial or flask, with about four ounces of alcohol; suspend this over a fire so as to boil it gently for an hour, having the cork set in slightly to prevent its taking fire, but not so as to prevent the escape of the vapor entirely. Then take out the paper (the only use of which is to give the glue more surface for the action of the alcohol) and add one ounce of gum-shellac in powder. Continue the heat, often shaking the mixture till the shellac is dissolved. Then evaporate it to the proper consistence for use.

**NOTE.**—Many experiments have been made, in order to discover some aqueous size, that when dry, would resist moisture: and some have recommended skimmed milk, and others vinegar, as a menstrum for the glue. But it does not appear from trial, that either of these are but very little better for this purpose than water, nor is it

probable that any similar composition of size will resist moisture much better than common glue, especially if it be mixed with sulphate of lime, or some similar substance by way of support.—*Scientific Mechanic.*

*To make Ginger Beer.*—Bruised ginger, 2 ounces; water, 5 gallons. Boil for one hour, then add when sufficiently cool, lump-sugar, 3½ pounds; cream of tartar, ½ ounce; essence of lemon, 1 drachm; yeast, ½ pint. Strain, bottle, and wire down the corks.

2. Loaf-sugar, 1 pound; rasped ginger, 1 ounce; cream of tartar, ¾ ounce; boiling water, 1 gallon. Mix and cover them up close for one hour, then add essence of lemon, 15 drops. Yeast, 2 or 3 spoonful. Strain, bottle, and wire down the corks.

*Manure.*—Put on your land all the manure that can be scraped from your premises, or that you are entitled to from the road. Leave not a particle in the barn-yard. It matters not how coarse or long it is, if you can plough it in. All you get from it before another season is clear gain, for it will lose but little more under the ground with a crop over it, than exposed to the action of the sun and rains in the yard. If it cannot be used, place it in heaps and cover it two feet thick with earth which will inhale and retain most of its enriching gases till wanted.

*An Ointment for a Pain in the Side.*—Beat two ounces of cummin-seed very fine; sift it and put to it two spoonfuls of neat's-foot oil, and two spoonfuls of linseed oil: make it hot over the fire and anoint the side with it. Dip a flannel in the ointment, and lay it on as hot as you can endure it.

*To restore Tainted Meat.*—If salted, wash it and throw away the old brine, then replace it with the following composition, and let it lie in it for a few days: Fresh-burnt charcoal, powdered, 12 parts; common salt, 11 parts; saltpetre, 4 parts. Mix. This must be used the same as common salt; and when you want to cook the meat, the black colour may be removed with clean water.

*To Cure Smokey Chimneys.*—1. Contract the draught. This is infallible, if properly done. 2. Increase the height or crookedness of the chimney. The more turns a chimney has, the greater is (usually) the draught.

**To make the best Copal Varnish.**—Take one pound of gum copal, and melt it in a flask over a brisk fire of charcoal; at the same time in another flask, boil or heat to the point of boiling, one pint of linseed oil; as soon as the gum is melted, take it from the fire, and add the hot oil in small quantities, at the same time stirring or shaking it till they are thoroughly incorporated. Allow the mixture to cool below the boiling point of water, and then add nearly a quart of spirits of turpentine: cork the flask slightly, and expose it for a few days to the rays of the sun, which will make it work more smooth and shining. If a larger quantity is to be made, a copper boiler, that is small at the top will answer to melt the gum in. For ordinary or coarse work, a larger proportion of oil and a little rosin may be added. If oil is used, in which red lead and litharge (in the proportion of half a pound of each to a gallon of oil) have been previously boiled, the varnish will the sooner dry.—*Sci. Amer.*

**For Wounds in Horses.**—While writing, I will give you the following recipe for a preparation to cure wounds in horses. I have never seen it published, if it is new to you, perhaps it may be of service:

Take one gill of turpentine, two gills of whiskey, and one egg. Beat the egg well, and mix the three together. It should be applied with a feather or swab twice a day. It keeps a wound healthy, and prevents its healing too rapidly. For its efficacy I can vouch.—*Cor. Alb. Cult.*

**To make Tomato Wine.**—To one quart of juice, put a pound of sugar, and clarify it as for sweetmeats. The above is very much improved by adding a small proportion of the juice of the common grape. This wine is believed to be far better and much safer for a tonic or other medical uses than the wines generally sold as port-wines, &c., for such purposes. It is peculiarly adapted to some diseases and particularly recommended for derangements of the liver.—*Prairie Farmer.*

**Ginger Cake.**—Flour, 3 pounds; sugar and butter, each 1 pound; ginger, 2 ounces; treacle, 1 pint; cream,  $\frac{1}{2}$  pint; a little nutmeg. Mix warm, and bake in a slack oven.

**Gold-Coloured Sealing-Wax.**—1. Bleached shell lac, 1 pound; Venice turpentine, 4 ounces. Melt and add gold-coloured talc as required.

2. Bleached shell lac, 3 pounds; turpentine, 1 pound; Dutch lard, ground fine, 1 pound or less.

Mix with a gentle heat. The lard should be ground or powdered sufficiently fine without being reduced to dust.

**Bees.**—When the weather is cool, take out the under board, wash it clean, if any filth has accumulated on it. Then whitewash the under board, and the inside of the hive up to the comb, and on the lower edge of the hive also. Put fine salt in the whitewash. This promotes the health of bees, and we think it prevents the intrusion of moths.

**To Stop Diarrhœa.**—Take half a pint of brandy and stir it with an iron nearly red-hot, previously adding loaf-sugar sufficient to make it agreeably sweet. A spoonful or two to be taken two or three times a day.

**Wash for the Hair.**—The American Farmer says, a quarter of an ounce oil of bergamot, put in a quart of uncolored New England rum, well shaken together in a glass vessel, and applied twice a day, is one of the best washes ever applied to the human hair, and prevents its falling out.

**To Extract Paint or Grease Spots.**—Dip a pen in spirit of turpentine and transfer it to the paint spot, in sufficient quantity to discharge the oil and gluten. Let it stand some hours, then rub it. For large or numerous spots, apply the spirit of turpentine with a sponge if possible, before it becomes dry.

**To Extinguish Fire in Chimneys.**—1. Throw several handfuls of flower of sulphur on the burning coals. 2. Throw some wet straw, or horse litter on the fire, and keep sprinkling it with water. This must be neither so wet as to put out the fire nor so dry as to burst into a flame.

**To bring Horses out of a Stale on fire.**—Throw the harness or saddle, &c. over them and it is said they will come immediately.

**Frost counteracted.**—As the blossoms of fruit trees are more particularly affected by early frosts, the following plan has been recommended to counteract the injurious effects of the same: A rope is to be interwoven among the branches of the tree, and one end of it immersed in a pail of water. This rope it is said will act as a conductor and convey the effects of the frost from the tree to the water. Both hemp and straw have been recommended for this purpose.

*To prevent Horses being teased by flies.*

—Take two or three handfuls of walnut leaves, upon which pour 2 or three quarts of cold water; let it infuse one night, and pour the whole, next morning, into a kettle, and let it boil for a quarter of an hour; when cold, it will be fit for use. No more is required than to moisten a sponge, and, before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz. between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure, will derive benefit from this preparation, but the coachman, the wagoner, and all others who use horses during the hot months.

*To ascertain whether a Horse has good Sight.*—Examine the size of the pupil of the eye in a dull light, then gradually expose to a brighter one, and observe whether it contracts or not; if it does, the horse can see, and according to the amount of the contraction will be the keenness of his sight.

Grafting wax of excellent quality may be made by melting together 3 parts of beeswax, 2 parts of rosin and 2 of tallow.

*Downing.*

*To remove Spots from Piece Goods.*—Dampen them over with a sponge dipped into a weak solution of pearl-ash and water, (from one to two ounces to the gallon, according to the strength or delicacy of the color,) and immediately roll up the goods, so that they may remain damp for two or three hours, (sometimes a whole night is necessary;) then hang out to dry in the shade, never allowing the sun to shine on them, or they will be spoiled.

*Fattening Turkeys.*—Experiments have been successfully tried of shutting up turkeys in a small apartment made perfectly dark. They were fattened, it is said, in one quarter of the usual time. The reason assigned is, that they are thus kept still, and have nothing to attract their attention.

*IMPORTATION OF SHEEP.*—We learn from the *Albany Evening Journal*, that Mr. S. W. Jewell, of Weybridge, Vt., has just imported from England, ten yearling ewes, from the famous Merino flock of the late Lord Western. In 1808, the Spanish Cortes tendered to the King of England five hundred Merino sheep to distribute among his subjects. From this flock Lord Western was allowed to select forty. He was a distinguished breeder. In our last number but one, we gave an account of his success in forming a cross between the Merino and long woolled breeds. His aim was to “engraft the Merino wool on a Leicester carcass.”

A portion of the flock were kept pure, excepting Saxony bucks were occasionally used. It is said that Lord Western, by a judicious course of breeding, increased the weight of fleece, without deteriorating the fineness. Mr. J.'s importation is from this lot.—*Bes. Cul.*

*Simple Cure for Worms.*—One spoonful of syrup of peach-blossoms, taken in a glass of the water distilled from the leaves, or in which the leaves and wormseed have been decocted, is a most safe and certain medicine for the worms in children.

*To cure Deafness.*—Take clean, fine black wool, dip it in civet, and put it into the ear; as it dries, which in a day or to it will, dip it again; and keep it moistened in the ear for three weeks or a month.

*To Prevent the Nail growing into the Toe.*—If the nail of your toe be hard, and apt to grow round, and into the corners of your toe, take a piece of broken glass and scrape the top very thin; do this whenever you cut your nails, and, by constant use, it makes the corners fly up and grow flat so that it is impossible they should give you any pain.

*Butternut or White Walnut.*—This is an abundant tree in our country. Its sap affords sugar equal to the maple. The bark of the root of this tree will excite a blister, and the bark and shells of the nut dye a good brown color. A decoction of the inner bark is advantageously employed as a cathartic in the disease of horses called the yellow water. The extract should, for medicinal purposes be made from the inner bark, especially of the root, in the month of May or June. It is an efficacious and mild laxative in doses of from ten to twenty grains.—*Alb. Cult.*

**THRESHING MACHINES.**

THE Subscriber begs to announce to the Farmers of the Gore and adjacent District, that he continues to manufacture THRESHING MACHINES of two, four, and eight horse-power. Having made recent improvements in his Machine and obtained a Patent for the same, he is enabled to offer his Customers superior advantages. He thinks the large and increasing demand his Machine has obtained for several years past, (135 made and sold last year,) is sufficient evidence of their superiority.

He has also commenced manufacturing SEPARATORS, that can be applied to any horse-power, which he will sell as low for Cash or approved Credit, as can be purchased in the State of New York.

WM. MCKINLAY.

West Flamboro' C. W.,  
May 28, 1846.

**HAMILTON TANNERY,**

(Directly East of the Court House.)

HAMILTON, C. W.

THE Subscribers thankful for all past favors, beg to remind their old Customers and the Trade generally, that they still carry on at their old stand as usual, and having taken all the principal Premiums at the Annual Fair, for the last three years, can therefore with confidence say, that they can supply them with as good, if not better Articles, and at as low rates for Cash, as can be bought in any other establishment in Canada.

Cash paid for Hides, Calf and Sheep Skins.

CLEMENT & MOORE.

Hamilton,  
March, 1846.

**TORONTO NURSERY AND SEED GARDEN,**

ON THE KINGSTON ROAD,

One and a half Miles from the Market-place.

GEORGE LESLIE & Co., Proprietors.

THIS Establishment is situated as above, and was formerly carried on by GEO. LESLIE. The tract of land, twenty acres in extent, is admirably adapted to the purpose. Upwards of ten acres are already planted with Trees, Shrubs, &c. and arrangements are being made with a view to render this the most extensive and useful establishment of the kind yet attempted in the province. They have on hand, and offer for sale, a superior collection of Fruit and Ornamental Trees, Flowering Shrubs and Plants, Green-house Plants, Bulbous Flower Roots, Dahlias, &c.

The collection of Fruit Trees comprises the most valuable and esteemed varieties adapted to our latitude, either grown here or in the well known Mount Hope Nurseries of Rochester, N. Y., with which this establishment is connected.

The collection of Ornamental Trees, Shrubs, Roses, Herbaceous Plants, &c. is quite extensive, and is offered at moderate prices. Public Grounds and other places requiring large quantities of Trees and Shrubs, will be laid out and planted by contract at low prices.

To persons at a distance we would recommend to procure their Fruit Trees in the Fall, more particularly where the soil is dry and warm: October and November, immediately after the cold weather has arrested vegetation, is esteemed the best season of all for transplanting Trees. When Trees are transplanted in Autumn, the earth becomes consolidated at their roots, and they are ready to vegetate with the first advancement of spring.

All articles sent from the Nursery are carefully packed, for which a small charge, covering expenses, will be made. Packages will be addressed and forwarded agreeably to the advice of persons ordering them, and in all cases at their risk.

A large supply of Fresh and Genuine Garden Field and Flower Seeds constantly on hand at their Seed Store and Nursery Depot on Yenge Street, between King Street and the Wharf. Such Seeds as can be grown to greater perfection here than in Europe, are raised in the Nursery Grounds, and sold wholesale, at low prices.

Orders by mail (post-paid) from any part of the country, if accompanied by a remittance or a satisfactory reference in the City of Toronto, will receive prompt attention.

Priced Catalogues will be furnished gratis to all post-paid applications.

GEORGE LESLIE & Co.

Toronto, Sept. 1845.

**ST. CATHARINES NURSERY.**

THE Subscriber still continues the cultivation of the most choice kinds of FRUIT TREES, and has now a good assortment of Apple, Peach, Plum, Nectarine, Apricot, Quince, and Cherry. He is growing an extensive ORCHARD, consisting of all the varieties, which he offers for sale; and many of the trees have already borne Fruit, enabling him to cut his Grafts from such as are true to their names.

In this manner he hopes to attain that degree of accuracy in cultivation which will enable him to avoid these mistakes so unpleasant to purchasers. Apple, Peach, and Quince Trees, are 1s. 3d. currency, each, or £5 per one hundred.

Apricot and Nectarine are 1s. 10d. each. Cherry and Plum 2s. 6d. A liberal discount will be made to any person or company that may buy one thousand.

Catalogues will be furnished gratis to all who may apply. All orders by mail for Trees or Catalogues will receive the earliest attention if post paid.

Orders for trees must invariably be accompanied by Cash or a satisfactory reference.

C. BEADLE.

St. Catharines, January 1st, 1846.

Always on hand a general assortment of Lasts  
 Pegs, Boot Trees and Crumps, &c.  
 Conch, Hollows, and Grain Leather made to order

They have constantly on hand Sole, Harness,  
 Upper, Skirting and Bridle Leather, Calf, Kip,  
 and Sheep Skins, also Sirap Leather, &c. &c.



**BEAUMONT FARM FOR SALE.**

THE above Valuable Property is within 3 miles from Bytown, and two miles from the Gloucester Mineral Springs, and consists of 245 acres of the best Land, of which about 200 Acres are under cultivation. It fronts the Ottawa River in the Township of Gloucester. There are on it erected two first-rate new Barns, 40 x 60 feet, a large Stable and Sheds, a good Log House for the working men, the best Wharf on the Ottawa River, a Stone Cottage 50 x 56, to be completed on the first day of July next, and as a Farm House will be inferior to none in this Province. On a part of the said Farm there is an inexhaustible Quarry for Cut Stones—the nearest to the flourishing town of Bytown, and owing to its intercourse with the Lumber trade, is the best market-place in the Province, which must render this farm a desirable acquisition. The owner will also sell his stock of Cattle, Horses, Farm Utensils, and a new and unlimited-power Stumping Machine.

For further particulars, apply to

**J. BARREILLE.**

Bytown, 10th April, 1846.

**TO THE FARMERS.**

IN consequence of the contemplated changes by the Imperial Parliament of the Corn Laws of Great Britain, which, if carried into effect, will materially alter the prospects of this Province as an Agricultural Country, and as it will be incumbent on us to make a home market for as much of our surplus produce as possible, the only way to do this is to encourage *Home Manufactures*; by doing this you will create a Market in the Country for a large amount of your surplus produce at a much better price than you can expect to get by exporting it to other countries.

As we have been known to a great many of you for some time back, we do not consider that much is required to be said by us, but that we have gone to a great expense during the past year in increasing our Establishments both here and at Streetsville, by adding all the latest improvements in Machinery. We are enabled to offer a large stock of the following articles manufactured by us, Cloth, twilled and plain, of different colors and qualities; Sattinett, Twocods, Checks for men and women's wear, flannels, in all the different varieties, Carpeting of superior quality, and Blankets, which we will be ready to exchange for any quantity or quality of wool, on our well known principle of

**LIVE AND LET LIVE,**

which the public can rest assured will be as favorable as at any other establishment in the province.

Persons coming from a distance will find a great advantage in getting the manufactured goods home with them, and of such a quality, as cannot fail to give general satisfaction.

All kinds of custom work done both here and at Streetsville, with neatness and despatch, and all damages (should any occur) to either Cloth or Wool, will be made good.

**WM. BARBER & BROTHERS.**

Expressing Woollen Factory,

Georgetown, 13th April, 1846. } . . . 3

**EASTWOOD & Co.**

*Paper Manufacturers, Stationers, School Book Publishers, &c.*

YONGE STREET, TORONTO,  
AND  
KING STREET, HAMILTON,

HAVE constantly on hand an assortment of all the Popular and Standard SCHOOL BOOKS in use throughout the Province, together with BLANK BOOKS of every description, WRITING PAPER of all kinds, PRINTING PAPER of any size required, WRAPPING PAPER, various sizes and quantities, STATIONERY, &c.

In addition to the above they keep at their Establishment in Hamilton, a full and varied assortment of FANCY STATIONERY.

Every description of RULING and BINDING done to order.

RAGS bought and taken in exchange.

Country Merchants taking in RAGS, as well as others, will find it to their interest to give us a call, as we can and will sell or exchange upon as liberal terms as any Establishment in Canada. Sept. 1845.

**J. CLELAND,**

**BOOK AND JOB PRINTER,**  
KING STREET, TORONTO,

Adjoining Mr. Brewer's Book Store, leading to the Post Office.

Every description of Plain and Ornamental Printing neatly executed on moderate terms.

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(FOR 1846, NEW SERIES)

Is published on the First Day of every Month, at Toronto, by EASTWOOD & Co., to whom all orders must be addressed.

W. G. EDMUNDSON, } Proprietors.  
EASTWOOD & Co. }

W. G. EDMUNDSON, Editor.

Each number of the Cultivator contains 32 pages, and is subject to one halfpenny postage, when directed to any Post Office in British America.

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All payments to be made invariably in advance and free of postage.

Editors of Provincial newspapers will oblige the Proprietors, by giving this advertisement a few insertions.

Toronto, Jan, 1846.