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THE AGRICULTURIST

AND CANADIAN JOURNAL,

Devoted to Agriculture, Literature, Education, Useful Improvements, Science, and General News.

WILLIAM McDougall,

EDITOR AND PROPRIETOR.

VOL. I.

TORONTO, DECEMBER 15, 1848.

No. 16.

SUBSOIL PLOUGHING.

BY JOHN MALLORD, OF YATES COUNTY, NEW YORK.

Ploughing is one of the most important branches of agriculture—necessary even to its existence. The improvement of practical agriculture is in proportion to the improvement made in the art of ploughing. The principles which chemistry has revealed may be made abortive—their results defective—by improper ploughing.

The object to be obtained from ploughing is threefold. 1st. to pulverize the soil; 2nd, to expose a great depth of soil to the action of the atmosphere; and, 3rd., to hold the many fertilizing substances brought down by rain and snow, and absorbed by the soil.

It becomes necessary to pulverize the soil, so that the roots of plants may extend in all directions freely and to a great distance. The atmosphere coming in contact with deep and well pulverized earth imparts heat and moisture, and, acting upon the soil, assists in liberating its salts, and in bringing it into that condition which is best fitted for the growth of crops.

A small portion of water, during rains more or less heavy, sinks into the soil when shallow ploughed; such soil is sooner affected by the drought, and is dry at a greater depth than deep earths, as may be shown by an examination of shallow and deep ploughing in a time of drought. Common ploughing does not reach sufficiently deep to accomplish all that is desired; but deep ploughing, and its good results, are effected by following the common plough with the subsoil plough. It simply loosens the subsoil, and leaves it in that state that roots can enter it, that air can permeate it, and water be absorbed by it. A subsequent ploughing, with the common plough, can then easily intermix the surface and subsoil. Ploughing may thus be effected sixteen and twenty inches deep.

I have found, from frequent examination of the roots of the corn, wheat, and oats, during the last four or five years, that they generally incline to grow downwards, some of the roots even straight down until they reach the subsoil, then, after penetrating an eighth or a fourth of an inch, turn horizontally. I traced the root of a wheat plant which had extended sixteen inches perpendicular, in less than three months after it had been sowed, on ground previously subsoiled. It is interesting to take the spade, and examine the roots of crops, at any stage of their growth, in order to compare the effects of common or shallow with those of subsoil ploughing. To see the roots of corn pushing boldly downwards eighteen inches in search of food, eight inches of which had never been penetrated, except by the noble oak and hickory, and occasionally by the searching tap-root of clover, as I have witnessed this past summer, affords pleasure as well as instruction to the farmer who takes pride in showing fat swine or stall-fed oxen.

I subsoiled three-fourths of an acre, through the middle of an eight-acre lot, in June, 1846, for wheat. The field was ploughed but once, and cultivated several times previous to sowing the wheat. I am not able to give the result accurately, in consequence of cutting the grain with a reaper, by which I was unable to keep the wheat separate. The difference was quite perceptible at the time of harvesting; it stood thicker on the ground, and the berry was of a better quality than the adjoining, on ground not subsoiled.

In May last I subsoiled one acre and a half of corn, in a field containing six acres. It had been a timothy meadow for four years. The soil was clay loam; subsoil a tenacious clay; a part of the subsoiled ground was swale previously ditched, a part was a ridge, the balance a wet swale, with a compact, impervious subsoil. Twenty loads of unfermented manure were applied to the acre. It was ploughed in May, five inches deep, and subsoiled nine inches more.

I saw no difference in the corn until August, which was then very perceptible during the drought of that month. The corn upon the

subsoiled part had retained all its beautiful freshness, bearing a healthy, perpendicular tassel, and having the appearance, through the day, of having been refreshed with a shower of rain the previous evening. That on the unsubsoiled parts yielded to the drought, the tassels drooped, and the leaves became dry and rolled. After an examination of the soil and subsoil about this time with the spade, the difference in the parts became no longer a mystery.

The earth was moist on the subsoiled portion, within a fourth of an inch of the surface; on the unsubsoiled it was dry to the depth of an inch, the balance below dryer than the former. In the one the subsoil was filled with corn roots in search of food and water; in the other they were turned aside by the subsoil. The corn on the wet swale was as good, if not better, than any other portion of the field. Judging from the present crop, I am of the opinion that subsoiling this wet swale was an advantage to the crop of one hundred per cent., notwithstanding the objection raised by some to subsoiling wet land without ditching.

In consequence of an experiment, by which I wished to test two varieties of corn, which crossed the field in an opposite direction to that of the subsoiling, I only compared three rows of shocks, five rows in each shock, each row of shocks gathered from twenty-one rods of ground. The result was as follows:—

No. 1. not subsoiled, gave	606 lbs. of ears.
No. 2, three rows subsoiled, 2 rows not,	646 lbs. of ears.
No. 3, subsoiled,	676 lbs. of ears.

The subsoiled gave at the rate of 73 bushels to the acre; that not subsoiled 65 bushels per acre; a difference sufficient to pay for subsoiling. I considered the subsoiled part as having been previously inferior for corn. I aimed to be accurate: if there was any difference in the previous condition of the soil, or in estimating the results of the experiment, it was in favour of the unsubsoiled portion. From the observation of the effects of subsoiling, so far as it has been practiced by myself and others, my mind has become settled in the conviction that subsoil ploughing upon most, if not upon all the land of this county, will prove very beneficial for corn, and all crops usually raised by us.

I may be mistaken, but I fully believe that subsoiling, thoroughly performed, will prove more profitable to farmers for the outlay than any other one improvement. I have never anticipated much improvement from it until after one crop of clover. Then, I expect a complete preparation of the soil for wheat. It is unnecessary for me to describe with what ease a clover root will penetrate the loosened subsoil, and even go further in search of food, gaining strength with every additional inch of depth, bringing the salts of the lower strata to the surface for its use, and affording, by its decay, when turned under by the plough, rich stores of food for wheat. In conclusion, I would recommend subsoiling in the spring and fall, or when the ground is wet sufficiently deep, at any time in the summer. It does well for a summer fallow, if broken up easily. It is beneficial to any crop. The expense is about the same as for breaking up sod ground.

And, finally, if this short and imperfect essay should persuade one farmer of this county to practice deep tillage, with subsoiling, the object of the writer will be attained.—[Transactions of the New York State Agricultural Society, for 1847.]

WILD POTATOES.

It will be recollected that some have recommended procuring wild potatoes for cultivation, on the supposition that they would be more likely to escape the disease. We have in a former number stated that the results of some trials last year showed the produce of wild tubers as much affected with the disease as any. We learn from the English papers that they have been tried the past season, and proved equally affected as before.

Agriculturist and Canadian Journal.

TORONTO, DECEMBER 15, 1848.

THE AGRICULTURIST.—PAST, PRESENT, AND FUTURE.

This number of the *Agriculturist* is the last we shall publish in its present shape. We have compiled an Index to all the numbers published in 1848, which will be found on the outside sheet of this number. By referring to this Index, it will be seen that the sixteen numbers, when brought together, contain as great a variety, and as large a quantity of useful matter as any other publication of a similar kind, published at the same price. It is true, that at the commencement of the year, by the false representations, false calculations, and false promises of other parties, the writer was induced to believe that a *semi-monthly* paper would be more acceptable to the public, which we have still no doubt is the fact; and that such a paper would be sustained, which we have found, to our loss, is not the fact. We will now, as this is the last number for the year, recapitulate the chief reasons which operated to prevent the success of the paper on the plan upon which it was set afloat in January last. As there has necessarily been a good deal of disappointment to subscribers, and as we learn, from our agents, that some are disposed to take advantage of the circumstance, and refuse to pay anything for the paper, though they have taken it from the post-office, and though they were told, in the 11th number, that as the publication must cease to be published *twice* a month, or drop altogether they might pay for the half-year, or twelve numbers, and discontinue the work, if they did not wish to take it under the altered arrangements; and, further, though they have been informed that all paid subscribers would get the first *three* numbers of the Volume for 1849, which will make nearly, if not quite the amount of reading matter originally promised. We say, notwithstanding all this, and the explanations we have from time to time given, we are informed there are *some* subscribers who say they will not pay at all! For the information of these, as well as others, and for our own satisfaction, we will, for the last time, mention the causes of the difficulties through which the *Agriculturist* has passed, and is now passing.

First, it was well understood, before the first number was printed, that a circulation of 8,000 would be necessary to pay expenses and commission to agents. Then, had we reason to believe we would get that number? The following statement will show. The Editor of "The British American Cultivator" asserted that he then had a *bona fide* circulation of over 7,000 for his paper. "The Canada Farmer," which we then conducted, had obtained a circulation of 2,000 the first year of its existence, and without any effort till near the close of the year. Supposing we retained the subscribers to both Journals, we would have 9,000 at once. But, allowing for a large falling off, yet, by sending out ten or twelve travelling agents, to canvass the country thoroughly, and in places where no Agricultural paper had yet been introduced, we supposed a circulation of 10,000 might easily be obtained. These were the data and the prospects with which the year commenced. But how were they realized? In the first place, "The British American Cultivator" had not a *bona fide* circulation of 6,000; and it had been conducted in such a wretched manner, that great numbers refused to have anything further to do with it, or its successor. Then the extraordinary scarcity of money among the farmers, before harvest, prevented hundreds from subscribing, and thousands who did subscribe, from *paying*. At least so our agents represent; for our share of nearly 2,000 subscriptions has not yet been re-

ceived. The result was, after a three or four months' canvass, only 5,000 names appeared on our mail books. Some 500 or 600 have since been added. We now come to another branch of the subject, which we should wish to pass over, but, in justice to ourself, cannot. The Editor of "The British American Cultivator" was to have given his attention to the *business* of the publication, and to assist occasionally in the Editorial department. The first five or six numbers, as we stated on a former occasion, were got out without any one interested in the paper being able to get more than a *sight* of this gentleman, and that very rarely. It is during the issue of the first few numbers that the *business* of a publication requires most attention. As the expenses began to exceed the income, the present Proprietor found that he had to bear *all* the outlay *alone*, and to hire and pay people for doing that which this gentleman had undertaken to do, and pretended *he had done*, viz., the mailing. As difficulties increased, it was also ascertained that agents and others had made payments to him of considerable sums, which did not appear on the books of the concern, *nor did they go to pay any of its debts*. To mend matters, the Sheriff seized and sold his interest in the paper, to pay his *private* debts; and, to put on the climax, this worthy personage (we don't mean the Sheriff) walked off with the mail books, by which it became *impossible* to send the paper, or anything else, to the subscribers, till an Injunction from the Court of Chancery compelled him, after delaying till the last moment, to restore them to the proper office.

Failing, therefore, in all our reasonable expectations, as to the support which a good Agricultural paper, published semi-monthly, would receive, and meeting with these unexpected difficulties, obstructions, and annoyances, from one who ought to have felt the greatest interest, and made the most strenuous exertions for the success of the journal, the present Proprietor was obliged either to give it up altogether, or send it monthly, and trust to the good nature of the public to excuse him for the changes which have taken place. We do not ask any one to pay for what he has not got. We wish, though we shall suffer considerable loss, to keep *substantially* our engagements with subscribers, though we cannot keep them in the terms they were made. To any person who, through irregularities in the post-office or mistake may not have received the whole sixteen numbers, we shall be most willing to send those which are missing, whenever they write to us, post-paying their letters. As stated in our Prospectus for 1849, *three* numbers of the next volume, containing 32 pages each, will be sent to all present paid subscribers, and the remainder of the volume may be had for 3s. 9d. In this way we hope to satisfy, after the explanations given, all subscribers whose good opinion is worth retaining. We believe every man, be he learned or unlearned, will have got value for his money. If any farmer will read the paper carefully, and say he can find nothing in it worth a dollar to him, or to his family, we will not ask him to pay his subscription.

We have only one or two observations of a personal character to make, and then we shall be done with the past, hoping there will be no more occasion to allude to it, but that we may be allowed to look forward to a brighter and more prosperous future. The writer has occasionally met with persons who talked as if they thought *he* could know nothing about farming or farmer's interests, and that it was very like presumption to write or express an opinion on the subject, because he is a lawyer. Now, he has only to say, that he is a farmer's son; that he was brought up, and worked on a farm till he was nearly of age; that, being of a somewhat studious and observing disposition, he learned a little of the practice of farming, and of the peculiarities of the farmers' position in Canada, which he has not, nor probably ever will forget; that, not being blessed with a very strong constitution

he turned his attention to the study of law, but before completing his apprenticeship, an attack of ill health forewarned him that the pursuit of that sedentary and really laborious profession would be attended with serious consequences, and other circumstances being favorable, he made up his mind to return to rural pursuits, in the course of two or three years. It was this determination that led him to give some attention to the science of Agriculture, and to take part in an Agricultural paper. He has now been before the public as a writer on Agricultural topics for two years; and those who have read his productions, though written under many disadvantages, can judge whether he knows anything or nothing about the subjects he has attempted to discuss. He has felt, however, the necessity of having some person, of suitable literary and other attainments, who is either directly engaged in Agriculture, or has more leisure at his command than any one can have who attempts to practice the law associated in the management of the *Agriculturist*, in order to give it a high character for usefulness, and to adapt it thoroughly to the wants of Canadian Farmers. This assistance, it was supposed, the Editor of "The British American Cultivator" would have given: to what extent the reader has just been informed.

The Volume for 1849, and we trust many volumes thereafter, will have the advantage of the labours of such a person as we have mentioned. Mr. George Buckland, whose name our readers are already acquainted with, will be the chief Editor of the "CANADIAN AGRICULTURIST" henceforward. Mr. B. has had the very best opportunities to become fitted for such a post. Having been all his life engaged in the pursuits of Agriculture, practically and scientifically, in a country where it is conducted on the most improved systems, and where it is brought to the highest perfection, by the constant application of science, capital, skill, and everything that can conduce to its improvement, and add to its profits, we may confidently say that the paper will not, hereafter, be deficient in its Editorial department. A number of Correspondents, both in England and the United States, have promised assistance; and we hope those who have written for the paper during the last year will continue their correspondence, and that many others will enter their ranks. It is not the writings of the Editor of an Agricultural paper, that make it most interesting or most valuable. Unless he be assisted, prompted, and informed by Correspondents, who are daily in their fields, he must necessarily forget and neglect a thousand things, of the first importance. Liebig himself could not edit a paper that would be of general utility to practical farmers, without the suggestions and assistance of practical men.

The present Editor will give such assistance, especially in the Miscellaneous Departments, as may be required, in order to secure variety, and to make the paper as complete in all respects as possible. The inestimable blessing of health being restored, his intention of returning to the farm is for the present abandoned. The business of his profession will therefore demand the largest portion of his time. Still, as His Honor Vice-Chancellor Jameson remarked to us the other day, "Few professional men are so pressed with business but that they can find time to cultivate any study in which they delight." His Honor made this observation in allusion to his own experiments in Agriculture, which, notwithstanding the laborious duties of his Judicial station, he finds time to undertake and work out, upon a few acres of land, near the City. The usefulness and success of "The Agriculturist" will continue to occupy no small share of the writer's attention, until it becomes well established; and in withdrawing from the post of chief Editor, he believes he is giving place to a more experienced and more efficient man, whose labours, he

trusts, will be well received, and prove of great benefit to the Agricultural and general prosperity of our beloved country.

PROVINCIAL ASSOCIATION.

Our readers are aware that the next Meeting of this important National Institution, will be held at the city of Kingston, in the Midland District. It will be seen, by the following circular, from J. B. Marks, Esq., one of the Vice-Presidents of the Association, that he, at all events, is awake to the importance of making timely preparation for the Annual Show for 1849. It is to be hoped that the farmers and the farmers' wives of the Midland District will take the advice of Mr. Marks, and be up and doing. It mainly rests upon the people of the District in which the Show is held to supply the substantial contributions of stock, implements, &c., as well as the *money*—a share of which may be expected from other Districts; but these ought not to be depended on:—

CIRCULAR.

To the Presidents of the County and Township Agricultural Societies in the Midland District.

Office of the Agricultural Society of the Midland District. Kingston, C. W., Nov. 1848

Sir.—I acquaint you, for the information of the Members of the Agricultural Society and the inhabitants of the Township of ———, that the members of the Provincial Agricultural Association have voted that the next Annual Exhibition of the Association, for the year 1849, shall be holden at Kingston, in the Midland District, to commence on the first Tuesday in September next, and continue for three days in succession.

It is proper to make the time of holding the Exhibition known thus early, in order that all the inhabitants of the Province may have an opportunity of bringing forward at the show, such articles as come within their respective means of producing.

This great National Institution opens a wide field to the enterprising of every class. The supporting of which will give benefit and advantages alike to the merchant, the manufacturer, the tanner, the mechanic, the trader, and the labourer. The horticulturist and the finer branches of gardening will have full scope for displaying the production of their industry, ability and exertion. The ladies department will extend to articles of taste, elegance and usefulness, including shawls, counterpanes, wearing apparel, &c., &c.—Much of this work can be executed at a comfortable fire-side during the approaching winter.

In addition to what is above mentioned, the general feature of the Exhibition will consist in awarding premiums for all kinds of stock, and other farming products, domestic manufactures in all its branches, implements of husbandry, and labour-saving tools of all descriptions. The arts and other matters of taste will not be overlooked.

This great exhibition will bring into the district some of the best breeds of farming stock, machinery and implements of husbandry, a portion of which will, no doubt be purchased and remain in the district, and be the means of extending traces of its improvement, which will be visible for all time to come, and give an impetus to the spirited farmers in carrying forward our county and township cattle shows.

Ways and means must be provided for defraying the expenses of the premiums, &c., which will be struck off as liberal as possible.

We have in the Midland District and city of Kingston, about 5,000 names on the assessment rolls; a number of whom can be reckoned upon as subscribers to the Association from 5s. upwards to £6 each. This, together with the annual subscriptions of the members, the assistance of the Legislature, and liberal contributions of the other District Societies, will produce funds, it is hoped, that will be sufficient to give credit to the Province; therefore we must raise up our minds to the magnitude and usefulness of the subject.

Rouse up the industry of all the farmers and mechanics in your neighbourhood, and let the sluggards (if any) stay at home.

I have the honour to be, Sir,

Your most obedient servant,

J. B. MARKS.

President, A. S. M. D.

To the Chairman of the Agricultural Society of the Township of ———.

CHEAP ROOT CELLAR.—Dig the cellar three feet deep, wall the sides, cover with coarse timber and slabs, and then with earth, and a window at one end, with a door at the other, will admit, free ventilation, except in freezing weather.

**"IMPROVEMENT" IN BREEDS OF CATTLE,
SHEEP, &c.**

The following remarks, on the subject of Cattle Breeding, are from the pen of an experienced breeder in the State of New York. Mr. Sotham, as the reader will gather from his remarks is an Englishman. He is the person who, as we observed in a previous number, imported the Herefords into the United States. His stock of this excellent breed has carried off prizes at every State Fair at which they have been exhibited. Individuals from his breed are now to be found in almost every State of the Union. Last fall we paid a visit to his farm, and saw some beautiful young animals, which were just starting for Cuba, having been purchased at the Buffalo Fair, by an agent of the Spanish Government.

The notion which a former Correspondent, Mr. L. F. Allen, endeavoured to establish, namely, that certain breeds of cattle are superior to all others, and have been from the time of their creation, downwards, (for that is what the argument amounts to, if it be good for anything,) finds but little favor in the eyes of Mr. Sotham. He appears to think, as we thought, and argued, with Mr. Allen, that the superior qualities of certain breeds of cattle are the result of skill and attention in breeding. Nature occasionally produces an excellent animal, without any apparent pre-arrangement or assistance from the breeder. A fair starting point is thus gained; and then, by judicious care in crossing with other animals possessing similar good qualities, in process of time apparently a distinct breed is produced, capable of transmitting its superiority. This appears to us a more rational, as well as a more philosophical way of accounting for the origin of the various improved breeds of cattle, (for there are several,) than to suppose that they were originally created with the distinctive characteristics they now bear. We leave the statements and reasoning of our Correspondent to settle the question for the present. They are plain and practical, and come from a plain and practical man, who judges by what he himself has seen and done.

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To the Editor of the Agriculturist and Canadian Journal.

SIR,—I have just received the back numbers of the present volume of your spirited paper, and have perused them with much interest and satisfaction. I regret that the discussion between you and the worthy President of our Society, L. F. Allen, Esq., had not come to my notice before. Had I seen it, I certainly should have expressed my views on that important subject. I am not at all disposed to go back to tradition, or even to the history of each breed of cattle. Essays on this subject have been written, copied, and re-copied into almost every Agricultural Paper, both in the United Kingdom and in the United States. I am perfectly willing to let those old volumes lie undisturbed; but I am not content to give them the credit of imparting the knowledge by which the breeders of the present "improved" race of animals gained their object. That has been effected by good, sound, practical judgment, and that not of very ancient date. I think there has been more "improvement" in England within the last thirty years, in cattle, sheep, &c., than there was in the whole time previous from "Adam" to the Messrs. Collings & Co. For instance, when but a beardless boy, I went to the first Cotswold ram sale of the late Mr. William Hewer, of Northleach, England: thirty shear hog rams were sold, at an average price of £7 13s. At that time Mr. H's ewes were coarse; many of the sheep penned had raw backs and bad crops. I can safely say that there were not three sheep amongst the whole lot which came anywhere near perfection. Many of them had very extraordinary rumps. There was one shear hog he called the grey sheep, and which ever afterwards went by the name of Old Grey. He was considered very near to perfection. This sheep was led out, after the sale, for the inspection of the whole company, but he could not be bought at any price. One hundred and fifty

guineas were offered for him, and refused. I never put my hand on a better sheep. His broad, level, fat back, and perfect symmetry, excited the admiration of all. His flesh was of the best quality. His barrel was as straight as his back, his bone firm, his fleece (which was produced with him) weighed fourteen pounds, and he had the least offal of any large sheep I ever saw. He was estimated to weigh fifty pounds per quarter, when but eighteen months old, by very competent judges. Almost every Cotswold breeder present wished to send an ewe or two to him, but Mr. H. refused all; and I can safely say that the produce of that sheep was worth more than one thousand pounds extra to him in three years from the date he was shown there. At the second sale, the average was £8 11s. 6d.; and at the third, when "old grey's" stock was offered, the average price was £14 17s. 6d. One sheep sold for sixty-two guineas, another for fifty guineas, and ever since the sales have averaged from fifteen to seventeen guineas. *Old Grey's* face was as familiar to me as the face of any of my best friends: I knew him well, and valued his superiority. It would be a very difficult undertaking for the best mathematician to sum up the value of the improvement that sheep and his descendants made in England. Whether he was descended from the "*Plantagenets*," is a matter to be left to those who wish to investigate it. I am witness, with a large number of practical and scientific breeders, to a demonstrative proof of this decidedly valuable "improvement." Mr. H. having been so successful in the selection of his males, that the sheep his sons now offer, at their annual sales, are nearly uniform in symmetry and quality. The decided change in their flock of ewes was apparent to all who knew them: the coarsest were all drafted for the butchers, and they are now nearly all alike—on the borders of perfection; and they say they will not rest satisfied until the worst sheep is nearly equal to the best. This is the right spirit for breeders of male animals. Mark the improvement made by Mr. Jonas Webb and others, in the South Downs: the male was the first object.

Now, let us refer back to Messrs. Collings & Co. for the Short Horns. Who can value the improvement made by Hubback and his descendants. Take Mr. Bates' stock of Short Horns, and the Duke of Northumberland stands prominent in his favor, and claims the credit of his improvement. Mr. Lovel, of Edgecot Lodge, speaks in the same terms of his bull Anthony. The Herefords, a breed I think more highly of than any breed in the world, were much "improved" by Mr. Hewer's old bull Sovereign. He got more prize beasts than any other bull in his day, of any breed. Major (this bull won more prizes than any other known in England: from a calf to maturity he took seven first premiums. This was the bull I purchased when last in England; but, unfortunately, I lost him coming out) and Dangerous, by Mr. Turner's Goldfinder, and Mr. White's Upleaden Trojan, who offered to show him, when in his prime, against any bull, of any breed, in England, for one thousand guineas, and was not accepted. In the Devons the same rule will hold good, but I have no demonstrative information on that breed. It is the male animals that have made the improvement; but there are few persons who possess that good judgment to know when they have a good animal; and of the few who do know it, many like money so much better, that they are disposed of to the more enlightened. I consider a breeder of first class males one of the most important "improvers" in the nation.—one who can be thoroughly depended upon. I contend for a thorough-bred animal on the male side. I have no objection to a cross-bred female for every other purpose but bull breeding; and I know that a well bred male will improve any breed; and the "poorer scrubs," in course of time, can be converted into better animals, for profit, than those bred by scientific in and in breeders. This course will do for a short period; but you may depend upon it that those who breed for permanent credit will never long pursue it; or breed a cross-bred bull. A bull bred in and in, of not too close an affinity, will make vast improvements, while crossing with other breeds; when a degeneration amongst his relations has been glaringly obvious. I have had ocular, positive, and practical proof of this fact.

Those cattle you call "Natives" are the common Irish cattle of "all colour," having ragged chins and hips, large paunches, loose crops, and hard handlers; many of their hides appear as if they were stretched over their carcasses with a pair of pincers. I can keep four Herefords, weighing one-third more weight, upon less feed than three of these large paunched animals can be kept on. Time must have its course to "improve" this kind of animal to any profit; and I think it would be much cheaper to start with a better class, although many of them are excellent milkers. I have no doubt that the "Natives" you can show us in Canada are an improvement of this breed, from a superior male of some kind, which a practical breeder could readily distinguish.

Yours, &c., WM. H. SOTHIAM.

Black Rock, December, 1848.

A NEW MOVEMENT.

We have often thought that a great saving might be made by a number of farmers uniting together in the manner mentioned below, to dispose of their produce without the intervention of speculators or merchants. The probability is, that in the majority of instances, they would be gainers by the plan; but to realize all its advantages, they should send the cargo to the place or market of consumption. This would require a large number to unite and fit out a full cargo. There would be much greater risk in such an undertaking than in selling to the merchant at home, as well as a much slower return. The risk might be covered by insurance to a great extent, but not fully. But the additional gain would not warrant the farmer who wanted to use the profits of his harvest immediately in waiting the return from England; and if the money was drawn at our banks against the produce shipped for Liverpool or elsewhere, the premium or discount would reduce the profit considerably. If the farmers clubbing together in such a case, once gave their cargo into the hands of consignors and consignees, factors, &c., they would to a certainty be fleeced. It therefore becomes questionable whether such a plan could be generally adopted with any sufficient advantage. A proper division of labour is found desirable in all departments of industry. If such a practice as that mentioned below were to become general, our merchants would be annihilated. The farmer would then become his own merchant; and if so, he would have to import as well as export, or else pay the import merchant twice as much profit on his importations as he now does, to make up for the loss of half his business. Would the farmer in such a case be the gainer? The plan may answer in a few cases, but we do not believe anything would be gained by its general adoption. The true remedy is to remove all restrictions,—to break down all monopolies on our rivers and on the ocean. To allow the fullest competition among ship-owners, carriers, forwarders, &c., &c., by which the cost of transporting from the producer to the consumer would be reduced to the lowest possible amount. Then the farmer might very advantageously leave the exporting to those who made a business of it:—

"Some time ago we informed our readers that a number of farmers of this township had clubbed their crops of wheat, ground it, and forwarded it to Montreal for sale. The result of this movement we now lay before our readers, in the words of an intelligent correspondent: 'Fourteen farmers residing in West Dumfries, having this year agreed to club their wheat crops, and dispose of their flour in Montreal without the intervention of any agent, or the payment of any thing to factors or others for its disposal, they proceeded, immediately after harvest to get the wheat ground—some portion of it at Mr. Bowman's Mills, in Waterloo, but the chief part at Mr. Thompson's Mills, in Galt. Having got ready 428 barrels of flour, they despatched the same to Montreal, under the charge of our highly respected neighbour, Mr. George Landreth, who was enabled to dispose of it, even in the face of a fallen market, at 23s. 11d. per barrel; thereby realizing a sum of £15 1s. 4½d., after paying all charges and expenses, more than would have been gained had the same quantity of flour been sold as usual on commission. Mr. Landreth returned from Montreal on Wednesday, and having called his neighbours together laid a statement of his proceedings before them, and handed to each his proportion of the cash realized; and so well satisfied were they with the whole proceeding, that they unanimously agreed to send down at least three the quantity of flour in the spring, and adopt the same way for its disposal. Every one expresses the highest satisfac-

tion at Mr. Landreth's conduct in this novel undertaking, and the parties interested are satisfied that they have matured a system which will yet be of the greatest benefit to the farmers of Canada."—[Galt Reporter, Nov. 24.]

DEEP DRAINING.—At the annual meeting of the Liverpool Agricultural Society, Lord Lalford, the chairman, said, with respect to deep draining, there was a difference of opinion, but facts would speak for themselves. He then read some experiments by a practical farmer. In 1845 he drained 175 acres of arable land, at a cost of £1,191, being an average per acre of £6 17s.; in 1845, 155 acres of arable and 20 acres of pasture land were drained at a total cost of £1,197 19s. 11d., the average cost of arable being £7 4s. and the pasture £4 6s.; in 1847, by the operation of deep draining, 120 acres of arable and 44 of pasture were drained at a cost of £1,148, being an average cost on arable £7 and pasture £3 7s. The total of the three years' draining on 450 acres of arable and 64 of pasture, with 26 of level subsoil, was done at a total cost of £4,836 8s. 11d. That would give some idea of what was done in the way of deep draining, which was of great advantage to the land when every other means failed. Some remarks had been made as to the draining being done by the landlord, but what he had stated, was not accomplished on that principle. He mentioned several other instances where deep draining had been most effectual in various parts of the country, and concluded by observing, that the system which had been recommended of allowing the landlord to drain, and charging five per cent. on the outlay, was not at all an objectionable one; draining was necessary, in fact indispensable, and was for the natural advantage of the agriculturist and the owner of the soil.—Mr. Ellison also remarked, that draining was being better understood than ever it had been before, and large quantities of land had been drained and brought under cultivation that was never considered capable of being so many years ago. Mr. Ellison also referred to the use of guano; he said in the year 1807 he raised a certain 7 acres of turnips on his farm, but this year, in consequence of the introduction of guano, he had been able to produce 54 acres, which was more than the whole parish put together produced in 1807, and that was by the use of guano. The individual who introduced guano had conferred a great benefit on the country.

THE NORFOLK SYSTEM OF ROTATION OF CROPPING is well known to be the most successful ever devised; it has raised entire counties in England from sterility to the highest prosperity, and has extended wherever the soil and market were available. It consists of the following succession:—First year, manure, followed by turnips; second year barley sown with clover; third year, clover, the first crop cut, then depastured and ploughed for wheat; fourth year, wheat, succeeded by manure and turnips, as before. In this system the manure is followed by the plant requiring the most azotised matter; this is also a soda and sulphuric acid crop. Barley, the second crop, requires very much less azotised matter and exhausts the soil only of a limited amount of phosphoric acid and potash. This is succeeded by a lime plant, clover, which recruits the azotised matter and loosens the soil by its long roots. Wheat, which completes the rotation, is a potash and phosphoric acid crop, requiring a medium supply of organic matter. This rotation, when we consider the soil and the manures used, the former silicious and the latter barn-yard compost and bone earth, is a perfect embodiment of the foregoing principles. Reached entirely by experimental means, it is strictly conformable with science. In the following table, crops which may be substituted for the above are placed vertically under the principal plant. There is in the rotation for clay soils, a mechanical impediment, arising from the difficulty of keeping them in tilth, which influences the plan; and in sandy soils, also, it is necessary that too many hoed crops be not introduced, and that grazing be practised to render the soil complete.

A ROTATION FOR CLAY SOILS.

1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.
Corn.	Oats, Rye, Clover, or Grasses.	Clover, Grasses.	Potatoes, Beets.	Wheat, Barley, Oats, Beans.

THE PEA CROP.—We were surprised the other day, says the Journal des Trois Rivieres, to find in the pease a strange malady; fine looking pease, perfectly sound at the surface, and seeming well filled, contained in their interior a small worm or fly. We opened upwards of fifty, and they all contained the same germ of disease. We notice the fact in order to put the public on their guard; for if the pease are all attacked in the same way, the use of them would be dangerous to health. For our part, we would not use any without having opened them. We beg of our contemporaries to take notice of this malady and put consumers on their guard. It is to be hoped that the disease is not general, which would be a public calamity.—[Quebec Mercury.—[We do not think this disease is general; but caution is necessary. We have heard of local destruction both of onions and carrots from a similar cause.]—Montreal Gazette.]

CURING PROVISIONS.

As this is the season of the year when farmers are engaged in packing their stores of meat, we offer the following recipes, the value of which we have proved by our own experience.—[Albany Cultivator.

HAMS.—The following mode of preparing hams we have practiced for several years, and can with confidence recommend it to others:—

For every one hundred pounds of meat take five pints of good molasses (or five pounds of brown sugar), five ounces saltpetre, and eight gallons rock salt: add three gallons of water, and boil the ingredients over a gentle fire, skimming off the froth or scum as it rises. Continue the boiling till the salt, &c., is dissolved. Have the hams nicely cut and trimmed, packed in casks, with the shank end down, as the pickle will thus strike in better. When the pickle, prepared as above, is sufficiently cool, pour it over the hams. They may lie in pickle from two to six weeks, according to the size of the pieces, or the state of the weather, more time being required in cold than in warm weather. Beef or mutton hams, intended for smoking and drying, may be cured according to this mode, and will be found excellent.

Much of the goodness of hams depends on smoking. They should be hung at such a distance from the fire as not to be heated. They should also be hung up with the shank end downwards, as this will prevent the escape of their juices by dropping. Small hams, wanted for immediate use, will answer with two weeks' smoking, but larger ones, and those wanted for keeping, should be smoked four weeks or more.

Different articles are used for smoking. Perhaps saw-dust from hard wood, where it can be conveniently had, is on the whole to be preferred. Corn cobs are first rate, and are said by some to make the "sweetest" smoke of anything. Chips of maple and hickory, or the small twigs and branches of those kinds of wood, do well.

Hams are sometimes cured by adding pyroligneous acid to the pickle; but having had no experience with this mode, we cannot speak of its advantages. Another mode, which we have seen practiced, is to *smoke the barrels or casks* in which the hams are to be kept, and let them remain in pickle till wanted, only taking them out a sufficiently long time before using, to allow them to drain properly. The barrels are smoked by being placed over small fires of chips, cobs., &c., for several hours. The essence of smoke, which is thus imbibed by the barrel, is imparted to the pickle, and thence to the meat.

WESTPHALIA HAMS.—The following compound will give to any common ham the taste so much appreciated in that sold as Westphalia, and is recommended to them who prefer that flavor. In one hundred parts of water, dissolve four parts of salt, two parts of brown sugar, one part Barbadoes tar, and one part spirits of wine. After it has been well mixed, and stood for several days, three table-spoonfuls may be mixed with the salt necessary to cure an ordinary ham.

BEEF.—The best pieces for coming are the plates, ribs, and briskets. Pack the pieces in casks, giving a very slight sprinkling of salt between each piece. Then cover the meat with a pickle, made by boiling together, in 4 gallons of water, 8 lbs. salt, 3 lbs. brown sugar, 3 oz. saltpetre, 1 oz. pearlsh, for 100 lbs. meat. Keep a heavy, flat stone on the meat, that it may be well immersed in the pickle. Beef packed in this manner will keep a year, and will rather improve than grow worse.

Another mode, recommended by a gentleman of long experience in the packing of beef and pork, is the following:—For 100 lbs. of beef, take 4 lbs. brown sugar, 4 oz. saltpetre, and 4 quarts fine Liverpool salt; mix all intimately together; and, in packing, sprinkle it evenly over the meat. Add no pickle. The dissolving of the salt, &c., with the juices of the meat, will be sufficient. Keep the meat closely pressed together by a good weight. We are assured that this is the best mode of packing beef that is intended for keeping over the summer, and that the quality of the meat is unexceptionably fine.

CLEAR PORK.—For this we prefer clear salt and water. After having divided the hog, take off the shoulders and hams, and all the lean meat; cut the sides crosswise into strips, four or five inches wide, and, after covering the bottom of the cask with salt, pack the strips in layers, set edgewise, as closely as possible, round the cask, with plenty of salt between each layer. When the cask is full, and has settled for a day or two, put in cold water enough to fairly cover the pork. There is no danger of using too much salt for clear pork; no more will be taken up by the meat than is needed, and the remainder is safely left, and may be used in packing a new parcel.

TO MAKE A HORSE STAND WHILE YOU MOUNT.—Get on and dismount four or five times before you move him out of his tracks, and, by repeating this any horse will stand still.

GATHER UP THE FRAGMENTS.

Families who kill their own beef and pork always have various odds and ends which may be worked up in such a way as to form some of the most wholesome and palatable dishes.

TRIFE.—Take the tripe as soon as practicable after it comes from the animal, rinse it well in cold water, and immediately sprinkle a thick coating of air-slacked lime over the inside: roll it up, and let it lie till the next day. Then cut it in pieces, eight or ten inches square; scum it, and put it in soak in salt and water, where it should remain seven or eight days, or till the strong smell is entirely gone, changing the salt and water every day. Then boil it tender. It may be soured like pigs' feet, or it may be broiled, fried with sausages, or dipped in batter, and fried alone.

SOPS.—Take pigs' feet, the head, &c., and, after being well cleaned, boil them in water with a little salt, till the meat drops off. Then slip out the largest bones, and put the meat in a stone jar, or well-seasoned wood firkin. Make a liquor to cover them, as follows:—Take one quart of the liquor they were boiled in, two quarts of vinegar, spiced with cloves, allspice, pepper, and cinnamon. While the meat is still warm, pour the liquor, boiling hot, upon it. In a few days it is fit for use, and may be either rolled in flour and fried in lard or sausage fat, or warmed in a little of the liquor, or eaten cold. The feet and shanks of *cattle*, cleansed in the same manner as pigs' feet, are excellent. When sufficiently boiled, all the bones should be taken out, the meat and sinews immediately chopped fine, and seasoned with salt, pepper, allspice, summer-savory, and sage. When wanted for use, they may be warmed over in a little butter, and are nice, delicate eating—scarce inferior to oysters, which they somewhat resemble. They make equally as good soups as pigs' feet. The jelly which is left, after they are boiled, makes excellent *blanc mange*.

SAUSAGES.—Chop 6 lbs. of lean with 2 lbs. of fat pork, 4 table-spoonful of salt, 6 do. of powdered sage, 4 of black pepper, and 2 of cloves—a little rosemary may be added. If not stuffed, keep the meat in a tin vessel, tied down close; and when to be used roll it into cakes, dust them with flour, and fry.

CULTURE OF WHEAT.

A discussion in relation to this subject, by a Farmers' Club in England, resulted in the following conclusions:—1. *Preparation of the land.* The land is to be well cleaned, followed by grass or clover, depastured by sheep. Ploughed with a furrow eight to nine inches wide, and four inches deep. Heavy land to be as light as possible at the time of sowing, and light land to be made as heavy as possible. 2. *Time of sowing and quantity of seed* to be regulated by the season and state of the land—early in the season nine pecks per acre, and more as the season advanced. 3. *Treatment of the crop.* The crop is to be kept clean, and to be rolled in the spring, with one of Crosskill's clod-crushers. 4. *Time of reaping.* Early reaping—grain not allowed to get ripe before being cut. The soil to which the discussion referred was described as of a limestone character. It is not stated whether a subsoil plough was to be used, or whether a greater depth of furrow than four inches was made at any time. We presume there is but little, if any land devoted to wheat in this country where so shallow ploughing would be advisable.—[Albany Cultivator.

CHARRING RAILS.

On almost all farms may be seen patches of rail fence which have been accidentally scorched by fire. Such rails never decay. Sun, wind, or rain seem to have little or no effect upon them. The question naturally arises, whether, in building new fences, they might not be made much more valuable by charring? It has been shown, conclusively, that the best time for cutting fencing-timber is in May or June, when the bark will peel. This should be immediately stripped off, and the rails split and piled up, in order to dry. After being seasoned two or three months, take them to the bank of a small stream, and, having built a fire of chips or brush, heave on the rails. When they are sufficiently charred, they can be hauled into the stream by means of a potatoe hook, or some similar instrument, and, when the fire is extinguished, they can be hauled out on the other side. I believe that a fence made of charred rails, and put up with an iron rod inserted through each corner of the fence, and soldered to the underpinning stone, as directed in a former number of the Cultivator, would last fifty years, or five times as long as one not charred, with no trouble at all after being once put up. It is true the first cost would be considerable, but it would be cheap in the end. If farmers would take the trouble to char their rails, they would not have to spend weeks in the spring of the year mending up old rotten fences, nor have their crops half eaten up by unruly cattle.

If any of your Correspondents have had any experience in charring rails, they would confer a favor by making it known through the columns of your paper.—[Albany Cultivator.

A. YOURS FARMER.

FARMERS' MUTUAL INSURANCE COMPANY.

Many of our readers are probably aware that a class of Institutions have lately sprung up in the United States, and we believe also in England, for the Insurance of *Farmers' property*, as distinguished from *Village or Town Property*. These Companies, so far as their operations have extended, have been eminently successful. They are able to insure at from one to two per cent., when other Companies would charge four or five per cent. They have the advantage, moreover, of being perfectly safe; when once in successful operation, it is impossible that they should break down, being strictly Mutual, expenses light, and the risks unobnoxious: no one conflagration causing a loss beyond a given amount to the Company—never more than one, or at most two insurances.

More than a year ago, while conducting the *Canada Farmer*, we gave an exposition of the principles on which these Societies are founded, and strongly urged the formation of one here. Since that time, Agencies have been established by American Companies, and Travelling Agents sent over the Country. Thus we have been sorry to see, for several reasons, but chiefly because it will interfere with the successful establishment of one of our own, which would be much safer, and infinitely preferable to the foreign Companies. As the Companies are not amenable to our laws, in case of dispute the insurer is practically without a remedy; they may pay or not, pretty much as they like. The history of a case which occurred at Hamilton, last summer, in which the party had to go backwards and forwards to Buffalo three or four times, with a number of witnesses, at a great expense, and contend against all sorts of objections and quibbles, for months, before he succeeded, ought to be a warning to Canadians when asked to insure in foreign and unknown Companies.

We understand that one of these pretended Farmers' Companies has already departed from the principle—a strict adherence to which forms their only safeguard, viz., to insure *no property* that is *exposed or hazardous!* The moment they do this, they are guilty of great injustice to all previous members of the Company, and lose all the advantages they possess over other Companies.

Under these circumstances, we have determined to make the attempt to get up a Company in Canada, as soon as a Charter can be obtained. Those Farmers in the neighbourhood of Toronto, who are favorable to the project, and are willing to take part in its formation, will please call at the Office of Messrs. Gorham & McDougall, South West Corner of King and Yonge Streets, Toronto, as soon as they can find it convenient.

MAKING VINEGAR—INQUIRY.

MR. BATEMAN.—I have a quantity of cider which I desire to convert into vinegar, in the shortest and best manner. It has passed through the vinous fermentation, and I am told there is some method of hastening the acetous process by artificial means. If you, or any of your correspondents, can inform me and the public, through the *Cultivator*, it may confer a benefit on others, besides

Zanesville, Ohio. Yours, &c., J. TOWNSEND.

Remarks.—We believe the most approved method of rapidly converting cider into vinegar is by causing it to run slowly through a long series of open troughs or conductors, in a warm temperature. But the exact manner of doing this, or the temperature required, we are not able to state. The object is, to expose the liquid as much as possible to the action of the atmosphere. We have seen this effectually done by causing it to run slowly from a barrel placed up stair., through an aperture in the floor and ceiling, on to a loose pile of fine sticks or shavings below, through which the air could pass through freely, then draining into a cask in the cellar.

All chemical applications of acids or other drugs for making vinegar should be discarded as unwholesome and dangerous.

We should be pleased if some one who has experience in the business would answer the above inquiry.—[Ohio Cultivator.

CANKER WORM.—The most common mode of preventing the ravages of this insect is tarring the trees. As they sometimes appear in the fall or early winter, if the weather is favorable, and ascend the trees, where they deposit their eggs, which are hatched the ensuing spring; the tarring, to be effectual, must be applied at that season, as well as in spring. The tar is injurious to the trees, binding the bark and checking the circulation of the sap; to prevent which it is best to fasten round the tree a belt of old canvass or coarse cloth,

first applying to this a coat of clay wash, to prevent the tar from striking through, and afterwards tarring on that. The tar should be made soft by adding cheap oil, and should be applied with care every evening, just before dusk, as the insects move principally in the night. Circular troughs of lead in which oil is to be kept, have been contrived to put round the trees, but we are not able to say, whether they have been found so useful as to supersede the use of tar. Ploughing the ground around trees infested with canker worms, late in the fall, and thus exposing the insects, many of which are then in the chrysalis state, to the action of frost and air, has been found useful.—[Albany Cultivator.

OATMEAL.—The *Journal de Quebec*, speaking of the great abundance of oat crops this year in Lower Canada, says that the present low price of this article is not likely to be of long continuance, it having been proposed to export considerable quantities in the shape of meal to Ireland, as a substitute for the failing potato crop. It contains much more nutritious matter than the potato, and was before the introduction of wheat into many parts of Scotland, the principal food of a large number of the inhabitants.

“BOOK FARMING.”—Samuel Williams, of Waterloo, says:—“I know a farmer who has paid over \$300 for a private library, and who takes both the *Albany Cultivator* and *Genesee Farmer*. In proof that he is something more than a theoretical farmer, he sold the surplus products of his farm last year for over \$2,400, and he paid out of the same but \$90 dollars for hired help—he has no children old enough to work in the field. It is hardly necessary to say that he is fully up to the improvements of the age.”

KIDNEY WORMS IN SWINE.—A farmer in Delaware County, Pa., lost a hog, after protracted disease; in the following year three died; and in the succeeding year five more, the symptoms in all being the same; and all those which were attacked with the disease, or died, were barrows, or males. On a careful post mortem examination of those that died the last year, it was found that they were afflicted with gravel, which was discovered in the bladders and in the urethra, obstructing the passage of the urine. In one case the bladder burst, and its contents discharged into the cavity of the belly or abdomen. The vessels of the kidneys, and those leading to the bladder, were distended by a partially indurated secretion of matter, which, when rubbed between the fingers, discovered particles of a sandy character, presumed to be the same as those obtained from the human subject. It is worthy of remark, that although there was the usual proportion of females in the stock of hogs, none of these were visibly affected by the disease; in that respect following the same general law noticed in the human family.—[Ex.

HOW TO MANAGE A KICKING HORSE.—First, make a stall or pen for your horse, in which he cannot turn round, and with slats, through which you can put your hand to rub him in the face, and all over, two or three times, raising his tail gently three or four times, then touch one of his fore legs, and say to him “foot, foot,” until he shows a willingness to raise his foot; raise his foot up and put it down some three or four times, and then go all round until fear is removed. All you wish a horse to do ought to be done three or four times, repeated two or three days in succession.

A GOOD HINT.—The *Madison Courier*, remarking upon the rage of the public for newspapers containing an extra amount of reading matter, says, “If reading matter alone be their object, they will find enough that is new to many of them in the *Bible*; and it is good reading too.

TO REMOVE DUST FROM THE EYE.—Immerse the affected eye in a vessel of clear cold water, and then rapidly open and shut it a few times, when the dust will be washed away.

Hens, should have access to lime and gravel, while the ground is covered with snow.

FINE PICKLED CABBAGE.—An exchange paper gives the following directions for making this excellent and wholesome relish:—“Shred red and white cabbage, spread it in layers in a stone jar, with salt over each layer. Put two spoonfuls of whole black pepper, and the same quantity of allspice, cloves, and cinnamon, in a bag, and scald them in two quarts of vinegar; pour the vinegar over the cabbage, and cover it tight. Use it two days after.”

DISINFECTING PROPERTY OF COFFEE.—Coffee is one of the most powerful means not only of rendering animal and vegetable effluvia innocuous, but of actually destroying them. A room in which meat in an advanced degree of decomposition had been kept some time, was instantly deprived of all smell, on an open coffee roaster being carried through it, containing a pound of coffee newly roasted. In another room, exposed to the effluvia occasioned by the clearing out of a dung-pit, so that sulphureted hydrogen and ammonia in great quantity could be chemically detected, the stench was completely removed within half a minute on the employment of three ounces of fresh roasted coffee; whilst the other parts of the house were permanently cleared of the same smell by being simply traversed with the coffee roaster, although the cleansing of the dung-pit lasted for several hours longer. Even the smell of musk and castoreum, which cannot be overpowered by any other substance, is completely dispelled by the fumes of coffee; and the same applies to the odour of asafetida.—[Medical Gazette.

HORTICULTURE.

AUTUMN PLANTING OF TREES.

Even in the same localities there exists the greatest diversity of opinion respecting the propriety and impropriety of autumn planting. Some say they have never succeeded in the fall; others, that they have never failed. Our own opinion is, that, even as far north as this, the 43rd degree of north latitude, all hardy trees are transplanted with the greatest safety in the fall; provided it be done early, say the middle and latter end of October. There may be circumstances, such as damp ground and very exposed situations that would render spring planting advisable; but these are exceptions.

Mr. E. C. Frost, of Catharine, Chenung County, an experienced grower, says, in the September number of the Cultivator, "My experience has confirmed me in the opinion, that, in our latitude, fall planting, for the peach, is better than spring, if set on dry ground—and they should be placed on no other. On the 5th, 6th, 8th, and 9th of November last, I set in the orchard one thousand five hundred worded or budded peach trees; and now, on examining them, I find that all are alive but ten; and not only alive, but making a good growth, so that the rows can be seen half a mile." He adds, "I have six hundred peach trees which have been in the orchard from three to five years, the most of which have been transplanted in the fall, with success equal to those set last autumn." Our own practice is to transplant all we can in the fall, not because we consider it the only safe season, but because we have more leisure than we ever have in the spring. We hold that there is no necessity for failure, either in the spring or fall.

Late last fall, after we had supposed business closed, we set some men, for the sake of employing them, to trench a piece of ground we intended for dwarf pears. The weather kept open till it was completed, and we planted the trees, some sixty or so, quite contrary to our expectations. It was about the second week in December. The trees were yearling buds, on quince stocks; they were cut back till within a foot to eighteen inches of the stock, and planted, and not a failure occurred in the sixty, and all have grown from two to four feet this season, and are now fine bushy plants. Some that were planted last spring have not grown with half the vigor.

On the 25th of April last we transplanted some twelve or 14 cherry trees, after the leaves were an inch long. Not one died; but, on the contrary, we can measure on every one of them two to three feet of growth. They were cut back properly, planted well, and kept as they ought all summer. Here are two extreme cases, and both successful.

Now, fall planting may be commenced at any moment with trees that have quit growing, and show a good, plump, perfect terminal bud. If the leaves are not removed by frost, they should be cut off the moment the tree is dug, or before it; as, if left on, they will cause the tree to shrivel up ruinously. The best method of supporting fall planted trees is to throw up a cone of earth around them, twelve or eighteen inches high; according to the size of the tree. This prevents both frosts and winds from acting injuriously on the tree. The earth can be levelled down again as soon as the ground thaws in the spring.

A certain amount of pruning, or shortening back the top and branches of the trees, is indispensably necessary in transplanting. In the case of fall planting, this pruning may be deferred till spring; particularly with peach trees; but it must not be neglected. We believe that vast numbers of the trees are lost for the lack of this shortening of the limbs when planted; and particularly peach trees, that usually have larger heads than other trees, and therefore require a greater amount of cutting. Every cultivator of any experience knows how much more certainly, quickly, and vigorously a tree will start in the spring that has been shortened or cut back, than the one that has been planted entire. The balance of a tree is destroyed in digging it, for it is impossible to remove trees without depriving them of some portion of their roots; or, if the roots are not cut off, many will perish in the removal. The balance must be restored, before the tree can grow vigorously; and this can best be done by removing a part of the top corresponding with the loss of the root.—[Genesee Farmer.

TRANSPLANTING EVERGREENS.

A right taste in planting evergreens as ornamental trees, seems gradually diffusing itself all over the country. But the failure frequently attending the successful transplanting of evergreens, deter many from attempting it. This species of trees, will not, like the willow and many others of the deciduous trees, bear the loss of a large portion of their roots, and the drying of their fibres. The ends of the small white roots—the spongioses, when once dried, never again expand or perform their proper functions. Persons ignorant of this fact, take up pine, hemlock, and others of this class of trees, with as little care as they would an elm or maple tree. But the evergreen, with its roots thus mutilated and exposed to the sun, or even for any considerable time to the air, will have its half woody rootlets shrivelled, and however carefully the transplanting may be performed, its death is nearly certain in course of the following summer.

To guard against this loss of labour, and trees, several methods have been recommended. One of which is to cut a trench late in autumn around the roots of the trees to be removed, leaving a ball of earth about the roots, proportioned to the size of the tree; after this is frozen, during the winter, the trees, with the frozen ball of earth, are to be lifted by the aid of a stout lever. They can then be drawn upon a sled and placed the north side of a barn, or other building, and having straw, old hay or saw dust packed about the frozen balls, they will remain unthawed, till the proper season comes round to set them out. In this way the original soil about the roots is undisturbed, the trees are sure to live, and scarcely receive any check in their growth.

A method is recommended by a correspondent of the April No. of the Horticulturist. His method is, to provide, according to the number of trees to be taken up, a sufficient quantity of "old matting, sack-ing, canvass, &c., with a ball of cord of proper size and strength, and a well tempered spade, ground to a fine edge." With the spade, cut round the trees at a suitable distance, the trees are then to be lifted and placed upon the canvass, or matting, which is to be snugly laced by the cord around the ball of earth, in which condition they can be safely transported long distances, and at almost any season of the year when the ground is unfrozen. In the country, many persons might find it difficult to procure the requisite quantity of matting canvass, cord, &c., for the removal of any considerable number of trees.

We will suggest a method that we believe will answer the purpose exactly. But to begin right, the holes, for planting the trees, should be prepared by casting up the excavated earth upon one side of them in a compact heap, to be used in filling in about the roots of the trees, as they are set out. The trees are to be taken up, with the balls of earth, as already directed, and left upon the ground until the outside of the ball of earth is frozen, which frequently may happen any one night's exposure. They can then be removed on a cart or waggon to the place where wanted, and immediately planted without having the soil about the roots loosened or disturbed. Very few if any trees would fail to do well, if planted in this way. It is an easier way than cutting up the frozen ground in the winter; and cheaper than that of binding up the roots with matting, canvass, &c.

It is now a leisure season of the year compared with the spring. We hope many of our friends in the country, where the various ever-green trees can be so easily and cheaply obtained, will this autumn ornament their yards, gardens and premises with these "beauties of the forest."

FLORICULTURE.

As an Englishman, fancying that we are the Gardeners of the world, you may judge my surprise on visiting the garden of Mr. Kock, which is situated in the midst of this city, (Cologne) to find ourselves fairly beaten. This gentleman who is a silk manufacturer, devotes his entire time to his garden, and may be said to live in it—so passionately fond is he of his flowers. He showed me, at one coup d'œil, 30,000 Camellias, of which he possesses 7 varieties. After walking through a splendid avenue of Magnolia trees, we came to several beds of Tree Pæonies of 14 years' growth, consisting of 129 varieties; and at the end of the path was a fine specimen of the Pawlownia Imperialis. The Azalea beds were no less remarkable, containing 300 varieties; and under glass, were 15,000 Cacti. To produce these varieties, he has an apiary of 400 hives, which yield 1200 lbs. of honey annually; and by the system pursued by him, the Bees are never destroyed. To visit this gentleman's garden in the month of May, would be a treat to your travelling readers, who may be pleased to know that such a garden is to be seen, and is willingly shown by its polite owner.—[Gard. Chron.

THE GRAPE IN TEXAS.—The Lavaca Herald mentions that Captain Hutch engrafted a species of the "English grape" on a vigorous vine of the Mustang kind, and such was the life and vigor infused into the young graft, by the stem, that in the course of one season it entirely covered a large oak tree, around whose trunk the wild vine had been accustomed to cling for support. The young vine bore the first season, remarks the Herald, at the lowest calculation, 600 bunches of grapes.

CHOLERA.—Now that the cholera is occupying so much of the attention of the medical gentlemen of Europe, it is our duty to chronicle such facts as tend to the discovery of the cause, or of the prevention of the plague. It has been remarked that the cholera never attacked those persons who live in the neighbourhood of breweries, or of mineral Springs, where they breathe freely of carbonic acid gas. This fact has been established by proof in England, Spain, and Germany, and from it we may infer that the morbid germs of disease are occasioned by animalcules, which are destroyed by the presence of this gas.—Canadian.

Intense study of the Bible, says Coleridge, will keep any writer from being vulgar in point of style.

STRIVE TO GO BEYOND.—Let no man who is endowed with perseverance despair on account of the lowness of his birth; let no state, however small its beginning, despond of rising above its mean original! The dominion of the world (obtained by Rome) was not a scheme planned beforehand; it resulted from the judicious employment of contingencies.—[Von Muller.

How to LOOK YOUNG.—An aged person being asked how he had managed to retain his youthful appearance so well as he had done, said, "I never ride when I can walk; I never eat more than one dish at dinner; and never get drunk. My walking keeps my blood in circulation; my simple diet prevents indigestion; and never touching ardent spirits, my liver never fears being eaten up alive." But he forgot to add one of the greatest causes of all lasting youth, viz: a kind, unenvious, contented heart." Envy and discontent can dig as deeply into the human face, as Time itself!

"I hate to hear people talking behind one's back," as the robber said when the constable called "Stop thief!"

"Whatever thy hand findeth to do, do it with thy might; for there is no work, nor device, nor knowledge, nor wisdom in the grave, whether thou goest."—[Eccel.

EDITOR'S TABLE.

IRISH NATIONAL SERIES OF SCHOOL BOOKS.

These School Books, compiled under the superintendence of the Irish National Board of Education, are justly held in high estimation by all who have examined or used them. The object of the compilers was to prepare a set of books, beginning with the elementary, and ascending to the higher branches, by easy steps, which should contain everything essential to the pupil's progress in learning and science, and nothing offensive to the religious, political, or moral feelings, opinions, or prejudices of any parent or scholar. In this, as far as we have heard or can judge, they have eminently succeeded.

The Board of Education for Upper Canada has sanctioned their introduction into our Schools; and those enterprising publishers the Messrs. Brewer, McPhail, & Co., of this City, have already published five of the Series, in a creditable style, and at a considerably less price than they could be imported for. The Fifth Book has just been issued, and a copy laid upon our table. It comprises the following subjects, with their appropriate subdivisions, illustrated and explained by numerous cuts:—Physical Geography and Geology; Physiology, Vegetable and Animal; Natural Philosophy; and several pages of selected Poetry, for reading exercises. This book is sold, retail, for the small sum of 2s., and will prove an interesting and valuable compend on the above subjects, even to the general reader.

TRANSACTIONS OF THE NEW YORK STATE AGRICULTURAL SOCIETY FOR 1847.

We have just received, per express, a copy of the above Transactions from B. P. Johnson, Esq. of Albany, the Society's able and zealous Secretary. It is a large volume containing 800 pages of matter of great variety and usefulness, illustrated by a number of well-executed cuts. In a note accompanying the book our attention is directed to a letter stating the results of a trial of American and English ploughs, by a Mr. Love, of Northamptonshire, England. This reference is made in consequence of the remarks in our last No. on the Ploughing Match between Canada and New York. We have not time or space at present to say much on the question. We have not been able to discover any indications of an intention to take up the proposal as modified in our last number to settle the dispute by actual trial, as to whose ploughmen and ploughs are best. We cannot give up the point upon the alleged result of a single trial by a single farmer in some part of England, between his own English and two or three imported American ploughs. We would rather see the trial fairly made here, in such a manner as to leave no doubt as to the respective merits of the American and Canadian implements for our soil, i. e. the ordinary clay soil of the State of New York and Cana-

da. When our friends feel disposed to test the question in the manner mentioned, the conclusion of our remarks on the subject in No. 15 of this Journal, we shall be happy to meet them. Until then we must be allowed to retain the opinion expressed in our account of the Fair at Buffalo.

We are much obliged to Mr. Johnson, for his kindness in sending us the "Transactions," and most willingly comply with his request for a copy of our Journal for the Society's Rooms at Albany.

AGENTS—Several persons who have acted as travelling agents for the Agriculturist, and some for the Canada Farmer, are yet in arrears to a large amount. In the first place, the giving credit to subscribers was an exception to, or a relaxation of the rule requiring *advance* payments. It was thought a necessary exception in certain cases, in consequence of the great scarcity of money at the time the subscriptions were taken; but, as these agents will recollect, they were frequently enjoined not to take the names of many credit subscribers, and only in cases where there was a probability of the subscription being paid when promised. Time enough surely has elapsed since these names were received, for all who were willing to pay to have done so, if called upon. We hope, therefore, those agents who are in arrears are prepared, as the end of the year is at hand, to settle up by paying us our share of what they have collected, and sending us a list of those subscribers who *have paid* and those who *have not*. Two agents have stated that they met with subscribers who *refused* to pay because of the change in the publication of the paper. On this point we have made some remarks in another place. The names of those who *refuse* to pay, if any there be we wish our agents to mark, stating the reasons.

As we promise to send *three* numbers of the volume for next year to all *paid* subscribers, it is necessary we should get these lists, in order that we may know who have paid.

CREDIT SUBSCRIBERS who intend to pay, and have not yet been called upon by the agents who received their names, will please transmit their subscription to us by *post* (mentioning the agents name), we will pay the postage.

With regard to the disappointment complained of, we have but one word to say here in addition to what we have said elsewhere. If all the subscribers to whom we have sent the paper (although a much less number than we had calculated upon) had *paid in advance*, the paper would have been published *twice a month during the year*, notwithstanding the personal difficulties in the proprietorship.

A. Mc.L., Oakwood, Nov. 23rd.—received. We will try and get the list right this time. The names were entered as you directed on the Mail Book, but we suppose they got by mistake into one package.

A. M., Port Robinson, Nov. 23th.—There is a large list of subscribers at your P. O., a number of whom, we believe, have not yet paid. We hope soon to get a return from our agents of such persons; but in the meantime will feel obliged for similar attention to the present. All Post-masters who take the trouble to write us sending money, or giving information, will entitle themselves to a copy of our publication for 1849.

J. E., York.—We are sorry to say that the poetry is not *good enough* as it is, for our publication. And we have not the time, nor are we just now in sufficient favor with any one of the Nine, to undertake its correction.

J. E., York, Nov. 23rd.—same answer to you.

J. G., Mulmer, Nov. 25th.—received. You shall have the volume complete.

J. S., Tuelph, Nov. 13.—Mr. W. handed your *note*. Your remarks on a particular subject have been thought of. As soon as we can make a few more enquiries and get a little leisure, we will write to you.

A. G., Etobicoke.—We like your prose better than your poetry. The manuscript sent has been mislaid, or it would have been given to the printers. Perhaps you will re-write and improve it?

THE LADIES.

MANAGEMENT OF THE SICK ROOM.

The following observation on the proper management of the sick room will not perhaps be unacceptable to our female readers. They are taken from a recent work on this subject compiled by a lady of great experience in such matters, and revised by a distinguished medical man. The care of the sick comes peculiarly within the province of the weaker sex, and however solicitous they may be to alleviate the wants of the sufferer if they lack the knowledge, their efforts will, to a great extent, be unavailing. :—

The sick should always be addressed in a gentle voice, and conversed with in the most cheerful manner. Their attendants should express sympathy for their sufferings, but endeavour to inspire them with courage and resignation in bearing them. To ridicule or make light of the pain of another is always unfeeling, and may often entail serious consequences, as the patient's recovery frequently depends upon the equanimity of his mind.

All unpleasant news should be entirely withheld from, or very carefully communicated to a person who is ill; he should be diverted, and kept as cheerful as possible, for recovery is hastened or protracted, more than the generality of nurses suppose, by the moral treatment which the patient receives.

As soon as the patient is convalescent, he may be read to; but such works must be chosen as afford interest without excitement, especially those which have a tendency to elevate the state of the mind, which, during a recovery from severe illness, is particularly impressible.

The chamber should be kept in perfect order, and free from noise and confusion. If the eyes of the patient are not weak the room should not be darkened, as the rays of the sun, especially of the morning sun, have a vivifying and renovating influence.

If the person has no appetite, he should not, in most cases, be tempted or coaxed to eat; and only very small quantities of food should be administered at a time.

The food for the sick should be prepared in the most delicate and careful manner; for as the senses are for the most part, during illness, particularly susceptible, the appetite may be entirely taken away, and nausea produced, by the least uncleanness, a smoky taste, or an offensive smell. The food should not only be delicate and well prepared, but it should be served in a neat and inviting manner.

Always spread a clean napkin over the bed-clothes and another upon the pillow, when you are administering food. Sponge the hands and lips of the patient as soon as he has done eating.

Wash every article the instant it is used, and do not keep the tables or mantle-piece filled with vials, pill-boxes, &c., for if they are within sight of the patient this practice will annoy him, besides, many of the vials may contain mixtures that render the air impure.

Every article of furniture should be kept in order, that the room may have an air of cheerfulness and comfort.

The room should be well supplied with water, towels, napkins, a slop-pail, two nice saucepans, a tea kettle, a couple of bowls and tumblers, several cups, saucers, and wine-glasses, several large and small spoons, and a foot-bath which should be kept in an adjoining closet.

All vials and papers of powders should be carefully labelled, as one medicine may be mistaken for another, and sometimes poison be administered by neglect of this caution. The instant a bottle is empty cleanse it thoroughly with warm water; throw away all pill-boxes after their contents have been used. Do not give them to children as play-things, as they are generally impregnated with the medicine they have contained, and may do injury.

Pure air not only contributes to the preservation, but to the restoration of health. A sick chamber should be ventilated at least twice a day. The process of ventilation should be as short as possible, the patient must be well covered, and even his head kept beneath the bed-clothes if he experiences the slightest sensation of chilliness.

The bed-clothing should be changed twice a week at least; the bed must be made every day, and if the patient can bear it twice a day. The bed-clothes should be carried into another room and aired before they are replaced upon the bed, as all exhalations from the body during sickness are particularly deleterious, if re-absorbed.

The person of the patient should be kept perfectly clean, and his garments frequently changed. Daily ablutions of the whole person with warm water are very servicable. The mouth should be often rinsed and swabbed with a fine linen rag, kept for that purpose, and the teeth kept perfectly clean.

When a sick person is raised up to take food he should be always covered with a blanket or shawl, and never leave the bed for an instant without additional covering.

When a physician is in attendance he should be consulted concerning the best place of purchasing medicines, (if in a city,) and the medicine should be shown him before they are used for fear that they may be adulterated, or of an improper kind.

Describe to the physician the patient's minutest symptoms—use no deception in communicating either his mental or his bodily state.

Pay strict attention to the physician's directions, if they are numerous note them down, and obey them strictly. Even a trivial deviation from his orders may be attended with unpleasant consequences.

The person who has charge of the sick should possess a quiet and even temper, be naturally cheerful, very patient, and disposed to bear with the most unreasonably frofulness and irascibility.

Do not reprove or attempt to argue, with a person who is very ill; he can hardly be considered a responsible being, for the mind is not generally in a healthy state when the body is disordered. If you are forced to oppose his wishes, do so gently, but without reproaching or rebuking him, as you should carefully avoid all causes of excitement.

The dressing of a blister is a very simple process, but not generally understood—Lay the blister bare, wash it gently with a very fine linen rag, dipped in warm water; place another piece of linen several times doubled below the blister, and then with a needle, or very sharp scissors, puncture the lower part of the little bags of water, breaking the skin as little as possible. Melt together a little fine beeswax and tallow—spread them on a piece of linen and apply them to the blister. Blisters should be dressed twice or three times a day, and each time a fresh salve of beeswax and tallow should be used.

The practice of burning pastiles, brown paper, &c., in a sick room is an injurious one, and does not as it is supposed, purify the air. Frequent ventilation is the best mode of preserving the air pure, and should be resorted to freely.

DIET DURING DISEASES.

We shall occasionally select some of the practical directions from the work alluded to; the following are all we have space for at present :—

General Diet.—Most persons not acquainted with physiology, imagine that the flesh of young animals, or of birds, is more delicate than that of grown sheep or oxen; and will hence recommend an invalid or convalescent, with his digestive powers enfeebled, to “try a bit of boiled veal, or a chicken, or a rabbit, or, perhaps, advise a little soup or jelly, &c.” Now, it is certain that, in ninety-nine cases out of a hundred, a slice of boiled leg of mutton, or a broiled mutton chop, would be infinitely preferable to any or all of these, as being more digestible. The term *delicate* is totally inappropriate to food of any kind: if it be used instead of *tender*, then all meat advanced a stage towards putrefaction is more tender than quite fresh, and is really more wholesome. If by “delicate,” *digestible* is meant,—that is, the food which is soonest converted into chyle, and assimilates to the corporeal substance of the eater, then a mutton chop and bread will prove a more delicate breakfast than buttered toast, muffins, hot rolls, and chocolate.

A pudding for an invalid should be boiled tender in milk, and of a good thickness, so that the eggs may just set it, and give it firmness to stand without breaking, when turned out of the mould. The pudding cannot be made too delicate: it should be well baked for about an hour, or more, according to the size; and it should never be taken from the oven until two or three minutes before wanted.

Pulmonary Consumption.—The dietetic treatment of this disease must be varied according to its stage or progress of advancement. In the primary stages, if there be no derangement of the digestive organs, light farinaceous substances, with a proper proportion of animal meat, may be allowed. Fish, milk, eggs, &c., may be occasionally substituted for the meat. Asses' milk, as containing a small proportion of butter and curd and much sugar, is, with justice, esteemed a favourite aliment for cough.

sumptuous persons; being light and easily digested. When any tendency to pleurisy is evinced by a sharp pain in the chest, and other signs, solid animal food ought to be omitted, until this is removed. In the latter stages the diet may be nourishing, and may contain an average allowance of animal food; but great care should be taken not to overload the stomach, so as to excite indigestion or quicken the breathing. Diarrhœa is very apt to occur at the later periods of the disease; on this account fruits and green vegetables should be sparingly used; for if once excited, it is always difficult to cure, and frequently can only be alleviated.

Diarrhœa, Dysentery, Cholera.—In these affections the stomach and bowels are in a state of high irritation, and their functions of assimilation are more or less impaired. Articles of diet, which, during health, are digested with ease, produce in such diseases great distress and aggravation of the symptoms. It is fortunate that nature has provided a check to any improper indulgence; for, in extreme cases, nausea or vomiting is a common accompaniment, and, in almost all, there is a disrelish for food. Tea or coffee, with bread thoroughly toasted, arrow-root, isinglass-jelly, containing only aromatics and a small portion of sugar or milk diluted with water, may be used as diet in these affections. The drinks may be included in the following list, namely, toast water, soda water, pure water, and occasionally infusion of mace (mace tea,) where there is nausea or vomiting.

SCIENCE AND MECHANICS.

SURVEYING AND MEASURING INSTRUMENT.

A new and useful machine has recently been invented by a gardener, at Mayor, in the north of Scotland, which can be applied to the measurement of heights, distances, land-surveying, leveling, &c., &c. It solves the various problems in trigonometrical and triangular measurement, in such a short space of time, and with so little calculation to the operator, as entirely to supersede the use of the theodolite, circumventer, plane table and various other instruments hitherto in use—the grand principle being, that it is a "self-calculator," requiring scarcely the aid of a pen or pencil from the operator. By this machine, a field, it is said, may be measured, and the plan of the same laid down from the centre or any convenient place, either within the boundaries of the field, or from a distance without the limits of the ground, provided a view of the margin of the same, or even the angles or corners be within sight of the surveyor. Another purpose to which it can be readily applied, is laying the line of roads or railways, canals, water courses, &c. It can also show the depth of cut required on any eminence or hill that may be in the route. In the topographical department this instrument may be of the greatest value to an army, in finding the distance to the walls of any fort that may be unapproachable, and the height of the same may be taken instantly without quitting the camp.

IMPORTANT SURGICAL DISCOVERY.—The Boston Evening Journal states that Mr. Samuel L. Bigelow, a teacher in the Tremont Medical School, has made known a discovery of the highest importance as it regards Surgery. It consists in a new and certain method of procuring the union of incised wounds by first intention in a few hours. A paper was read before the Boston Medical Society by Dr. J. H. Bigelow, a surgeon of the Hospital, who stated that it had already been introduced there with success. It is said to be a preparation of gun cotton and sulphuric ether—the two great lions of the day yoked in saw-way for drawing together wounds.

SCIENTIFIC CONVENTION AT PHILADELPHIA.—The first Annual Convention of the "American Association for the advancement of Science," met at Philadelphia on the 20th of September, and continued in session five days. A large number of distinguished scientific gentlemen were present, from different parts of the country, among whom we noticed the names of Professor Agassiz and of Professor Henry, of the Smithsonian Institute. After the organization of the Convention, it was divided into two sections, one embracing *General Physics*—mathematics, chemistry, civil engineering, and the applied sciences generally; the other including *Natural History*—geology, physiology, and medicine. Each section held separate meetings, at which were read papers on various important scientific subjects, and interesting discussions held. The deliberations were harmonious, and characterized with great ability, and we have no doubt that much good will result from them. It was a convention of able and learned men, assembled for the worthiest objects, the promotion of science and the increase of general knowledge, and the influence of it will

be to awaken a more general interest in scientific studies and investigations, and to elevate the character of America. The meeting next year will be held at Cambridge, Massachusetts.—[Pilot.

An invention for cutting stone is in operation in New Haven, which dresses down stone at the rate of a square foot in one or two minutes, and with two attendants only.

AMERICAN SKILL ABROAD.—One of Hoe's cylinder-revolving presses, says the American Artist, was shipped from this city for Paris, to be used on "La Patrie." Eight, if not ten, of these presses are demanded in Paris for use by the several papers of large circulation. As the French laws prohibit the introduction into France of machinery of foreign manufacture, all but this one will necessarily have to be manufactured in that country. For liberty to build in this country, and introduce into France this one, as a "working model," Col. Hoe obtained special permission of the French government, under the monarchy, last winter, whilst in Paris; and he has now gone out again, having started in the Cambria on the 18th, to put this press in operation, and arrange for the building of the others in Paris, under the superintendence of one of the young men brought up in his establishment, by whom he is accompanied. The price of these presses is twelve thousand dollars each. Success to the American invention and to the inventor.

SELF LAMPLIGHTER.—Mr. Alexander Bennet, of New York, exhibited in the late Fair, an invention by which Lamps or Candles may be lighted at any moment of time by a clock or a pull of a cord. If attached to an alarm-clock a light may be produced at any hour. In cases where people wish to rise at a certain unusual time of night, all that is to be done is to set the clock and make the connection of the Lamplighter "all right," and then, when the hour comes round, you have a lamp already lighted at the same time. When not desired to be connected with a clock, it can be attached to a cord terminating in some place like a bell-pull, so that it is only necessary to pull the cord to produce a light previous to rising. It is designed, also, to be so attached to the bell-handle of a front door, that pulling the bell instantly makes a light to see by in the hall, or any other part of the house.—[American Arts-an.

ROTARY MOULD BOARD PLOUGH.—The Scientific American says, that at the late Fair, the most novel agricultural implement, was a revolving Mould Board Plough, the invention of Mr. Page of Baltimore. The mould was a circular concave conical shield revolving from the point with the sod of earth. This mould board was movable and could be taken off and put on at pleasure. Whether its complexity will prevent its general introduction or not, remains yet to be seen. Its principle is the combination of a revolving apron to move with the earth, and perform the same office as a friction wheel in a shaft box.

A WASHING MACHINE ON AN ENTIRELY NEW PRINCIPLE.—Numerous have been the attempts to construct a machine which shall supersede the rubbing by the hand the linen, &c., in the operation of washing; but they have all been objectionable, either from total inefficiency, or from tearing the articles. Mr. Jones, of 106, London Wall, is the inventor; and, from what we have seen of the operation of the machine, it appears he has been highly successful. The machine consists of a strong deal trough, closed at one end, and with a semi-circular bottom; in the centre is a division of holes, moving on a centre, by working a handle, which stands upright through the cover. A short distance from the back is also another partition, full of holes; and the clothes properly soaped are placed between. On working the handle backwards and forwards, the hot water is squeezed with great force completely through parts of the material, and again rushes back, on the withdrawal of the moveable centre. A very short time suffices to cleanse, by this method, the most dirty linen, and without the slightest chance of injury to the fabric. They are extremely easy to work, are calculated greatly to diminish labour with the most satisfactory results, and it will at once be seen that the construction is in every way philosophically correct.—[Mining Journal.

THE ATMOSPHERIC CHURN OUTDONE.—The following description of a mode of churning practiced in Mexico, we think, goes a little ahead of the "atmospheric" wonder:—"Two tin cans are enclosed in a green cow hide; the size to correspond to the quantity of milk. The hide, on drying, will shrink, and adhere to the cans. These cans are partly filled with milk, and placed like saddle-bags, on a hard trotting horse; a person then mounts the horse, and rides seven or eight miles into the city. The motion of the horse effects the separation of the butter from the milk, and the rider has only to pocket the cash for his butter and butter-milk, and wend his way home at his leisure."

BRICK MAKING.—Making bricks of dry pressed clay, we learn by the Cincinnati papers, is extensively practiced near that city. Two machines, driven by steam, turn out 4,700 bricks per hour, ready for the kiln. The establishment only requires twenty-five hands, for feeding the clay, stacking, &c. The bricks are said to be of superior quality and finish; very suitable for fronts and other nice work.

HAPPINESS.—"I say, sir, it is employment that makes people happy."—[Daniel Webster.

ARRIVAL OF THE BRITANNIA.

We take the following important items of general intelligence from the news by this steamer, which arrived at New York on the 6th inst. It will be seen that there is at present very little prospect of a rise in the price of grain and breadstuffs. This circumstance keeps our own markets in a very dull state:—

MARKETS.—The grain trade has assumed a rather dull and declining tendency. The supplies of home grown, as well as foreign, are fully equal to the demand; and, as buyers feel unwilling to speculate, prices are on the decline. Accordingly, at Mark Lane, on Monday last, wheat fell 2s per quarter, whilst sales for both flour and Indian corn were very limited. The same feeling prevailed in the Liverpool market on the following day, the best American wheat bringing 8s 4d to 8s 5d for white, and 7s 6d to 7s 9d for red: flour sold at 27s to 30s 6d per barrel, according to brand and quality. At the subsequent market, held on the 17th instant, the trade was very languid, and prices were in favor of the buyer.

The intelligence from the Continent, during the week, has been of the most important and alarming character. In the face of the present trouble in Berlin, and with the experience of the French revolution before him, the imbecile and sanguinary despot of Austria has characterised his successes by the most cold-blooded murders in Vienna. The defenceless citizens are shot dead without ceremony; their houses rifled, and even women and children massacred. The students of the University, who used almost superhuman exertions in defence of the city, are hunted down like wild beasts, and executed when captured. If anything were wanting to urge the people of Berlin, Frankfort, Breslau, and other places, to revolt, Ferdinand of Austria, has fearfully and fully supplied it. We should not wonder to have intelligence, and that at no distant date, that these acts have raised a flame which neither regal nor imperial despotism will be able to extinguish.

The total number of cases of cholera in London already reported from its first appearance, has now reached 1,059, of which 513 have proved fatal, and 331 are still under treatment.

In Ireland, poverty and starvation, it is contended by many, will equal the sufferings of the people during the memorable year of 1846. Men, even of rank and title, are said to be subsisting on yellow meal and the garbage of their garden. A baronet in the west of Ireland, who had an income of £2000 a-year, has been so reduced as to accept the miserable office of collector of poor rates. During the last fortnight, the landlord's shooting season appears to have set in in good earnest, and a long catalogue of these melancholy events are recorded in the columns of the Irish newspapers.

THE CHOLERA.—It has been reported, and we believe correctly, that the Cholera has reached New York. It is said to be of the most virulent kind. A number of deaths have occurred in six hours from the first attack. It has also appeared at New Orleans. We have reason to fear, from the peculiar character of our winter, that it will soon visit us.

AUCTION OF THOROUGH-BRED CATTLE, SHEEP, &c.,

On Yonge Street, near Thornhill.

RICHARD GAPPER, Esq., having leased his Farm for a term of 10 years, has instructed the undersigned to Sell, without reserve, by Public Auction, at his Residence, Yonge Street, opposite Barwick's Tavern, about 14 miles from the City of Toronto, on Tuesday, the 2nd January, 1849, THE WHOLE OF HIS

Live Stock and Farm Implements; comprising

One imported thorough-bred Devonshire Bull, which obtained the first premium of £7 10s. at the Provincial Agricultural Show held at Cobourg; one thorough-bred imported Devonshire Cow, which also obtained the first premium at the same time and place; one three-year-old thorough-bred Devonshire Heifer, calved once; one two-year-old thorough-bred Devon, calved once; four superior half-bred Milch Cows; two four-year-old Steers; Ten thorough-bred Leicester Ewes; five thorough-bred Leicester Lambs; four thorough-bred Leicester Tups; twenty good Ewes and twelve Lambs; not quite thorough-bred; one three-year-old fine Clyde Colt, one two-year-old Clyde Colt, both out of one own sister to the celebrated entire horse, Young Magnum Bonum; one three-year-old Mare, by Cock of the Rock, dam Jesse, a thorough-bred mare; one two-year-old Colt, by Cadmus, from the same mare; one thorough-bred Mare, Jesse, in foal to Young King Alfred; one well-bred Sow; nine store Hogs; one set of brass-mounted single Harness; one set of brass-mounted double Harness; two pair of Harrows; two iron Scotch Ploughs; one lumber Waggon; one lumber Sleigh; together with one imported double iron Cheese Press, and sundry other articles of husbandry not enumerated. After which, will be offered a very superior thorough bred, Durham Bull, bred by Mr. Brown, of Dundas-street; the pedigree will be given at the time of Sale.

Terms.—Under £5 cash; over £5 and under £10, nine months' credit; over 10, twelve months' credit, on approved joint notes.

Sale to commence at ten o'clock a.m.

WILLIAM B. CREW, Auctioneer, &c.

Township of Markham, 1-4th December, 1848.

HOME MARKETS.

	Toronto, Dec. 15.	Hamilton, Dec. 14	Montreal, Dec. 12
Flour, per barrel.	£1 1 3	£1 0 0	£1 5 0
Wheat, per bushel.	0 4 2	0 3 10	0 4 9
Barley, per 48lbs.	0 2 0	0 2 0	0 4 0
Oats, per 34lbs.	0 1 0	0 1 3	0 1 3
Peas, per 60lbs.	0 2 3	0 2 0	0 2 9
Oatmeal, per barrel	1 2 6	0 13 9	1 1 3
Potatoes, per bushel.	0 2 6	0 2 6	0 2 6
Hay, per ton.	3 5 0	2 10 0	2 10 0
Beef, per 100lbs.	1 0 0	0 17 6	1 5 0
Pork, per 100lbs.	0 17 3	0 17 6	1 10 0

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