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THE BRITISH AMERICAN CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—DR. JOHNSON.

VOL. 1.

TORONTO, MARCH, 1842.

No. 3.

Engravings—Domestic Genius—The Genesee Farmer—Disappointment and Rivalry—Farmers should Encourage a Friend at Home—Generosity of Albany Cultivator.

We are determined to do our utmost in the way of obtaining engravings, of all descriptions, with which to illustrate the various subjects embraced in our columns. Our readers, however, will feel that we labour under many difficulties, in this respect, in Canada; simply, because there having heretofore been little demand for engravings or etchings in wood, no individual among us has deemed it worth his while to devote much of his attention to this branch of the arts.

We shall be able, no doubt, to overcome this difficulty more readily by making the city the seat of our exertions; for among the thousands who have come here to seek an honourable subsistence, we are apt to find some ingenious individuals willing to cultivate their taste for engraving, particularly when, by doing so, they can help themselves, as well as serve the great cause of agriculture.

We hope to be ably assisted by the friends of science, and if so, we shall have it in our power to give encouragement to the hand of genius, a matter, we assure our friends, which will prove of no little satisfaction to us.

We have been enabled to do as well, at least, did some of our now proud agricultural contemporaries in the neighbouring republic, when they first set their barks afloat upon the stormy sea of public opinion. Our friends, we feel assured, will be gratified to learn that we have been supplied with engravings, of which our present number presents a few specimens, by a young man, resident in our vicinity, and whom we may hereafter take occasion to recommend the favourable notice of the public. He has yet done little in this line, (the "Perfect Bee" being his second attempt), but we receive to say that little well.

We have one ground for rejoicing in his success, which we shall explain to our readers.—Desirous of doing all that we could to make our paper interesting, we lately applied, through a friend residing at Rochester, to the Proprietors of the *Genesee Farmer*, which has been so largely and liberally supported by our own farmers, the privilege of using their cuts, when applicable to the subjects in our columns. They of course have many which they could, without inconvenience, sell us; but we felt disappointed when we were informed that our journal was regarded upon as a rival, and that consequently had no reason to anticipate any favours from that quarter. We must say we fancied that we were engaged in the promotion of a great enterprise, one which had for its end the improvement of the condition of thousands of our fellow-citizens—and one which every intelligent mind, feeling to be as strongly devoted to it, as do the editors of the *Genesee Farmer*, would be likely to see flourishing throughout the wide world. We were not therefore prepared for selfish spirit which seems to actuate men, who are warmly patronized by Canadians.—We do not like the idea of being looked upon as rivals: but this being so, it becomes our duty to inform the Canadian public that such is the case; and to ask them if it be not advisable to en-

courage a friend at home, when they learn that those professing friendship abroad, are ready to turn aside the moment they find it their interest to do so?

We should have been most happy to have exhibited a friendly spirit towards the editors of the *Genesee Farmer*, to have spoken well of their exertions in a great cause; and had the request been made to us, which we made to them, to have rendered them every service in our power; and though we do not intend to depart from such a course, as being that most congenial to our feelings; yet we may esteem it a duty, to remember that we are in the estimation of our contemporaries "rivals;" and we call upon our farmers who have heretofore sought information abroad on this important subject, to remember this, and ask them to rally to the support of their cause in Canada; to uphold us in our undertaking, and not by any means let our journal suffer for want of attention.

We expect contributions from the pen as well as the purse.

Our journal will be a poor one indeed, if we fail to supply five shillings worth of information in a year. As we before intimated, we have men in our vicinity, whose genius and whose friendship we hope will render us, in some degree, independent of the assistance we had hoped to receive as above.

We cannot conclude without expressing our satisfaction with the generosity exhibited by the editors of the *Albany Cultivator*, who, in commenting upon an address delivered by Mr. Wm. O. BULL, in the Johnstown District, expressed their hearty concurrence in that gentleman's hope that there might soon be established in our Province, a CANADIAN CULTIVATOR. The editors of that journal, instead of exhibiting a spirit which breathed of the fear of rivalry, spoke in one of friendship towards an attempt, which it has been our lot to make, and in which, through the kindness of an intelligent and generous public, we hope it will be our lot to succeed.

Potatoe Planting.

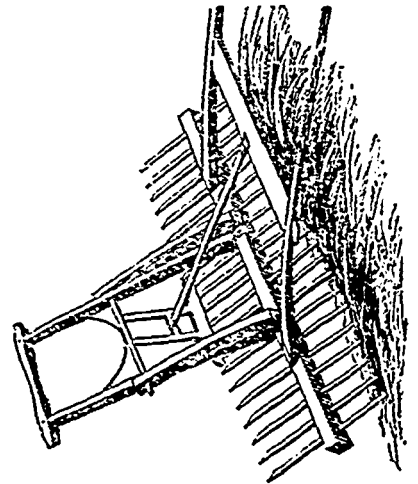
The Right Hon'ble Sir James Graham presented the Royal Agricultural Society of England, a communication he had received from Major Perceval, of Barntown House, county of Wexford, Ireland, on the subject of potatoe-planting; and in reference to that part of Sir James Graham's paper on the same subject, printed in the 3rd part of the Society's Journal, in the year 1840, referring to the failure of the crop arising from the circumstance of using cut-sets, Major Perceval gives a statement of a singular failure, to a considerable extent, experienced ten or twelve years ago in the district in which he resides, in the potatoe crop, from seed made of cut sets, the failure being attended, however, with great peculiarities. The cut seeds planted in the forenoon, were found to do well, and yield a good crop; while those planted in the afternoon were nearly a total failure; or, on the contrary, those planted the next day in the forenoon a failure, while the afternoon planting would be found to do well. These capricious results would be found to happen in the same field, all of a uniform quality; the same manure being used throughout, the same sets being cut at the same time as the others, and in every way treated similarly to obviate the serious evil.—Major Perceval then proceeds in an interesting account of the management of his potatoe crop, and states that he found the failure from cut seed

entirely prevented by selecting the largest potatoes, which he put into pits for seed, (a plan which prevented all chance of their heating), and in spring, two or three days before planting, he cut the potatoes into sets as often as possible, with one eye, or germinating principle in each, and immediately limed them, (drying up the cutting with air-lacked lime), keeping them spread on a floor. We have planted cut seed in Canada in the forenoon, that succeeded and was free from dry-rot, while the same seed, cut from the same pit of potatoes and planted in the same field, soil, and manure, in the afternoon, of the same day, was nearly a total failure. To cut sound potatoes, lime them after they are cut, and let them dry before planting, will, in a great measure, prevent dry-rot.

We intimated in our last that we had engaged the services of two suitable persons to make a tour through the country as TRAVELLING AGENTS. We have, however, sent out but one, as yet, Mr. WILLIAM McDUGALL. Those who are willing to become subscribers to the *British American Cultivator*, and are anxious to encourage the cause of Agriculture in this province, would do well to further our agent in his object.

TO CORRESPONDENTS.—We have received anonymous communications, which we cannot insert. We trust our correspondents will see the propriety of giving their names and place of residence.

Revolving Horse Rake.
Fig. 5.



This is one of the many labour saving machines invented, which has been found of great utility to the farmer. It may be wrought with one or two horses and does the work not only rapidly but well. The person working has full command over it so as to elevate or depress the teeth to unevenness on the ground, and when it is full can, by touching the lever in the centre release the loaded side, when by the draught forward it revolves, and the other side of the toothed frame is brought into its proper position to act without any stoppage. From the cut and description any ingenious farmer might be able to construct one for himself—and save the expense of one or two hands in the mowing season.

We have received the first number of the "*Central New York Farmer*," a very neat monthly paper issued at Rome, and from its cheapness, (being only two shillings and sixpence, Halifax currency, per annum, exclusive of postage,) it will, in our opinion, be an efficient channel for the enterprising farmers of that portion of the *Empire State*, to communicate the result of their experience; and will no doubt, from the ability of its Editor, be a precursor of much good to central New York. We wish it success.

May we not be allowed to make a few reflections relative to the enterprise of our neighbors, which may tend to arouse us from our lethargy. The state of New York alone, containing an agricultural population similar in extent to the province of United Canada, has at this time not less than four exclusively Agricultural papers, two of which has a circulation of not less than twenty-two thousand copies. On the other hand we have barely one, and that too in its infancy, we may almost say, struggling for its existence. By making the analogy of the population directly interested in the cultivation of the soil, and the difference exerted in the support of an agricultural press, we by no means wish it to be understood that the same difference exists between the practice of husbandry in the two places; on the contrary, we are of opinion that the Canadians, and especially in those sections where we have been favoured with emigrants from Europe, are better practical farmers than the New Yorkers, and we think those who have travelled through both countries will bear us out in that opinion. In establishing an agricultural periodical in this province, we do not presume that we could instruct some of those excellent farmers that are interspersed through our fine and flourishing province, who have had more experience in the practice of husbandry than we have had; yet, at the same time, we can open a field through which our men of science and ability can communicate freely, to their brother farmers, the true principles which govern and direct their profession. We are happy to have it our power to state, that there is a favourable spirit daily increasing upon that so long despised and neglected subject AGRICULTURE. Despised by those who are unacquainted with the advantages arising from it,—neglected and unimproved by the vast majority of those already engaged in it, from the want of a proper appreciation of the benefits which would result to them from a more thorough knowledge of their business. Men are beginning to open their eyes to their true interest, and by reflection are constrained to acknowledge that Agriculture is a science; the operations of which are not to be entrusted to manual labour alone; but the mind is also called into action; it is likewise a field, than which there is none, wherein the acquisition of a practical and scientific knowledge, and a good

judgment, can have a wider scope for their exertions. In this, as in all other sciences, perfection as yet has not been attained; and there will continually be new inventions and discoveries that will tend to advance it.

The Agriculturists of this naturally and artificially fine country are more favourably situated than those of any other land on this continent. In a natural point of view we have an excellent and healthy climate, and the quality of our soil, timber, lakes, and rivers cannot be surpassed by any in the world. In an artificial point of view, our taxes are comparatively light at present to what they are in other countries; ready markets, and most generally remunerating prices are always to be found for the surplus produce of our farms. We must admit, however, for the last few years, occasionally our markets have been glutted by an ungenerous and unwarranted competition; but we have reason to believe that this subject will be attended to by our Legislature, when a proper demonstration will be made from one end of the province to the other, and that something effectual will be done to obviate that so frequently complained of evil. But let us not be content with merely receiving the favours which the Hand of an All-bountiful Providence showers upon us; let us show by our actions that we rightly estimate them. Although we are in a comparative state of prosperity, there is much needed to be done yet; let us not be backward as a people in the improvements of the age. Nothing will tend more towards the advancement of this great community, as a body, than the diffusion of useful knowledge to all its classes—the successful carrying out of those newly enacted systems of education, by which, with a little amendment, all may have the opportunity to drink at the fount of knowledge; but this, although the great hope upon which we may base our rise in the scale of mankind, will require time. There are, also, other means by which the interests of the great subject of agriculture may be fostered—by individual exertion—by respectfully soliciting the aid of legislative enactments for its encouragement—by the promotion of Agricultural Societies. But in our humble and disinterested opinion, there is none more simple or efficacious, at the present time, than the disseminating the experience and views of practical farmers through the medium of a well conducted agricultural paper.

There is no way by which a farmer may benefit his coadjutors more, than by making experiments; and bringing the results of his trials into notice, through some such channel as here presented to the Canadian public. To be serviceable these should be told in a plain manner, so as to be easily understood. Agricultural papers should not be established and supported, as merely channels for displaying the bright points and features of a system which would inculcate in the mind of a superficial reader false ideas

of its capabilities; but that the faults of it may be held up to view, measures should be taken to remove the stumbling-blocks which impede its progress. Let not selfish motives actuate our farmers, but let each be willing to contribute his portion towards the arduous enterprise we have undertaken, which is calculated for the benefit of all. Remember upon the prosperity of the agricultural classes of British America depends, in a great measure, the prosperity of our whole country.

If the farmers of the United States can support upwards of thirty exclusively agricultural papers, and the states of Maine and New York, can each efficiently support four of those papers, certainly the people of this flourishing province, containing upwards of a million of souls nine-tenths of whom are employed in cultivating the soil, as a source of subsistence, can and will efficiently and creditably support one.

We have been induced to afford our paper as cheap as the cheapest of theirs, in order to give our farmers a fair trial, which we believe was never properly presented to them before.

We were lately presented with the following resolutions and by-laws of a society of gentlemen, organised for the purpose of advancing the interests of the agricultural and commercial classes of this province at its primitive settlement. The patriotism shown by our forefathers on that occasion is highly complimentary. We hope the sons and grandsons of those venerable and respected pioneers will not be backward in advancing those interests. The want of union on the part of our agriculturists in the formation of respectable and efficient societies is truly lamentable. We attribute the cause in a great measure, to the want of a proper medium, or channel, to interchange their opinions, and advocate their rights. Such a one is now presented to them, and it is for them to patronise or refuse, we hope, however, that our efforts will be worthy of the former;—

YORK, UPPER CANADA.

At a meeting of Gentlemen from different parts of this Province, held at COOPER'S TAVERN, on Saturday, the 22nd of February, 1806; it was

RESOLVED, That from the industry of the people, the power of the State and the wealth of the Subject is derived; and Agriculture being the happiest mode in which industry can be applied, we feel it our duty to unite, for the purpose of promoting its advancement and accelerating its perfection.

RESOLVED, Therefore that we, (for the purposes aforesaid), do now form ourselves into a Society, to be termed, THE UPPER CANADA AGRICULTURAL AND COMMERCIAL SOCIETY.

RESOLVED, That for the various uses of this Society, each member shall pay one dollar on being admitted, and two dollars annually.

RESOLVED, That the Honourable Mr. Justice Thorpe be Chairman, John Small, Esquire, Secretary, and Charles B. Wyatt, Esquire, Treasurer.

RESOLVED, That to promote the design of this Society fully, and to obtain general information on the Agriculture and Commerce of this Province, a division of this Society shall be formed

every District, under similar rules and regulations; and that a Committee for each division, shall communicate quarterly with the Corresponding Committee in York, on the improvements made, and the assistance wanted in the various branches of Agriculture and Commerce within their District; and that sub-divisions be formed wherever they may be necessary and convenient.

Resolved, That the Honourable Mr. Justice Colborne, the Honourable Peter Russell, Hon'ble Mr. Justice Powell, Honourable Thomas Scott, Attorney General, D'Arcy Boulton, Esquire, Solicitor General, M. H. A., William Weekes, Esquire, M. H. A., Rev. Mr. Stuart, be the corresponding Committee of this Society.

Resolved, That each member hereafter named for the different Districts in this Province, is requested to call together such persons as are eligible to form a division of this Society in his district.

For the Niagara District.—The Honourable Robert Hamilton.

For the Western District.—The Honourable Messrs. Baby.

For the London District.—Benajah Mallory, Esquire, M. H. A.

For the Midland District.—Allan McLean, Esquire, M. H. A.

For the Eastern District.—John Cryslor, Esquire, M. H. A.

For the District of Newcastle.—David McGreger Rogers, Esquire, M. H. A.

For the District of Johnstown.—Peter Howard, Esquire, M. H. A.

Resolved, That there be an Annual General Meeting at York, on the second Saturday in the month of Parliament.

Resolved, That a Quarterly Meeting be held the first day of the sitting of the Quarter Sessions, and oftener, as the Society shall think necessary.

Resolved, That the Committee of Correspondence be empowered to form as many sub-committees within the District, as may be found convenient, according to the design and under regulations of this Society; and that the Corresponding Committee of York be authorized to dispose of the general fund of the Society for the purposes of the Institution, accounting at the Annual Meeting for the same.

Resolved, That no additional member be admitted at any future meeting in this District, but ballot, at which time, one black ball in three shall be considered as an exclusion of the person proposed, and that the name of the gentleman to be balloted for, shall be sent to the Secretary of the Society, by the member who is to propose it, one day at least before the ballot.

Resolved, That all those who signed the original subscription paper of this Society, be considered as original members.

Resolved, That the members will exert themselves to engage their neighbours and acquaintances among the farmers, to cultivate annually a portion of ground, (however small) with Hemp, to report to the Corresponding Committee result, specifying the portion and quality of ground, the expense of culture, and cleaning Hemp for market, and the quantity and quality of the Hemp produced, &c., &c.

Resolved, That five hundred copies of the proceedings of this day be printed, with the names of the original members, and that each member be furnished with a copy thereof.

Resolved, That the unanimous thanks of this Society be given to the honourable Chairman, for his laudable zeal in establishing this Society. Adjourned to the first day of the sitting of the Quarter Sessions.

JOHN SMALL, Secretary.

ORIGINAL MEMBERS.

Hon. Justice Thorpe,
Peter Russell,
Mr. Justice Powell,
Robert Hamilton,
Thomas Scott,
James Baby,
—Jarvis, Secretary of
Fresico,
—Darland, M. H. A.,
—L'Ass, M. H. A.,
—Nelle, M. H. A.,
—Wright, M. H. A.,
—M. H. A.

Peter Howard, M. P. A.
Benajah Mallory, M. H. A.
D'Arcy Boulton, M. H. A.
Ebenezer Washburn, M. H. A.
David Cowan, M. H. A.
D. M. G. Rogers, M. H. A.
Half Clench, M. H. A.
John Cryslor, M. H. A.
W. W. Baldwin, Master in
Chancery,
Wm. Chawatt, J. P.
C. B. Wyatt, Sur. General
of the Province.

Thomas Riddout, C. P.
Samuel Riddout,
John Small, C. C.
John Baikle,
Thomas Bennett,
Thomas Mosley,
John Cameron,
Richard Ferguson, J. P.
Wm. Willocks, J. P.
Wm. Allan, J. P.
Robert Baldwin, J. P.
Wm. Gilkinson,
Rev. G. G. Stuart,

Wm. Cooper,
T. G. Gough,
Simon M. Nabbs,
Rev. Robert Addison,
George Lawe,
Wm. Stanton, D. P.
Robert Henderson,
Frederick Baron De Honn,
John Ashbridge,
Elisha Homan, J. P.
William Bond,
Wm. Graham, J. P.
Sullivan Wilson.

Winnowing Machine. Fig. 6

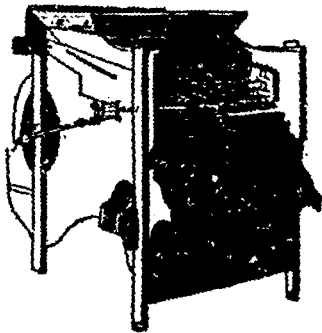


Fig. 6 is designed to represent the improved Winnowing Machine. It is of an English construction, and is said to clean one hundred and twenty bushels of Wheat from the chaff per hour. The Fanning Mills of our country would require much improvement, to dress even one-half of that quantity in that given time. We must certainly give our mechanics much credit for the attention already paid, in the construction of this indispensable and useful machine; yet, in our opinion, great improvement could still be made; and we hope this hint will be sufficient to create a stimulus with some of our enterprising mechanics, to introduce to our Canadian Farmers, through the columns of our paper, an article similar in form and usefulness to the one here presented. We will at all times take a pleasure in bringing into notice farming implements of an improved character, or any thing that would have a tendency to further the interests and welfare of our husbandmen.

Economy and Taste in the Location of Farm Buildings.

We are persuaded that it will not be many years before an entire revolution in the minds of agriculturists in this country or rather in the New England States, will take place in regard to the selection of sites for farm buildings.

Thus far the prevalent thought and taste have been, to place the dwelling and out houses in a group directly upon the principal public roads side, without much regard for the distance and inconvenience of visiting therefrom, the different parts of the farm. One would be inclined to judge from this almost universal choice of locations in New England, that the principal business of our farmers was upon the highways, instead of upon their own lands, and therefore the nearer to the highway the dwelling could be situated the more convenient it must be to the theatre of the farmer's labours! Not so in fact—the reverse ought to be the truth. The less the farmer visits the highway the better in all probability, will be the management of his farm.

When the population of our country was very sparse, and when it might have made the eye of the white man water from joy to see another of the same complexion and race, there might have been one reason that can not now be said to exist, for the husbandman to crowd his dwelling up to the edge of the most public road. But in these days, good economy and good taste unite in suggesting to the farmer, who is about to erect buildings upon his premises, to select the most eligible site that is nearest to the centre of his lands and from which all parts may be most easily supervised or visited—making the location of the public highway of but a secondary consideration. An excellent French author whose treatise in translation is now before us

has well remarked that—"the choice of a suitable spot for a farm house is not so easy a thing as may at first be thought: buildings of this kind should always be placed as nearly as possible in the centre of the domain, in order to avoid loss of time and labour in the transportation of the products: the oversight of a farm can likewise be arranged more easily by this arrangement."

We know there is a curiosity always alive in some people to see every body in the world whom they possibly can and perhaps, in turn to be seen by every body—and, at any rate, they want to see every body who passes in the highway. But there is the least of all imaginable worth, and of useful amusement, in such curiosity as this; and those who are exercised by it may be set down without much further proof, as the poorest of all managers, for their business pursuits what they may. And most especially should the farmer's household banish such a trait from their circle, for the quiet independence which appertains to their condition should make them the objects sought out by others, instead of making themselves curious to seek others out.—They may be envied, but they need envy no one.

As a matter of taste, let one reflect on this subject. Contemplate a genteel dwelling in the country crowded close to the public road side, so that every passer by has a complete view of all that appertains to the domicile. The whole may be very neat, and pretty. And yet the nearness of the beholder takes away all the pleasurable illusions of a perspective view to which no mind is insensible, however ignorant of the real influence that affects it thus pleasantly. It is like viewing a finely painted canvass—portrait or landscape—so closely, that the harmonious blending of colours is lost in the too distinctly visible traces of the pencil and of each separate colour. View the same production at a proper distance, and the whole character of it, and its effect upon the mind, is changed, and made charming.

Now contemplate the same genteel dwelling to which we have adverted as if located a suitable distance from the road side—off upon yonder eminence that is centrally distant from the various enclosures which evidently to the eye constitute the form of its occupant, and say does not its location alone impart an air of comfort, and of independence that was quite invisible in the former locality? Every thoughtful reader will confess it and feel the force and beauty of the poet's remark,

'The distance leads enchantment to the view!'

It is in this scenic effect that good taste exists. To cultivate it is not above the farmer's interest. For every inspiration of refined taste that is excited, lifts the mind upward, and elevates the man proportionable in his sphere of life. His children derive new impulses of refinement from whatever in this way characterises the parent, and the good is cumulative and progressive. It is the still small voice which affects the heart though not heard in the head. In all matters, therefore, let economy and taste be the advising friends of the husbandman, and especially useful will they be found to him in the subject matter upon which we have here been commenting. East Farmer.

BURNS AND SCALDS.—The pain of a burn or scald on such a part as the finger, may be greatly assuaged by instantly dipping the part in cold water, or applying to it any cold moist substance—mud from the street is as good as any thing. But the sudden dipping of the whole hand or foot into cold water, may prove dangerous to a delicate person, by causing a too quick flow of blood to the head, and therefore should be resorted to with extreme caution. The safest and best application to either a severe burn or scald is soft cotton. In many cases it is applied perfectly dry to the part, and in others, it is wetted on the side next the sore, with a mixture of lime-water and linseed oil. A rag wetted with some substance may be used where cotton cannot be had, but cotton is best, and no house should be without a quantity of it.

CURE FOR WARTS.—Scrape a Carrot and set the scrapings for a poultice, to be bound on the hand immediately before retiring to rest. By repeating this a few nights the warts will entirely disappear.—Mass. Ploughman.

Royal Agricultural Society of England.

LIVERPOOL MEETING, 1841.

Report on the Exhibition of Implements.

The Judges of Implements, in presenting to the Council their award of prizes, cannot refrain from expressing the gratification they felt at the splendid exhibition of implements and machines submitted to their inspection; nor can they omit offering their congratulations to the Society on the good effects which have already resulted from the public exhibitions of implements at the Society's Meetings, in stimulating the talent of the mechanic and the zeal of the husbandman. At Oxford the show-yard may be said to have presented an epitome of the state of agricultural mechanism existing in 1839, the era of the formation of the Royal Agricultural Society of England. No spectator of that show can have failed to be struck with surprise and admiration at the Liverpool exhibition. At Oxford there were some examples of good machinery and workmanship, but many more of rude, cumbrous, and ill-executed implements. At Liverpool many machines were exhibited not only of surpassing skill in contrivance and execution, but also for their object the effecting of processes in tillage-husbandry of the most refined and acknowledged importance, but hitherto considered of very difficult practical attainment. Some of these may already be considered as forming part of the necessary apparatus of every well-managed farm, and to be essential to its economy and profit. This vast stride in the mechanics of agriculture, made within so short a period, has doubtless arisen from the congregating together of agriculturists and mechanicians from all parts of the empire; and a still higher perfection in machinery may be confidently anticipated from the opportunity offered, under the auspices of the Society, of periodically contrasting and estimating the merits of varied implements used for similar purposes in different localities and soils. It is apparent that the manufacture of even the commoner instruments has already, to a great extent, passed out of the hands of the village-ploughwright and hedge-carpenter, and been transferred to makers possessed of greater intelligence, skill, and capital. The improved style of finish, the greater lightness and elegance of construction, and the generally superior adaptation of the means to the end, in every class of implements, were sufficient manifestations of the beneficial results arising from the encouragement given by the Society to these objects. Neither were examples wanting in the higher classes of machines to show that the fourth important object for which the Society was incorporated is, to some extent, fulfilled—viz., "to encourage men of science in their attention to the improvement of agricultural implements."

Agriculture, as an art and a practical science, is still in its infancy; and it is to be ardently desired that the mechanical constructor should be seconded in his efforts to produce new or more perfect implements, by receiving the co-operation and instructions of those whose leisure, affluence, or greater knowledge of the wants and capabilities of agriculture, enable them to supply the ideas on which the mechanic would work.

The exhibition at Liverpool contained productions, by several humble mechanics, not inferior in point of genius to the more finished performances of old established firms; and with the pleasing fact before them of the advance already made in the improvement of old, and in the invention of new implements, the members of the Society would perceive how profitable a mine still remains to be worked by the aid of its fostering care. It was also a gratifying feature of this large assemblage of rival mechanicians, that but little jealousy of success was manifested by unsuccessful candidates; and it was agreeable to the Judges to learn that several of the more important or best executed implements, to which prizes were awarded, were afterwards purchased by competing makers.

In the distribution of the sums left to the discretion of the Judges, they have endeavoured to reward merit in most of the varied forms in which it attracted their notice, hoping to encourage the agricultural machine maker in the application of sound scientific principles and good workmanship to every species of implement, whether for improving the preparation of the soil, for lessening animal and human labour either in field or farm-yard, or for alleviating the toil of the domestic in the dairy.

[We shall only give the description of a few of the implements exhibited, and the result of experiments made with several varieties of ploughs].

The Rev. W. L. Rham, of Winkfield, Berkshire, exhibited an implement, the principal object of which is to extend and improve the system of drilling and dibbling wheat and beans. It is chiefly in its latter capacity, as a dibbler of seed and manure, that we shall attempt to give a slight description of it.—The operative part of the machine is suspended upon an iron carriage having four wheels, the two hinder ones being fast upon their axle and turning with it; on this axle is a spur-wheel, giving motion to a pinion on an intermediate axle, which carries a wheel geared into a second pinion fixed on an axis, having six cranks arranged spirally. The velocity given to this axis is such that the cranks make one revolution for every six inches of the circumference of the hind wheels, or whatever is the distance desired between the dibble-holes. The radius of each crank is such that this distance shall be equal to the circumference described by it in one revolution. Thus the space described by every crank coincides with that passed over in the same time by the hind-wheels. And, as the cranks turn during the half of a revolution in an opposite direction to that of the wheels, the result of this compound motion is a pause or rest of short duration, at the point where the crank in its rotation commences to retrograde from the line of progress of the machine—i. e. at the lowest point, and when the dibbles are in the ground. The cranks raise the dibbles up and down by means of connecting rods and levers, which double the verticle, without increasing the horizontal motion; and in order that the point when in the ground may be perfectly stationary, it is made the centre of motion while the machine progresses; and to enable it to retain that position for a sufficient length of time for the purpose of leaving a hole truly vertical, the dibble moves between cheeks in the rod which connects it with the crank, and has a spring to restore it quickly to its proper place in rising out of the ground. During, therefore, the entire time occupied in its piercing the hole, and being withdrawn from the soil, the dibble retains its perpendicularity.

By an ingenious and simple contrivance a slow rotatory motion about its own axis is given to the dibble, by which means its point may be said to bore into the ground, thus assisting in the formation of the hole; and by the same action the dibble is cleared of any adhering soil, and the hole left firm and clear.

The seed-valve consists of a cylinder, with a cavity cut in it of dimensions sufficient to hold one or more seeds. This cylinder is tumbled over, and the seed discharged into a recipient of the shape of a quadrant, from which it is pushed out; when the cylinder returns to its first position and takes in a fresh supply. As this motion is sudden, the seed is surely delivered, even when rather damp.—When the cylinder is delivering, the quadrant is receiving, and vice versa. The delivery of the manure is effected by similar apparatus, only of a larger size, the valves being furnished with brushes or other means to remove the superfluity.

The valves are connected with the dibbles in such a manner as to deposit the manure and seed in the hole last formed, whilst the dibbles are stationary in the advancing one.

The dibbles bore their holes in shallow drills made by the pressure and sliding action of an iron shoe, shaped like a boat and forming a smooth furrow.

The whole of the machinery is supported by an iron frame, one end of which rests on trunnions attached to a projecting part of the back of the carriage. It is suspended at the other end by a cross shaft carrying two pinions, working into axes of circles fixed on the carriage, so that it can be raised or depressed as desired, or elevated clear of the ground by one turn of the winch. At the same time the pinion connecting the machinery with the hind wheels is put out of gear, and the whole can then be moved about on the carriage.—The implement is steered in a manner somewhat analogous to Lord Western's drill.

The object of the Rev. Gentleman in contriving this original and singularly ingenious implement, has been to imitate the more minute and certain manipulations of the gardener; and so to adapt his machinery to the drilling and dibbling of seed upon land previously laid flat and well prepared, that every field, however extensive, should present the neatness and the regularity of a highly-finished garden.

The distinguishing peculiarities of this remarkable piece of mechanism, are the arrangements for the dibbles to bore the holes, causing them to be perpendicular, and truly cylindrical; and the apparatus for giving certainty to the valves in receiving and delivering the seed and manure. The Judges, not having had an opportunity of inspecting the practical working of this machine, are limited to the expression of their high commendation of its ingenuity and principles, and their hope that the author's sanguine expectations may be crowned with the success his perseverance and inventive genius so richly deserve.

The Uley Cultivator, invented by Mr. Morton of Chester Hill, is an implement of great strength and utility; its peculiar merits consist in an improved form and disposition of the tines or teeth, which enter the ground in a manner effectually to move the couch, or weeds, before they arise from the ground, and to leave them unbroken on the surface. The teeth, five in number, are so arranged, that although drawing lines only 8 inches apart, they are 2 feet asunder, which, with their curved shape and length and their being suspended on wheels 3 feet 4 inches in diameter, renders it impossible for the implement to choke, however loud and encumbered the soil may be. The depth to which the teeth are let into the soil is readily determined by a winch acting on a worm and wheel; and by the same means they are raised clear of the ground. For the preparation of light soils for barley, the teeth are provided with cast-iron shares, which effectually shallow-plough the surface without reversing it.—Points of different widths, and also steel blades for paring, are furnished to fit on the tines without pins or other fastenings.

Messrs. Garrett & Son's Hoe deserves the notice of the agriculturist as an implement that will greatly tend to give an horticultural finish to field operations. It is adapted to all the prevailing methods of drill culture, either for the cleansing of corn crops, drilled at narrow intervals, or for turnip crops drilled upon the level surface or on ridges, the axle of the wheels being moveable at both ends to suit the varied intervals between the rows of plants; and as each hoe works by a separate lever, the weeds are effectually destroyed however uneven the surface of the ground, each hoe being kept at an uniform depth by means of regulating keys. The swing steering, adapted to this implement, is a valuable addition to horse-hoes, as they may thereby be guided with the greatest precision, perfectly scarifying the intervals without the possibility of injuring the corn or plants.

An excellent show of drills was produced by Messrs. Hornsby, Garrett & Son, Smith, and others. The drill exhibited by Mr. Hornsby, of Spittlegate, Grantham, to whom the prize of twenty-five sovereigns was awarded, is admirably calculated for deposit-

ing, either on hilly or level ground, any description of pulverized manure, even in a damp state, and in any quantity from 8 to 20 bushels per acre. The corn or seed and manure may, at the will of the cultivator, be deposited at an uniform depth; or, if required, the manure may be buried deeply, and the corn or seed placed by a separate coultter above the manure. Hitherto great difficulty has been encountered in effecting a regular delivery of damp manures, from their liability to form an arch in the box over the stirrer. To obviate this imperfection Mr. Horsby has ingeniously contrived, by means of an endless screw, to give to his stirrer in the box a traversing motion lengthwise, as well as a rotary motion; so that as the points revolve they change their position, the whole line of the box being traversed, and a continuous train of manure deposited. The Judges highly commend the workmanship and superior finish of Mr. Horsby's drills.

The turf and stubble-paring plough, invented by Mr. Thomas Glover, of Thrusington, Leicestershire, is an new implement of great value. The Judges highly commend the construction and working of this plough. The surface is pared with great precision and despatch, leaving the turf in a curl or roll, the grass side inwards; a position in which it is sooner dried, and rendered fit for burning without the necessity of turning it over, as is generally required when cut by the biggest spade.

In conformity with the arrangements made by the Council, the Judges submitted to trial the qualities of many of the ploughs designed for the general purposes of the farm, with the view of guiding their judgment in the award of prizes. These trials were made on the race-course at Aintree, the surface consisting of old sward upon a light loam and sandy subsoil. After the implements had

been at work for some time, so that each competitor might have the opportunity of getting his plough in working trim, the Judges proceeded to test each with the dynamometer, in order to fulfil, as nearly as they could, the condition annexed to the prizes, viz., that "lightness of draught will be considered, as well as quality of work performed. For this purpose, and in order to insure as nearly as possible an equality of circumstances, each plough was set to cut the furrow-slice, as nearly as it was practicable, 5 inches deep, 11 inches in breadth, and leaving an open furrow of about 11 inches. The dynamometer (constructed by Messrs. Cottam and Hallen, of London), was then applied, and the resistance noted at the time when the plough in every case appeared to be working in similar soil, and doing its best.—The results of these experiments are arranged in the following table:—

Experiments on the Draught of Ploughs.

MAKERS' NAMES.	RESIDENCE.	Number of Horses.	Number of Wheels.	Slice Cut.		Draught in Stones.
				Depth. Inches.	Width. Inches.	
Perry, Barrett & Co.	Reading	1	1	4½	10	22
Hart	Wantage, Berks	1	1	5	10½	26
Ditto	Ditto	2	1	5	11	28
Ransome	Ipswich	2	2	5	11	28
Sanders and Williams	Bedford	2	2	5	11	28
Howard	Ditto	2	2	5	11	28
Ditto	Ditto	2	2	5	11	32
Adams	Northampton	2	2	5	11	32
Sanders and Williams	Bedford	2	2	5	11	32
Hart	Wantage	2	2	2½	8	34
Glover	Thrusington	2	2	1	{ 11½ } to { 13 }	24
Hughes	Halkin, Flintshire	1	Swing	5	11	28
Hurling	Sedgwick, Kendal	2	"	5	11	30
Wilkie	Uddington, near Glasgow	2	"	5	11	32
Ditto	Ditto	2	"	5	11	36
H. Turner	Killingworth, near Newcastle	2	"	5	11	36
E. Brayton	Carlisle	2	"	5	11	40
Love	Northampton	2	"	5	11	40
Drummond	Stirling, N. B.	2	"	5	11	40

Rutland, N. L. Patent Coultter. Patent Scotch. Double Furrow. Turf Parer. Friction Sole Wheel.

A few observations are requisite lest these experiments should be considered as determinate, in the opinion of the Judges, not only of the intrinsic merit of any particular plough, but of the debatable question of the relative advantages of swing and wheel ploughs.—The peculiar circumstances under which these experiments were tried do not permit such final conclusions to be safely drawn.—First, the greater number of the ploughs were new, and many of the mould-boards were freshly painted, or had never been in the ground, which must have necessarily augmented their friction; secondly, some of the ploughmen were inexperienced in the management of the plough which they directed; thirdly, where so many teams of horses were required, some of them were unaccustomed to the work, and did not draw well together. Still, with these reservations, the trials greatly tended to assist the Judges in their awards; and the dynamometer disclosed facts, as to the relative resistance opposed by the different kinds of ploughs, which cannot fail to be of interest and utility to the agriculturist, and also to the constructor.

It appeared that, in almost every case, the draught of the wheel-ploughs was less than that of the swing kind; and it must not be concealed that the wheel-ploughs, in every case, actually turned over more soil than the swing; for the share and sole of the former maintained a flat, horizontal position; whereas all the swing-ploughs leaned more or less to the landside, cutting to a less depth on the right than on the left hand side; consequently, the furrow bottoms left by the wheel-ploughs were more even than those excavated by the swing-ploughs. This difference in the action of the two kinds of ploughs was less observable in the swing-plough made by Mr. Hughes, of Halkin, (exhibited by the Hon. E. Moyn), which cut a much more

even sole than the others, and offered the least resistance of any plough of that description. It is worthy of remark that this swing-plough had a particularly fine and easy entrance—a share somewhat broader than the slice cut—and a longer mould-board than usual.

The Judges regret that the delays incident to the presence of so large an assemblage of spectators, and to the numerous implements requiring their attention did not permit them to pursue these experiments so as to evolve more important results, and particularly as regarded the draught of several excellent double-furrow ploughs which were on the ground, but not brought into working trim early enough for satisfactory trial.—*London Mark Lane Express.*

SCOTCH AND IRISH COWS.—The Duke of Richmond laid before the Council a communication transmitted to him by Her Majesty's Commissioners of Woods and Forests, containing the results of a trial suggested by the Society to be made in the course of the Experimental Improvements now in progress on the Crown Estate at King William's Town, in the Counties of Cork and Kerry, in Ireland, on the comparative value of Scotch and Irish cows, in respect to their relative produce in milk and butter. The Commissioners, in pursuance of that suggestion, directed the purchase of six Scotch heifers of the Galloway breed, in order to such an experiment being instituted at King William's Town, in regard to their produce as compared with a like number of Ayrshire and Kerry cows then on the estate; and having placed the trial under the superintendence of Mr. Griffith, that gentleman had reported the details of the comparison, which the Commissioners then transmitted to the Society.

The milk of each of the cows having been measured separately, and noted for two

months, it appeared from the returns, that
1. The Galloway cattle gave, on an average, 6½ imperial quarts of milk per day, and that 9½ quarts of milk produced one pound of butter when salted for market.
2. The Kerry cows gave, on an average, 7½ quarts of milk per day, and 8½ quarts of milk produced 1 lb. of butter when salted.
3. The Ayrshire cows gave, on an average, 9 quarts of milk per day, and 10½ quarts of milk produced one pound of salted butter.

Mr. Griffith observed, however, that the Ayrshire cows could not be fairly placed in competition with the Galloway and Kerry breeds, inasmuch as the latter were heifers having each produced the first calf, while the Ayrshire were old cows, each having had four calves; the milk of the same Ayrshire cows, two years previously, having measured only 7½ quarts per day. It appeared from the inspection of the principal butter-mERCHANTS of Cork, that the quality of butter produced by the different breeds of cattle, was the same as to taste, though the colour of each was different; that produced by the Galloway cattle was of a deep yellow colour, that by the Ayrshire a bright yellow, and that by the Kerry a still lighter shade of yellow.

The cattle of each breed were in equal condition, in the same pasture; but in the previous winter and spring, it resulted from some experiments made on the comparative cost of keep, that

1. One Galloway cow consumed 21½ lbs. hay
2. One Kerry..... 16½
3. One Ayrshire..... 21½

Mr. Griffith draws the following general conclusion from his whole experiment. "That the Irish breed is best suited to the mountain lands, and to the cold and wet climate of King William's Town, that they are less expensive to feed, and when under the same circumstances, in respect of age, &c., they produce more butter per week than either of the breeds imported from Scotland, but that the cattle are superior for stall-feeding."—[D.]

Means of Increasing the Productive Powers of Soils.

The means at our command of increasing the productive powers of soils may be comprehended under the following general heads:

1. Supplying to the soil those organic and earthy substances which may be required.
2. Altering its texture, depth, and properties, by tillage and other means.
3. Changing its relation with respect to moisture.
4. Changing its relation with respect to temperature.

Vegetable and animal matters, in a decomposing state, appear to act in various ways in increasing the productive powers of the soil. They improve its texture, and they may be supposed to increase its power to absorb and retain moisture; but above all, they supply that matter, which, in whatever form conveyed to the organs of plants, tends to nourish them. This matter being absorbed by the roots of the plants, it must be supplied when exhausted.

Experience has in every age accordingly taught the husbandman to supply those substances to the soil; and the doing so forms one of the most important means at his command of maintaining or increasing its fertility.

Besides the animal and vegetable matter which is mixed or combined with the mineral part of the soil, and is essential to its productiveness, the mineral part themselves, it has been seen, require to be mixed together in certain proportions, and in certain states of division, in order to produce the greatest degree of fertility.

Silica and alumina form the principal mineral part of the soil. If one or other of these earths be in excess, the soil is defective in its composition. If the alumina prevail, the soil is too adhesive; if the silica prevail, it is too loose. A medium is seen to be the best; and although the precise proportions in which the alumina and silica should exist have not been determined, it is safer that there be an excess of alumina than of silica. Further, the fertility of the soil depends on the state of mechanical division of these minerals.

It would appear, then, to be a mean of improving the composition of a soil, to add to it siliceous matter when it is found to be too stiff, an aluminous matter when it is found to be too loose; and, further, to reduce these substances to their greatest degree of mechanical division.

Sometimes, accordingly, we have the means of improving the constitution of soils, by mixing sand with clay, or clay with sand. But, in practice, the direct mixing of these two substances for the purpose of producing a soil of better texture is rare; first, because the expense of this species of improvement is considerable; and second, because, in the state in which sand and clay are usually available for this purpose, it seldom happens that the aluminous matter of the one, or the siliceous matter of the other, is in that state of minute division which is favourable to fertility.

It is otherwise with the earth lime. This can, in all cases, be reduced by heat to that state of minute division which is favorable to the productiveness of soils; and hence it can always be applied with benefit to those soils in which it is wanting.

Lime is sometimes mixed, in its natural state, with aluminous and siliceous matter. It then forms marl, a substance which is frequently applied to soils to improve them. It is chiefly to the lighter soils that marl is suited; for them, not only is lime supplied, but alumina, which improves the texture of the soil. It is by means of this mixture that some of the greatest improvements on siliceous sands that have taken place in Europe have been effected.

There are cases in which even calcareous matter is in excess in soils. This occurs especially in districts where the chalk formation exists.—When the earthy stratum resting upon the chalk is very thin, the chalky matter becomes mixed with it, and, being then in excess, forms a barren soil.

An obvious method of amending the composition of a soil of this kind is by adding any of the other earths, whether siliceous or aluminous. We need not here scruple to apply them, because

the clay is coarse or the sand gritty. We may add them in almost any form in which they can be conveniently procured, for the effect will be to improve the composition of the soil.

There is another case in which, in like manner, siliceous and aluminous matter may be applied directly, in almost any state in which they can be found. This is in the case of peat. Here the vegetable matter is in excess, and the addition, accordingly, of any of the earths is an amendment of the composition of the soil.

We see, then, that the composition of soils may be improved by the addition of animal and vegetable matter, and also, in many cases, by the addition of those earths in which they may be deficient, and, in an especial degree, of lime, which we can always apply in the form of minute division best suited to improve the soil.

The second mode referred to of increasing the productive powers of soils, is that of altering their texture, depth, and properties, by tillage and other means.

The more effect of that comminution of the parts of the soil which it undergoes in the common operations of tillage is seen to have a beneficial influence on the productive powers of the soil. Whether the soil imbibe from the atmosphere anything besides aqueous vapour or not, it is known that the exposure of the matter of the soil to the atmosphere, and the comminuting of its parts by tillage, add permanently to its fertility. Thus we learn from experience the good effects of tilling lands well. Soils once tilled are rendered for the most part more productive by the process. Peaty turf, if suffered to remain in its original state, may continue to produce nothing but heath and the most useless plants; but, if merely ploughed, and exposed to the influence of the atmosphere, it will at once tend to produce grasses of a better kind, and of greater variety. And again, if a subsoil of coarse clay be exposed to the atmosphere, it is generally at first very unproductive, and it is not until after long exposure, that it becomes productive. This is most remarkable in the case of clay-marl, a substance in itself containing the materials of a fertile soil, but which is often barren, until after pulverization and the influence of the atmosphere.

It is, indeed, conformable to analogy, as well as to experience, that soils should be improved by pulverization and exposure to the atmosphere. In our examination of the constituent parts of soils, we have seen that their fertility is in a great degree indicated by the proportion of minutely divided earthy matter which they contain. The effect of tillage, therefore, may be reasonably supposed to promote this division, both by the mechanical action of our instruments, and by exposing the particles of the soil to the action of the air.

Another purpose sometimes promoted by tillage, and subservient to the amendment of the soil, is the deepening of the upper stratum.

The subsoil, it has been seen, is distinguished from the soil properly so called, by the former containing less vegetable and animal matter, and so being less suited to the nourishment of plants; and in certain cases it is found to be injurious to vegetation. It is generally important, however, that there be a good depth of soil; and thus it is often expedient for the effecting of a permanent improvement of the surface, to plough up and mix with it a portion of the subsoil, even though that subsoil should be in itself infertile.

These, then, are the principal mechanical means by which we can improve the soil, and they will be considered in detail under the various heads which relate to the operations of tillage.

Hens.

There are but few domestic animals more profitable, perhaps, to the farmer than the hen.—And yet there are many who regard these cheerful and industrious companions of rural life as a useless incumbrance, and as calculated rather to diminish than increase the products of the farm.

This, however is unquestionable a most grievous error. The hen if properly kept, and subject to a system of discipline so strict as to prevent the gratification of her more harmful propensities, while at the same time it admits of free exercise and a plentiful supply of food, is able to vindicate

her claims to the title of a good servant and will most amply reward her keeper for whatever expense she may incur, within the limits of prudent economy, both for coop and keep.

The French, who are probably the most rigid economist in the management of domestic affairs, never regard their establishment as furnished, it is said, without a flock of hens, and whose management is considered as much a matter of importance by the household, as the management of their cows or pigs. It has long been a question with our New England 'henologists,' whether the hen should be confined during winter or suffered to run at large. Objections are brought by some we believe, against the latter practice, on account of the harm they do occasionally in barns and other places where food is kept for stock. This disadvantage, however, is never experienced except in cases where they are subject to a scarcity of feed, which renders them discontented and disposed to meddle with every thing which holds forth the tempting prospect of a supply. Hens that are regularly fed and supplied with water, lime, brick dust, &c., &c., are seldom guilty of mischief in this particular, and will lay much more regularly than those that are not. Buckwheat is excellent for hens, and as it is more prolific, and more easily produced than almost any other kind of grain is much cheaper than corn or oats.

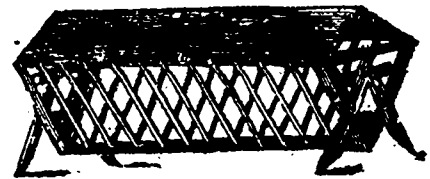
Many object to rearing hens on account of their liability to be carried off and destroyed by hawks and owls. In some situations this is a serious objection, as the hen, if suffered to run at large with her chicks, is almost certain to be lost.

But this objection, although the most weighty perhaps that can be urged against the practice of keeping fowls, loses its validity in a great degree, when we consider how easily the evil may be avoided. A Guinea hen, if suffered to associate with the flock, will at all times prove efficient in protecting the latter from the hawk, who no sooner hears her voice than he takes wing and carries the war into some other quarter, where his murderous propensities for slaughter may be more easily gratified, and without the fear inspired by so valorous and powerful a foe.

The eggs of these fowls are also highly prized by some and meet with a ready sale in our markets, being much larger than the common hen.—*Maine Cultivator.*

Hay-Rack, for Sheep.

Fig. 7.



Will be found a very cheap rack for feeding sheep, and one which any farmer at all conversant with mechanism could easily construct.

Operation of Spaying.

Our correspondent 'Floridian,' at Tallahassee, has sent us some queries, the first of which is as follows:—"We wish you, Messrs. Editors, or some of your attentive correspondents, to inform a young reader of the most scientific mode of performing the operation of 'spaying,' the reasons for the operation, and the proper age for doing it."

The reasons for spaying are simply to prevent the animal's breeding, destroy all inclination for intercourse with the male, and, by rendering her quiet, increase the aptitude to fatten. Castration in the male produces similar results.

The object in spaying is to remove the ovaries, which create the impulse to venereal intercourse, and are small round masses, varying with the age of the animal from the size of a large pea to that of a nutmeg, a little flattened, and attached to the uterus, or "pig bag," as the receptacle of the embryo young is commonly called. In young pigs, the ovaries are whitish, but when older, or during the estrus, they are reddish in appearance, and are more fully developed. Young sows are frequently spayed at

six week old; in older ones, the best time is, when they exhibit desires for the male, as the ovaries are then more easily distinguished. The only implements used, are a sharp pocket knife, and a long straight needle, with strong waxed thread. Strong cords are fastened to the hind legs of the animal, by which she is to be suspended from a spike or a pin in an upright post.—The mouth may be tied to prevent squealing, and the fore legs held by an assistant. The operator then makes an incision, up and down, between the four back teats, commencing with the two back ones, cutting through the skin, the flesh and the muscles beneath, to the membrane which envelops the bowels. This must be divided carefully, that the intestines may not be wounded; and in doing it, the knife should be placed at the lowest point of the opening made, with the back of the blade inwards, and passed upwards until a slit, two inches in length, or sufficient to admit two fingers into the wound, has been made. The fingers are introduced, and the uterus grasped, which to the touch will appear like a wetempty bladder, partially flattened. The operator must retain his hold, at whatever point this is seized, gradually drawing it towards him, and working his fingers forward until one of the ovaries is felt, which he will recognize by its hard kernel-like feeling, and its colour, when he grasps it between his finger and thumb, and cuts it off as near the uterus as possible. The uterus must still be held, the other ovary sought for, and exterminated in the same way. Care must be taken to excise the ovaries completely, or close to the uterus, or the operation may prove ineffectual. The wound is to be sewed up; and the object is to make the wound unite on its inner part first, and as equally as possible. For the first stitch, the needle is placed on the belly, on the right hand side of the lower slit, and passed through the skin, &c. into the bowels, taking care that the point does not touch the intestines. The most of the thread is now drawn through, the needle made to enter beneath the outer skin, and passed into the bowels as before. Four such cross stitches, only drawing together the inner part of the wound, will be sufficient to place the inner edges of the wound in contact; and the outside is now closed by a similar series of stitches in the outer skin, when the ends of the thread are tied, and some tar calve rubbed over and around the wound. The animal should be kept fasting for some twelve or eighteen hours before the operation, that the intestines may not be distended.

It is somewhat difficult to describe such an operation, so as to be understood fully; but if a person chooses, he may, when pigs are butchered and hung up, make such experiments, when opening them, as will show the position of the parts, and enable him to operate without difficulty.—*Albany Cultivator.*

Farm Account—Farm Journal.

The season of the year has now come round, when, according to goodly custom, farmers as well as merchants and mechanics, are wont to adjust their accounts, and ascertain how they stand with their neighbours and all the world.—I trust the time has gone by when farmers keep their accounts by chalking them up behind the kitchen door, where they stood in daily peril from the broom or scouring cloth of the neat house-wife. Every one has, or should have a book regularly ruled, and every charge made at the proper time and place, then nothing is trusted to the memory. Thus, mistakes are prevented, and disputes are saved, and you are able to live with your neighbours in peace and quietness. I need not remind my brother-farmers that in the stormy winter days, of which we may expect many before spring, work comes on, when nothing can be done out of doors, they should drop in upon those with whom they have had dealing, and settle their accounts.

But there is one class of accounts which I think it exceedingly important for farmers to keep, which I presume are kept by very few.

I mean an account with the farm itself.—Charge the farm with all the manure and labour expended upon it; and, on the other hand, credit it with the crops of all sorts, which you get from it. If you make any permanent im-

provement upon your place, from which you do not derive immediate benefit, the amount by which it increases the value of your farm should be entered on the credit side. In this way you will know each year whether your farming has been profitable, and how much you have gained or lost. I knew a prosperous and intelligent farmer, now deceased, who not only kept such an account as I have been recommending, but he also kept a regular debt and credit account with every field on his farm. By this course, he knew every year not only whether he gained or lost by his farming on the whole, but he could also tell which crops were profitable, and which unprofitable. The experience of a man who proceeds in this way will be something.—The gentleman to whom I have referred, turned his experience to a good account. He was a skilful farmer, and when he died at a good old age, he left his children a productive farm and considerable money besides, which he had accumulated by his industry and good management. He told me that he should as soon think of omitting to keep accounts with those with whom he had dealings, as of omitting the kind of farm accounts I have just described. He attributed his success in his business more to this habit of keeping exact accounts, than to any other single cause.

Besides the accounts just spoken of, every farmer should keep a farm journal, in which the daily business of the farm should be entered under the proper date. In this he will set down when his various crops were planted or sown, when hoed, and when gathered. Here too, he will set down any observation which may occur to him, and the course and results of any experiments he may be making. He will find it very useful as well as pleasant, to refer each year to the journal of former years, and see what he was doing at the same season or date. General Washington kept a farm journal, and it will not be disputed that he was a good farmer, as well as a genuine patriot. If every farmer will annually fill a book with a farm account and journal, which have been the subject of this article, and will in subsequent years be guided by the experience which these books embody, I will guarantee that so far, at least, book-farming will be the best way of farming.

One thing more; every good farmer, I suppose, takes either this or some other agricultural paper. From that, he gets the experience of others. In return for the benefit he derives from that, let him occasionally contribute from the stores of his own experience, for the benefit of his brother farmers. He will thus have the satisfaction of feeling that he has paid a debt, and conferred a benefit on the community.—*Farmer's Journal.* AGRICOLA.

Gypsum.

This substance, called also Plaster of Paris, or plaster, is one of the many salts of lime, and is composed, when pure, of lime 33, sulphuric acid 44, and water 21, so that it is properly a sulphate of lime. Plaster may be considered as one of the most valuable of what are called the stimulating manures, and its uses, already extensive, is annually rapidly increasing. Fortunately, the supply of this valuable substance, is quite abundant in the United States, particularly in the central and western counties of New-York, where, in connexion with clover, it forms the great support of the staple crop, wheat, and gives an astonishing fertility to the soil. The *modus operandi* of plaster, or the manner in which it produces its effects, have been the subject of much speculation, and various theories have been proposed, most of which the advance of science has already shown to be untenable. Some have supposed that its action was to be attributed to the force with which it absorbed and retained water for the use of plants. Others have contended, that it acted by favouring the decomposition of animal and vegetable matters; but Davy showed that the mixture of plaster with these substances does facilitate decomposition. Chaptal supposes that its value arises from its stimulating properties, which are prevented from being destructive, like some of the other salts of lime, by the slowness with which it is dissolved in water. He says, "The solubility of plaster in water, appears to be of precisely the degree

most beneficial to plants: 300 parts of water will dissolve only one of plaster. Its action is, therefore, constant and uniform without being hurtful. The organs of plants are excited by it without being irritated or corroded, as they are by those salts which, being more soluble in water, are carried more abundantly into plants, producing upon them the most injurious effects." Another theory has been lately proposed by Professor Liebig, which is certainly very ingenious, and explains the action of plaster in connexion with the presence of nitrogen in plants, more satisfactorily than any thing yet advanced. Prof. Liebig was the first to discover that ammonia was a constant constituent of the atmosphere, and on this fact his theory is based. We quote from *Sullivan's Journal*: "This fertility arises exclusively from the fact, that the sulphate of lime fixes in the soil the ammonia dissolved in the atmosphere, which would otherwise be volatilized with the water as it evaporates. The carbonate of ammonia contained in rain water, is decomposed in gypsum, in precisely the same manner as in the manufacture of sal ammonia. Soluble sulphate of ammonia, and carbonate of lime are formed, and this salt of ammonia possessing no volatility, is consequently retained for the use of plants."

Gypsum is scattered by the hand at the rate of two or three bushels per acre, and its effects on the grasses are perceptible for three or four years. It is best strewn when the leaves are wet with a slight rain or heavy dew, and after the leaves of the plants begin to cover the ground. Some have objected to the use of plaster, that it produced greater crops at first, but that it speedily exhausted the land, and impoverished it.—Those who make this objection, probably took every thing from the land, and returned nothing to it, relying wholly on the plaster to keep up the fertility, a course manifestly erroneous.—Clover should always accompany the use of plaster, and when this crop is fed off or the land, and made part of the course of rotation, no deterioration, but on the contrary, an increase of the grain crops has taken place. The plaster mills of New-York, usually reduce the material to powder after only drying it in the air, but kiln drying at a moderate heat drives off the water of crystallization, and renders it more valuable to the purchaser, as it takes in this case a greater quantity of the active materials, the sulphate and the lime, to make a ton. Considerable quantities of earthy materials are usually mixed with plaster, giving it a dark colour, and on the proportion of these in the mass, much of the value is depending. Dried gypsum absorbs water rapidly, but it may be preserved many months without its properties being sensibly affected, if headed up in light barrels. Chaptal affirms, from his own experience, that though the baked plaster evidently produced a better effect the first year, the next three years the difference was almost nothing.—*Albany Cultivator.*

PULVERISED ALUM possesses the property of purifying water. A large spoonful stirred into a hogshhead of water will so purify it, that in a few hours the dirt will all sink to the bottom, and it will be as fresh and as clear as spring water. Four gallons may be purified by a tea-spoonful.

NEW IRON should be very gradually heated at first, after it has become inured to the heat, it is not likely to crack.

BUCKWHEAT CAKES.—Have ready two cups; put one tea-spoonful of Tartaric Acid in one cup, one tea-spoonful full of Soda in the other cup; add to each about two table-spoonfuls of cold water; stir it well. Make one quart of Buckwheat meal into a thick batter, with warm water; add the contents of one of the cups; stir it well; then pour in the contents of the other cups; stir that well also; add to the whole one table-spoonful of melted Butter and lako on a giddle nicely cleaned and greased with good lard. The batter is ready for use as soon as mixed.

BRITANNIA WARE should be first rubbed gently with a woollen cloth and sweet oil, then washed in warm suds and rubbed with soft leather and whiting. Thus treated it will retain its beauty to the last.

Necessity of a Steadfast Character.

The man who is perpetually hesitating which of two things he will do first, will do neither.—The man who resolves, but suffers his resolution to be changed by the first counter suggestion of a friend, who fluctuates from opinion to opinion, from plan to plan, and veers, like a weather-cock, to every point of the compass, with every breath of caprice that blows, can never accomplish any thing great or useful. Instead of being progressing in any thing, he will be at least stationary, and more probably retrograde in all. It is only the man who first consults wisely, that resolves firmly, and then executes his purpose with inflexible perseverance, undismayed by those petty difficulties which damn a weaker spirit, that can advance to eminence in any line.



The Cultivator.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature to improve."—Dr. JOHNSON.

Toronto, March, 1842.

In the future conduct of this Publication, we shall constantly make it our first and principal object, to promote, by our humble efforts, the improvement of Agriculture in British America, and advocate candidly and honestly, the interests of Agriculturists. To do this, however, many other subjects that will have a direct or indirect influence on those interests must necessarily be introduced and discussed. The columns, therefore, of the CULTIVATOR will not be strictly confined to Agricultural matters. All party politics shall be excluded.

There cannot be any doubt, that by promoting the improvement and prosperity of Agriculture, the general improvement of this country must be advanced. And as far as we are capable of judging, it is equally certain, that no other means are practicable by which the general improvement of this country can be accomplished so well as by an improved and prosperous Agriculture. Thus being our conviction, it remains for us to show upon what grounds we have arrived at this conclusion.

British America, or Provinces of the British Empire, that constantly require the produce of foreign agriculture to supply her population with a considerable portion of their food and other necessities, not produced in sufficient abundance at home. This Empire have a numerous surplus unemployed population, that are burdensome to them from the circumstance that they have to be supported from funds to which they are unable to contribute, consequently, this state of things must be most injuriously felt by the wealthy and industrious classes of the British isles, that have to support the unemployed poor who would be able to work. On the other hand, what is the present condition of the noble Provinces that constitute British America? We reply that they contain over two hundred million acres of land that is generally of most fertile quality, and capable of cultivation, and that they possess a climate as favourable for agriculture as that of the British isles, on an average of seasons—that of this vast territory, there is not over five million acres cultivated, and has not more than one million five hundred thousand of population. This fine country is intersected in every direction by noble rivers, and has vast inland seas. In Canada alone, these waters are capable of being rendered navigable for more than one thousand miles in a direct line, besides the many rivers that discharge from each side,

into this direct line of waters, that are also capable of being made navigable, and afford easy communication to every section of the country.

If this state of things do not point out the expediency of encouraging and promoting the improvement of agriculture in these Provinces, and securing the interests of agriculturists by every reasonable and necessary protection from foreign competition, we must acknowledge that we are ignorant of what may be expedient under such circumstances, and would be happy to be enlightened on the subject, to prevent us advocating measures and principles that may be erroneous or mischievous. However favourably disposed we may be to agriculture, from habit and other causes, if easier and more certain means can be devised, for improving the condition of the unemployed and burdensome poor of the British isles, and for bringing into productive cultivation, the fertile wilds of British America, than by encouraging and securing a prosperous agriculture in this country, we shall most cordially give our humble support in recommending that other means, whatever it may be. We only wish to see the general improvement and prosperity of British America, and shall not find fault with the means that may be best calculated to accomplish so desirable a good. But as we must leave it to others to suggest their plans of amelioration, we shall respectfully submit our own for consideration.

From our knowledge of British America, and a long practical experience with its soil and climate, we humbly conceive that a most prosperous agriculture may be established and secured in this country, by adopting such measures of encouragement and protection as would be expedient and reasonable—and we will add—just, towards all classes of this community. Of course, one of the most essential requisites for an improved and prosperous agriculture, is the investment and employment of capital in husbandry. Without a sufficient amount of this, it will be in vain to expect the improvement of our agriculture, or of British America. The next enquiry appears to be—what encouragement exists at present to invest capital in agriculture, and is there any certain prospect, that capital so employed, will be secure, and yield a reasonable profit? If this enquiry cannot be answered in the affirmative, capital will not be invested or risked in this business, and then all our endeavours to introduce improvement will be fruitless.

All loyal subjects of the British Empire, profess to desire that the British isles should be relieved from the burden of having to support an unemployed population of able-bodied men, and that this spare population should be transferred to British colonies, to be employed in cultivating their fertile waste land, and thus be enabled to support themselves, and raise a surplus produce that would be required in the British isles, and for which British manufactures might be taken in exchange by those persons, who were originally a burden to the mother country.

All this certainly appears very reasonable and plausible in theory, but is it practically possible under existing circumstances? Poor emigrants cannot cultivate our wastes without capital of their own to support them until they raise a crop. And if they have no money, are there capitalists here willing to invest money, and employ them in agriculture, until they can realize a capital of their own? Without hesitation we will answer, that the present prices of agricultural produce, in Canada particularly, does not offer sufficient encouragement to the investment of capital in agriculture, and consequently it is not probable that it will be so invested.

In a former number of THE CULTIVATOR, a statement of ours appeared, submitting the expense of raising and feeding neat cattle, sheep, and swine. If our estimates were correct, and we believe they were strictly so, we may very well conclude, that the present prices of beef, mutton, and pork, in Canadian markets, are far from remunerating the farmer—consequently capital cannot be safely invested in raising and fattening stock, and this is a most injurious drawback to our husbandry, as without cattle we cannot have corn, or pursue an improved system of farming. Whatever may be said of other pro-

duce, British America is well adapted to the raising and feeding of butchers' meat to any extent required, and also of yielding an abundant dairy produce. We can raise root crops, and the coarser grains, to feed cattle and swine to any extent, if we are only protected from foreign competition. It may appear reasonable that protection should be requisite for us, but from whatever cause it proceeds, we cannot compete successfully or profitably with the people of the United States in raising butchers' meat or dairy produce. We can confidently appeal to any person conversant with agricultural affairs in the British Provinces of North America, whether we are correct in this statement, and we shall be obliged to those who may differ in opinion with us, to prove to us wherein we are in error. We are not sufficiently acquainted with the United States, to understand perfectly how their system works, or whether or not, they can profitably, undersell us in our own markets. They undersell us unquestionably, or rather sell at a price that would be ruinous to us, but whether they find this profitable or otherwise, is what we do not pretend to understand.

The farmers of the United States sell only a small proportion of their produce in the Canada markets, and they may be induced to do this from the necessity of realizing some specie, which cannot be so readily effected in their own country. The prices here are generally lower than in the principal markets of the United States, consequently there must be some cause with which we are unacquainted, that induces them to such a market in Canada, for any other produce, except wheat and flour. It is generally admitted that there are as good farmers and farming to be seen in British America as in the United States. If so, it cannot be from any deficiency in agricultural spirit or practice, that we cannot afford to sell our produce on as low terms as they do. This question is one of great interest to this community, and the columns of the CULTIVATOR shall be always open to its fair discussion. We shall most thankfully receive and endeavour to profit by good example, and instruction, from whatever quarter it may come to us; if it is offered in a reasonable and practicable shape.

That part of these Provinces which heretofore constituted Lower Canada, has suffered considerable damage in her agriculture for the last eight years, by the ravages of the wheat fly. The consequence was, that very little wheat has been grown there during that period, and the farmers were obliged to substitute other and less valuable grain, that can only be consumed in the Province and therefore, need not be raised to a greater extent than would be required to supply their home market. This has been a great drawback to farmers in that part of British America. It is true the cultivation of other plants might have been introduced, but no encouragement or instruction was held out to the farmers to make new experiments. Hemp and Flax might have been profitably introduced, and cultivated for exportation, both of seed and fibre, to the British isles.

There was not, however, sufficient public spirit to erect machinery for dressing hemp and flax, to prepare it for exportation, and farmers would not, or could not cultivate the plant without having some certain prospect to dispose of it when grown. For two hundred pounds or less, complete machinery might be erected for preparing hemp and flax for exportation, and half-a-dozen mills of suitable description placed in different sections of the Lower Province, would be sufficient to make a beginning, and induce farmers to make the experiment. The most certain means of encouragement, however, would be to find purchasers for the hemp and flax in a green state, when pulled and tied up on the fields, and that the purchasers should take upon themselves the steeping and subsequent management of it. If the farmers were assured of such a market, both these plants would soon be extensively cultivated.

Neither barley or oats can be profitably exported, unless, perhaps, some of the latter manufactured into oatmeal. These grains might be applied to feeding cattle and swine, provided the home markets of British America were secured to us from foreign competition, and our

beef and pork, the produce of these Provinces, admitted into the British markets, on the same terms that British manufactures are admitted here. If these regulations were established, a very great change for the better would soon be perceptible in the agriculture of British America. The country is not worth retaining, if, under judicious management, it is not able to supply all the wants of our population, for food of every description, and a surplus produce annually, larger than has ever yet been exported from our sea-ports in a year, including foreign wheat and flour.

Farmers are accused of a desire to obtain a monopoly in order to raise their produce to exorbitantly high prices. If they can effect such a result by any protective laws that would be possible to introduce, we are strangely in error. There is, already, in British America, near four acres of land in cultivation for each inhabitant, besides two hundred millions of acres uncultivated. With such means at our disposal for raising food, it is most preposterous to apprehend high prices for food, or that immigrants coming to the country, who are chiefly employed and fed by farmers, would have to pay exorbitant prices for their food, unless in extremely adverse seasons, such as have not occurred during our residence in Canada, a period of near twenty-four years. For ourselves, we never would desire exorbitantly high prices for any description of agricultural produce; but we would anxiously wish to see this fine country improving to the full extent it is capable of. And, in order to insure this, we think it would be necessary that capital could be safely and profitably invested in land, and employed in agriculture. We also wish to see immigration of the industrious and labouring classes induced to settle in this country, by a sure prospect of their being thereby able to better their condition. We have no manufactures to employ them, and, therefore, to land their attention must be directed, as they will have no other resources from which they can obtain their subsistence. We have always entertained the opinion, that an able-bodied labourer coming to this country, though not possessed of one shilling, on landing on our shores, would be worth to this country, from fifty to one hundred pounds, or would be equal to a capital of that amount brought into it, provided we employed him profitably, as it is in our power to do. Every man coming here must add to the general capital all that he is able to create, over what he consumes. It is a considerable expense to every country, to raise a man from infancy to the period that he is able to work for his support, and for such a country as British America to get full grown men, without the expense of rearing them to maturity, is a very great advantage; if it is not our own fault by neglecting those advantages that are at our disposal. We wish to see more permanent means for the employment of this useful class, on their arrival here, than the public works will afford—as they cannot be always sufficient to employ the emigrants arriving in British America, however extensive they may be. Doubtless the useful public works extensively progressing in these provinces, must prove to be a vast benefit, not only to emigrants as they arrive here, but to every class of our community. A considerable portion of the expenditure will come to us in one shape or other, and augment our capital. Hence it is that money expended on public works is not lost, whether the works are actually useful or necessary, or not. Every shilling of this expenditure is paid for some commodity, either the produce of our lands, or manufactures, and thus again circulates in the most useful channels, to employ labour, and encourage industry, and the fine arts. We, therefore, most heartily wish, that public and useful works may go on extensively and prosperously in these provinces, and that when they are completed, they may yield ample returns for the expenditure. We are happy to have it in our power to state, that the Turnpike Roads in the neighbourhood of Montreal, have succeeded to admiration, and the entire satisfaction of all classes, some of whom, were first, much opposed to their introduction.

We beg to observe further, that we do not at present, offer any objection to the importation

of foreign wheat into British America, to be manufactured into flour here for exportation, or for our own consumption if necessary.—But we conceive that even this concession to a foreign state, ought to be reciprocated by a corresponding concession on their part in favour of British produce or manufactures. By admitting their wheat, they find a good and convenient market, and our own merchants will be able to procure all they will require to be manufactured into flour, so that the export trade of flour will not experience any check, and these Provinces will gain all the advantages and profits of manufacturing. By employing more capital in agriculture in Upper Canada, and adopting a better system of husbandry, the produce of wheat might be augmented three or four-fold. And if new lands were brought into cultivation by numerous settlers, the produce of wheat might be increased to almost any required extent. The lands of Upper Canada are as well adapted to the production of abundant crops of wheat as any on earth, provided they are judiciously cultivated.

We have now, submitted for consideration, some of the measures which we conceive necessary to be adopted, in order to insure the improvement and prosperity of our agriculture, and the general improvement of British America. We may be mistaken in our views, and if demonstrated to us that we are so, we shall readily and candidly acknowledge our error. We very respectfully, but earnestly solicit the attention of the government and legislature to the actual state of our agriculture. If it is found, on a full consideration of our condition, that we have no reasonable cause to complain, and no just grounds to ask for any encouragement or protection, we shall endeavour to submit to things as they are. We ask not for the smallest advantage over other classes. We are anxious that our agriculture should improve, and that our vast wilderness should be gradually converted into corn fields and pastures, affording employment and food to our unemployed and burdensome fellow-subjects of the British Isles.—All channels of industry are so completely filled up in the mother country, and capital is still so abundant there, that no doubt can exist that it would be invested here to any amount required, if there was a prospect of safety and remuneration. Both may be assured to capitalists, we maintain respectfully, if we only adopt measures that are possible and expedient. Hitherto capital has not been extensively invested in land or agriculture in British America, although offices of registry have long been established, we believe, in all the Provinces, with the exception of Lower Canada. What can be the cause of this, except the want of assurance of safety and profit? The whole amount of our proposition is this:—that we wish to see British capital employed to encourage industry in our own country, rather than in foreign states, and that it is not likely to be so employed here to any considerable amount under existing circumstances. We therefore propose measures of encouragement and protection, to preserve us from foreign competition, and make it safe for capitalists to invest their money in land and agriculture in these Provinces.

There are many other subjects interesting to agriculturists which we propose to notice in future numbers, but the introduction of capital being the grand requisite to effect improvement in our agriculture, and in the country generally, we thought it best to discuss the subject first, and submit what we conceive to have been the cause that more capital was not invested in land and farming in British America up to this period.

The useful education of the agricultural class is a measure we shall earnestly recommend, but from what we have learned of the result of a general system of education in other countries, we shall feel it our duty to suggest, a careful religious instruction in connection with education. This religious instruction, however, to be in strict conformity with the several religious creeds professed by the parties instructed. When we again refer to this subject, we shall respectfully submit our views, and it will be for our readers to judge of their reasonableness and practicability.

To the several Agricultural Societies established in British America, we beg to suggest the utility of occasionally communicating with this Publication. Communications coming from them on any subject connected with agriculture, will meet with the most prompt attention from us. Societies of this nature are instituted ostensibly to forward the improvement of agriculture—this Publication has avowedly the same object, let them then act in concert, and support each other. If this Publication will be worthy of encouragement it should obtain the patronage of Agricultural Societies by procuring subscribers to it, without which it cannot exist or be useful. We also expect that experienced agriculturists will communicate with us on useful and interesting subjects, and on the results of experiments made by them on either crops or stock. We again assure subscribers that we shall use all diligence to make *The Cultivator* useful to them. We shall not pretend to instruct farmers that are more competent than ourselves, but we would hope, that even those would subscribe to a Publication that will be exclusively devoted to advocating their interests, and to the instruction of those who will receive it. We may often be in error, but we shall willingly be corrected.—We shall never intentionally mislead the public to forward our own views, or the interests of our class, by injustice to others. We wish that the occupied lands of British America should be judiciously cultivated, yielding an abundant and excellent produce in corn and cattle, and rendering to the agriculturist a reasonable remuneration for his skill and labour, and for the amount of capital invested in land, stock, and implements, and by every means that may be in our power, we shall endeavour that those desirable and reasonable results may be attainable by the intelligent and industrious farmer. We further state that the interests of the class who labour for their daily wages, shall not be overlooked or neglected by us. We know too well their usefulness, whether employed in agriculture or in public works, to forget them.

The Dairy.

The Professor Low, in the last number of his "Domestic Animals of Britain and Ireland," sums up as follows a carefully digested treatise on the importance of the dairy:—"The dairy is a branch of rural industry, deserving of attention in the highest degree. There are no other means known to us by which so great a quantity of animal food derived for human support from the same space of ground. In the British Islands, the production of this kind of aliment in summer, and its entire value forms no inconsiderable proportion of the yearly created produce of the land. There is no class of persons by whom milk, in one or more of its forms, is not used. Cheese may seem to be a mere superfluous to those who feed largely on other animal food, yet, even amongst this class, the consumption, from its regularity, is considerable; but amongst the far more numerous classes to whom cheese is a part of their customary diet, the consumption of this substance is very great. Butter is used by almost every family above the poorest, and to an enormous extent, as a substitute for oil in culinary preparations. Simple milk, too, enters into the diet of every class, with this peculiarity, that it is consumed in a larger quantity in the rural districts than in the towns. It may be difficult to make an approximate calculation of the quantity and value of the milk consumed by the twenty-five millions of the inhabitants of the British Islands. It is, perhaps, a reasonable calculation, that each individual consumes half a pint of milk in a day in its different forms, which would produce 570,212,500 gallons, and at 8d. the gallon £19,010,416, besides more than 200,000,000 gallons employed in the raising and fattening of calves. Great as the production is, it is not sufficient for the supply of the inhabitants; and an importation takes place of butter and cheese, which an extension of the native dairy would enable the country to dispense with."—*London M. L. Express.*

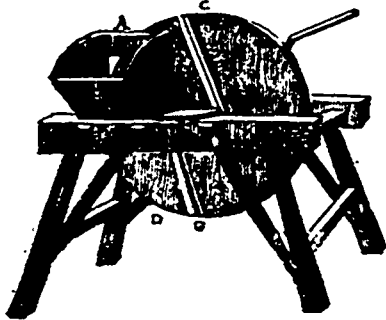
Idleness is the bane of every thing; it is like the barren soil on which all labour and cultivation are thrown away.

Turnip Slicer.

Various machines have been constructed for this purpose. The most convenient perhaps, and the most expeditious in its operation, is that formed by means of knives placed upon a fly-wheel, and made by each revolution, to cut slices from the turnip or other roots. The parts to be cut are placed in a box open at the top and one of the sides. A large wheel, covered with boards is set upon a frame-work, in such a manner as to cover the open side of box or hopper, so that, when the roots are put into it, they press upon the side of the wheel. In the wheel are placed two knives, at equal distances from each other, and extending nearly from the centre to the circumference. At every revolution of the wheel, each of these knives make a stroke upon the roots, which are pressing upon the wheel at the open side of the hopper, and cut off a slice.—An aperture is made through the entire wheel, corresponding with, and of the length of, each knife, so that, when the slice is cut off, it passes through this aperture, and falls down on the other side of the wheel. The wheel is driven by a handle, and roots being constantly filled into the hopper, the process of slicing, is carried on.

In the following figure, A B represents the hopper in which the roots to be cut are placed; C D represents the large wheel formed of boards and which covers the open side of the hopper; E and G are the cutting knives, extending nearly from the centre to the circumference of the wheel. The apertures corresponding with these knives, extend quite through the wheel. At every stroke of the knife, the slice cut off passes through the aperture, and falls down on the other side. One person drives the wheel by a handle, and another fills the roots into the box. A basket or other vessel may be placed for receiving the slices as they fall.

Fig 8.

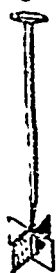


This machine is exceedingly well adapted for cutting the roots of turnips and mangel-wurzel for oxen. But when sheep, and especially young sheep, are to be fed in spring, and when their teeth are loose, it is often better to cut the bulbs not only into slices, but to divide them into smaller pieces still, that they may be the more readily taken up by the animals. The machine described may be easily made to cut the roots in this manner. A series of sharp projections are to be placed upon the wheel, just before the apertures, so that the root may be cut by these before it is acted upon by the cutting-knife. By this means the roots are cut not only into slices, but into pieces proportioned to the distance at which these sharp projections are placed from one another.

Other machines have been constructed for cutting roots into small pieces. But as the machine described is sufficient for the purpose, and is simple, it is unnecessary to explain other forms of construction.

A very easy mode of cutting turnips into pieces for cattle is by an instrument with four blades at right angles to one another. The turnip or other root is struck as it lies upon the ground, or in the feeding-trough, and thus at one stroke is divided into four parts.

Fig. 9.

**Age of the Horse.**

Among dealers in horses, the front teeth, which are called *incisors* in other animals, are called *nippers*, as from the motion of the horse in eating, it is evident the grass is rather broken off than cut off by the teeth. These teeth, six in number, are covered with a very hard substance called enamel, the base of which is phosphate of lime, and is so compact as almost to bid defiance to the best files. This enamel constitutes the outside of the tooth, and as it rises above the surface, is bent inward and apparently sunk into the body of the tooth, forming an indentation or pit, occupying the centre of the tooth, and the inside and bottom of this, being, during its existence, blackened by the food, constitutes the peculiar appearance or *mark* by which, until the tooth is much worn, the age of the horse can be determined. As the teeth, or nippers, are renewed at different times, the mark will be partially or entirely worn from some, while it will be entire on others; the difference in the wearing, until all are worn, is a criterion not liable to error. The hollow part never fills up, but remains there till the enamel is worn to the same level, when the wear of the whole tooth is nearly uniform.

The horse's mouth is not perfect, that is, all the teeth, nippers, tusks and grinders, have not made their appearance until he is about six years old. The ware is now operative on all, and the *mark* has disappeared from the central nippers. At seven years, the mark is worn out on the four central nippers, and is fast wearing from the outer ones. At eight years, the marks are all gone from the nippers of the under jaw, or the bottom ones; and there is nothing remaining on them which clearly indicates the age of the horse, or which will justify the most experienced examiner in giving a positive opinion. Dealers, or horsemen, after the animal is eight years old, are accustomed to look at the nippers in the upper jaw, and some aid may be drawn from the appearances they present, as they do not at all times wear away with the regularity or the quickness of the lower nippers. Still the information they give after eight, cannot be implicitly relied on; and it is a common saying among jockeys, that a horse is never more than nine.—*Monthly Genesee Farmer.*

When a horse is sick in winter, he must be covered. Every humane and reflecting person must rejoice at the leaving off the fashion of cutting off the horse's tail. It is clear that nature produces nothing in vain. The tail may be trimmed; but never forget that a horse, harrassed by flies, has no other means than his tail to brush them off, and that it may prevent accidents in keeping him to stand quiet.

CURE OF THE HEAVES.—Take 1 pound of Anumony, 1 pound Rosin, 1 pound of Sulphur, 1/2 pound of Nitre, powdered fine and mixed—give a horse half a tablespoonful twice a week, and a cure is certain.

Interesting Facts in Chemistry.

1. Chemistry is the study of effects in heat and mixture, with the view of discovering their general and subordinate laws, and of improving the useful arts.—*Black.*

2. Whenever chemical action take place, a real change is produced in the substance operated upon; and its identity is destroyed. If a carbonate of lime (powdered chalk,) be put into a glass of water the chalk will sink to the bottom of the vessel. Though it should be mixed with the water if left at rest it will soon subside; no chemical action has taken place; therefore the water and carbonate of lime both remains unaltered. But if a small quantity of diluted sulphuric acid be added to a glass of chalk and water a violent effervescence will commence the moment they come in contact with each other; the chemical union of the two substances will be the consequence of this chemical action; the identity of each substance will be destroyed, and sulphate of lime or gypsum (a body very different from either of the substances employed) will be produced.

3. Heat has a tendency to separate the particles of all bodies from each other. Hence

nothing is more necessary to effect the decomposition of many bodies than to apply heat and collect the substances which are separated by that means.

4. It is evident that water exists in the atmosphere in abundance, even in the driest season, and under the clearest sky. There are substances which have the power of absorbing moisture from the air at all times, such as the alkalies, potash and soda, and sulphuric acid, the latter of which will soon absorb more than its own weight of water from the air when exposed to it. Fresh burnt lime absorbs it readily; and earth that has been freshly cured absorbs it to a greater degree, at night, than that which is crusted and compact. Hence the importance of stirring the soil among tillage crops in time of drought.

5. Bishop Watson found that even where there had been no rain for a considerable time and the earth was dried by the parching heat of summer, it still gave out a considerable quantity of water. By inverting a large drinking glass on a close mown grass plat, and collecting the vapour which attached to the inside of the glass, he found that an acre of ground dispersed into the air about 1600 gallons of water in the space of 12 hours, of a summer's day.

6. Lavoisier has explained solidity thus: "The particles of bodies," says he "may be considered as subject to the action of two opposite powers, repulsion and attraction, between which they remain in equilibrium. So long as the attractive force remains stronger, the body must continue in the state of *Solidity*; but if on the contrary, heat has so far removed these particles from each other as to place them beyond the sphere of attraction, they lose the cohesion they had before with each other, and the body ceases to be solid."—*Albany Cultivator.*

Fallows.

There is no process in agriculture more important to the farmer, or that contributes more to the durability and fertility of the soil, than fallowing, when skillfully performed; and probably there are few processes, the reasons for which are more imperfectly understood; or the principles that render the operation necessary, more completely overlooked, than in this case. With most farmers, it is sufficient to know, that by fallowing the ground is made fine, and thus fit for the reception of the seed, while the more important changes the soil undergoes by contact with the atmospheric agents, and which are indispensable to insure fertility, are unheeded.

The mechanical part of the process of fallowing is very simple. In our country it usually commences in the forepart of summer, and consists of two or more ploughings and harrowings, as time will admit, or the earth seem to require, until the seed is sown in autumn. This mode, though obviously defective, as not allowing sufficient time for the action of the air and other agents, is still better than simply ploughing up the land and sowing the seed immediately upon it, as is practiced by many. In Europe, with the best farmers, the process commences in autumn, and the land thus rendered uneven by the plough is left to the effects of frost, which most materially aids in pulverizing the soil, and rendering it fit to commence operations upon earlier in the spring than would otherwise be practicable. Late in the season, or early in the spring, there is much land that cannot be ploughed with benefit, as it will knead, or smooth over, which will shut out air, and obviate the end in fallowing. Such soils must be drained, or only ploughed while dry. From five to six ploughings, and as many harrowings or dressings by the scarifier, are usually considered proper, before the requisite fineness and aeration of the soil is obtained.

Soils naturally good and friable require but a comparatively little labour to bring them into a proper state for the seed, or restore their fertility when partially exhausted by cropping; but those in which the original earths are less favourably blended, and are tough and stubborn, require a longer time for pulverization, and the consequent atmospheric action on the particles.

The particles of matter, or the earths, when at rest, gradually assume an equilibrium in their

position and affinities, unfavourable to the action of fertilizing agents. This balance of affinities is broken up by the plough, the particles are separated and exposed to the action of water and air, fermentation is essentially promoted, and the earth rendered permeable to the tender roots of young plants. As a soil in its quiescent state has formed its chemical changes, and its particles may be considered as filled with the substances of which their position would admit the combination, it is evident that to give greater fertility, new particles must be exposed, and new chemical changes produced, until the whole mass is saturated.

To show how the changing the position of the particles of matter promotes fermentation, we have only to look at the manure in a heap or yard, part of which has been so pressed as to exclude air, and part has been moved by the trampling of animals, or otherwise, so as to be exposed to the moisture and the air. It will be found that the fermentation in the last is much more advanced than in the first; and that the moving of the hard pressed, by admitting the formation of new chemical changes, is much hastened in its decay. So with soils; when broken up and pulverized, this important end, fermentation, is gained, which in those compact and unmoved is impossible, as the free action of the atmospheric agents, moisture and air, are excluded. Both air and water undergo decomposition when brought in contact with newly turned soils, and act an important part in the fertilization of the earth.

In all soils there is always more or less water and air, but in the unmoved soil they are in a state of comparative rest, they have parted with all the valuable gases or salts they contain to the earths with which they have come in contact, and can of course contribute no further to chemical changes; now if this soil is disturbed, new surfaces are exposed to the water and air as they are renewed, and a continuation of the beneficial results is certain. The chemical combination of water with soils, is on much the same principle as water with lime, though the adhesion or union is not so strong; still this union or affinity is increased by the frequent moving of the soil. This is proved by a fact, that portions of soil were taken from a cultivated and from an uncultivated field near by, and subjected to examination, and it was found that the fallow retained moisture longer than the exhausted part, and when both were equally dried, the fallow earth acquired moisture from the air much more rapidly than that from the uncultivated field. This fact is interesting, as showing the absurdity of the doctrine which maintains that corn or other vegetables should never be hoed in very dry weather. The contrary is the fact, and the oftener the earth is moved the better.

Moving the earth and pulverizing it thoroughly, while it enables it to feel more fully the effects of air and moisture, also gives it a higher temperature, and of course renders it more congenial to vegetation. Thus a thermometer inserted into the earth finely pulverized a few hours before, to the depth of three inches, rose two or three degrees higher than when placed in undisturbed earth close by. This is accounted for by the partial circulation of the warmed atmosphere through the loosened and friable soil. Ploughing or moving earths, however, when they are wet, has the effect of destroying this permeability, by smoothing the exposed surfaces, and rendering them hard and solid when dry. That pulverization increases the chemical powers of the soil, is evident from the fact, that manure of any kind, will produce a more lasting effect on fallows, than when applied to lands not cultivated or moved.

Mr. Bland says—

"The best remedy, when in the process of fallowing, it is necessary to plough lands too wet, is to plough the furrows upon edge as much as possible, that the water may drain away the easier, with a greater surface being thus left for the action of frosts, sun, air, &c., to operate upon."

It is the custom with many farmers when they plough their summer fallows, to have them harrowed down as smooth as may be, between the times of ploughing. This practice is wrong; as

the ground should be left in that manner that gives the largest surface to the air. The harrowing, therefore, after the first breaking up, should precede the plough, until by their combined operation the soil is made fine enough for the reception of the seed. There can be no doubt that the aration, and consequent fertilization of soils, goes on more rapidly when the temperature is the highest, or during the summer months, or when vegetation is most vigorous, as the chemical changes dependent on fermentation and combination are then the most active; and one ploughing at that season, for beneficial purposes, may be considered almost equal to two at another; yet ploughing at other times, when the soil is fit for it, cannot be neglected without injury.

As decomposition goes on more rapidly and beneficially in most substances when covered, but exposed to moisture and warmth, there is a decided advantage gained by fall ploughing, in covering the weeds, stubble, &c., that may be on the surface, so that a longer period for their decomposition will be secured for the benefit of the next crop, and their mechanical influence will be favourably exerted in keeping the land light, and preventing that compactness in texture so unfavourable to drainage. On lands where injurious weeds are found, such as the thistle, Johnswort, daisy, &c., the roots of which survive the winter, fall ploughing to be followed by a summer fallow, has a good effect, as exposing to destruction by freezing many of their roots, and thus facilitating the cleaning of the soil.

In commencing the spring tillage, it is indispensable that the earth, whether it was ploughed in the fall, or is now moved for the first time, should be so dry as to remain friable, and show no symptoms of kneading, and if the fallow is to be manured, perhaps no time is better for that purpose than the spring. This is certainly the case, where barnyard manure, containing, as unfortunately most of it does, foul seeds in abundance, is to be used, as by this early application, the seeds have time to vegetate, and by the repeated ploughings be destroyed before the seed of the grain crop is put in. If the lands are clean, and the manure compost, or fully rotted, the application of it may be delayed till the last ploughing, so as to be turned under with the seed sown, merely covering being all that is required of manure. The Canada thistle is the great enemy that the wheat grower in a large part of our country has to contend against, and this pest can be met no other way successfully than by thorough fallowing. Where the thistle, or other pernicious weeds, tenacious of life, exist in lands fallowed, going over them after each ploughing and picking or gathering all that appear, may be advisable, as greatly aiding in freeing soils from their presence; but in any event the ground should be moved as often as any shoots make their appearance, as this is found to check or destroy them more surely than any other method of treatment.

To derive the full benefit which soils are intended to receive from the process of fallowing, as long intervals should occur between the ploughings as is consistent with the number required to bring it into the proper state for the seed, or the eradication of the weeds with which it may be infested. Many of our farmers allow so little time to intervene between their ploughings, that the changes produced on soils by the action of light, air, moisture, &c., have time for their accomplishment, and nothing is gained by the process but the simple pulverization of the soil. This, it is true, on lands as fertile as most of those in newly cultivated countries are, may be sufficient; but experience proves that all lands are exhausted by cropping, and hence every reasonable precaution should be used, not only to arrest the progress of deterioration, but prevent its commencement.

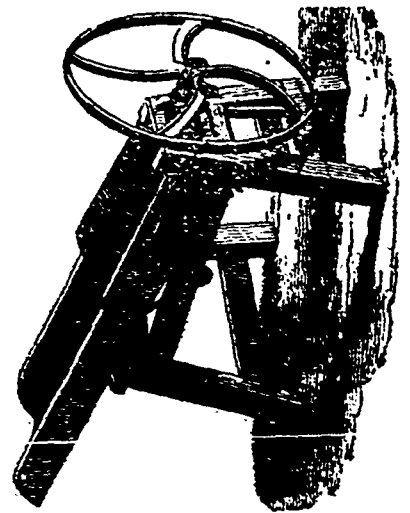
It has been found in England that on most of their long cultivated lands, in which clay forms a prominent ingredient of the soil, that immediately below the earth usually moved by the plough, a hard strata of some two or three inches in thickness is found to exist, almost impermeable to roots or to water, and has a pernicious effect on the cultivation of crops. This artificial hard-pan, or moorland-pan, as it is called, is at-

tributed to the pressure of the plough on the earth below, and especially to the pressing, smoothing effect of repeated ploughings, at times when the earth was in that state of wetness that disposed it to knead. The fact of the formation of such a body, to break up which requires the application of the deep subsoil plough, should prevent farmers from always ploughing at the same depth, and effectually banish shallow ploughing from thorough fallowing. After the earths have been converted into soil by deep ploughing, exposure to atmospheric agents, and combination with vegetable matter to the depth of eighteen or twenty inches, the formation of such an obstacle to cultivation can scarcely take place; and that such a depth can be obtained is evident from the experience of Marshall in England, and Powell in this country. By gradually deepening his ploughings, the latter converted his soils from shallow ones to fine friable earths, of the depth of sixteen inches, and the excellence of his crops bear testimony to the propriety of the method pursued by him.

The change produced on soils by their exposure to atmospheric agents in the process of fallowing is denoted by their change of colour; and the effects are an increase of the power of absorption; a strengthening of its affinities for vegetable and animal matter; a greater friability or lightness of the particles, so far as their adhesion is concerned; a greater permeability to the roots of the cultivated plants; and a general restoration of the fertilizing and productive properties of the soil. Till, the restorer of good farming in England, considered pulverization alone, all that was necessary to preserve or restore fertility to a soil; but though he doubtless erred in excluding from his system the necessity of returning to the earth in the form of manures, the vegetation that has been taken from it in the form of crops; still it must be admitted that the pulverization effected by summer or thorough fallowing is one of the most efficient preparations the earth can receive, to fit it for the reception of seed, and the accomplishment of the great end of good husbandry, the production of crops.—*Monthly Genesee Farmer.*

Improved Straw-Cutter.

Fig. 10.



The Improved Straw-Cutter, of which a design is given, Fig. 10., is a valuable to the farmer. We have seen and used many varieties of this valuable machine, but none, in our opinion, is more simple, and better adapted for the purposes designed, than the one here presented.—By the means of cutting the feed, it becomes more properly masticated by the animal, and, consequently, yields more nourishment; the stomach is more slowly filled, and, therefore, acts better on its contents, and the increased quantity of saliva thrown out by the lengthened grinding, softens and renders it fit for digestion.

Horses are very fond of this provender most of them, after having been accustomed to it, will prefer it to the best clean oats.

COMMUNICATIONS.

For the British American Cultivator.

WHY HAS THE CAUSE OF AGRICULTURE BEEN SO MUCH NEGLECTED—FARMERS NEGLECT EDUCATION—AGRICULTURAL JOURNALS—SUPPORT THE CULTIVATOR—FARMERS SHOULD CONTRIBUTE ARTICLES—AGRICULTURAL SOCIETIES.

MR. EDITOR,—

I am not one of those whose fortune it has been to become, by a course of practice, acquainted with the cultivation of the soil; yet I would be of that class who feel, and that deeply, interested in any cause involving the welfare of our "noble province." And who is there that has paid any attention to her interests—who has taken a survey of her prospects, as a country, but must know that the cause of her agriculturists is one of the utmost importance to all classes of her inhabitants? As Mr. Evans has remarked Agriculture is the sole dependence of nine-tenths of the Canadian population.

These things being so, is it not rather a matter of astonishment than otherwise, that no solid and persevering efforts have been made, to promote this great cause? Have not the lovers of Canada to regret that, amidst the attempts to improve laws—promote commerce—uphold the dignity of professions, none, for it is hardly too much to say none, have been made whose results shew a substantial benefit conferred upon our agriculture? Why is this so? Have there been no hearts which warmed in its defence—no spirit of intelligence which said to the statesman,—“if thou wouldst serve this Canadian people, promote, above almost every other interest, that of the cultivation of the soil.”

Perhaps one good answer is, that the farmers have not been true to themselves—they have been sleeping. Very few of them think of pursuing a course of reading calculated to enlighten their minds, and to teach them the best method of practising their noble art. They have been too much of the opinion, that a farmer could do well enough without the assistance of a well informed intellect. Had they been desirous of thoroughly educating their children, one generation, at least, might now have been raised up, who could take a liberal and intelligent view of the country, and see in what line their best interests lay. Our legislative halls have been filled for years; yet, need I ask, with those whose interest would lead them to look diligently, and whose abilities would enable them to do so effectually, after the cause of the husbandman? The farmers have sent the merchant, the lawyer, the doctor, and the gentleman to parliament, rather than the intelligent FARMER, one of themselves—and why? Chiefly because, by neglecting the great affair of educating their sons, whom they intended to be cultivators of the soil, they had few among them qualified for the responsible office of legislator. If one of a farmer's half dozen sons received any thing of an education, he was probably the very one that was sent abroad, to the merchant's shop, or to some profession. I would say then to the farmer, let the education of your children be one of the first considerations with you; and that, in my opinion, it is much more useful to expend your means in this way, than in acquiring farms to give them, which they cannot intelligently manage. Raise up a race, interested in promoting your especial welfare, and who will have the ability to advocate measures calculated to promote it. I do not pretend to say, that there is no desire on the part of the intelligent of other classes of the community, to befriended the cause of agriculture; but rather to support the idea that the intelligent farmer himself, will be most likely to persevere in his own cause,—the cause of his fellow-farmers. I would think a lawyer best able to look after his profession; a doctor, his; and a farmer, the interests of his own class.

Again, there has been no unity among the agriculturists, as a class—nothing to rouse a spirit of emulation among them. There has been no centre to which all could bend their way as a place of resort to meditate upon their interests, and discuss topics connected with them. There have been no master spirits to speak to the people, and if there were, no proper journal, or me-

dium in which they could so. What has aroused the farmers of the neighboring territories to a sense of their duty to themselves? And what has tended so much to elevate the British yeoman, in the father land? Is it not the circulation of facts gathered from observations of nature, and the discussion as to the best methods of cultivation? Science has been sent abroad among the people, and in what way more than through the agricultural journals, whose columns open to all, were the receptacle of knowledge, acquired by years of experience? An agricultural journal is in itself a simple lever, yet if managed with spirit, one most powerful, to promote the cause. I have seen with pleasure the attempt to establish such a journal in the province, and I do feel a desire to appeal to the people throughout the country in its behalf. I say to the farmers in particular, come forward with your subscriptions, and uphold our Canadian Cultivator. Patronage will enable the proprietor to improve the work, and will enliven the heart of Mr. Evans, its intelligent editor, to do his utmost.—When he finds that he can talk to thousands through his columns, he will, doubtless, feel a desire, as well as esteem it a duty, to devote considerable attention to the subject.

The farmers themselves, should contribute largely to its columns. Every one has some peculiar ideas, or has collected more or less useful knowledge upon different branches of the art; let them forward these for publication. An idea prevails among many, that they cannot write for a paper,—but what is required but a simple statement of facts? Surely there will be little difficulty in putting the same together; at any rate make a trial, and if at first the matter needs a little brushing up, there is an editor, who will cheerfully do so.

The different Agricultural Societies throughout the province, might do very much towards forwarding the cause, not only by patronising the Cultivator, but by making known through its columns regularly, what steps they are taking in their vicinities. They would thus see what each other was about, and perhaps, a laudable spirit of emulation might be excited among them, and their members resulting in a large amount of good to the country.

I add no more at present than to say, I make these remarks, not in any spirit of confidence, but in remembrance of the fact, that he has little chance of serving his country, who would never make the attempt, through a fear of not being successful. Wm. O. BUELL.

Toronto, 15th Feb. 1842.

To the Editor of the British American Cultivator.

Sir,

I perceive on the eighth page of your valuable paper, an article designed for giving instructions, headed, "To prevent the girdling of trees by mice in winter," and as I fear the writer has failed to give the necessary information, I will relate an expedient to which I had recourse several years ago, and have never had it fail me.

When I first began to grow the St. Catharines' Nursery, my land was new, and many of the stumps of forest trees were so green and firmly rooted, I thought to avoid the expense of digging them up, and directed my fruit trees to be planted between them. The consequence was, that around all such stumps as would afford a production to mice, my trees were literally devoured. I soon perceived that I must either destroy the mice, or lose several hundred pounds already expended. But the way to effect their destruction was somewhat perplexing. I however discovered that no trees were injured except near a stump, old rank grown grass, or some other rubbish that gave shelter to their nests, and I told my nurseryman to have every such article entirely removed. I also had all the ground in the angles of the fence cultivated with potatoes. These measures were effectual.—They could not bear our cold winters without something to cover them, and I am quite of the opinion that there are no mice in Canada that can.

Yours respectfully,

C. BEADLE.

St. CATHARINES' NURSERY,
Niagara District, Feb'y. 11th, 1842.

To the Editor of the British American Cultivator.

Sir,

I take the earliest opportunity of informing you, that the annual general meeting of the Wellington District Agricultural Society, was held in this town, on Tuesday last, and was numerously and respectably attended by farmers and others.

The following is a list of the office bearers for the present year. Those marked thus * are re-elected:

*JOHN HOWITT, Esq., *President*.
*Thos. Saunders, Esq., *James Webster, Esq.,
*Mr. G. Armstrong, and Jacob S. Shoemaker,
Esq., *Vice Presidents*.
*Mr. John Harland *Secretary*,
*Wm. Hewat, Esq., *Treasurer*.

DIRECTORS:

*Mr. R. Jackson,	Mr. R. Greet.
*Wm. Thompson, Esq.	*Mr. Jas. Plum.
*Mr. Robt. Boyd.	Mr. Peter Erb.
*Mr. Jas. Davie.	Mr. Barney Devitt.
Mr. Alfred Turner.	*A. D. Fordyce, Esq.
Mr. Andrew Hewat.	Mr. S. Broadfoot.
Mr. Jas. Wright.	Mr. McNaught.
Mr. Thos. Card.	Mr. J. S. Parkinson.

I am, Sir, your obedient servant,

JOHN HARLAND.

Guelph, 27th Jan. 1842.

Hardening Pork.

To the Editor of the British American Cultivator.

MR. EDITOR,

I observed in your last number an article selected from the Boston Cultivator, headed, "Apples for Stock," the object of which the writer had in view was to prove that pork can be made with less expense and of as good quality, on apples as on potatoes, meal, or corn. He states, "That hogs are now fattened exclusively on apples, baked or baked." It is not my wish to contradict the statements of this writer, but it appears that he thought it prudent, a few days before killing his hog, to order him some corn feed, thinking he might increase the quality of the pork. Whether boiled apples will make actually as good and as firm pork as meal or corn, I cannot say from experience, as we grow more acorns and hickory nuts than apples in this part of our country; but it appears to me that they would make rather soft feed to make good solid pork.

I will now give the result of my own observation and experience. I recollect when I was a boy hearing the farmers talk about hardening their pork. It was quite common in the early settlements of the country for the hogs to get fat in the woods, upon nuts, &c., but previous to butchering them, it was a common practice to put them in the pen, and feed them on peas or corn for a short time, to harden the pork. Since I have been raising hogs, I have observed that the pork is better and firmer some seasons than others. There was the last season an abundance of hickory, beech, and butter nuts; my hogs did not come home until Christmas, they were then fit for the knife; but wishing to make them still fatter, I put them in the pen, and fed them on good dry peas for five weeks, then butchered them. When I cut up the pork I observed about an inch and a half of good solid pork next the skin, particularly along the back, the remainder was soft and oily, and of an inferior description; and you might tell to a hair's breadth, where the pea fed pork commenced.—I have observed before, the same thing, under similar circumstances, so I am convinced from my own observation, that if we fatten our hogs on nuts, swill, still-slops, or any kind of soft food, we need not expect to harden any more of it with peas or corn, than we can make.

LEVI WALLSON.

TRAFALGAR, NEW SUREY,
February 15th, 1842.

THE GIANT WHITE CARROT.—From a crop of this vegetable, grown at Fairfield, in Illogan, there were taken up as many as grew in six feet by three feet, one-eighteenth of a acre of ground which weighed with the tops, 36½ lbs. Sinking the ½ for any dirt that might remain about the roots, there would be 46 tons 5 cwt. per acre.—West Briton.

The Timber Trade.

Messrs. Chaloner, Houghton, and Fleming, of Liverpool, have recently published a circular, designed to show the inexpediency of imposing any additional duties on the importation of timber, either from the colonies or the Baltic, and the desirableness of reducing the present duties, and altering many great anomalies in them—such, for instance, as the admitting of wrought timber into bond at a much lower rate than unwrought timber, and the imposing on mahogany and other fancy goods much heavier duties than are imposed on foreign furniture imported into this country. This circular contains a great amount of information respecting the timber trade, in all its branches, than we have ever seen collected in the same space, and we extract from it the following particulars respecting the qualities of the different descriptions of timber imported from the colonies and the Baltic:—

"On referring to the past year's consumption, through this port, of British North American and Baltic fir in log and plank, (exclusive of staves, spars, and lathwood), we find the daily consumption to be equivalent to, of the former kind 536 loads, against 24 loads of the latter.

"It is argued that the difference is owing solely to the distinction in duties between foreign and colonial timber, a proper examination of the characters of European and American woods will correct the opinion. The fact is, the bulk of this consumption is for manufacturing purposes, that is to say, for either building the factory, the cottage, making the machinery, the patterns, or the packing case; and this in so great a degree that it is almost the exception to the rule if it have not directly or indirectly, as an article of consumption, something of a manufacturing purpose. The yellow pine timber thus consumed does not grow in Europe, and not only is the American fir preferred for building factories, but for machine-making it is quite indispensable; for this purpose European timber would not answer, having neither the requisite texture nor dimensions; so that to compare European and American timber for manufacturing, is absurd. There are no species exported from the former which are superior to those of the like nature received from the latter continent; for the red and spruce fir of Europe, being the only two kinds received into Great Britain, are certainly no better than those of Canada. Whilst even for building, there are instances of beams in factories originally built of European red fir being taken out and replaced with Canada yellow fir, called common pine, even after the machinery had been in operation. The firs of the two continents properly appreciated, the American cannot lose by the contrast in the estimation of practical and disinterested men. Many have asserted that Baltic timber is better for ship building; but the Canada oak is at least on a par with that of Prussia, and is certainly equal to that of Holland; and the committee of underwriters at Lloyd's appreciate the Canada equally with any European, save that of Great Britain, classifying alike all ships built of these woods. The Riga oak is the best on the continent; but this is used chiefly for ornamental work, while birch and elm from our colonies, both, but particularly the latter, used in ship building, cannot be had in Europe, any more than the common yellow fir as already mentioned. The Canada red fir mast is quite equal in quality with either the best Dantzic or Riga mast, but neither, indeed none of these can be had of sizes large enough; in consequence, her Majesty's Dock Yards and most of the merchant ships are supplied with Canada yellow pine masts.

"The black spruce spars of British America are far better than any spruce spars of any part of Europe, and are nearly equal to any red spar of Europe or America, and our own colonies can supply any quantities.

"There is an article supplied from the Baltic avowedly for docks of vessels, namely,

'Dantzic fir deck planks,' and admitted to entry, as has been shown above, at two-thirds the duty of logs of timber. Yet no deck in Liverpool is ever formed of, or repaired with this article. The yellow pine, or common fir of America, being invariably preferred, although the price and labour are to the disadvantage of the shipowner, who yet dispenses with the cheaper article, though already made and nearly adapted abroad, and partly seasoned, for what he has to cut out of the raw Canada log at home.

"The Norway, Swedish, and Russian spruce spars, which kinds comprise the bulk of foreign imports in this shape, are found very generally to decay, if kept on hand long in the shipwright or spar merchant in Liverpool, while those imported at the same time from British America quite sound and uninjured. The real pine of our American colonies is not more than sufficient for our wants, but the yellow or common pine, not grown in Europe, and indispensable in manufacturing, abounds extensively and chiefly in our North American colonies. Therefore we submit that it is not so much a question whether vested interests, marine or other, in connection with the American timber trade shall be protected, or whether even, for the sake of future direct revenue, such interests shall be compensated—the trade diverted, and an article forced on the manufacturing and other consumers, not the best suited to their purpose; as whether the disadvantages, under which our labouring and manufacturing population suffer, shall be added to by withholding from them an article so absolutely necessary, as we trust we have shown colonial timber to be; for the inevitable consequence of the infliction of additional duties will be to endanger a great portion of the North American timber trade; for let it be borne in mind that all countries, in competition with Great Britain, abound in wood, to be had for merely cutting down; and, as she is under the necessity of importing this bulky article at an enormous cost of freight, this unavoidable tax renders wood sufficiently dear to her; and surely, under all her natural disadvantages in this respect, that wood which best suits her purposes should come to her as freely as possible, particularly when produced in her own colonies. It is in the recollection of some, now in the trade, when, instead of the daily consumption being, as now, five hundred and thirty-six loads, not more than six ships arrived in Liverpool from British North America in the year. In its infancy this trade had encouragement by bounty, and its early establishment was fostered by government grants; and, although the present high duties on foreign timber were levied as a war tax, it was not until 1822, seven years after the war, that British American timber was liable to more than a merely nominal rate of duty.—*London M. L. Express.*

Manure.

Allow me to point out the enormous waste of manure, in the shape of muck, resulting from badly constructed farm-yards, and by mismanagement. At first, by way of hint to landowners, there are but few old farm-yards in the western part of this county but are situated, and apparently formed, for the purpose of washing away into the brooks and streams this muck. The sites which have been selected for the sheds, commonly called "linhays," are placed on an eminence with the yard of "burton," on an inclined plane—frequently on a considerable declivity. The consequence is, the valuable property of the muck is either wasted by evaporation, or washed away by heavy rains, and by the accumulation of water from the roofs of the sheds—amounting, when the fall of the water is heavy, to a flood. This waste of manure, in too many instances, goes on throughout the winter. What, then, must be the amount of waste and loss? The blood-coloured streams of water, tinged by the mucilaginous and extractive matter—the soluble

essence—flowing away throughout a long winter, is the best answer. It is no novelty to see an accumulation of stable dung at the door, or placed near, and under the eaves, smoking with excessive fermentation, and driving off in gaseous form, carbonic acid and ammoniacal matter—the constituent property of good farm-yard manure, the residue being merely woody fibre, and scarcely worth taking away. All farm-yard dung, and particularly that from high-fed cattle, deteriorates from the same cause. It is too much the practice to let the dung accumulate through the winter, till the cattle is about to be turned to grass, and to collect the whole into large dunghills. By this practice, on badly constructed farm-yards, one-half of the quantity and three-fourths of the quality, is lost to the farm and to the public. The landowner would do well for his tenant by diverting the water from his farm-yards, by shoots being fixed to the eaves of the buildings. The tenant would soon discover his interest by preparing layers of soil, from 1 foot to 18 inches thick, for a base, cast on his dung as soon as made, and seal it down with another layer of soil. &c. Clay or marl should be used for layers, &c., of composts for light and gravelly land, and *vice versa*. Sir Humphrey Davy has informed us, when dung heats beyond 100 degrees of Fahrenheit, deterioration commences. He subjoins a test: "When a piece of paper, moistened in muriatic acid, held over the steams arising from a dunghill, gives dense fumes, it is a certain test that the decomposition is going on too far, for this indicates that volatile alkali is disengaged." Having given my opinion on the economy of farm-yard dung, I shall conclude, on the present occasion, by detailing the practice I adopt in further preparing these compost heaps, preparatory to being laid on the land intended for its reception, &c. Early in the spring, and when the temperature rises, these composts should be well turned and mixed: this cannot be too effectually performed.—When heat is generated in the compost—which is generally the result in ten days or a fortnight, according to the temperature of the atmosphere—they should be returned, and intimately mixed again; and this process, should not, on any account, be neglected.—The non-deterioration of the manure will not be safe till it is well amalgamated with the soil intended for cropping. A FARMER.

—North-West Somerset

Maxims.

INJURY.—A little wrong done to another is a great injury done to ourselves. The severest punishment of an injury is the consciousness of having done it; and no man suffers more than he who is turned over to the pain of repentance.

PITY AND SCORN.—He that hath pity on another man's sorrow shall be free from it himself; and he that delighteth in and scorneth the misery of another, shall one time or other fall into it himself.—*Sir W. Raleigh.*

FACTS.—Weigh not so much what men say as what they prove, remembering that truth is simple and naked, and needs not intricate to appear her comeliness.—*Sydney.*

BEAUTY.—Remember that if thou marry for beauty, thou bindest thyself all thy life for that which, perchance, will neither last nor please thee one year; and when thou hast it will be to thee of no price at all—for the desire dieth when it is attained, and the affection perisheth when it is satisfied.—*Sir W. Raleigh.*

READING.—It is manifest that all government of action is to be gotten by knowledge; and knowledge best by gathering many knowledges, which is reading.—*Sir P. Sydney.*

PROMISES.—It would be more obliging to say plainly, we cannot do what is desired, than to amuse people with false words, which often put them upon false measures.

TALKING.—The best rules to form a young man are, to talk little, to hear much, to reflect alone upon what has passed in company, to distrust one's opinions, and value others that deserve it.—*Sir W. Temple.*

Intercourse of British America with other Countries.

According to Puley, "The business of one half of mankind is to set the other half at work." Let us enquire by what means this is to be effected. That portion of mankind who are employed in cultivating the soil, create a produce in the first instance which must set the other portion at work. It is the surplus produce of land, over what is necessary for the food of those who are engaged in its cultivation and management, which can alone be the means of giving employment and pay to all those not employed in agriculture. This is the only possible source from which commerce, manufactures, and civil and military professions can be maintained. If the earth would only produce what was sufficient for the food of those employed in its cultivation, no manufacturers or idle persons could exist. The more abundant the production which in British America is annually created, and which was not previously in existence, the greater will be the funds for the improvement of the country, and extending her commerce and manufactures. However paradoxical it may appear to some, it is the production which must open a demand for production, if our laws are good, and the industry of the people properly directed. In any country that does not produce abundantly, commerce cannot be profitably carried on, nor can the people enjoy much of the comforts or conveniences of civilized life. The amount of imports to British America does not actually enrich the country, unless we have a produce to give in exchange for the goods imported. The imported goods are not a new production, nor can we obtain them for our use without giving an equivalent in money or goods in exchange for them. If we produce largely, we can purchase in proportion, commodities necessary for our convenience and comfort, and hence a large production is beneficial to the merchant, manufacturer, and every part of the community in the Provinces. When the farmers produce abundance of their own commodity, it must be a flourishing condition of the community; and when they do not do so, it must leave the community in a poor, weak, and exhausted state.—It is by the continual efforts of men to produce more, and grow rich, that a country rises to prosperity; it is by the saving and narrowing of consumption, that a nation falls into decay. The following article is from the French author, Say, on production:—"That each individual is interested in the general prosperity of all, and that the success of one branch of industry promotes that of all the others. In fact, whatever profession or line of business a man may devote himself to, he is the better paid and the more readily finds employment, in proportion as he sees others thriving equally around him. A man of talent, that scarcely vegetates in a retrograde state of society, would find a thousand ways of turning his faculties to account in a thriving community that could afford to employ and reward his ability. A merchant established in a rich and populous town, sells to a much larger amount than one who sets up in a poor district, with a population sunk in indolence and apathy. What could an active manufacturer or an intelligent merchant do in a small, deserted, and semi-barbarous town in a remote corner of Poland or Westphalia? Though in no fear of competition, he could sell but little, because little was produced; whilst at Paris, Amsterdam, or London, in spite of the competition of one hundred dealers in his own line, he might do business on the largest scale.

"The reason is obvious, he is surrounded with people who produce largely in an infinity of ways, and who make purchases each with his respective products, that is to say, with the money arising from what he may have produced.

"This is the true source of the gains made by the towns' people out of the country people, and again by the latter out of the former; both of whom have wherewith to buy more largely the more simply they themselves produce. A city, standing in the centre of a rich surrounding country, feels no want of rich and numerous customers; and, on the other side, the vicinity of an opulent city gives additional value to the produce of the country. The division of nations into

agricultural, manufacturing, and commercial, is well enough; for the success of a people in agriculture, is a stimulus to its manufacturing and commercial prosperity; and the flourishing condition of its manufactures and commerce reflects a benefit upon its agriculture also. The position of a nation, in respect of its neighbours, is analogous to the relation of one of its provinces to the other, or of the country to the town; it has an interest in their prosperity, being sure to profit by their opulence.

"From this fruitful principle, we may draw this further conclusion, that it is no injury to the internal or national industry and production to buy and import commodities from abroad; for nothing can be bought from strangers except with native products, which find a vent in this external traffic. Should it be objected that this foreign produce may have been bought with specie, I answer specie is not always a native product, but must have been bought itself with the products of native industry, so that whether the foreign articles be paid for in specie or in home produce, the vent for national industry is the same in both cases."

"This article may not be considered applicable to the subject I am about to discuss, but as our intercourse with other countries must depend upon our production and possession of exchangeable commodities, I cannot forego any opportunity to recommend the increase of production by every possible means. I do not expect to succeed in doing justice to this subject, as it is not one I have given much thought to. I undertake the task however, as a farmer, and can only give a farmer's view of it.

As our intercourse will be principally confined to England and her dependencies, it is necessary to state on what grounds we claim a free participation of trade as a part and portion of the British Empire, and in doing this I must introduce matter which more particularly belongs to Britain than to these provinces, but I feel that I could not otherwise pretend to do justice to this subject. Timber and pot-ash, the natural produce of the forest, wheat, flour, fish, and peltries, are the principal exports from British America. There is no part of the exports that could come in competition with English agricultural produce except wheat and flour, of which a very small quantity has been exported lately; indeed the quantity was so small that it could not depreciate the value of English wheat and flour. This year a large quantity of foreign wheat and barley which was in bond in England has been sent out to Canada as a mercantile speculation, which certainly was not required for the consumption of the people here, though our harvest was bad last year.

An important question presents itself here.—Is British America in her commercial intercourse with the British Isles considered as a part of the British Empire, entitled to all the privileges of being so, or ought she to be so considered? For me I cannot discover why she should not be allowed every privilege of intercourse as a part of the Empire, and that her produce should have the same protection in the English markets, that the produce and manufactures of England have in the markets of British America. This is all we would require, and I am persuaded it would not be prejudicial to England or her people to grant or secure this to us. It will be objected that British America does not contribute towards paying any part of the Burdens of England, and that therefore we could not expect to enjoy the same privileges of commercial intercourse that are enjoyed by the British people. To this I reply that the people of British America do contribute their mite towards the taxes, and fully as large a proportion as they are able to do in their own country. They indirectly contribute to the taxes in purchasing British manufactures which must come to them charged with all the cost of production, including the taxes paid in every way by those who produced them. It is clear that British manufactures would not be sent here if they did not pay the manufacturer his expenses and a profit. I leave it to those political economists who have so often calculated the amount of tax which is paid in the production of every article, to estimate what proportion of the total imports to British America (£3,500,000 annually,) may be considered as taxes, and

what that amount may prove to be, is the proportion of the British revenue paid by British America. As the circumstances of these Provinces improve, the people will consume more of British goods, and every year will thus increase their contribution towards the British revenue. British manufactures meet with no competition in our markets, and they are only subject to a duty of 2½ per cent. The shipping and tonnage employed in this trade, inwards and outwards, is nearly a fourth of the whole British merchant shipping, and this trade is almost exclusively in the hands of British merchants, who must gain fully as much by the trade, I should suppose, as the people of British America, considering that the charge for freight of an article so bulky as timber, must bear a large proportion to its entire value when landed in British ports.

Not to argue the question farther, I would state that it is for the advantage of Britain to encourage and protect her trade with British America, simply on the principle that it must be as beneficial to her people as to ours, that it would be most unjust towards us to put foreigners on the same footing with us, considering the way in which the trade is carried on at present, and who they are who actually derive the most advantage from it. If the timber of the north of Europe is taken in preference to ours, our trade with the mother country will in a great measure be put a stop to. It is for the people of England to decide, whether the trade with these Provinces is likely to be more valuable to them than the trade of Prussia, Sweden, Norway, Denmark, and Russia who might furnish them with timber, and perhaps grain. In trading with these countries, British shipping will not be often employed in the transport of timber; with us they are exclusively employed, and probably will continue so. I cannot state the exact amount of trade of Britain with the northern countries of Europe, but the amount of cotton goods to Sweden, Norway, Denmark, and Prussia was in 1834, only £62,600. To Russia the amount was certainly greater, but I believe it was chiefly in cotton twist, not in wrought cotton goods. The estimated amount in 1834, was £1,100,291, which showed a falling off from the previous year of £264,390. The total of woollen goods to all these countries was in 1833, only about £110,000. These countries of Europe have too great a jealousy of England to be very profitable customers for her manufactures, and there is not much probability that the trade will increase.—On the contrary, by fostering the trade with these Provinces, it will inevitably increase rapidly, and at no distant day be the most valuable trade that England will have.—From a Treatise on Agriculture by Wm. Ecan.

Domestic Economy.

MAKING BREAD.—Every one imagines they know how to make bread and almost every one can wet up flour and bake it but it by no means follows they know how to make bread. To make good bread, good flour good yeast and good management are requisite. One of the simplest processes of making good bread is as follows:—"To eight quarts of flour add three ounces of salt, half a pint of yeast, (or good sweet emptings) and three quarts of water, of a moderate temperature, and the whole being well mixed and kneaded, and set by in a proper temperature, will rise in about an hour, or perhaps a little more. It will rise better and more equally if the mass is covered. It must undergo a second kneading before it is formed into loaves for the oven. The more bread is kneaded, the better it will be. Be careful not to allow your bread to become sour in rising.—Milk is by some used instead of water in mixing their bread. Milk will make white bread, but it will not be sweet, and dries quicker than bread made with water. If loaves are slightly gashed with a knife around the edges, before they are put in the oven, cracking will be avoided in baking. From an hour to an hour and a half is required to bake bread fully.

SPONGE BREAD is made by taking three quarts of wheat flour, the same quantity of boiling water, and mixing them carefully together. When lukewarm, add a tea cup full of common, or a little less of distillery yeast, and set the mass in a warm place to rise. When light, knead in flour

ill it will mold well; then let it rise again, when it is to be baked into loaves, and baked.

FRENCH BREAD ON ROLLS is made by taking half a bushel of fine flour, ten eggs, a pound and a half of fresh butter, a pint of yeast, or more if not first rate, and wetting the whole mass with new milk, pretty hot. Let it lie half an hour to rise, which done, make it into loaves or rolls, and wash them over with an egg beaten with milk.—In common French rolls, the eggs and the butter are not uncommonly omitted, but their addition makes the bread decidedly better.

The following bread has been found very useful for those to whom fine flour bread was injurious.—Of good wheat, ground fine but unbolted, take three quarts, one quart warm water, one gill of fresh yeast, one gill of molasses, and one teaspoonful of saleratus. Make two loaves, bake an hour, and cool gradually. It has sometimes been called dyspepsia bread.

No kind of bread should be put into an oven too hot, as a crust will be formed, and the proper rising prevented. Heat your oven thoroughly, but let the first flush heat pass off before your bread is put in. If you sling in a little flour, and it browns in about a minute, put in your bread; if it burns black, wait a few minutes. There is much depending in every family on the bread used, and the greatest care should be taken to have it sweet and of good quality. Bread should never be put on the table till twenty-four hours after baking, where health and economy are consulted.

Making Mince Pies.

THE winter is the season for finding good mince pies on the table, and when well made, there are few things more palatable; of their conduciveness to health, we say nothing. Any kind of lean meat will make pies, but the best is neat's tongue and feet; and if these cannot be had, then beef-shank. The meat must be boiled till perfectly tender, cleared from the bone, and the hard or gristy parts of the meat, and chopped fine. To this must be added an equal weight of tart apples, also chopped fine. Much of the goodness of the pie will be depending on the fineness of the materials. Cider is good to moisten with, and sugar with a little molasses used to suit the taste. Mace, cinnamon, cloves, salt, &c. to be added at pleasure. The pies must be made on shallow plates, and baked from half to three quarters of an hour; there must be holes in the crust while baking, made by pricking or cutting, or the juices of the pie will escape.

If rich pies are wanted, moisten with wine or brandy, in part, and add raisins, citron, and Zante currants, with the grated rind and juice of lemons.

It is sometimes desirable to keep some of the meat prepared for pies for use at another time, particularly among farmers who do not have ready access to markets. We have found that meat prepared as below will keep for months, in a dry, cool place, without injury. To a pound of finely chopped meat, add a little fine suet, an ounce of mace, an ounce of cinnamon, a quarter of an ounce of cloves, and two teaspoonfuls of salt; Zante currants and seeded raisins, half a pound of each, and a quarter pound of citron to be added, if desired; half a pint of wine or brandy, three tablespoonfuls of molasses and sugar to make it quite sweet, is added. The whole is packed in a stone pot, covered with a branded paper, or with a thin layer of molasses. To make pies of this, nothing is necessary but to add equal weight of apples, chopped fine, and perhaps more spices and sugar.—*Alb. Cult.*

TO PREPARE JUNKET—Take, one quart of milk warm from the cow, and stir in a teaspoonful of rennet, and let it stand till curded, which, if the rennet is of proper strength will be in about fifteen minutes; grate over it a little nutmeg, and sweeten which maple molasses or honey. It is an excellent dish for supper.

SCALDED, OR CLOTTED CREAM—Take a pan of perfectly sweet milk, twelve hours old with the cream on; stand it on a stove or furnace over a gentle fire till slightly scalded, "when a ring will appear in the cream of the size of the bottom of the pan"; then take it off and let stand till cold, skim off the cream and it is fit for use. When used as an accompaniment with fruit,

tarts, &c. it is a great luxury in London. It is brought in by dairymen and sold at a high price.—*New Genesee Farmer.*

From the British Colonist.

Darham Agricultural Society.

The Eleventh Annual General Meeting of this Society was held at the "Queen's Arms" Inn, Port Hope, pursuant to public notice, on Friday the 21st instant. DAVID SMART, Esquire, President, in the Chair. The Treasurer's account for the past year having been audited and approved, exhibited a balance in favor of the Society, amounting to £125 18s. 7d. currency;

The following Officers were elected to serve for the present year, viz:

DAVID SMART, Esquire, President.

Vice Presidents:

Alexander Broadfoot, Esquire, Hope;

R. W. Robson, Esquire, Clarke.

John Knowlson, Esquire, Caran.

John Smart, Esquire, Darlington.

William Sisson, Esquire, Treasures.

Morgan Jellet, Secretary.

Directors:

HOPE.

John Ainlay, Junior.

William Fortune,

Charles Hughes,

B. Bletcher,

Samuel Dickinson,

John Lyall,

Charles Tambllyn,

Edmund Milson,

Richard Ainlay,

James Hawkins,

Samuel Seamans,

William Barrett,

James Lang,

David Milligan,

John Agar,

K. Mackenzie,

William Allan,

William Peters.

James Smith,

Erasmus Fowke,

John Might,

Alexander Morrow,

Myndert Harris,

James Low,

Nathan Choat,

J. W. Cleghorn.

CLARKE.

John Gibson, Senior,

Henry Munro,

Allan Wilmott,

Alexander Bradley,

William Mitchell,

George Wylie,

Matthew Clifford,

Bradford Bowen,

Herbert Renwick,

John Middleton,

John Belwood,

Charles Clark,

Benjamin Jacobs,

James Rowland,

Andrew Milligan,

Lothrop Smith,

Horace Foster,

Edward Clark,

William Gibson,

Mr. Roy,

John Brown.

Resolved—That a meeting of the directors of this Society do take place at Plengh's (late Clark's) Tavern, in Clarke, on Tuesday the fifteenth day of February next, at noon, for the purpose of adopting the best means of disposing of the handsome amount of funds now in the hands of the Treasurer.

The business of the day being concluded, the members present sat down to an excellent dinner furnished by Mr. Hasings, in his usual good style. On the cloth being removed, many loyal and appropriate toasts were given from the chair, and much useful and interesting conversation connected with the interests of Agriculture took place, after which the members separated well satisfied with the proceedings of the Society for the past year.

MORGAN JELLETT,

Secretary.

Port Hope, 22d January, 1842.

EXTRACTING GREASE SPOTS.—One of the best methods of doing this, where drops have fallen on dresses, books, &c. is to place magnesia on the spot, rub it in, cover it with clean paper, and place over this a warm iron. The grease will combine with the magnesia, and be thus removed. Finely powdered chalk will do, but is not equal to magnesia. Repeated operations, or applications of magnesia, may be necessary where considerable grease has fallen.

THE RED ANT.—One of the greatest nuisances to the domestic manager is the small red ant. Any of the ant family are tormenting enough, but this is a plague par excellence. The best way to dispose of common ants is to find their beds and as late in the season as is possible, or during a thaw in winter, open them with a spade, and thoroughly expose them to the season. This will destroy them. Where the red ant becomes troublesome, it is said that sage leaves fresh picked will keep them away, when scattered in the places it is wished to protect.

REMOVING PUTTY.—Great difficulty is frequently experienced, when glass is accidentally broken, in removing the old putty to replace the pane. Moisten the putty with nitric or muriatic acid, and it may be removed at once. Where these cannot be had strong soap laid upon the putty will in a few hours loosen it from the wood so that the new glass can be set without difficulty.

CEMENTING CHINA OR GLASS WARE.—Articles of china or glass are sometimes fractured, which it is very desirable to mend and preserve. To do this, provide some very finely powdered quicklime in a muslin bag. Take the broken ware and rub the edge with the well beaten white of an egg. Take the quicklime and sift it thick over the edge rubbed with the egg, press and bind the pieces together, and let the binding remain several weeks. For coarser crockery, rub the parts with a paint made of white lead and linseed oil, press and bind and let them remain till the paint is fully dry.

TO KILL LICE ON COWS, HORSES OR HOGS.—Take the water in which potatoes have been boiled, rub it all over the skin. The lice will be dead within two hours and never will multiply again. I have used ten kinds of the strongest poison to kill lice all with effect but none so perfect as this.—*New York Farmer.*

Agriculture.—Agriculture, the most useful and innocent of all pursuits, teaches the nature of soils; and their proper adaptation and management for the production of food for man and beast.

Utility of Iron.—Every person knows the manifold use of this truly precious metal. It is capable of being cast in moulds of any form, of being drawn into wires of any desired strength or firmness, of being extended into plates or sheets, of being beat in every direction, of being sharpened, hardened, and softened at pleasure. Iron accommodates itself to all our wants, our desires, and even our caprices; it is equally serviceable in the arts, the sciences, agriculture, and war: the same ore furnishes the sword, the ploughshare, the spring of a watch or of a carriage, the chisel, the chain, the anchor, the compass, the cannon, and the bomb. It is a medicine of much virtue, and the only metal friendly to the human frame. The ores of iron is scattered over the crust of the globe with a beneficial profusion proportioned to the utility of the metal; they are found under every latitude and every zone, in every mineral formation, and are disseminated in every soil.—*Uri's Dictionary of Arts.*

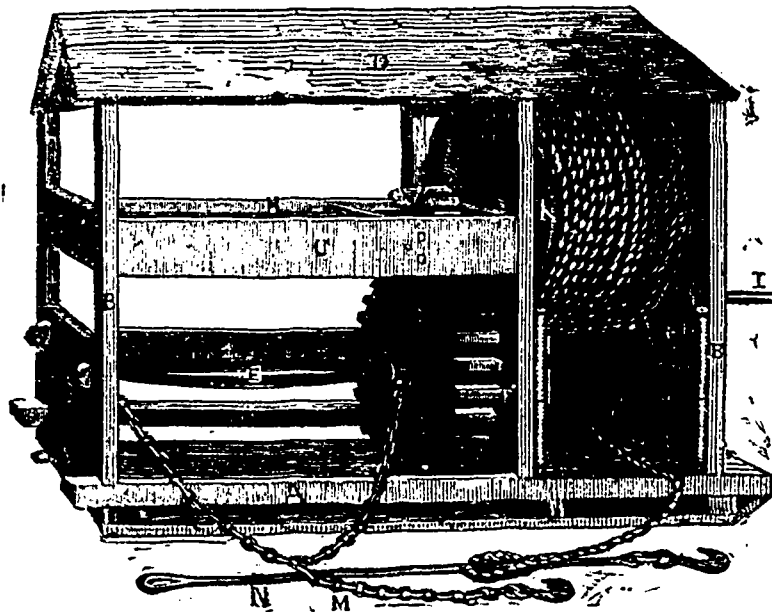
Hams cannot be kept with ease or certainty unless the flat bone near the centre of the inner side which joins on the other bones of the ham by a ball and socket, be first carefully removed. Where this has been neglected, although every other care has been taken failures and loss has followed.

STUMP PULLING MACHINE.

A friend and inquirer, requested us to give some information in the columns of the CULTIVATOR, respecting the best mode of pulling up stumps from land. We have at considerable expence, had the following engraving executed by a young gentleman, living in the vicinity of this city, which gives an accurate idea of the machine.

As this machine is adapted to extract pine and hemlock stumps of the largest size,—a more simple and cheap plan may be practised to get rid of the ordinary hard-wood stumps, with which this country abounds. The process is simply this—procure a lever about 30 feet long, and 6 inches in diameter, fasten a sufficient length of cable chain around top part of the stump, to which attach one end of the lever. The lever is then to be raised in a horizontal position,—a yoke of oxen fastened to the other end, but little exertion will be required to raise stumps of 2½ feet in diameter.

Fig. 11.



A, the sills on which the frame work is erected; the side ones 7½, and the cross ones 4 feet long, made of 5 inch square timber. Under these sills are three more crosssills under which planks are fixed with the front end turned up like the front of a sled or scow, to facilitate the removal of the machine by dragging over the ground.—BBB, the upright posts, three on each side, 4 feet high, 3 by 4 inch stuff, the middle one standing 2 feet from the front and 4 feet from the rear of the machine. C, girths 12 inches wide, 2½ thick, framed into posts. Several short girths of this description are framed across the machine and contain iron boxes for the shafts to turn in. D, the roof or cover, with 1 foot slope to protect the machine from wet. E, a large cast iron shaft, 4 feet long, 5½ inches in diameter at the ends and swelled to 6½ in the middle, on one of which is a strong cast iron spur wheel (F) 3½ feet in diameter, with 54 cogs. G, a pinion wheel 7½ inches in diameter, with 9 cogs to mesh into the spur wheel, and placed on a wrought iron shaft (H) passing through the whole length of the machine, 2½ inches square near the pinion wheel, but tapering towards each end. I, the crank, outside, in front of the machine, on the end of the wrought iron shaft, by which to wind up the slack of the rope, and the same time unwind the chain. K, a wooden drum, 3½ feet in diameter, and 1½ wide, attached to the shaft by iron arms, around which winds a strong rope 1½ inch in diameter, 150 feet long, to the end of which the power is applied. LL, two rollers to prevent the friction of the rope against the sides of the machine. The chain, M, is attached to each end of the iron shaft, by a strong bolt and screw, and extends about 4 feet double, where it converges together and is united by a triangular link and then extends single 4 feet further and terminates with a hook and swivel, as shown in the engraving. The chain must be very strong, made of the best of iron, the single part of 1½ and the double 1½ inch wire, the links small and short like ship cable. Another strong chain 10 or 12 feet long, with a hook one end and a ring the other, is placed around the top of the stump intended to be extracted, and this is connected with the chain

attached to the machine by a number of connecting rods (N) made of 1½ inch iron, 10 feet long, with a strong hook one end and an eye the other, as represented above. There should be a sufficient number of these rods to extend 100 feet or more. These rods cost less, and are much easier handled than heavy chains. Now go on the other side of the machine, and on the upright posts, level with the large shaft, you see two strong rings attached to heavy plates of iron reaching to and forming boxes around the ends of the shaft. To these rings two strong chains are attached, by which the machine is anchored to a stump or some other immovable object. It will readily be seen that the power acts as much on one side of the machine as the other, and consequently it must be firmly secured to prevent its being displaced or turned over.—By placing the chain around the top of the stump to be extracted, and anchoring the machine to the bottom of the one on the otherside, the former will give way first, although it may be larger than the latter. The usual plan is, to commence operating near the outside of the lot, and after fastening the machine to a firm stump, extract all within the reach of the chains, leaving only one good one within reach to which it may next be fastened in order to extract the former one. If it be desired to extract a stump where there is no other one to which to fasten the machine, a hole must be dug in the ground and a strong post set in it, well braced to the top on the side towards the machine, place the chain around it close to the ground, and if the stump is not very strongly rooted, it will come out without much trouble. The manner in which the machine operates must now appear obvious to all. A yoke of oxen draw on the rope: this turns the drum and the small wheel, which turns the large wheel and shaft, so as to wind up the chain very slowly, but with immense power. A single yoke of oxen drawing on the rope gives a power equal to thirty-five or forty yoke on the chain; so that some thing must inevitably give way. It will readily be seen that the machine must be well made, and the chain very strong, especially if large and firmly rooted stumps are to be pulled.—Gen. Far.

TORONTO MARKETS:

For the week ending 1st March, 1842.

Wheat, per bushel.....	5	0	a	5	6
Barley, do	1	3	a	1	8
Oats, do	1	3	a	1	6
Flour, Farmers', per bbl.....	25	0	a	27	6
Flour, Millers', warranted, do	30	0	a	0	0
Oat-meal, warranted, per bbl..	21	3	a	22	6
Beef, per cwt.	17	6	a	20	0
Mutton, per lb.....	0	3	a	0	4
Pork, per 100 lbs.....	12	6	a	18	9
Geese, each.....	1	3	a	2	0
Turkies, do.....	3	0	a	4	0
Fowls, per pair.....	1	3	a	1	6
Ducks, do	1	4	a	2	0
Eggs, per dozen.....	0	6	a	0	7½
Butter, in tubs, per lb.....	0	5½	a	0	7
Butter, in rolls, do	0	7½	a	0	9
Potatoes, per bushel.....	1	0	a	1	3
Hay, per ton.....	60	0	a	75	0

Contents of this Number.

	Page
Remarks by the Proprietor—Potatoe Planting—Revolving Horse Rake.....	33
On the influence of Agricultural Journals—Resolutions and By-laws of an Agricultural Society, at the first settlement of the country.....	34
Winnowing Machine—Location of Farm Buildings.....	35
Royal Agricultural Society of England....	36
Means of increasing the Productive Powers of Soils—Hens—Hay Rack—Spaying... ..	39
Farm Account—Gypsum.....	39
Necessity of a steadfast character—Editorial	40
The Dairy.....	41
Turnip Shear—Age of the Horse—Facts in Chemistry—Fallows.....	42
Improved Straw Cutter.....	43
Original Communications.....	44
The Timber Trade—Manure—Maxims... ..	45
Intercourse of British America with other countries—Domestic Economy.....	46
Making Minee Pies—Durham Agricultural Society—Useful Receipts.....	47
Stump Pulling Machine—Markets—Terms	48

ILLUSTRATIONS.

Fig. 5—Revolving Horse Rake.....	33
Fig. 6—Winnowing Machine.....	35
Fig. 7—Hay Rack.....	39
Fig. 8 and 9—Turnip Slicers.....	42
Fig. 10—Straw Cutter.....	43
Fig. 11—Stump Pulling Machine.....	48

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