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CULTIVATOR AND FARMER.

VOL. I.

TORONTO, NOVEMBER 15, 1848.

No. 15.

The Agriculturist

AND

CANADIAN JOURNAL, A FAMILY PAPER,

DEVOTED TO AGRICULTURE, LITERATURE, NEEDFUL IMPROVEMENTS, SCIENCE, and GENERAL INTELLIGENCE. Published on the 15th of each month, at BREWER, McPHAIL, and Co.'s Establishment, 46, King Street East, Toronto.

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Communications to be POST-PAID, and addressed "To the Editor of the *Agriculturist*, Toronto." Letters containing remittances, addressed as above, will be at the risk of the Proprietor.

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THE Undersigned have this day entered in to Partnership as Attorneys, Solicitors, &c., under the style and firm of GORHAM and McDougall.

AMBROSE GORHAM,
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April, 1, 1848.

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BUTTER'S PATENT BRICK AND TILE MACHINE.

THIS Machine Grinds the Clay and Moulds the Brick directly on the pallets, by Horse Power, and delivers them ready to be put into the hack or pile, making from 25 to 35 per minute, according to the length of the lever the horse is attached to, thereby saving 75 per cent. more manual labour than any other machine extant. Terms made easy. Orders promptly attended to, and Machines set in operation in any part of the Province. For further particulars apply to—Mr. Thos. Anderson, Yonge Street; Mr. Wm. Groves, Richmond Street, Toronto; Mr. Edmundson, or any of the Agents of the *Agriculturist* throughout the Province; or Mr. Henry Beck, Builder, No. 11, Richmond Street, Toronto. March, 1848. 6

PROSPECTUS OF The Agriculturist, FOR 1849. NEW SERIES.

ON the first of January, 1849, will be published No. 1 of *The Agriculturist*, in a new and improved form. It will consist of thirty-two pages royal octavo, printed on fine paper, in a superior style, with illustrations, and issued monthly.

Principal Editor—MR. GEORGE BUCKLAND, Secretary of the Provincial Agricultural Association. Member of the Royal Agricultural Society of England, and Author of the Society's Prize Essay on the "Farming of the County of Kent," &c., &c.; assisted by the present Editor, MR. W. McDougall.

The *Agriculturist* will embrace the following departments:—

Agriculture:

Consisting of original and selected articles, correspondence, &c.; a monthly digest of British and American Agricultural literature and intelligence, markets, &c. Promises of assistance in this department have been received from distinguished agriculturists in the British Islands and the United States.

Mechanics:

Embracing original and selected articles on the principles and application of mechanical science generally; more particularly to agricultural implements and mechanics, illustrated when necessary by appropriate engravings.

Horticulture:

In this department the Editors will receive assistance from experienced gardeners and nurserymen; and will endeavour to make it particularly useful to all who take an interest in the management of the garden or orchard.

Natural History and general Science

Will receive some share of attention, more particularly with a view of awakening a spirit of rational enquiry in the minds of the young; with special reference to the actual wants of the Farmer, Gardener, and Mechanic.

Domestic Economy:

This department, specially devoted to the Ladies, will include many interesting and useful topics of essential importance in the management of a family, and to the attractions and comforts of a well regulated home.

In a word, the Editors will strive to present to the Canadian public a work of substantial usefulness, possessing, on the whole, a permanent utility; and, by studiously avoiding all topics and reflections of a mere party character, they hope to receive the cordial good wishes and support of all who have at heart the welfare and advancement of their country. The proprietors have determined to spare no

reasonable pains or expense to make *The Agriculturist* in appearance, and in real usefulness, superior to any work of the kind now or heretofore published in Canada. The first three numbers will be sent to all paid subscribers to the volume for 1848, in order to make up for the deficiency in that volume, caused by circumstances with which subscribers have been made acquainted. The remainder of the next volume will be sent to the above subscribers upon their remitting to this office 3s. 9d., between this and the first of March, 1849.

TERMS:

Single Subscriptions *One Dollar*, in all cases to be paid *in advance*. Agricultural Societies and Clubs, taking twelve copies and upwards, will be charged 3s. 9d. per copy.

All communications must be *post paid*, or they will not be taken from the Post Office.

ADVERTISEMENTS,

Suitable to the character of the work, will, to a limited extent, be inserted at 4d. per line. As the circulation is at present over 5,000, and likely to increase, those who wish to advertise *extensively* will at once see that this is the medium.

SHOE AND LEATHER STORE.

DANIEL FARAGHER begs to inform his Friends and Customers that he has opened a *Shoe and Leather Store*, at No. 22½, Yonge Street, Toronto, where he will be prepared to furnish all kinds of work in his line at the most reasonable prices. Having a Tannery of his own in active operation, he can supply the Trade and others with as good an article of Leather, and at rates as low as can be obtained elsewhere.

DANIEL FARAGHER.

Jan., 1848.

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New Drug Store, Wholesale and Retail.

BREWER, McPHAIL, & Co., Chemists and Druggists, 46, King-street East, have now opened in the above line, in connexion with the other branches of their business, and will keep constantly for sale a large assortment of English Chemicals, Genuine Drugs, Patent Medicines, Perfumery, Dye Stuffs, Horse and Cattle Medicines, &c. Physicians' Prescriptions and Family Recipes carefully prepared.

Stationery, Books and Paper Hangings.

Bookbinding, &c., as usual.

** General Agents for Canada for Dr. C. VanZandt's and Dr. Benj. Brandreth's Pills. Toronto, 1848. 1

SPRING AND SUMMER IMPORTATIONS of Staple and Fancy Dry Goods, sign of the Golden Fleece, King-street, near the Market. The Subscriber would inform the public and his country customers that he has now opened out a full assortment of Staple and Fancy Dry Goods.

J. R. MOUNTJOY.

Toronto, June, 1848.

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We have discontinued, for various reasons, a number of advertisements, and have therefore filled up two of the advertising pages with miscellaneous matter.

DISINFECTION.

Every sense with which man is endowed was given him for some good purpose. This is as true of the sense of smell as of any other. The amount of gratification afforded by the olfactory, though intimately connected with the organs of taste, and of course much used in directing us in the choice of food, is less than that afforded us by any other set of organs. Their chief use is undoubtedly to warn us of substances or agencies which act injuriously upon health; and we think it may be laid down as a rule that those matters which offend the organs of smell are to be avoided as prejudicial to health. A compliance with the dictates necessarily following this rule will greatly assist in preventing disease.

The present season of the year is one in which this subject becomes vastly important. The atmosphere is full of the odors of decay, progressing among animal and vegetable matters, and health is every where exposed to open or insidious attacks from these prolific sources. A bad smell alone will bring on disease, when there is the least tendency to it. The diarrheas and dysenteries of which the season is rife are in thousands of instances traceable to this source. Hence no amount of care should be spared to obviate every cause of this nature.

Every place where the refuse of the kitchen is thrown, or where soap suds are weekly poured, or where the contents of the sink pass, should be looked to. The privy should be carefully attended to; for an incalculable number of diseases either originate or are confirmed there. Every decaying vegetable should receive attention, and in fact every thing that produces an unpleasant odor.

Speaking of unpleasant odors reminds us of the opposite ones. A garden full of sweet flowers! who can doubt but that this may greatly aid in preserving the health of the family? A patch of sweet peas here, a bed of sweet mignonette there, with stocks, iberias, pinks, and fragrant phloxes, all about, and a patch of clover beyond—are they not greatly conducive to health, by the sweet odor they diffuse? So it seems to us. And even those coarser ones, diffused by the African and French marigolds, and others of this class, are agreeable when diluted by distance, and may aid in the same way.

The privy may be kept pleasant by the use of several substances. The best and most powerful of these, of which we know, is charcoal, both from its entire efficiency and its durability. Tan bark is less efficacious but may be used. So may lime, plaster of Paris, and sulphate of iron (copperas) dissolved in water. A substance always at hand may be used in the absence of these, not only in the case considered, but for drains, sink holes, or any place offensive from filth. This substance is ashes. A painful thrown into the vault once a week will render it pleasant and secure as to health.

Those who have cellars should look carefully to them. A lot of vegetables left to decay and diffuse their miasm through the house, may prostrate a whole family with typhus fever, and send three out of four to the grave, before the cause is even surmised. "Cleanliness," said some old author, "is next to godliness;" the last preserves the soul, but the first the body.

A matter nearly allied to this is ponds of water suffered to lie near the house, or even under it, up to this month; and now, by the dry weather, the whole is evaporated, and the bottom becomes dry. A miracle would be needed to prevent a fever from such a source. Such places should be drained early in the season, while the weather is cool, or the water should be kept on till winter again. The draining of ponds in the heat of summer is death.

Every apartment in the house should be kept sweet and clean during the season, if no other, and no lack of fresh air should ever be suffered. This is of great importance where there are sick in the house. Ignorant people are often accustomed to think, that as soon as one becomes sick, all fresh air must be excluded, else the patient will take cold, or some unimaginable calamity come to him. The very thing a sick man wants is fresh air: he wants it then more than ever, because the lungs are then more sensitive to confined atmosphere or bad vapors, and his system is more easily affected by them. Thousands die from want of air alone.

It is often the case that a sick room, with the best endeavours that can be used, will accumulate bad odors; and it is essential

that they be removed, both for the sake of the patient and the attendants. There are many substances which can be used to effect this. Tobacco smoke and camphor have been often relied on, but their use is probably of a very low order, particularly the first; and it might in some cases be worse than the gas to be removed. Camphor and vinegar, and sometimes spirits, are refreshing in a sick room, and quell unpleasant odors; but their disinfecting properties are small. Chloride of lime and chloride of soda are both powerful disinfecting agents, and when the room in which they are used is not inhabited, they may be easily and effectually applied. In the sick room there is more difficulty, as the odor they diffuse is pungent, and in any considerable quantity may not be borne by the patient. They may be used by putting a small quantity into saucers, and adding about forty times as much water, and setting them where they are needed. If their odor is too powerful in this way, they may be used still weaker.—[Prairie Farmer.

ON SOOT.

Soot is condensed or embodied smoke—a clammy, earthy, volatile matter, arising with the smoke, by the action of fire on combustible bodies, and condensed on the sides of the chimney. Though once volatile, it cannot again be resolved into vapour. When distilled with a strong heat, it yields volatile alkali and empyreumatic oil, and a quantity of fixed matter remaining at the bottom of the vessel. When burnt in an open fire, it flames with a thick smoke, and produces other soot, used in making sal ammoniac, and as a manure. It has escaped perfect combustion, from insufficient contact with vital air, and may be burned again: and the black and brownish colour arises from an oil that is burnt, and half reduced to a state of coal. The different qualities and appearances arise from the nature of the inflammable substances, and the manner in which they are burnt. It contains a black carbonaceous matter, with carbonated ammonia, and gives a strong pungent smell with the touch of quick lime; it affords a brown extractive matter, of a bitter taste, and some ammoniacal salts, and also an empyreumatic oil; but its great basis is charcoal in a state capable of being rendered soluble by the action of oxygen and water. A slight portion of fibrous matter is volatilized by the fire, and again occurs in the soot.

The soot produced by the combustion of coals is usually reckoned better than that of wood or peat; and soot from kitchen chimneys, which is impregnated with the effluvia of the cooked victuals, is better than that got from wood: but experiments have shown but a very slight difference, and that not in every case. It has been long used as a manure, in the way of top-dressing on all calciferous crops, and on grass lands, and also on turnips sown after braiding, as a preventive of the fly. The season of application generally recommended is in the spring months of March and April, and, if possible, during calm, mild, showery weather. But an application on wheat lands in autumn, when the wheat was sown, and ploughed into the land with the seed, was very successful; and the use of soot on grass lands in October has proved equally, or rather more beneficial than the spring application. The quantity used on an acre varies from 20 to 100 bushels, and the average may be stated at 40 to 60; and the medium price, including the sowing by the vendor, is usually 6d., and when sown separately at 7d. per bushel. Twenty bushels an acre have been scattered by hand on turnips, to prevent the fly: on wheat that looks sickly, or are infested with the grub worms, soot will work a great change, in restoring the green, healthy colour, and in causing much tillering from the roots. On clovers, tares, and on all young grasses and grass lands, the effects will be equally beneficial, and on young barley, and on all spring crops. It may also be harrowed in with the seeds of any crops in the spring, on well pulverized lands, but as moisture is necessary for its operation, it may sooner derive the assistance of that element by lying on the surface as a top-dressing.

Quantities of soot can be got only near large towns and villages, where it is bought and carried to considerable distances, as few substances are more certain in effect as a manure. The sowing of it requires a gentle wind to carry it away from the sower, and to distribute it evenly. A four-horse waggon carries about 160 bushels, and may be driven across the wind; and the sower walking backwards and forwards over a space, the soot will be carried from the horses and the sower to whom the caustic qualities are often very inconvenient. Twenty bushels of soot have been reckoned equal to 50 of ashes of coal, wood, or peat. It never fails in producing crops, but, as may be very readily concluded, from its nature and composition, it lasts only for one season.—[Farmers Herald.

THE AGRICULTURIST

AND CANADIAN JOURNAL,

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

WILLIAM McDOUGALL,

EDITOR AND PROPRIETOR.

VOL. I.

TORONTO, NOVEMBER 15, 1848.

No. 15.

PRIZE ESSAYS.

Some time ago, the editor of the *American Farmer* at Baltimore, offered one hundred dollars (and he was a lucky editor to have it to offer), for the three best essays on the renovation of worn-out land. The prizes have been awarded by the committee to Edward Stabler, Col. Horace Capron, and Thomas P. Stabler, each of them having furnished valuable essays upon these subjects.

The last number of the *American Farmer* contains E. Stabler's essay, which we have perused with satisfaction. The subject is treated in a sensible and practical manner. Many of the suggestions are more applicable to the lands of that section of the Union, (Southern States) than to ours.

Mr. S. has used many kinds of manures. Lime, with him, has been of great service. He says that when lime has been freely used, plaster will generally, if not always, act promptly and efficiently; and thus, at very small expense, materially aid in perpetuating the improvement. He cites a case in which he says, previous to the use of lime, plaster was used very liberally, but with no visible effect whatever; now its action is as marked on this same land as I have ever seen anywhere.

He also recommends bone dust very highly, and observes that it acts well, either alone or with other manures, and is particularly valuable to aid the growth of clovers, and prefers it to Guano for this purpose. It is not so prompt in acting, but is far more durable and more likely to produce a good crop of clover to turn under. He considers clover almost the only green crop of much advantage to turn in.

He recommends it to follow lime, and on the out crop at the rate of ten bushels to the acre. On the wheat crop, which he generally sows following the oats, he applies a light dressing of guano, say from eighty to a hundred pounds to the acre.

His experience in regard to the following kinds of dressing, he sums up in these words, "lime for the landlord, guano for the tenant, and ground bones for both."—[Maine Farmer.

STORING PUMPKINS AND SQUASHES.

Considering the expense and difficulty of keeping pumpkins and squashes, we generally found it more profitable to feed them out as fast as they ripened. For this purpose, we kept an extra number of animals through the months of September and October, and when the pumpkins, &c., were consumed, we either finished fattening them, on grain, or disposed of them to the drover, or butcher.

Pumpkins require much room in storing, and, in spite of the best care, often decay rapidly; besides, as soon as the weather gets cold, they are of such a watery substance, that, if fed in any considerable quantity, they are liable to scour the stock and give them the cholick. It is the same as if fed raw with the turnip, beet, and other roots. Our advice, therefore, is, if you have not the proper conveniences for cooking vegetables, get rid of them as fast as you can do so profitably, during the mild autumnal months.—[American Agriculturist.

COBS A REMEDY FOR WIRE WORMS.

A friend has given us an account of an experiment made the past summer to prevent the depredations of the wire worms. A

farmer had the previous year applied to a part of his corn, manure from the hog pen in which there was an abundance of cobs, and where this manure was used, no injury was done by wire worms, while other parts were much injured by them where other manure was.

Supposing that the protection was owing to the cobs, he made an experiment the past season by putting two or three cobs into each hill, among the manure, which was not from the hog pen, on a part of the piece, and the rest of the piece was manured in the same manner, excepting the cobs.

Where the cobs were, the corn succeeded well, and was not injured in the least by worms; while on the part where no cobs were used, the wire worms did much damage. On taking up cobs and examining them it was found that the pith was full of wire worms.

From the result of this experiment, it seems that the worms prefer the pith of the cob to the corn, and that nature has wisely provided for the protection of corn, when the ears fall to the ground, and the corn grows spontaneously, as the worms will find their favorite food in the pith of the cob, which allows the corn to escape their depredations. We should be pleased to hear the result of other experiments on this subject.—[Farmer's Journal.

HOUSE FEEDING SHEEP.

Richard Simeon, Isle of Wight, England, has very successfully practised stall-feeding sheep for several years, one house containing 140 stalls, the other 150.

The stalls should accord with the size of the sheep, it being essential that they should not be so large that the animal can turn round and dirty the trough. Each sheep is confined by a leathern collar, attached to a slight chain, furnished with a couple of swivels, sufficiently long to secure comfort to the animal, but not long enough to hang back beyond the division of his stall, and to interfere with his neighbour. A feeding trough is placed at the head of each sheep, divided for turnips at one end, and chaff, meal, &c., at the other, and a small rack for clover above. A cast iron trough to every two sheep, is supplied with water by a stop-cock from a common cistern. A manure trough, two feet wide and deep, made of brick and water lime, and covered with a wood grating, receives the manure, the sheep standing in rows back to back. This needs cleaning once in ten weeks. Shutters to the stalls regulate the amount of fresh air in cold and mild weather. The manure is of the richest quality, equal to guano. The sheep are healthy, and thrive fast, gaining usually two and a half pounds per week, often three pounds, and in some rare instances, a pound a day.

These advantages could not be less in our severer winters. These facts were stated in the *Gardener's Chronicle*.

MODEL FARMS IN IRELAND.—A project is about to be brought into operation, by the Society of Friends, for the establishment of Model Farms in several parts of the kingdom, in which the best models of agriculture shall be carried on within the view of all classes of the people, and at the same time, means shall be afforded (by a system of accurate accounts constantly open to inspection) of communicating to the owners and occupiers of land, accurate knowledge as to the profit and loss of farming on sound principles.

Agriculturist and Canadian Journal.

TORONTO, NOVEMBER 15, 1848.

STATE OF THE HARVEST IN GREAT BRITAIN AND IRELAND.

We have carefully looked over the reports from correspondents of the *Agricultural Gazette* in the different counties of England, Scotland, and Wales, as published in that paper of Sept. 23rd. These returns can no doubt be depended on for general accuracy, the names and addresses of the contributors being given, with several of whom we have the pleasure of an acquaintance. The returns embrace wheat, oats, barley and potatoes.

By comparing these returns, we conclude that the wheat crop of Great Britain will prove, upon the whole, somewhat under an average; oats may be called a full average, and barley nearly the same.

Both grain and potatoes in Scotland appear better than in England; indeed the northern portion of the latter is superior to the southern. This difference appears to have been occasioned principally by the state of the weather. In the south of England, the harvest month (August) was characterized by perpetual rain, which has materially injured the quality of the grain, a large portion of which is at present unfit for grinding. In Scotland and the north of England, where harvest operations are two or three weeks later, the weather became propitious, and the crops were secured in much better condition. We may just observe that in such a climate as the British Islands, a summer characterized by rain and clouds, and consequent low temperature (and such appears to have been the general character of the past season) is unfavorable to the cereal crops, particularly to wheat, which requires warmth and sunshine, with moderate moisture, to bring it to full perfection. We are sorry to observe that the potato crop in many parts of England, particularly in the South, may be considered almost a total failure. In Kent, Surrey, Sussex, Hampshire, and some other counties, it is reported as being worse than ever. In Scotland and the north of England, the crop is stated to be more or less diseased; but hopes were entertained of securing a considerable portion of sound tubers.

In Ireland, we learn from the last official return of the state of the potato crop, prepared for the use of the Poor Law Commissioners, and coming down to the latter end of September, that the prospect was rapidly growing darker. In some parts more than one-half was diseased, and the malady spreading among the apparently sound; while in other parts the crop appeared in a more promising condition. Wheat will fall far below an average, but oats promise generally an abundance. There is good reason to hope that Ireland will be in a much better condition as regards food in 1849, than she was in the lamentable years of 1816-7. The breadth of potato culture this year has been very large, and if only a portion of a large crop can be secured till spring, with other esculants that have been more extensively cultivated this season than heretofore, the condition of that unhappy portion of our Empire will be mitigated.

We take the following from an editorial of the *Agricultural Gazette*, relating to the attack of the potato blight as affording matter for speculation:—

"A peculiarity connected with the potato crop is deserving of particular notice—this is, the irregular manner in which the disease has attacked it. There has not been that uniform progress northwards which characterised its first appearance in this country. Certainly the southern part of the island suffered first this year as formerly, but the potato crop was materially injured in some parts of Forfarshire, and in some of the Hebrides it was

almost entirely destroyed, long before the very slight attack under which it yet labors in south-eastern and central Scotland, had been perceived, and in some parts of Cumberland and Westmoreland, the disease had been active long before people could find it in Northumberland and Durham. The drier places this year, just as the drier seasons in a comparison of years, have suffered from it the least. And besides, its earlier appearance in the lower latitudes, owing to the earlier ripeness of the plant, there is an earlier appearance in the wetter districts also, to which the otherwise inexplicable irregularity of its attack, must, we suppose, be attributed."

YANKEE PLOUGHS DON'T SUIT ALL.

Under this heading, the editor of the *Maine Farmer*, whose paper we regard as one of the most valuable of our exchanges, makes the following remarks in reply to our observations on the Yankee plough, in the account we gave of the New York State Fair. We like the spirit in which his remarks are conceived, so different from that in which another American contemporary has referred to the same subject. Nothing is gained, especially in the discussion of questions in agriculture, by a display of ill-feeling. Difference of opinion will always exist, and we shall always be willing to allow our opponents to defend their opinions, firmly, strongly, and even warmly, without complaint, but when improper insinuations and unneighborly language is used, we shall take the liberty of objecting. We have no room in the present number to remark upon the principles which our friend of the *Farmer* has brought under notice. We may say, however, that, admitting their general correctness, we believe the improved Scotch plough, for all soils of median stiffness, possesses the very requisites he mentions in the greatest perfection. Our contemporary will see, by statements in another place, that the question will, in all probability, be put to the test next Spring, between Canada and the State of New York. We shall then be glad to see that plough our friend speaks of, and if he will send an "up East" Yankee to hold it, we shall be willing to test its qualities in the same way:—

"The many improvements that have been made in the form and construction of the plough, during the last twenty-five years, one would suppose ought to be such that among the great variety of sorts, shapes, sizes, and constructions, everybody would be suited. This is not the case. We recollect that fault was found in England with some of the best ploughs that Mr. Colman carried from this country to that country. The ploughmen were not only dissatisfied with the shape, but with the work done with them. The editor of the last number of the *Toronto Agriculturist*, in his remarks upon the implements exhibited at the late New York State Agricultural Show and Fair, held at Buffalo, says:— "It was easy to see that their ploughs possessed but few charms for the Canadian farmer, who turned up his nose in contempt as he viewed their short handled, wide heeled, cast iron ploughs, and thought of his own iron or wooden Scotch plough at home. It is very strange that this important implement has not been improved upon a better model than that so much in vogue among our neighbours. Mr. Bell, from Toronto, had two of his excellent ploughs on the ground, which the Society might have purchased and retained as patterns with great advantage. In the cultivation of our soil there is no comparison between the two implements. Indeed a 'Yankee' plough will hardly be tolerated on clay farms except for cross ploughing, and surely the same kind of soil must be turned over on the same principles in one country as the other."

Now, making due allowance for the pride of country which every man feels or should feel, we think our friend of the *Canadian Agriculturist* either did not see some of the best models of the "Yankee" plough, or his judgment was a little warped by coming over the dizzy heights of Niagara. It is true that in some of the models of the Yankee plough, the manufacturer, in trying to avoid the cumbrous extreme of the Scotch plough, leaned too far the other way, and made his handles too short and too upright, and his mould-board also too short. Experience, however, taught him better, and we have many patterns among us which exhibit a just and reasonable mean between the two. Our friend is right when he says that "the same kind of soil must be turned over

on the same principles in one country as the other." And what are some of the principles? Setting aside the mooted question which is best, a furrow laid over completely flat, or set up on its edge—we shall limit the principles of turning, sward land for instance, to two. The first principle is this: the furrow slice, from the point of the plough to the heel of the mould-board, is, in form, the thread of a screw; or, perhaps it would better illustrate it, to compare it to the web of a screw auger, with a long twist.—Take an elastic saw plate, fasten one end to the table, and turn it so that at the other end the under side is uppermost, and you represent the furrow in all its positions, from the first lifting from its bed—its progress or transition over, and its position when over. The mould-board or whole plough should be of the shape that will cut a slice of ground, of given width and depth, and place it in that position with the least friction or resistance, and of course with the least expenditure of force. As the plough is in progressive motion during the turning of this slice of earth, it will be found that there is a roper medium of length suitable to accomplish this. If it be too short and too curved, it will break the slice and push it over unsteadily, like the crowding of a wedge through the soil. If it be of just the right length, it will lift the slice easily and gradually,—turn it gently and completely, and leave it perfectly reversed in position. If too long, it renders the implement cumbrous, and prolongs the friction to a useless degree.

The other principle is: to have the beam of such a length and in such a position as to enable the power or draft to be applied equally, nearest the point of greatest resistance, and to have the handles of such length and slope as to enable the ploughman to guide, turn, and handle it, while in operation, with the least expense of force and time. These we conceive to be the two great principles of ploughs; and if there were none exhibited at Buffalo that would come up to the work, and perform it as well or better, with less power of team, and less weight and cost of material, than any our friend can show in Canada, we think we can furnish him some of *Up East* manufacture that will. When the Atlantic and Montreal Railroad is done, if we are both alive and in plough-jogging condition, we will send him one."

PREVENTION OF THE PROGRESS OF THE POTATO DISEASE.

There is a certain adde-pated quack in this vicinity who has, on various occasions, lectured the farmers most graciously on this mysterious disease. At one time he had found out the cause, and also the remedy! It was an insect, and nothing but an insect, for he had seen a little black bug hopping about on the vines! But how this insect happened to be in all parts of the world, in all climates, at the same time, and to be working the same destruction to the potato, and though easily seen, yet not detected by thousands who were attentively looking for it, or for anything else that could be the cause of the malady, was not explained. Or why it was that this same insect had been long known to entomologists, and had often been seen on the potato vines, years ago, by the most casual observers, without any bad effects being produced by it, the public were not told. The next theory which this "practical" Solon put forth, in the truth of which he was equally confident, and which he claimed with equal boldness as his own (no one, we think, will dispute him in this instance), was this, "The disease commences in the tops (we are not told how), and the heavy Fall rains wash the poison down to the tubers." The easy and natural mode by which a disease in one part of a plant is communicated to another part, viz., through the pores and along the fibres of its substance, was altogether too common place for this genius. We next expect to hear people who eat and drink too freely recommended not to go out into a rain, lest the gout should be washed down from the stomach into the toes!

We perceive, by a ragged-looking publication, that has lately been ushered into the world, through the instrumentality of this same genius, that the insect is again arraigned as being the principal cause of the whole mischief. If the observations of Dr. Parkins, confirmed as they are by the observations of many others, be worth anything, the insect theory; and especially the "washing down" theory, are exploded.

"The fact that disease, to a very considerable extent, has made its appearance in the potato crop, induces me to address a few words of advice to those who are fearful of being once more deprived of this

valuable, and hitherto profitable esculent. It is now too late to make use of the means recommended by me in my work on the "Prevention and Treatment of Disease in the Potato Crop," but there is yet time for the adoption of some of those measures, which, although insufficient to cure the disease after it has attacked the tuber, have, nevertheless, in numerous instances, prevented its further progress. Last year I advised, under similar circumstances, in addition to the measures about to be detailed, the employment of sulphuric acid; but I do not urge this point now, although I found the plan successful, on account of the trouble and expense. In cases, however, in which the land has been previously chalked, or in districts in which chalk abounds to a greater or less extent in the soil, the employment of a sufficient quantity of dilute sulphuric acid, to neutralize the lime; and thus cause an extinction of carbonic acid gas, might be adopted with great and certain advantage. In situations, also, where stubble exists in sufficient quantity upon the land, or when the crop is small, a fire may be made to the windward of the affected plants, so as to allow of the smoke being brought into direct contact with the leaves, or haulm, for some hours. This plan has been found successful in those cases in which the disease commences in the haulm, and no doubt can exist of its efficacy; but the operation will have to be repeated several times, or until the progress of the disease appears to be arrested. As, however, the trouble and expense of both these plans will generally be found a bar to their adoption, we must then resort to other measures; and which I have before proposed, as adjuvants, for the cure of the disease after its manifestation. The *modus operandi* or *rationale* of these measures cannot be entered into now; but, as I have endeavoured to explain them in my work, I must refer those who are anxious of further explanations to that source. The adoption of one or the other must depend upon the fact of whether the disease commences in the haulm, the root, or the underground stem, distinctions which it is always necessary to bear in mind. If the former be the case, it will be sufficient to cut off the whole of the haulm, close to the ground, and then to sprinkle some quick lime over the cut surfaces, leaving the tubers in the ground until the usual period of digging them up. At the same time, the ground between the rows should be turned with a fork, and the operation be repeated several times. As the latter plan, even alone, has been found beneficial, the expense ought not to prevent its adoption. If, however, the underground stems have become brown, or gangrenous,—a fact which can be ascertained by digging up a few roots in the field,—the best plan will be, instead of cutting the stalks down, to pull them up. This can be easily accomplished by placing the feet close to each side of the haulm, and then, seizing it with both hands, to pull it up—the weight of the body keeping down the potatoes, and stripping them from the stem.

Again, if it should be found on examination that the tuber itself is affected, the only resource is to dig up the whole of the crop, if sufficiently advanced toward maturity; or, otherwise, to raise each plant separately with a fork, so as to loosen the attachment of the roots to the soil. This plan is, of course, only applicable to those cases in which the disease spreads from below upwards, instead of from above downwards—the more usual mode. If otherwise, it will be necessary to move the haulm, instead of raising the roots. We must be certain, however, that such is the fact; for, as I have endeavoured to point out, the disease may not only commence in the underground stem, the haulm, or the root, but, simultaneously in all three parts of the plant. In the latter case, it would be necessary to remove the haulm, and to loosen the root at the same time; and, as all the sources destined for the supply of nourishment must be cut off, no increase of tuber could take place. No good could arise, therefore, from leaving the tubers in the ground under these circumstances, unless it be to preserve them from the contact of the air, until required for use—a most necessary caution, for there can be no doubt that exposure to the atmosphere hastens the decay and putrefaction of the tuber, when attacked with the disease. Such are the measures which, as it appears to me, are the most desirable to be adopted at the present moment; and I have not hesitated to recommend them to your readers, because proof has already been given, both in your own and other journals, of the efficacy of each and all of them at particular times, and under particular circumstances. The cause of their failure, in other instances, I would ascribe to the want of attention to the circumstances now detailed, for their efficacy must depend, if the above arguments hold good, on the selection of the appropriate remedy for that particular crop, or the form, or type of the disease, in that particular season, country, or locality.

With these remarks I shall now conclude, merely expressing a hope, that such of your readers as may be induced to adopt any of the above plans, will make the result of the trial public, as it is only by the publication of facts, and the accumulation of evidence, that we can arrive at the truth, or be able to ascertain whether we have it in our power to prevent the ravages of this disease in future—for there can be no doubt that it will return, again and again, like the epidemics in the animal creation.—J. Parkin, London, Aug. 14, 1848.

Mr. John Gilmour, gardener, of St. Catharines, left, the other day, at the office of the *Hamilton Spectator*, six onions of the enormous weight of ten pounds. They were raised from the seed of the English Red.

GREAT PLOUGHING MATCH BETWEEN CANADA AND THE STATE OF NEW YORK.

Our readers will have seen, by some observations in our last number, that a challenge had been given, through a newspaper at Buffalo, on behalf of the State of New York, to meet the ploughmen of Canada in the field, for the purpose of putting the question of ploughing to a fair test. The following is the language in which the challenge was given:—"If the Canada gentleman chooses to put the question to a fair test, we hereby agree to match his 'Scotch' or Canadian plow against a 'Yankee' plow, on any soil, and at any place, on equal terms, for excellence of performance, lightness of draft, and rapidity of execution, and give him the advantage of one in ten at the start." Without hesitation we accepted the offer, believing that a sufficient number of Canadian ploughmen would be glad of an opportunity to enter the lists, and convince our neighbours that we have better ploughs than they, because we can do better work. Every intelligent cultivator of the soil knows that there is all the difference in the world between good and bad ploughing; that though it may be important in one point of view, to procure an implement that will be easy upon the ploughman and the team, and with which a large amount of work per day can be done, yet that the grand object must always be to have the land well ploughed. It is this that tells when the harvest time comes. A very slight difference in the yield, which will be caused by a very slight difference in the ploughing, would pay for an extra day or two spent in the preparation of the soil. It would afford but little satisfaction to the farmer, when he goes into his harvest field, and finds it grown up with grass and weeds, and not more than half a crop, to tell him, "Oh, Sir, you ought not to complain; your neighbour will have thirty bushels to the acre, while you have but twenty, yet recollect your plough is 20 lbs. lighter in the draught, and your field was ploughed in less time, by a whole day, than his!" If speed and lightness of draught be the chief objects to keep in view, then, taking up the illustration of our cotemporary, which we think is rather an unfortunate one for his purpose, we might employ a "couple of cows dragging a rude wooden plough, by ropes fastened to their horns," and scratch over our fields in the quickest and cheapest possible manner.

Supposing, from the confident language of the above challenge, we should have no difficulty in agreeing upon the principles which should govern the decision, and the issue to be decided, the writer, while in Buffalo a few days ago, addressed the following letter to the *Advertiser*:

To the Editor of the Commercial Advertiser:

Sir:—A late number of your paper, contained an editorial article, commenting at some length on the account given of your State Fair at Buffalo, in the *Agriculturist and Canadian Journal*. As the Editor of that Journal, and the author of the remarks to which you have taken exception, I beg to be permitted a word or two of reply.

In the first place, an looking over what you denominate "Strictures on the late Cattle Show," and after reading the remarks which have appeared in several of your Agricultural papers, viz. the *Albany Cultivator*, the *Ohio Cultivator*, the *American Agriculturist* and some others, as well as the opinions of numerous correspondents in our Canadian papers, and after conversing with intelligent Farmers on our side and on this, who were present, and to whose judgement I would readily yield my own, I find I have said nothing upon any subject of importance relating to the Fair which I am not prepared to justify, and which is not fully borne out by others. There was one department, the Fruit, which ought perhaps to have been spoken of in terms of higher praise than those you have quoted. But every Canadian expects to see fine fruit, and plenty of it, when he visits the State of New York, so celebrated for the productions of its orchards. You should not therefore require us to go into ecstasies at the mere sight of a well arranged and no doubt well selected exhibition of fine apples and a few other fruits. The impression on my mind was this, "they look very fine (you recollect, sir, tasting, the only true test of quality, could not be allowed) but for this State, I see nothing extraordinary." This was the idea I intended to convey, and it is one of those you characterize as a "bold misrepresentation." Ordinarily I believe, misrepresentation relates to facts; on this point as well as some others, your charge is levelled against mere opinion. You seem to expect, because there was so much to admire, that the visitor should overlook all minor deficiencies, and some rather grave ones, for instance in the Grain department, and award an indiscriminate praise. But the truth is as far removed from the wholesale flatteries of toadyism, as from the captious faultfindings of prejudice.

In reference to other statements objected to, having made the above general reassertion, I shall not ask so large a portion of your space in these exciting times, as would be necessary to remark upon them in detail. Your challenge as to the plough, is the only tangible and really interesting question involved in the dispute, if we may call it such, between us. My object in dropping you this note, as I am returning from a short visit to Buffalo, is to give you and the ploughmen of your State the assurance that we Canadians are quite ready to accept you offer for a friendly trial of skill in the most important of all the operations of the farmer, viz.: turning the soil. If you have really improved the plough to the extent you boast, and your native ploughmen be able to execute their work in the skilful manner you have stated, let us be convinced by proof in the field. I think I can safely assure you that if upon a fair trial the palm of victory should be awarded to your "Yankee" ploughing, we will most cheerfully yield it, and will not be slow to adopt the improved implement. The "trial" will, if conducted properly and in a proper spirit, result in mutual good to our respective countries. I shall not, at all events, regret that my "faint praise" of two or three departments in your late Fair, which as a whole I believe every one admits to have been excellent, has so stirred up your patriotism, if a national ploughing match be the result.

I will undertake to see that a committee be organized to arrange all the necessary preliminaries on the side of Canada, and to raise one half the prize money. The sum should at least be £100. It will probably be advisable to raise a like sum in the same manner to defray expenses. I propose that there be three ploughmen on a side. That there be three judges, one chosen on each side who shall choose a third, and that the match take place in the spring, on the Canada shore, somewhere in the neighbourhood of the Niagara Falls. The ploughmen on your side must be citizens of your State, and native Americans, and they must use the Yankee plough.

The judges shall not see the work until the ploughmen have left the field, and shall pronounce which of the six pieces is best, without any regard to the time consumed in ploughing, or to the question of draught. These points, as every good farmer will admit, are of secondary importance. As to speed, except in so far as it depends upon the draught of the implement, it may very properly be left out of the question—being in all other respects an entirely accidental circumstance. The merits of the respective ploughs may be made a separate and second point to be decided, in the decision of which, lightness of draught, cost, and durability of construction, may be super-added to the manner of performance. Whether a premium should be awarded for the best plough, or only a certificate of the fact by the judges, may be determined hereafter.

I trust as you have thrown down the gauntlet you will take upon yourself the trouble of seeing to the arrangements on this side. In the present communication I intend nothing more than to accept in general terms, on behalf of the ploughmen of Canada, the challenge given, and leave the details to be settled between the Committees, or representatives to be appointed on each side, which should be done without delay. Consistently with the terms of your challenge I have proposed the Canadian soil as the place of trial, for the reason simply that it is better adapted to the purpose than any to be found conveniently, on this side of the River. Hoping that the acerbity of feeling so often engendered by political discussion, (some traces of which appeared in your remarks) will be religiously excluded from this question, and that good temper, neighbourly feeling, and fair dealing will characterize the whole proceeding, and that nothing more than an honest pride, and a patriotic desire to excel, will impel either side to the contest, and that mutual good may result in giving an impetus to the noble cause of agricultural improvement in both our highly favored countries.

I remain, sir,

Your very obedient servant,

WM. McDUGALL.

Buffalo, November 1st, 1848.

The editor of the *Advertiser* makes the following remarks upon the above letter at the time of inserting it:—

"We publish, with much pleasure, the subjoined challenge to test, in a friendly match, the comparative value of American and Canadian ploughmen and ploughs. If the terms of the contest, and what principles shall govern the Judges can be satisfactorily arranged, we have no doubt that our American agricultural friends will take hold of the matter with spirit. But we apprehend that the terms offered by our correspondent will not be accepted, for the reason that a ploughing match on those terms will not decide the question at issue. In countries like this and Canada, where land is cheap and labor dear, lightness of draught and quickness of time are all-important requisites in ploughing. If time and labor enough be expended, there is no doubt that the object of ploughing—the thorough breaking and loosening of the soil—could be effected by a couple of cows dragging a rude wooden plough by ropes fastened to their horns, as is the custom in some countries. But though by such means ploughing should be painfully and slowly effected, it would not be ploughing in the sense in which it is understood here and in Canada.

This illustration is an extreme one, we grant; but it is a fair illustration, nevertheless. Speed and lightness of draught must be taken

into account, or the proposed match, instead of exemplifying, as it should, science in construction and ease in execution, degenerates into a mere exhibition of brute force, slightly aided by painful manual labor. In agriculture, as in every other employment demanding muscular effort, whether of man or animals, attention should be turned, especially in new countries, towards lessening the amount of labour requisite for its proper performance. The question at issue and to be determined is not whether ploughing can be done and done well by Canadian or American ploughs and ploughmen, but which can do it the easiest, the quickest, with the least draught, and at the same time in a neat and thorough manner. If our Canadian friend will modify his terms in accordance with these views, we will set about making the necessary arrangements for the match. If not, it will be in vain to attempt anything of the kind proposed.

From this it would seem, that our friend of the *Advertiser* is not willing to undertake, for his countrymen, to beat us in *good ploughing*.

He thinks it necessary to mix up two or three other questions with what we contend is the great, the paramount question, and to demand a general verdict upon the whole. Now we should like to know what principles can be laid down for the decision, yes or no, of such a complex question, and how any three men are to go to work to decide it. For instance, suppose the execution—the ploughing of the Canadian plough to be the best; then how much the best? If it were the simple issue which is best? that might be easily told, but if the other points are to be added, it must be ascertained how much better one piece is ploughed than the other. Then what is to be the measure of the difference? The true measure will be the greater number of bushels that an acre of the best ploughed land will produce than an acre of the other. This will be a nice point to decide. Suppose they come to the conclusion that the best ploughed will grow *two* bushels more than the other. In a field of ten acres we have twenty bushels of wheat to put to the account of the Canadian plough, as an offset to the speed and light draught of the Yankee plough. We find in the American edition of Johnson's Farmers' Encyclopedia, tables showing the weight and draught by the dynamometer, of English (including Scotch) and American ploughs. The plough set down as best in the English table, is the Yester No. 1, Scotch, weight 170 lbs., draught 380. That in the American table stated to have done the best work, is Barnaby and Moore's, weight 142 lbs., draught 350. The difference of draught therefore was, in this case, 30 lbs. in favor of the American plough. The latter turned a furrow slice of 12 inches, while the former turned but 10. Now, allowing this to be the difference between the best of the two kinds, (though as the trial was not made on the same soil, it is probable the stiffer clay soil of England would more than account for the difference in draught) in the case we are supposing we would have, in a ten-acre field, 20 bushels of wheat to place against 28 lbs. less weight, 30 lbs. less draught, and two inches greater width of furrow. If from all these advantages *two* days should be gained in ploughing the ten acres, how stands the balance? 20 bushels of wheat, allowing for expense of harvesting, say \$15, against two days' work, say \$6, leaving \$9 in favor of our plough, in ploughing one field, for one crop!

It may be said by our American friends that there will not be the difference we have set down against them in yield of grain. On the other hand, Canadian ploughmen will contend that there would not be *two* days more required to plough ten acres with their plough. We only desire, by the case supposed, to show the difficulty—nay, the impossibility, of deciding, at one time, and in one decision, the result of a trial as our friend of the *Advertiser* would have it conducted. In such a case, the Judges must be on the field, must witness the whole operation, must hold the ploughs, while working, long enough to ascertain their respective merits as regards ease to the ploughman, &c., &c. In the case of an *international* ploughing match, who could give an unbiased judgement under such circumstances, or who would be satisfied with it when given? No; unless our American friends will agree to test the question in the only way it can be tested, viz., first decide which ploughing is best, for which one prize shall be awarded; next which plough is best, having regard to the work it has done, and as many other points as are of any consideration, giving each its due weight, for which an equal prize may be given, we shall say they admit we can beat them, and have backed out. We have

no more space at present, but the matter shall not be allowed to drop till we get a more distinct refusal.

MANGEL WURTZEL.

To the Editor of the *Agriculturist*,

Denison Terrace, Toronto, }
October 21st, 1848. }

SIR.—In No 12 of your valuable paper (to farmers.) I sought information to destroy the wire-worm. In No 14, I received Mr. Gregory's hints, which I will not fail to try, with thanks to that gentleman. My opinion is, that much good might be done if farmers would more frequently avail themselves of the offer you have kindly made of your paper to make known their wants and experience. We Canadians must not think because we are bush-whackers, that we know everything about farming, although we know something. No, indeed, we have much to learn, and are not above learning from those from our father-land, whose opportunities have been great, and much, have we to teach them, and I willingly will we do it, in return.

Whilst troubling you, Mr. Editor, with this letter, allow me to give your readers the best plan I know for growing mangel wurtzel. I have had, for the last three years, some experience, and received two prizes for the best. Prepare your ground, then drill very lightly each way three feet apart, and at each intersection sow five or six seeds, and cover with your foot as you would Indian Corn; you can then plough each way in weeding; when the leaves are about two inches long, thin to one at each place, and transplant, if required. To prepare the seed, pour scalding water on it and allow it to soak twelve hours; dry with plaster of Paris, which is good for the crop, and can be more easily seen to sow and cover.

I would recommend my countrymen to grow mangel wurtzel, (emigrants know all about it) I know it to be a useful root, and I think profitable; at all events better than potatoes these times, and not bad to eat.

If you should have the roots three feet apart each way, and twelve roots to the bushel, you would have 400 bushels per acre, which are worth to the farmer at least 1s. per bushel, or £20 per acre.

You may think this out of season, but I am just gathering mine, which put it into my head, and if farmers do as I do—take care of your papers, and refer to them—they will find this in the spring, if wanted.

Your subscriber,
RICHARD L. DENISON.

GLASS MILK PANS.

Glass milk pans are coming more and more into use in Europe. Their advantages on the score of cleanliness must be obvious. It were to be wished that societies or institutes would appoint a standing committee, and put aside a small portion of their ample funds for the instant importation of sample articles invented abroad, connected with agricultural and rural economy. True it is, that in general, this may be left to the vigilance and rivalry of tradesmen and manufacturers; but many years may elapse before we get the benefit of many things which might at once be profitably introduced. The same reason and policy that prompt the offer of premiums for useful things of home invention, would warrant the introduction of things which have been recently invented and patronized by agricultural societies abroad. Satisfied that glass milk pans (on which the manufacturer should indicate the capacity of the vessel) would be a valuable acquisition to our dairy women, we respectfully suggest the importation of a dozen, and the offer of a premium to the glass manufacturer who shall first produce them in this country, at a cost that will justify their being brought into general use. It has been seen in an interesting and valuable "Essay on the Management of Holstein Dairies," published in the Farmers' Library, that there the dairy-women are allowed one dollar a year for "pan money," and charged for all they break; yet they always "make by the operation." Let us have glass milk pans.

Parsnips, are much used in France and the Island of Jersey, being boiled together with cabbages and fed to horses, cows and fattening stock, with buck-wheat flour, with decided success.

ON FATTENING SHEEP.

We copy the following remarks from a new work on Sheep husbandry, by Mr. Canfield, an American writer:—

FATTENING.

Whether sheep are to be fattened in summer or in winter, it is ever desirable that they should have been well kept for some considerable time before rapid fattening is attempted. Their digestive organs will then be strong, and able to bear full feeding. Therefore, if any are quite thin in flesh, they should, at first, not be put into too rank pastures in summer, and in winter should not receive too much grain in beginning to feed them, lest they should be cloyed, in some measure, or should become diseased in consequence of excess of nutriment.

With these precautions, if it is intended to fatten them for the butcher, it is always an object to fatten them as fast as possible, if we wish to obtain the quantity of flesh and fat, according to the amount of food consumed; for, regular daily rations of food are necessary to support life, and supply the natural waste of the body; and the sooner the flesh and fat accumulate to the desired quantity, the sooner, also, will this daily waste be brought to a close.

Therefore, in summer, the pasturage should be amply sufficient, so that they may be as quiet as they please, and not allowed to range over too large a surface, in order to fill themselves. And most special care should be used that they are frequently moved from field to field, or that a large range be provided for them, and all necessary condiments.

The digestive powers of young animals being weaker than those of animals which have arrived at maturity, such young animals should be fed more cautiously; and it takes a longer time to fatten them, as a portion of their nutriment is appropriated to the development of muscle or flesh.

In summer and fall, sheep may be fattened off most rapidly, and with least expense; good pasture, and frequent changes of it, with suitable condiments, being sufficient for that purpose.

But it is sometimes an object to fatten them very rapidly in summer, and, also, to fatten off old sheep, which cannot readily be fattened on mere pasture alone. In either case, the feeding of a moderate quantity of grain daily, will generally effect it very advantageously. One bushel of grain fed in summer, will make as much fat as three or four fed in winter.

An experiment was made at Shrewsbury, in England, in fattening three sheep on peas, allowing them, at the same time, to run in pasture. They gained 39 lbs. in 21 days, being an average of nearly ten ounces each day.—(A. Agriculturist, 1843.)

If the first quality of mutton is desired, sheep of the smaller breeds, and those which do not soonest come to maturity, should be selected for that purpose, and a large proportion of upland pasture should be provided for them. For though the quality of the mutton depends very much upon the breed of the sheep, the qualities of the food upon which they are fattened have also a powerful influence in determining the qualities of the mutton.

In fattening sheep to the best advantage in winter, it is necessary that they should have good shelters, and that these shelters should be often supplied with fresh litter, so as to make them quiet and comfortable; and, also, that proper allowances of food, water, and condiments should be regularly supplied to them.

The observations of Mr. Spooner will illustrate this subject as follows:—"Quietude and warmth contribute greatly to the fattening process. This is a fact which has not only been developed by science, but proved by actual practice. The manner in which these agents operate is simple, and easily explained. Motion increases respiration, and the excess of oxygen thus taken, requires an increased quantity of carbon, which would otherwise be expended in producing fat. So, likewise, cold robs the system of animal heat, to supply which, more oxygen and more carbon must be employed in extra combustion; to restore the diminution of temperature. Nature enforces the restoration of warmth, by causing cold to produce both hunger and a disposition for motion, supplying carbon by the gratification of the former, and oxygen by the indulgence of the latter. The above facts are illustrated by Lord Ducie:—

One hundred sheep were placed in a shed, and ate 20 lbs. of Swedish turnips each per day; whilst another hundred in the open air ate 25 lbs. each, and at the end of a certain period, the former animals weighed 30 lbs. more than the latter, clearly showing that, to a certain extent, warmth is a substitute for food.

This was also proved, by the same nobleman, in other experiments, which also illustrated the effect of exercise.

No. 1. Five sheep were fed in the open air, between the 21st of November, and the 1st of December. They consumed 90 lbs. of food per day, the temperature being 44 deg.; at the end of this time, they weighed 2 lbs. less than when first exposed.

No. 2. Five sheep were placed under shelter, and allowed to run at a temperature of 49 deg.; they consumed at first 82 lbs., then 70 lbs. per day, and increased in weight 23 lbs.

No. 3. Five sheep were placed in the same shed, but not allowed any exercise: they ate at first 64 lbs., then 58 lbs., and increased in weight 30 lbs.

No. 4. Five sheep were kept in the dark, quiet and covered; they ate 35 lbs. per day, and increased in weight 8 lbs.

A similar experiment was tried by Mr. Childers, M. P. He states that 80 Leicester sheep in the open field, consumed 50 baskets of cut turnips per day, besides oil cake. On putting them in a shed, they were immediately able to consume only 30 baskets, and soon after but 25, being only one-half of the quantity required before; and yet they fattened as rapidly, as when eating the largest quantity.

From these experiments, it appears that the least quantity of food which is required for fattening, is, when animals are kept closely confined in warm shelters; and the greatest quantity, when running at large exposed to all weather. But, although animals will fatten faster for a certain time, without exercise than with it, if they are closely confined for any considerable time, and are at the same time full fed, they become, in some measure, feverish; the proportion of fat becomes too large, and the meat is not so palatable and healthy, as when they are allowed moderate exercise, in yards or small fields.

As to the kinds of food which may be used most advantageously in fattening, this will generally depend upon what is raised upon the farm, it being preferable, in most cases, to use the produce of the farm. Sheep prefer beans to almost any other grain, but neither beans nor peas are so fattening as some other grains, and are used most advantageously along with them. Beans, peas, oats, barley, rye, buckwheat, &c., may be used along with Indian corn or oil cake, or succulent food, making various changes and mixtures, in order to furnish the variety of food, which is so much relished by the sheep, and which should ever be attended to by the sheep feeder. This will prevent their being cloyed, and will hasten the fattening process. A variety of food, says Mr. Spooner, operates like cookery in the human subject, enabling more sustenance to be taken.

The quantity of grain or succulent food, which it will be proper to feed, will depend upon the size, age, and condition of the sheep, and judgment must be used in ascertaining how much they can bear. Mr. Childers states that sheep (New Leicesters) fed with the addition of half a pint of barley, per sheep, per day; half a pound of linseed oil cake, with hay, and a constant supply of salt, became ready for the butcher in ten weeks; and gain of flesh and wool, 33 lbs. to 49 lbs. per head. [One sheep gained 55 lbs. in twelve weeks.

This experiment shows what is about the largest amount of grain which it is necessary or proper to feed to New Leicester sheep, at any time while fattening. The average weight of 40 New Leicester wethers before fattening, was found by Mr. Childers to be 128½ lbs. each. By weighing an average lot of any other kind of sheep, which are to be fattened, and by reference to the table of comparative nutriment of the different kinds of food, a calculation may be readily made as to the largest amount which will be necessary for them, of any article of food whatever.

When sheep are first put up for fattening, they should be sorted, when convenient, so as to put those of the same age, size, and condition, each by themselves, so that each may have a fair chance to obtain its portion of food, and may be fed the proper length of time.

They should be fed moderately at first, gradually increasing the quantity to the largest amount, and making the proper changes of food, so as not to cloy them, nor produce acute diseases of the head or intestines, and never feeding so much as to scour them.

Sheep, when fattening, should not be fed oftener than three times a day, viz.: morning, noon, and evening. In the intervals between feedings, they may fill themselves well, and will have time sufficient for rumination and digestion; these processes are interrupted by too frequent feeding. But they should be fed with regularity, both as to the quantity of food and the time when it is given. When convenient, they should have access to water at all

times; otherwise, a full supply of it should be furnished to them immediately after they have consumed each foddering.

When sheep become extremely fat, whether purposely or not, it is generally expedient to slaughter them. Permitting animals to become alternately very fat and lean is injurious to all stock. Therefore, if animals are too strongly inclined to fatten at an age when wanted for breeding, their condition as to flesh should be regulated by the quantity and quality of their food or pasture.

From the Journal of Agriculture & Science.

IMPORTANCE OF GOOD SEED.

No one who has attentively examined a growing crop, can have failed to notice the difference in the vigor of different plants on the same square foot of surface. Some will start with a full broad leaf of a dark green colour; others with a narrow one of a pale green, or yellow and sickly hue. During the early period in the growth of these plants, the difference will increase, and a large full head will crown the one, while a short shrivelled one will be all that can be yielded by the other. For this difference there may be many causes. I think it better to confine the examination to the early period in the growth of the plant. After it is a few inches high, causes, obvious, yet entirely beyond our control, will continue and increase the difference. The powers of life in one, being in greater activity, and more fully developed, its vessels are sent out on longer excursions, and nourishment gathered from a greater distance, even from the very threshold of its neighbour's dwelling. Like the stronger animals, it not only takes the first and the last piece, but the best of all the pieces. Not satisfied with the robbery below the surface of the ground, it extends its broad leaves to the sun, and makes the first use of the light and heat, transmitting to its weak neighbour what remains; and from the dews and rains its own watercasks must first be filled, however thirsty its feeble companion may be. Of the early causes imperfect tillage undoubtedly has much effect. One kernel may be half covered upon a bunch of grass sods; another buried under the same turf, below the full influence of light and heat, while a third is placed at a suitable depth in mellow earth. This is often more strikingly exhibited in buckwheat, a crop for which mellow ground in ordinary cases, is indispensable. If the ground is ploughed in large furrows, and sown without previous harrowing, as many are in the habit of doing, no inconsiderable part of the seed will fall so low, and be buried by the harrow so amply, that a late and sickly dwarf, at the feet of its more fortunate neighbour, will be all that can be expected.

But the cause to which I must more particularly call attention at this time, is a difference in the seed sown. In my neighbourhood great pains are taken by farmers and gardeners to secure good seed. I speak not now of *clean seed*; not of sowing a mixture of rye, chess, cockle, charlock, red root, tares, dock, southern plantain, and Canada thistles, and calling it wheat, but of seed the individual grains of which shall be full and sound, ripe and fat. An excellent farmer taught me, while yet in early boyhood, that *seed-corn* should be selected in the field, and only the long, full, ripe ears be saved; and other things being equal, they should be selected where two ears grow upon one stalk. This, I suppose, is in accordance with the practice of all careful farmers. If this selection is made before the husk is changed by frost, the earliest ears are easily distinguished. They should be brided by the husk in bunches of convenient size, and hung up where the possibility of heating or moulding is out of the question. By this process I am satisfied that not only vegetation, and a fuller and more thrifty blade is insured, but the best kinds may be made better, and foreign varieties be acclimated, and perhaps some of them made valuable.

Let those who raise seed for sale answer for themselves, but sure I am, that no sensible man would think of saving, for his own use, the seeds of a small insipid melon, or of a thin fleshed, watery, coarse grained pumpkin or squash, although he might be confident they were fully ripe, and would, in all probability, vegetate.

The short, yet massive "cabbage turnip," which produces a large, compact head, is selected to furnish seed for another year. Such beets, and carrots, and turnips as you would wish your future crop to be, are to be put out for seed, and the product of the largest branches and fullest umbels only should be saved. For early use, the short cucumber, growing near the root, should be saved for seed. In the latter variety for pickling, if one gives any indications of unusual straightness, length, and thrift, a stake is put by it, and it becomes forbidden fruit.

A gentleman of my acquaintance, a merchant in the City,

once mentioned to me a circumstance in point. Having just received a box of seeds from a family, celebrated the world over for their garden seeds, he asked the individual who brought them to furnish him, as a personal favor, some cucumber seeds for his own garden. He was reminded that the box just opened contained an abundance of the article. The merchant replied, "Friend, I want a few of those seeds you have saved for your own garden." A few days after, a little package of seeds was received, which the merchant assured me was of more worth, five times, the nominal value of ordinary seeds; each seed produced a vigorous broad-leaved plant, leaving nothing to be desired either in the rapidity of its growth, or in the quantity or quality of its productions.

In crops cultivated during their growth, all feeble stalks should usually be removed, at least when the number of vigorous ones will admit of that disposition. When pumpkins are cultivated with corn, from one-third to two-thirds of the vines may be pulled up at the last hoeing, or soon after, and consigned to the hog pen with decided advantage. They will show by that time, that a green pumpkin, too small for a football, is all that is to be expected from them. But although the subject is so important in regard to the seeds which have been mentioned, I know not why it is not equally so in reference to the kinds of grain, &c., which in this country are almost universally sown broadcast, and yet, so far as I know, but little has been written or said on that part of the subject. I have even heard farmers object to sowing wheat with a large, full berry, because it would take more in measure for the same quantity of ground, than of a sample of the small-berried, shrivelled kind. They said that shrunk wheat would "come up," and if the berry was shrunk to half the full size, half the expense of seed would be saved. If there are few who would attempt to speculate by exchanging full, well-fed seed, for a poor, half-starved specimen, then am I fearful there are multitudes who would not take the trouble of exchanging the poor for that which was better, paying a little difference. But in the best specimens there will be many small, imperfect grains. The cause mentioned in the early part of this article will account for some of them. In oats, every individual stock will produce grain, differing widely in their size and weight. Some of the branchlets of the panicle will put out later, and produce inferior kernels. The same is emphatically true with buckwheat. The small kernels of any of the grains, with those broken by any cause, would be of value as food for animals, but if sown in connection with the full kernels, they would do little more than shade the ground, and take some nourishment which would otherwise go to perfect more fully the fruit of the other stalks. But here some one may ask, how is the separation of the large from the small, the fat from the lean kernels to be effected? Very readily by a good set of sieves or screens. In addition to those belonging to your fanning mill, let others be prepared of the same size and form, from wire cloth of the different textures you desire. The cost will not be great. They will be extra sizes for your mill, and will be worth twice their cost for this purpose. Then make of firm, light boards, the sides and ends of a box, which will just admit one of these sieves. Attach to the inside of your box some little support near the lower edge for the screen to rest upon, and you will have at command as many screens as you have sieves, doth proper and extra to your fanning mill. One of them, of suitable fineness, will take from you oats all small or broken grains, and all cockle, dock, and thistles, &c., which you can consign to your cauldron, and after being boiled thoroughly, they will hurt neither your hogs nor your land, and a richer harvest of better grain will richly reward you for all your care and expense.

S. REED.

COMPOST SHEDS.—Among the objects most worthy of our agriculturists' attention are compost sheds: a cemented pit, roofed in, with walls on three sides. In this kind of shed manure may be economically manufactured, with as much industry and care as on a Flemish farm. These kind of sheds are kept constantly filled with vegetable and animal refuse of all kinds, among which is mixed, from time to time, a bag of guano, to promote the decomposing fermentation; with the aid of liquid manure the mass is very soon converted into a highly exciting compost, and conveyed away either for immediate application, or to be preserved in a casing of soil, if no crop or ground be ready to receive it. Thus the manufacture is constantly going on, and guano, the most costly of imported fertilizers, is made to multiply its own peculiar properties to an incalculable amount.—[Farmer's Herald.

SMOKING TOBACCO.—"There is no harm," says the Rev. Mr. Montgomery, "in smoking tobacco, except that it leads to drinking, drinking to intoxication, intoxication to bile, bile to indigestion, indigestion to consumption, and consumption to death. That is all.

TOWNSHIP OF WHITBY'S CHALLENGE FOR A TRIAL OF SKILL IN PLOUGHING.

We observe in the newspapers the following offer by a number of farmers on the part of the Township of Whitby, which certainly displays a strong confidence in their own proficiency, and a highly laudable zeal for the promotion of improvement in the cultivation of the soil. It is only by such friendly contests as these, that the interest of large numbers can be excited sufficiently to make them either notice or adopt the improvements that are every year being made in the operations of the farm. We hope the challenge of the Whitby Ploughmen will be promptly taken up. It appears to us the number of competitors on each side is quite too large. The difficulty of determining which Township is entitled to the purse, when each has so many representatives, will be very great. For instance, it may happen that two or three ploughmen from Whitby will excel not only the whole twenty from the other Township, but the remaining seventeen from their own; while twelve from the other Township may be found to excel all from Whitby, except these three. In such a case which Township has won the purse? We are not aware what rule is to govern the decision in such a case, but it is very easy to see that disputes and ill-feeling may arise out of the contest, which it is by all means desirable to avoid. We fear the issue presented to the Judges will be too involved and too large (unless it be narrowed down by some conditions not mentioned below) to allow of a satisfactory decision either to themselves, or to the parties engaged in the trial. When the challenge is accepted we will inform our readers:—

"Fifty gentlemen of the Township of Whitby, having made up a purse of Fifty Pounds, with a view of promoting Agriculture by stimulating and encouraging the science of Ploughmanship (the foundation of all permanent and successful farming), it is proposed to match twenty Ploughmen (residents of Whitby,) against a like number of Ploughmen, residents of any other Townships in Upper Canada, which shall in like manner make up a purse of Fifty Pounds—the purse to be deposited with a Treasurer mutually chosen and to be given up to the winning party on the day of trial—agreeably to the decision of the Judges to be appointed as follows:—Each contributing party to name three from some disinterested Township or Townships, and the six Judges so chosen to name one of three Umpires.

"The match to come off some day between the seventeenth of May and the tenth of June next, and as near half-way between Whitby and the Township as circumstances will admit.

"The winning party to expend one of the purses, or fifty pounds in providing a dinner to the forty ploughmen, the Judges, and one hundred contributors to the respective purses (and meeting any little contingencies for printing bills, &c.) and in awarding a certain number of premiums for the best specimens of ploughmanship.

"The above proposal to remain open until the 1st of January, 1849, unless sooner accepted.

"It is also to be understood that the Victorious Township shall be bound to keep the same propositions open for twelve months from the time of trial, if not sooner taken up by some other Township.

"All communications on the subject addressed to the Secretary (Post-paid) will receive immediate attention.

"By order of the committee, PETER PERRY, Secretary."

P.S.—All newspapers willing to aid in the promotion of agricultural pursuits, by inserting the above, are respectfully requested to do so.

CANADIAN ENTERPRISE.—We are happy to have another opportunity of noticing the growth of Canadian enterprise. Messrs. Crawford & Imlach, two enterprising agriculturists of the County of Halimand, Niagara District, have recently erected a Manufactory for the preparation of Mustard from the seed, and are engaged pretty extensively in the business. It appears that the climate of this country is peculiarly suited to the growth of the Mustard plant, and we hope this will be an important addition to the productions of Canada. Mr. Imlach, who has been a zealous advocate for agricultural improvement in the portion of the country in which he is a resident, is determined to produce an article which shall be a fitting accompaniment to the fat beef and pork he has been instrumental in introducing into the Niagara District.—[Journal and Express.

HORTICULTURE.

DEEP TILLAGE IN THE GARDEN.

From the Horticultural Department of the Genesee Farmer, for Sept.—By P. BARRY.

It may possibly be that some of the readers of this department of the Farmer are so little interested in Agriculture, strictly speaking, that they may not be in the habit of perusing the agricultural pages. If any such there be, we beg of them to turn to the leader of Dr. Lee, in the August number, and read what he says on "deep tillage." That article we consider one of the very best the Doctor ever penned for the Farmer—and that we conceive to be saying a great deal. The most enlightened Agriculturists of the present day, both in Europe and America, regard deep tillage as the basis of all good culture. If in farming it be so, and no man denies it, it is not less so in gardening.

No one should, for a moment, think of planting a garden or an orchard until thoroughly trenched or subsoil ploughed. In this country, during the growing season, a powerful sun and frequent drouths, during which we see plants growing on a thin surface soil with an unmoved hard pan beneath it, and actually shrivel up as a thirsty pot plant would. Dr. Lee states the reason forcibly: "As a tight jug will prevent water from running in as well as running out; so a compact, impervious subsoil will prevent the ascent of moisture in dry weather, to supply the roots of plants with their indispensable water, as well as obstruct the descent of water when in excess on fields." The experience of every cultivator will teach him this. How many thousands of young trees are lost in this country by being planted in a small hole on the surface of an impervious hard-pan! They may start and grow during the showery weather of spring, but when three or four weeks of parching hot weather comes along in June, what becomes of them? The young and feeble roots, can find no food, the leaves turn yellow, and the trees die. And then the query is propounded, "What killed my trees?" Even the present season, notwithstanding the great improvement that has been made on former practice, we have seen large quantities of trees dying by inches in this way. We have seen orchards planted on land subsoil ploughed to the depth of 18 inches, and well manured, where in three years, the trees had attained the size of ten year old trees under the usual treatment. The simple satisfaction of seeing trees grow in this way amply pays for the extra labour; but, not only do trees grow faster, but the fruit is double the size, and fairer and finer every way.

It frequently happens that, about the time a tree requires a large quantity of moisture to sustain it under a heavy crop of fruit just swelling out to maturity, a drouth comes—the roots of the tree are confined to a few inches of surface soil, and out of that every particle of moisture has evaporated—what then becomes of the fruit? why it either ripens prematurely, falls off, or shrivels up on the tree. Last summer we saw peach trees under such circumstances with the crop lost—actually dried to a crust on the tree. We see trees dropping their fruit while green, from the same reason, and entire crops become stunted and worthless. We have measured apples this season in the deep trenched gardens of this city, 16 inches in circumference, that in an ordinary orchard, would have probably been half that. We have also seen apricots 8 inches in circumference, and plums 6—being double the usual dimensions—all owing to the trees having received a liberal supply of food from the soil. How many, every season, lose their crop of strawberries. A drouth comes just as they are ripening, and unless they are deluged with water twice a day, they are dried up, and even the plants burnt off—while, if the ground had been trenched two feet deep, at least, they would have required no watering, and would have ripened of their fruit well.

The great difficulty of raising pear seedlings in this country, is a leaf blight that attacks them in July, and causes their foliage to drop and the growth to cease completely. Now we apprehend that deep tillage will be at least a partial remedy. This season our pear seedlings grew in a plot trenched last autumn more than two feet deep. The surface soil was placed below, and the subsoil above. During the early part of the season, while the young roots were among the subsoil that had been brought to the surface, the growth was moderate; but about the time the leaf blight was expected, and had actually seized upon others in an untrenched soil, they took a new start—the leaves assumed a deeper green, and the growth was two to one what it had been before. Why?—because the roots had just arrived, in their downward progress, at the fine surface soil that had been buried, and that contained

moisture and other fertilizing materials; they revelled in it, and have bade defiance to all kinds of blight, so far.

As to raising fine flowers, it is next to impossible, unless in a deep tilled soil. For proof, witness the innumerable failures in the cultivation of flowers in borders that have been spaded barely 10 inches deep. Unless it be *Portulaccas*, *Mesembry*, *Atheumums*, *Sedums*, *Sempervivums*, and such succulent things that would flourish on rock, they all dry up in July when three weeks or a month of hot weather comes on.

Lawns you cannot have without *deep tillage*. It is perfect folly to sow grass on ordinary ploughed land and hope for a green lawn during summer. The first drouth will scorch it as though fire had passed over it; but deepen your soil with the plough or the spade, two feet deep, and you will have a lawn.

In vegetable gardening, above all, *deep tillage* is indispensable. If you wish *Rheubarb*, *Asparagus*, *Sea Kale*, &c., worth cutting, or fit to appear on the table, *trench your soil two or three feet deep, and manure liberally*. This is the way all large and astonishing crops are produced—all remarkably large and fine specimens of garden products that attract admiration and surprise. This is the only secret for success. Let us then urge on every man who wishes to succeed well in horticulture—who wishes his labors to result to his own satisfaction and the admiration of his neighbors—to “break the *under crust*,” as Dr. Lee says, “that the bones, potash, soda, magnesia, chlorine, sulphur, phosphorous, iron, carbon and nitrogen may come up to the thirsty roots of your plants and fully nourish the same.”

Those who intend to plant new orchards, lay out new gardens or grounds, or those who have old ones to renovate should now be at it.

TRAILING OF ROSE TREES.

Perhaps the best method of trailing the tall-growing kinds of roses, is on pillars. Two years ago, I had pieces of scantling, twelve feet in length, and three inches by four, planted as posts; first perforating them in five or six places with a two inch augur; and through these holes the stem of the rose is drawn; and as it lengthens, the operation should be repeated from time to time, until it reaches the top, about nine feet high. And as it depends on no decaying band or cordage for its support, it cannot be blown down by the wind. To insure these posts from decay, inch augur holes are bored near the ground, slanting downwards, but not quite through, and filled with salt. Some persons have used plugs in their posts to keep out the rain, but it is best to leave them open for a time, until the wood becomes saturated with the brine; and as the salt dissolves, more should be supplied; say two or three times a year.

To obtain a fine display, I plant roses of different colors on opposite sides of the posts, and intertwine their branches. I have sixteen posts of this description, and have obtained expressly for this purpose, a sufficient number of tall-growing kinds to cover them; further experiments are wanted, however, to determine what sorts can be most fitly associated, and what shades of color will best harmonize.

Of all the insects that annoy the Florist, the Rose Bug stands first on the list—it is a perfect nuisance; and it is doubted if any way to expel them has been discovered, except by manipulation. Even in this northern land they appear to have inhabited sand hills from time immemorial, and would seem to be now on the increase; but on heavy loams, which constitute perhaps nine-tenths of this vast region, I think they have not been observed. This exemption we ought to prize very highly, which gives us advantages over the south; for if a few of our roses are prevented from assuming the habits of a tree, it is consoling to know, that none in all our collections, on heavy soils, will be defaced by the Rose Bug.—[D. Thomas's Address.

PRODUCTIVE APPLE-TREE.—Brown, in his *Trees of America*, says there is an apple-tree at Romney at Virginia, which according to Dr. Mease, grew spontaneously from seed, is estimated to be fifty years old, and has obtained the height of 45 feet with a trunk more than a yard in diameter. In 1835 it produced 180 bushels of large fruit besides four or five bushels left under the tree as damaged, and several bushels taken by visitors during the course of the season—so that the whole amount, in the opinion of Dr. Mease, must have been nearly 200 bushels. The greatest quantity of fruit borne on a single tree in England in one year, grew in Littlefield, Sussex, and produced 74 bushels of fruit—the total weight of the crop being nearly two tons. Repeated instances have occurred in Western New York, of trees of the Rhode-Island greening, with little or no cultivation, yielding single crops of more than forty bushels.—[Alb. Cult.

THE HAMPTON COURT VINE.—This noble vine, more than 120 years old, nearly as many feet in length, its stem 23 inches in circumference, is now laden with more than 2000 bunches of fine grapes, rapidly ripening, and weighing, on an average, 17 ounces each bunch, or in the whole nearly one ton! They are of the finest black Ham-
burgh kind, and are said to be reserved chiefly for the Queen's table.—[Bell's Messenger, Sept. 23, 1848.

EFFECTS OF STOPPING AND THINNING.—Scarcely an Annual exists, which usually dies at the close of the season after ripening its seed, but may be made to retain a vigorous existence, if its influence be removed as soon as formed. *Mignonette* is a very familiar example, for this may be allowed to bloom; but if its flower-stalks be cut down before its seed vessels be perfected, it becomes woody and shrubby, and will live and bloom for three or more successive years; but if allowed to ripen its seed, it dies the same year. The common *Nasturtium* is an Annual; but the double *Nasturtium* has become a Perennial, because its flowers, deprived of the faculty of producing seeds, do not exhaust the plant. And it is probable, that every Annual, rendered double by cultivation, will become a Perennial.—[Johnson's Principles of Gardening.

EDITOR'S TABLE.

TO CORRESPONDENTS.

J. R. L., LEEDS.—We are very sorry your paper has not been received regularly, but as the alleged omissions are of numbers published since the paper has been under the sole management of the present proprietor, we feel sure that your numbers have been all mailed. Your name is on the mail book, J. R. L., Leeds, C.E., and your paper was put in the Post Office so addressed. We employ a very careful man to do our mailing, and take every possible means to ensure that it be properly done. In one of the cases you mention we wrote the direction ourself, and therefore *know* it must have been mailed. Under these circumstances we object to the justice of being saddled with postage. We had to pay several pounds this year in postage on letters which the writers in all justice, should have paid themselves. Next year the *Agriculturist* will be published under better auspices, and with more system. It will be mailed regularly by a stated day to all subscribers entitled to it, and we shall then adopt the rule to take no letters from the office unless *postpaid*, except they contain money. We got a letter the other day from Nova Scotia, containing a one-dollar bill, on which we had to lose ten per cent., Nova Scotia money being at that discount here, and for the letter we had to pay 2s. 9½. postage! Such a practice, if generally followed, would deprive us of the *very small hope* still remaining, that we shall be reimbursed our outlay.

A. A. McL., MARIPOSA.—Yours of the 26th ult. received. The papers were entered in our books as directed by the list sent us. If therefore there is any mistake it is not on our part. They are now entered as your letter directs. Your society is only charged 3s. 4d., and if they are unwilling to pay that, we will give them the paper. We unfortunately promised to send them a great deal more than we could buy for that money in paper, printing, and other actual expenses. When we explained the difficulties into which the paper had got by the bankruptcy of one of its proprietors, chiefly in undertaking more than he could perform, for want of a sufficient paying support, we *did* think that agricultural societies would have been glad to see the publication live at all events. The man, however, who bases any of his calculations upon the patriotism or public spirit of the *public* now-a-days, is likely to be mistaken. The Society in question may think we are severe, but we hope they will admit that a person who has sacrificed a good deal of his time for two years, and is in a fair way of losing two or three hundred pounds for his pains, is not likely to be in the best of humours. We refer our friend to the prospectus for 1849, where it is stated that present subscribers will get the first *three* numbers of the next volume. This will make within a trifle as much matter as they were promised, and more than can be got in this or any other country, of the same description, for *one dollar*. We trust, therefore, they will not hesitate to pay the 3s. 4d.; otherwise they must take it for nothing.

W.F., Smithville. The letters and remittances you refer to were received, but the writer did not know of the receipt of one of them till some time after. The list you speak of was not sent, because we did not know who had paid, or who had not, that matter being left to the Agent. The *legal* query was answered in the 13th Number. We are surprised you did not see it. We are much obliged for your repeated kindness.

THE LADIES.

From the Boston Cultivator.

BE KIND TO OLD AGE.

Be ever kind to those who bend
Beneath the weight of time;
For they were *once*, like thee my friend,
In blooming manhoods prime.

But bitter cares and weary years,
Have borne their joys away,
Till naught remains, but age and tears,
And dark'ning dim decay

Life's sweetest hours have hastened past,
Its bloom is faded now,
And dusky twilight deepens fast,
Along the furrowed brow

And soon the shattered remnants all,
A narrow house receives;
For one by one they silent fall,
Like withered Autumn leaves.

Oh, then be kind where'er thou art!
Nor deem such action vain—
Kind words can make the aged heart,
Seem almost young again.

Cheer thou the weary pilgrim on,
To yonder mansion cold;
And may the same for thee be done,
When thou thyself art old.

A STRANGE BUT TRUE STORY.

The following is one of the many sad illustrations which every day supplies of the workings of that "peculiar institution" so stoutly defended by a large portion of the citizens of Republican America—a country which boasts of setting an example of *freedom* to the whole world! While men continue to *sell*, as *slaves*, their own children, often as white as themselves, (though colour can make no difference in the moral of the act,) and are protected by the laws and by public opinion, the less that is said about "free institutions" and the "rights of humanity" the greater modesty will be exhibited, to say the least of it. The narrative which follows is taken from a respectable American paper:—

A young physician, of much merit and knowledge, made a journey from his native town in a northern State to a town in Mississippi. The young man, whose name was Willis, took lodgings in a furnished house. The mistress of it, a young lady about twenty years of age, inspired in him the most ardent love. Although the colour of the young woman was not the purest white, the doctor having no prejudices to overcome, offered her his hand, which was accepted. The marriage was a private one, and the happy couple went soon after to establish themselves at Washington, in the District of Columbia.

They had not been there long, where they lived peaceably and retired, when a gentleman one morning presented himself to Dr. Willis, under pretence of business. The conversation proceeded, when the stranger addressed the following inquiry to the doctor:

"Did you bring a woman with you from the South, sir?"

"No, sir, I do not understand you."

"How!" rejoined the stranger, "did not your wife come with you from Mississippi?"

"I believe she was born in that country," said the Doctor.

"Well, your wife, as you call her, is my *slave*, and unless you pay me immediately nine hundred dollars for her purchase, I will to-morrow advertise her as a runaway slave. In fact, she is worth a thousand dollars at least; but, as you have married her, I will abate something."

"Your *slave*!" exclaimed the astonished Doctor, "that is impossible."

"Whether you believe it or not," cried the other, "you must give her up or pay the money. If within twenty-four hours the money is not sent to my hotel, I promise you, my dear sir, that you will see the name of Mrs. Will in the newspaper as that of a fugitive slave."

As soon as he had gone, the Doctor sought his wife, whose good qualities, virtues, and graces, rendered her so dear to him.

"My dear wife," said he, "when you were married, were you a slave?"

"I was," she confessed; as the warm blood rushed to her brow, and tears gushed from her eyes:

"Why did you not tell me before the ceremony was performed?"
"I dare not do it. Could I have expected you would have allied yourself to a slave?"

"Well, enough; I will pay the sum required, for I will not think of a separation."

During this short dialogue, the unfortunate wife was labouring under intense emotion. She asked her husband to describe the appearance of the claimant, which he did as exactly as possible, and he then inquired if the description answered to that of her ancient master.

"Yes," said she, casting down her eyes, "he is more than my master, he is my FATHER!"

NEVER DECEIVE A CHILD.

Never promise him what you do not intend to perform. Never forget to do for him as you promised. "Train him up in the way he should go, and when he is old he will not depart from it!" Do not parents forget the importance of this precept in respect to deception? Do they not deceive their children without a thought that they are teaching them to deceive? The importance of truth without art or deception in the management of children is illustrated by the following paragraph from a New York paper:—

"Two small boys met on the side walk, and after some minutes spent in conversation, the one remarked to the other, that some little thing might be obtained, if he could obtain a few cents from his parents. "But," said the other, "I do not want any money to obtain it, for my mother told me I should have it at such a time." "Pho," said the first, "my mother has promised me so a great many times and I did not get it, and I do not think you will either." "What?" said the other. "O yes," replied the first, "Our mother only tells us so, to get rid of us, and I think it will be so with yours." "Why! my mother tell a lie! I would sooner believe the Bible tells lies than my mother," exclaimed the little fellow, and immediately left his companion with a countenance of indignation. What a lesson should this afford to all parents, guardians, and those who have the care of youth!"

KEEP YOUR PROMISES.

We have often been shocked at the reckless disregard which many persons manifest for the fulfilment of their promises.—They are ever ready to make engagements for the future, but when the time arrives for their fulfilment, they seem to have forgotten them entirely, or at least to treat them as though they involved no obligation whatever. Such conduct is sinful in the highest degree, and when indulged in by professing Christians, furnishes glaring evidence of essential defect in their Christian character. It is also highly injurious in its influence upon society itself, inasmuch as it necessarily tends to destroy that confidence of man in man, which is so essential to the happiness of the community. It is especially detrimental to the interest of the individual himself who is guilty of it, as he thereby forfeits the confidence and respect of his fellows. His word, accordingly, is not relied upon, and he is obliged to suffer all the unhappy consequences. This sinful habit is one of the most inexcusable of which any one can be guilty. In ninety-nine cases out of a hundred there is no absolute necessity whatever for one to break his word. No one should ever make a promise, unless he looks well into the circumstances beforehand, and has every reason to believe, that it will be in his power to fulfil his promise. And whenever a promise has once been made, it should be his fixed determination to keep it, and with a particular reference to this, his subsequent conduct should be shaped. Were this course to be faithfully pursued, not only would the serious evils resulting from a disregard to one's word be avoided, but also the confidence of those around speedily gained and enjoyed, and a character thereby eventually established, that will be of more value than "emerald, gold, or princely diadem."

INDUSTRY IN FEMALES.

Industry in a female, is always an important trait. There is, indeed, so much uncertainty in the voyage of life, that no young man can be deemed otherwise than very imprudent, who joins his fate to that of a person whose domestic education and habits of life have been adverse to the practice of this essential virtue. In a career where the utmost prudence is often incompetent to secure success, and where, in nine cases out of ten, the fairest prospects are permanently blighted, and the brightest expectations nipped in their freshest bloom, to enter the domestic relation, and to assume the several responsibilities of husband, father, citizen, with one

who is wholly inadequate to sustain shocks of adversity, or to alleviate the burden of misfortune by mutual assistance and support, is not only an evil but a crime! And yet there are thousands who do so—thousands who annually lead to the altar beings with minds as vacant, and hands unaccustomed to employment, as though they had existed from childhood in a mental and moral vacuum—wholly ignorant of ordinary wants, and of the means by which they are hourly supplied.

THE SECRET OF HAPPINESS.—No trait of character is more valuable in a lady than the possession of a sweet temper. Home can never be happy without it. Those who understand this secret, live so comfortably that they are the envy of their friends. People wonder that their houses are in such good order—their husbands so attentive—their children such real “darlings.” A sweet temper has a soothing influence over the minds of a whole family. Wherever it is found, in the wife or the mother, you observe kindness and virtue predominate over the natural feelings of a bad heart. It is more valuable than gold; it captivates more than beauty; and to the close of life it retains all its freshness and power.

HAVE A CONFIDANT.—Young ladies, confide in your mother, if you have one; if not still seek out some real friend, and confide the secrets of your heart. For it is through that, that ruin cometh oft, and shame. It is seldom or never that those come upon one who hath confided in a mother or a friend. But the heart that welcometh a sinful flattery, and layeth it up in secret, harboreth a serpent and shall feel its sting.

LOVE AND MARRIAGE.—“Never marry but for love,” says William Penn in his Reflections and Maxims, “but see that thou lovest what is lovely.”

Good nature is one of the sweetest gifts of Providence. Like the pure sunshine, it gladdens, enlivens, and cheers. In the midst of hate, revenge, sorrow, and despair, how glorious are its effects.

DOMESTIC ECONOMY.—“Men talk in raptures,” says Witherspoon, of youth and beauty, wit and sprightliness, and a hundred other shining qualities; but after seven years’ union, not one of them is to be compared to good family management, which is seen at every meal and felt at every hour in the husband’s purse.”

SCIENCE AND MECHANICS.

IMPORTANT INVENTION IN MECHANICS.

The following sketch will give an idea of a machine, the model of which has been exhibited in Vicksburg, Mississippi. It is the invention of Mr. Jesse Andrews, of that State, and is designed to dispense with the use of the crank in all applications of steam to machinery. It is stated that Mr. Andrews has devoted years of study and experiment in order to attain the end now reached:—

“In the construction of this machine the crank, which is almost invariably used, and more especially in the propulsion of boats, is entirely dispensed with, and a strong chain of particular construction is used in its stead, with suitable machinery to operate on the chain, which produces all the motion that can possibly be produced by the use of a crank, and that motion, steady, smooth and regular, entirely free from the jarring and shaking produced by the revolution of a crank, the power at all times being the same. There are no dead points to pass, and thus all the power created is advantageously employed, and with all possible ease and convenience. It is made to run either forward or backward, or put at a neutral point where it will not drive either way, and in that situation the steam can be worked off without any reference to any other machinery commonly used for that purpose. And it is immaterial whether, according to the common mode now in use, the steam be let into the cylinder for a forward or backward motion, for if in this invention the piston rod has its common motion, it is readily made to turn either way, rendering entirely useless a great deal of machinery connected with the cylinder for such purposes. As there are no dead points, all the power created is constantly employed in the greatest possible advantage, in consequence of which much of the expense of machinery with its ponderous weight and great room necessarily occupied by it, with a large portion of fuel, &c., may be entirely dispensed with. In the use of this improvement there is no more room occupied in any respect, as it only occupies a small space between the head of the piston and the shaft of the water wheel. The whole of this invention is plain and simple, and no way complicated, and needs only to be seen to be approved of and brought into immediate use.”—[Farmer and Mechanic.]

A PATENT PENHOLDER FOR ENFEEBLED HANDS.

Douglas Jerrald says: There is no physical defect, great or little, that the inventive arts have not attempted, in some way or other, to remedy. Time was when the blind, the deaf, the

maimed, suffered their misfortunes without the slightest alleviation from science or art; but now “we’ve changed all that,” and in a way which Mofiere himself, skeptic as he was to all medical power, must have admitted to be as marvellous as satisfactory. One of the latest inventions of this nature is Holzapffel’s Penholder for enfeebled hands, made for the use of those persons who, from old age, rheumatism, or other infirmity, are deprived of the free use of the fingers, so that they cannot hold a pen in the customary position. The shaft of this pen-holder is made of strong silver or gold metal; at the bottom is a screw. The socket that receives the pen is joined to the holder at about the angle of forty five degrees. The purpose of the screw at the bottom of the holders is to adapt the length of the vertical shaft to the projection of the pen. The lower extremity of the shaft is allowed to rest firmly upon the paper, and thereby support the hand. The pen itself is pressed on the paper from its socket, by a feeble spring, so as to assimilate, in the closest manner, to the action of the ordinary quill pen. The invention is a kind of penholder constructed to give support and guidance to the hand while writing. The article is adapted to receive a steel or quill pen, and shuts up in a compact or elegant shape.

IMPROVEMENT IN PRINTING YARNS.

Mr. Andrew Hartman, of Clapville, Mass., a very ingenious improver of machinery connected with weaving, has taken out a patent for a new and valuable improvement in the printing of yarns for tapestry carpeting, or any other kind of tapestry. “It is well known,” says the N. Y. American, “that all tapestry carpeting, by the invention of Whytock, is just woven like plain goods, with weft or filling of a uniform color. The figure or pattern is printed on the warp and thrown up with wires above the weft, so that when the loop formed by the wire is cut, the pattern is presented on an uprised velvety surface. The printing of the warp has been kept somewhat secret—we have often been denied admission into the factory printing house near Troy, in this State, although, we knew how the warps were printed, and the method of preparing and steaming the colors; nevertheless this being the main part of this valuable invention of Whytock, it is not a subject of great wonder, that it is kept as much a secret as possible. Mr. Hartman’s invention is an improvement in the machinery of printing by cylinders, and it prints the warp more evenly and correct, (on which the whole value of the invention depends,) than is done by other machinery now in use, for it frequently happens that the warp is so badly printed, that to throw up the pattern correctly, the carpet is *bagged* in the weaving and consequently is considered a damaged article.”

IMPROVED PROCESS IN THE MANUFACTURE OF FLOUR.—A mode has been invented by S. Bentz, of Boonsboro’, Maryland, of hulling wheat and other grains, to entirely remove the outer skin, by which a pure white flour is made, unmingled with the usual bran. The advantages claimed for it are, that a saving in time in grinding is effected of from 25 to 50 per cent., and of 40 to 25 lbs. of wheat in each barrel, and it is rendered capable of enduring the heat of hot climates. Mr. Bentz supposes that the fine particles of bran remaining in the ordinary flours is the reason why it sours. The method has received the high commendation of gentlemen engaged in agriculture.

NEW INVENTION.—An invention has lately been made, by which umbrella stealing will probably be somewhat checked. A handle is fitted into the stick, which, when unscrewed, closes and fastens the umbrella together so that it cannot be opened without the handle.—The owner unscrews the handle and puts it in his pocket, leaving the umbrella useless to any one but himself.

GARLIC AND SNUET MACHINE.—This machine, patented by Messrs. Haggel and Gouliart, of Baltimore, is said to be a most valuable invention. Though it has been eighteen months in operation, and its utility satisfactorily tested by numbers of intelligent and responsible men in various parts of the country, it is not yet so generally known as its merits deserve. It is said to separate from grain of every description, all impurities,—cockle, chaff, with caps, garlic, snuet, &c. It has thoroughly cleaned 650 bushels of wheat in one day, by passing it only once through, and leaving the grain entirely whole. It is also well adapted to the purpose of rice shelling, and therefore valuable to the rice growing portions of the Southern States.

DRAINING AND IRRIGATING MACHINE.—A writer in the *Model Courier* states on the authority of the *British Farmer’s Magazine* that a machine, worked by steam, has been invented in England for draining or irrigating land. It has a boiler twelve feet long, with a tube in the centre, and will deliver seven thousand gallons of water in a minute, four and a half feet high. It can be worked all day for \$3 12c. Such a machine must be a very efficient one, and we should like to know more about it.—[Maine Farmer.]

MARKETS are generally dull and prices low throughout the country. The season of shipping is past; and as there are few wheat merchants or speculators who have money which they can afford to lay out of the use of till Spring, buyers, except for grinding, are not to be met with. There is little doubt that prices will advance by the opening of the navigation. At present, in consequence of high freights and high insurance there is a difference of nearly *three dollars* between the price of a barrel of flour in Montreal and in Liverpool. Half or at least one-third of this sum may be put to the account of the Navigation Laws, which by another season we hope to see removed.

The following is by the *Hibernia*, which left on the 21st October, and arrived at New York on the 3rd instant. There has been an arrival since, but no change of importance is reported in the markets.

Weather has been, during the week, very unsettled, with considerable rain. Towards the close it changed to a clear cold atmosphere.

The harvest was completely gathered in Scotland, and the potato crop was good.

In Ireland unusually short Oat crop.

Large supplies from the Baltic and other ports kept down the prices at Liverpool and London.

Arrivals of Breadstuffs from abroad has been limited, but expecting arrivals would prevent any advance for some time to come.

Flour sold at 31s. to 32s. 6d. for Canadian. Indian Corn shows an improved enquiry for Ireland, and recovered reduction in prices, 35s. to 36s. for white; 35s. to 37s. for yellow. Indian Meal 15s. 6d. to 18s.

Trade quiet at Mark Lane on the 20th, and most articles maintained value. Beef—Prime Mess, 85s. 6d. to 95s.—supply limited; ordinary 80s. to 83s. Pork 36s. to 50s. according to quality. Sales, 5000 brls. Hams and Shoulders very scarce in Liverpool Market.—Cheese 34s. to 41s. for ordinary to middling; 41s. to 48s. for middling to fine.

Trade in manufacturing districts dull and discouraging.

The London Money Market opened steadily on Friday, but the absence of decided news from Vienna caused prices to give way a ¼ per cent for stocks

The following shows the state of the *Montreal* Markets at the latest dates; for Toronto and Hamilton, and for other particulars, see Table:—

Flour has been sold during the week at 22s. 9d. to 25s. There is not much offered, receivers preferring to ship.

Wheat has been sold to a small extent during the week at 4s. 9d. to 5s. per 60lbs. for red and mixed samples, and 5s. to 5s. 3d. for better quality.

Peas have been sold in shipping lots at 2s. 8d. per minim.

Oatmeal has been sold from 21s. 3d. downwards as low as 20s. per 224 lbs.

Butter, 3d. to 7d., according to quality.

Ashes.—Both sorts have advanced to 29s. a 29s. 3d.

Freights.—Flour has been taken for Liverpool at 5s. 2d. to 6s.—the lowest figure being for Quebec vessels.—Grain has been engaged at 13s. per quarter to Liverpool during the week. The Clyde vessels are closed for Flour.

Exchange.—No alterations to note, except that private exchange has rather advanced

MISCELLANEOUS NEWS.

THE CHOLERA.—This dreadful scourge has reached England at last. Several cases have appeared in London and also in Edinburgh, and two or three other seaports. A change of weather soon after its appearance, it was thought, checked its advances.

IRELAND.—The trial of Smith O'Brien resulted in a verdict of guilty, with a strong recommendation to mercy. Great doubt was felt for some time whether the sentence, which was *death*, would be carried out. We learn by the last arrival that the sentence is commuted to *transportation for life*. O'Donoghue, and Meagher have also been convicted. The punishment in these and the other cases will be the same.

CONTINENTAL.—Caviagnac's popularity has declined. Nothing important has transpired in the Assembly.

Austrian affairs still confused; the Emperor has taken up his residence in the suburbs of Vienna. The city had not been bombarded, but still besieged by two armies. 100,000 troops encircled the city. The railway being torn up many miles from Vienna, little reliable news can be gathered.

The French held aloof. Russia stands ready with 200,000 men to espouse the cause of the Emperor.

In Italy events are producing serious results. The Hungarian

Soldiers of Milan demand leave to withdraw to their own country. The position of Radetsky appears perilous.

FIRE IN ALBANY.—We are sorry to hear of the loss sustained by Mr. Tucker, the well-known proprietor of that admirable Journal "The Albany Cultivator." We believe nearly all the back volumes were consumed by the fire. We copy the following particulars from the "Buffalo Express":—

Shortly after twelve o'clock on Saturday night a fire was discovered in the paper waste (resulting, it is supposed, from spontaneous combustion) in the basement of Store No. 8, Green Street, occupied by D. Harris, as a paper-hanging store, and by G. Heath, as a blind factory. Unavailing efforts were made to extinguish the fire, which soon gained complete control, and communicated to the Agricultural Warehouse of H. L. Emery, and the "Cultivator" Office of L. Tucker. The rear wall of the large new building recently erected by General Cooper, on the corner of State and Green streets, was considerably injured, and much damage was done to the splendid Odd Fellows' Lodge, in the upper story of the building, by the removal of furniture, &c., and to the rooms underneath. The entire loss is estimated by the "Argus," from which paper we have gathered the above particulars, at about \$20,000 dollars, of which about half is covered by insurance.

IRON FLOORING.—A new York paper gives the following account of a new mode of flooring the business rooms of hotels; it consists in covering the ordinary floor with cast-iron plates laid lozenge-wise, the upper surface being embossed and ridged in such a manner as to prevent it from being slippery. These plates fit water tight, and are secured in perfect contrast with the floor and with each other, by screws at the angles and through the centre. The appearance of it is very beautiful, and it is peculiarly agreeable to the tread of the feet. It has the firmness of a rock, and yet gives an impression of something like elasticity. For durability it has no equal among all the materials hitherto employed for flooring. It will be found ultimately cheaper than any other. It is evidently superior, in every particular, to the common marble pavement for halls. If it should wear out, or become too smooth, the old plates will always bring cash at the foundry.

M. LAMARTINE.—This distinguished statesman and poet is again rising to consideration and popularity in Paris. He is mentioned among the candidates for the Presidency of the Republic. This favourable reaction is attributed, in a great degree, to the splendid orations which he has of late delivered in the National Assembly, particularly that in favour of the election of the President by universal suffrage, which has called forth the most enthusiastic admiration from various quarters.

IRELAND.—The Irish papers give a deplorable picture of the state of the country, through the failure of the potato crop, the want of employment, and the disposition of the people to make off with the produce of the land, without regard to the payment of any rents or taxes; the spirit of emigration was rife; multitudes were flocking to every seaport to escape from the country.

ELECTION OF PRESIDENT, U. S.

It will be seen from the following special telegraphic despatch, received from Buffalo on Thursday, that General Taylor has been elected President.

THE GRAND RESULT—TAYLOR ELECTED.

We now add up 158 electoral votes for Taylor and Fillmore, with Florida and Louisiana to be heard from, as follows:—

Mississippi, 12; Vermont, 6; Cincinnati, 6; Rhode Island, 4; New York, 36; New Jersey, 7; Pennsylvania, 26; Delaware, 3; Maryland, 8; North Carolina, 11; Tennessee, 13; Kentucky, 13; Georgia, 10. Total—154.

The Locofocos surrender to General Taylor.

HOME MARKETS.

The following table gives the *highest average price* at each of the three following places:—

	Toronto, Nov. 15.	Hamilton, Nov 14,	Montreal, Nov. 12.
Flour, per barrel, .	£1 1 3	£1 0 0	£1 5 0
Wheat, per bushel .	0 4 2	0 3 9	0 5 0
Barley, per 48lbs. .	0 2 0	0 2 0	0 4 0
Rye, per 56lbs. . .	0 2 9	0 3 0	0 3 9
Oats, per 34lbs. . .	0 1 0	0 1 3	0 1 8
Peas, per 60lbs. . .	0 2 0	0 2 0	0 2 9
Oatmeal, per barrel	1 2 6	0 12 9	1 1 3
Potatoes, per bushel .	0 2 4	0 2 0	0 2 6
Hay, per ton . . .	3 5 0	2 10 0	2 10 0
Beef, per 100lbs. . .	1 0 0	0 17 6	1 5 0
Pork, per 100lbs. . .	0 14 3	0 17 6	1 10 0
Lard, per lb. . . .	0 0 4	0 0 4	0 0 7
Butter (fresh) per lb.	0 0 7	0 0 7	0 0 7