

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

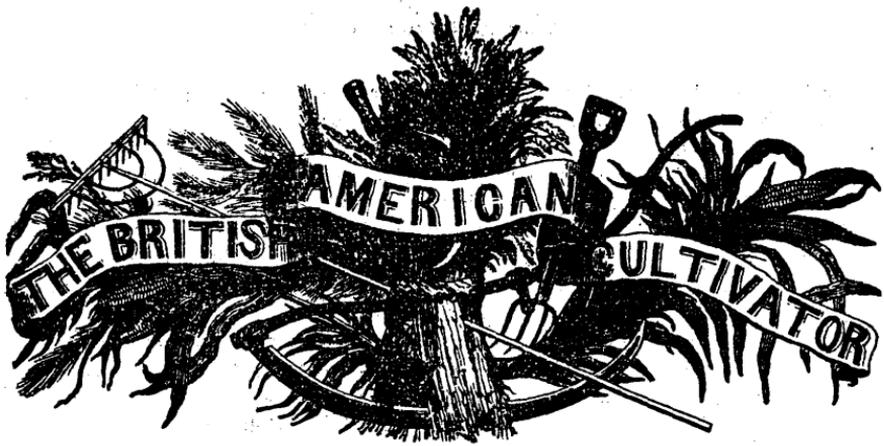
L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear
within the text. Whenever possible, these have
been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Continuous pagination/
Pagination continue
- Includes index(es)/
Comprend un (des) index
- Title on header taken from:/
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
- Caption of issue/
Titre de départ de la livraison
- Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X		14X		18X		22X	<input checked="" type="checkbox"/>	26X		30X	
	12X		16X		20X		24X		28X		32X



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

New Series.

TORONTO, AUGUST, 1846.

Vol. II. No. 6

AGRICULTURAL PROTECTION.

WE again revert to this subject, being apprehensive that not a few of our readers are alarmed at the great reduction which has taken place of late in the value of wheat and flour, owing to the passage of Sir Robert Peel's free trade measure.—The reduction is much greater than we anticipated, which may be attributed in a great degree to the immense quantities of foreign wheat and flour that were locked up in British bonded warehouses. Every one acquainted with the facilities for producing bread-stuffs on the continent of Europe, must be aware that high prices are not to be expected under the operation of free trade principles. If those excellent principles be carried out by the nations of the earth, one great source of war and discontent would be removed, and both agriculture and commerce would put on a more healthy appearance. England has nothing to fear from the operations of free trade principles; but under the old system, pauperism and discontent prevailed to such an alarming degree, that the government could no longer provide bread for the half-starving millions. They found out the antidote, and we have not the slightest doubt but that the productive interests of Britain will assume a more than usual healthy appearance under the operations of free trade. The falsely so-called protection has had the influence of bringing about a degree of destitution among the labouring classes that quite defies des-

cription; it has placed the land of England in the hands of a few, and indeed matters came to such a pass, that an English peasant could not rent sufficient land for a garden, nor would he be allowed to keep a cow, pig, or poultry. Happily this state of things will no longer exist; the large farmers will gladly give up a large share of their high-rented lands, and the industrious poor peasant, and the small capitalist will be able to procure a piece of land, to devote their time and energies in earning a comfortable livelihood for themselves and their families. The rage for large farms will thus be checked, and the half-starving families who have the past few years been locked up in the parish poor-house, or been turned adrift to work upon the roads, will be able to get any quantity of ground they can well cultivate upon long lease, from which they can earn a comfortable living, pay their rent, an equitable share of the general revenue, and relieve the poor law commissioners of the whole of their official duties.

If the poorer classes of England could have a fair opportunity of exhibiting their ability of acquiring property, the result would obviously be that poor laws would no longer be required to maintain such as are capable of earning their own livelihood, and poor laws and poor rates would be handed down to posterity as a matter of history—as being one of the absurdities of the eighteenth and nineteenth centuries. Mankind

is becoming too sensible to any longer countenance monopoly in any shape, and the death-blow to exclusive privileges has been given in the passage through the British House of Commons of Sir Robert Peel's liberal Tariff Bill. The influence of free trade principles will bring about a most salutary change in the fiscal relations of the British nation. The man who is the *bona fide* possessor of real property, is the individual who will have to pay his fair quota of the interest of the national debt, the general revenue of the country, and the various other burdens which the nation, through its representatives, may deem necessary to impose upon the people: and the man who merely consumes a pound of sugar, tea, coffee, or tobacco, will be exempt from any share of these burdens. The British nation is abundantly able to sustain itself, and in fact would be independent of all other countries for a supply of bread-stuffs and other necessaries of life, if they would only allow honest industry and true merit to find its real worth. This policy is about being adopted, and in our opinion the results will be such as will add greatness and power to the British nation.

The far-seeing politician will doubtless be able to see clearly the favourable influence that free trade principles will have upon the British nation, but he may fancy it more difficult to see any advantage that can possibly accrue from this source to the British American Colonies. The views we entertain respecting the ability of the colonies maintaining themselves, independent of any protection at the hands of the mother country, have already been partially presented to the readers of this magazine, and it might not be thought out of place to follow up the subject, by giving a clearer exposition of those views, with regard to the influence that free trade principles, in all its bearings, will have upon the industrial interests of British America.

There are two points of view that are just grounds for the Canadian patriot to be alarmed of the consequences that may follow from the operations of free trade; and these are, the apathy which the Canadian people manifest towards almost every public or private enterprise, and the indifference which the rulers of our country evince in developing its various sources of wealth. Unless these causes can be removed, the effects of free-trade operations will be alarming indeed,—nothing short of a general bankruptcy will fol-

low—the effects of which would destroy the credit of the country, perhaps for half a century to come. It must be borne in mind, that this colony is deeply in debt—the interest of which must be punctually met—and besides the expenses of carrying on the government are great, when compared with the wealth of the country. The farmers and manufacturers of Canada have been made to believe that they could not produce articles of agriculture and manufactures as cheaply as could be had from the United States, and entertaining these views, it is not to be expected that they feel otherwise than panic-struck at the idea that the crisis is at hand when the whole catalogue of duties will be swept from our statute books. Public opinion, however, must be changed, and the sooner the press of the country sets about the task the better.

If it were possible to get the Canadian people truly alive to their own interests, it would be an easy matter to double the products of the country in a single year. The true plan of protecting the farming interests, as well as all others, is, to circulate general information among the people, and give no exclusive privileges to any class.—If the farmers no longer to have protection, it is certainly just that all import duties should be removed, and the value of money like other commodities should find its level in the market. At present none but the importing and exporting merchants and speculators in provisions can have free access to the doors of our banking institutions. The farmer, the mechanic, and the manufacturer, can have no accommodation at those institutions, forsooth, because it is understood that the nature of their business is such that they cannot conveniently make their returns in so short a period as ninety days. Banking institutions are in general so admirably managed, or in other words, the privileges granted to those chartered institutions, are so extremely liberal, that the annual dividends declared to stockholders, exceed the legal rate of interest by two or three per cent. This, when taken into consideration with the fact, that the holders of Bank Stock can, if they think proper, not only realise the invested money, but receive a liberal premium from the purchaser in the bargain, shows, in a most conclusive manner, the inducements that are held out for capitalists to invest their money in this way, rather than upon real estate security.

It requires but very little penetration to see the prejudicial influence that legislation of this kind has upon the productive interests of the country. Indeed, it has often been a wonder with us, that the people of Canada should have borne their burdens so well as they have done; but it is evident that the true cause of their forbearance, and the success which has attended their efforts as farmers and mechanics, may be attributed to the circumstance, that few countries in the universe are so well adapted for a hard plodding, industrious population, as this country.

The producers of wealth in Canada will by this time see clearly, that the products of their industry will have to come into direct competition with the productions of other countries in which capital is more abundant and inducements greater for enterprising men to extend their business.

We are prepared to submit a plan for the consideration of the Canadian public, by which capital would be more abundant, and the producing classes would have a fair chance with other classes, in obtaining the loan of money, if it were required to extend their business, but upon due reflection, we deem it premature at this time to do so.

It is the duty of every well-wisher of his country, to discountenance every species of monopoly, and especially guard such branches of business as are calculated to create wealth in the province. There are scores of branches of business which are at present comparatively unknown in Canada, and which, if engaged in by competent persons, with a liberal capital, would pay a high rate of interest, and at the same time, enrich the country to a great degree.—Unfortunately, that class of individuals who are acquainted with the practical operations alluded to, have not the means, or sufficient capital to enter into business, nor are there any inducements held out by capitalists, by which the man of capital would be encouraged to do so. The causes which have produced this state of things are well known to many, and it is high time that they were removed. They are artificial, and are susceptible of a rational and legitimate

reform; and this being the case, the people will certainly no longer remain indifferent about matters of such grave importance to themselves, their children, and their country.

To successfully meet the pressure of the times that the operations of free trade have entailed upon us, perhaps for ever, it is necessary, whatever branch of business be engaged in, that it should be conducted on the most approved scale, and to do this, a greater thirst for knowledge will have to be created among the industrious classes.

A truly clever farmer will cultivate his land upon such principles, that he may realise a much greater profit than the man who is ignorant of the best systems of cultivation. How important, then, that all should obtain a knowledge of their business, by which they could lessen the costs of production and increase the quantity of produce, and at the same time annually add to the natural fertility of the soil!—This great achievement in agriculture can assuredly be accomplished, and that upon any desired scale. To illustrate this matter fully, would require more space than we have at present at our command, but that we should at least be understood, we shall touch upon a few points.

In the first place, we believe the practice of making naked summer-fallow to be opposed to common sense, and that there need be no case where such a system is required. The pea crop is one which seldom fails in this country under proper management, and the skilful cultivator may safely calculate upon thirty bushels, and even as high as forty-five bushels per acre in very favourable seasons of this crop. Winter wheat will do as well, and perhaps much better on some soils, after a heavy pea crop than after a well-cultivated summer-fallow.—The net profits of a good pea crop will cover the entire expense of the wheat crop, by which means the crop of wheat will virtually have cost nothing; and besides, a large store of most excellent winter food for sheep, calves, and horses will be secured, which, when fed to the stock and applied to the land will add greater fertility to the soil than could possibly be realised from a naked summer-fallow.

The advantages that would result from this system of cultivation would apply with equal force to a clover fallow. But on all deep rich soils, or those which are apt to bear rusted crops of wheat, the best preparation for winter wheat is a flax crop. No crop will clean the ground so well, and in every particular better prepare a rich vegetable mould for winter wheat, than the flax crop. Such a soil sown with flax at the rate of two bushels per acre, will clean it of wild grasses and noxious weeds in a much better style than is done by the ordinary method of summer fallows. The profits of the flax crop will be at least four pounds per acre, which sum will more than pay the entire costs of producing the wheat crop, including the harvesting, thrashing and delivering to market. There are many points connected with this subject, which, if even touched upon, would lead the writer into a lengthy dissertation, which might not prove interesting to our readers. Sufficient, however, has been advanced to show what is meant by the statement, that it is possible for the farmers to cultivate their land upon such a scale, that the costs of production, over the ordinary method, might be lessened, the annual production proportionably increased, and at the same time, the soil would grow yearly more rich and valuable. When this result in farming is generally obtained, there will then be no need of protective or arbitrary laws to regulate trade or commerce. Indeed there is no necessity for them at present; and so soon as the public mind becomes well informed upon the true principles of political economy, so soon will they unitedly raise their voices to have every species of monopoly erased from the pages of our statute books.

As great a friend as we are to the interests of agriculture, we nevertheless do not wish to build it up upon the ruins of any other interest. We hold it to be a self-evident axiom, that agriculture cannot possibly thrive to the fullest extent so long as the other great interests which build up other civilized nations are neglected. At least one-third of our population should be manufacturers and artisans, whose business it should be to make and vend the various articles required for the use and comfort of other classes. This country is capable of sustaining a large population, and at the same time may be made to afford a more profitable market for its agricultural produce than can be had in the United States or in the Mother Country.

The flax and hemp crops alone can be made to yield a heavier return than all our surplus produce put together, and all this may be done without lessening the average yield of wheat a single bushel. The soil, even as far back as the northern waters of the Ottawa and its tributaries, is so well suited to the growth of hemp, that thousands of tons in that very remote section of the country might be grown annually, and exported to England, at prices that would highly remunerate the grower and exporter. Indeed Canada should and must supply the British market with a large share of the fibre of flax and hemp, together with the seeds of these plants they require and purchase annually from foreign countries. In the production of these plants no protection whatever is required. All we want is knowledge, and if this is not supplied to the public to the fullest extent, it shall not be our fault.

The business of ship-building might employ some tens of thousands of hands, who would assist in giving a permanent home market for every kind of farmers' produce. The vessels should be built with timber the growth of this country, and to carry on the business systematically, the material for the rigging should be grown and manufactured at home. How much more profitable would it be to build, rig, and laden vessels with our own materials, than to send off the timber in its unmanufactured state. Vessels can be built here cheaper than in any other country; and the flax can be grown and manufactured by machinery into canvass, so as to afford it a lower rate than the imported article costs us; and the hemp can be grown and manufactured into cordage and afforded at as cheap a rate as can be afforded by the British manufacturer. The business of ship-building should, beyond all question, be engaged in on the borders of our inland lakes and rivers; and when built, rigged, and ready for sea, should be laden with hemp, flax, or seasoned boards, and sent to the best market and there sold to the highest bidder.

The profits that might be made from the various branches of labour connected with ship-building, flax and hemp-growing, and manufacturing the fibre of these plants into the various articles required for domestic use, and also the preparation of the fibre for foreign markets, would be sufficient in a few years to place this country in a position entirely independent of other countries, so far as monetary matters are concerned. At

least one million of pounds sterling might be realised annually from this single source, besides supplying our own country with upwards of 1100 pounds worth of hemp and flaxen goods annually. Flax seed might be made an extensive article of export to the British Isles, for the purpose of crushing into oil and for sowing. The manufacture of luseed oil might be made a considerable item of profit to this country, but probably it would pay better for sowing, so soon as the superior quality of our seed becomes generally known in the British markets. The more we have become acquainted with the flax and hemp crop, the better have we become convinced of its profitableness and general adaptation to this country. We have no idea of urging the farmers to engage in this business, but we shall set an example which, if they follow, they will never have reason to regret.

The forests of Canada come far short of contributing their proper share to the wealth of the nation, and it is strange that so little should be done in this particular. North Carolina is celebrated for its forests of pine, but not more so than Canada. The production of tar, resin, and spirits of turpentine, has enabled that state to supply the whole continent of North America with these articles. The pineries of that state have been nearly exhausted by improvident treatment, and Canada appears now the only country except the north of Europe, where a certain supply can for any length of time be relied upon. Extracting tar and turpentine from the pine is a most profitable business; and this country should not only be supplied with a superior article for home consumption, but active measures should be taken to ship these articles in large quantities to other countries.

Sugar from the maple could be produced to a sufficient extent to supply the country, and as an evidence of the capability of our forests for doing this, we would state, that the Indians on one of the islands of Lake Huron, sold the present year no less than one hundred tons of excellent sugar.

The minerals of Canada are quite in an unproductive state, with two or three exceptions, and from these sources alone, an important trade might be fostered, which might be made to go a long way towards making up the loss sustained by a change in the British tariff laws.

If the Canadian people could see their true situation, and be made to rely solely upon them-

selves for support, the operations of free trade would do them no harm, but would at once tend to elevate them to a position that they never dreamed of attaining. The Germanic States at one time fancied that each great division of the empire was peculiarly adapted to the growth and manufacture of certain articles, and that it would be a wise system of legislation to protect the interests of each state by enacting a heavy revenue tariff upon articles shipped from one great division of the country to the other; this system, upon trial, was found to be a great source of anarchy, and was ultimately suspended. The United States have established a system of international free trade among themselves, which clearly proves to our mind that protection is altogether unnecessary. England has set a noble example in removing those hindrances to a free trade and commerce, which in the dark ages were enacted, and perpetuated by selfish politicians up to the present time; and we shall be greatly mistaken if other nations do not adopt the same liberal policy before the lapse of many years. If the Canadian legislators were wise, they would encourage the spread of useful knowledge among all classes of the people, by which means they would see the propriety of adopting the most improved method of cultivation and manufactures. A system of legislation will have to be introduced, adapted to the peculiar circumstances in which the country is placed, the nature of which may in part be conjectured from the foregoing desultory remarks.

General Harman's Improved Flint Wheat.

This justly celebrated variety of fall wheat has been introduced into two or three sections of Canada within the past year, and all who have given it a trial appear well satisfied with it, and consider it equal to the high character given it in the American agricultural journals. Two years since we purchased a barrel of this wheat from General Harman, at the rate of six shillings and threepence per bushel, exclusive of freight and other charges, and the crop exceeded our most sanguine expectations. This experiment turned out so well, that we sowed the past season thirty acres with this wheat, all of which looks remarkably promising at the period we are penning this notice. If any of our friends desire to obtain the white flint, the Canada flint, or any of the other improved varieties of wheat with which we are

acquainted, we shall feel a pleasure in attending to their orders. But few farmers in Canada have a better opportunity than ourselves in becoming acquainted with the merits of the numerous varieties of grain cultivated in this country; and as it is a somewhat difficult task to obtain any variety of grain pure or unmixed, we very naturally conclude, that we shall do the public a favor by offering our services to furnish them with every celebrated variety of grain adapted to the climate and soil of the country. It is our present intention to make suitable arrangements, so as to be prepared to supply all orders of this kind that come to hand, provided that cash or satisfactory references accompany such orders.

The late change in the British corn laws will have a serious effect upon the agricultural and commercial interests of this Province, unless a counter influence be exerted by the people, and therefore no efforts should be spared on the part of every true-hearted Canadian in averting, if possible, the evil. With this view of the subject, we have consented to aid in distributing among the agricultural population any new variety of seed, valuable farming implements, &c., when solicited to do so.

Ventilated Churn.—A gentleman called at our office a few days since, with the plan of a churn which he is at present manufacturing in this city. It is called "The Ventilated Rotary Churn." The name explains its mode of operation. A current of atmospheric air is brought in contact with the cream while agitated by a rotary dasher. The gentleman claims that he will produce butter from good cream in five minutes, and that he has made milk warm from the cow, into butter in 20 minutes. The plan is certainly philosophical, but we cannot vouch for it as we were not seen it in use.

It is manufactured by G. H. & J. K. McCresney of this city. The price is from \$3 to \$5.
—*Pr. Ew. Chicago.*

To Kill Roaches.—Wafers, made out of red lead, and wheat flour.

The Harvest, and Prospect of the Crops.

The hay harvest is now over, and without exaggeration, we may safely say, that a more abundant crop was never gathered in this country. Prices will probably be extremely low, and

may possibly at times be below that point which would scarcely remunerate the grower, but this should not discourage the farmer, inasmuch as those who are able to keep their surplus stock over another year, will stand a good chance of obtaining at least a price that will remunerate the costs of production, and pay for the trouble of preserving it in good order. A wealthy old farmer, an acquaintance of ours, has made it a practice for the past twelve years to keep his surplus oats and hay from year to year, until the prices suited him. The average price that he has received for oats, is two shillings per bushel, and for hay, four pounds per ton. About four years since, at one period prices advanced to a degree that both astonished and alarmed those who had to purchase forage for their horses and horned cattle in the city of Toronto; our friend took advantage of the market, and with the greatest possible speed disposed of his stock of hay and oats that had been accumulating on his hands for three years previous, for which he received upwards of four hundred pounds in cash. We mention this fact to show the advantage of husbanding surplus stocks of produce—when the holders can without inconvenience do so—at periods when the prices for which they would sell in the markets, would come short of remunerating the producer.

The winter wheat crop, in some sections of the country, could not well be surpassed, averaging from thirty-five to forty bushels per acre, and in others it has scarcely paid for harvesting. The rust, as usual, has destroyed hundreds of thousands of bushels of wheat, and that too upon soils that contain an abundant store of the necessary elements for producing wheat in perfection, for at least twenty successive crops. The cause of this direful enemy to the Canadian wheat-grower should be better understood, and then, and not till then, will the proper steps be taken to prevent it. Some soils are more subject to it than others, and while the crops in some sections entirely escape it, others in adjacent settlements are nearly, if not entirely destroyed. This fact sufficiently proves, that it is produced from natural causes, and those causes, when once well understood, may be removed by artificial means.

The insects have preyed upon the wheat to an alarming degree in almost every township in Canada. There appears to be three species—one which operates on the roots, another which

does its work near the upper joint of the plant, and a third which enters the kernel, and completely destroys it after it has passed the milky state. Of these three species of insects, the latter is evidently the greatest enemy to the wheat grower, because it may very justly be apprehended, that unless there be some check placed upon its ravages, it will, as in Eastern Canada a few years since, annihilate the wheat crop. Notwithstanding the ravages which the rust and scab have made upon the wheat crops, there will doubtless be a small surplus for exportation; but we conceive we are below the mark when we state, that the surplus will be less than the quantity that has been prematurely destroyed by rust, which might have in a great measure been prevented had the wheat-grower better understood vegetable physiology.

It is not the proper place to discuss the question, but as a practical farmer, we have confidence that we shall be able so to manage our land for the winter wheat crop, that we shall scarcely suffer from rust, although our soil is distinguished for its deep staple in vegetable mould, and its peculiar affinity for this disease.

Spring wheat is not so productive a crop as was anticipated in the early part of the season. In almost every instance where the ground was properly prepared for this crop in the autumn, and the seed sown in the early part of the season, or as soon as the ground would admit of harrowing, the crop has proved most abundant. The principal reason why there are so many inferior crops of this grain, is owing to the fact, that it has been sown largely on soils altogether unsuited for the crop. The best preparation for a crop of spring wheat, is potato or turnip-fallow, and the next in order follows pea-stubble. If the former be employed as a preparative crop for spring wheat, the ground should be ploughed in ridges after the crops are removed off, and without further preparation the seed may be sown and harrowed in the following spring, at the rate of six pecks per acre. If the latter method be adopted, the ground should be ploughed as soon as the pea crop is removed, and late in the fall it should be again ploughed in ridges and laid perfectly dry, so that it would admit of sowing at as early a period in the spring as possible.—

Where these or other equally enlightened views of management have been adopted, the crops have equalled at least thirty bushels per acre,

and in some cases within our knowledge, even forty-five bushels per acre have been harvested the present season.

In those sections of country through which we have passed, the pea crop looked exceedingly well, so much so indeed, that we fancy large quantities may be exported to the mother country. Forty bushels per acre is now quite a common crop of peas, and where the wheat crop is made to follow peas, instead of a naked fallow, both crops may be grown at cheaper rates than if the old system prevailed.

PITT'S THRASHER AND SEPARATOR—If any of our friends are desirous of purchasing a thrashing machine that will thrash and clean, ready for market, between three and four hundred bushels of good wheat per day, they may be supplied through us with one that is warranted to execute this amount of work, and with less hands than would be required to perform the same with any other machine in use. We lately visited Pitt's establishment at Rochester, and owing to the intrinsic merit of his machine, where a large quantity of work is to be done, we concluded that we would further the agricultural interests by acting as agent, to expedite their introduction into this province. The horse-power and thrasher combine power and speed that are rarely met with in any other machine for this purpose; but its rare excellence consists in its superior adaptation to separate the straw, chaff, ches, small grains, and even grass seeds from the pure wheat. The saving in manual labor is truly great, over ordinary machines, and obviates in a great measure the objections so frequently urged against large machines. Mr. Hall of Rochester, purchased a right to manufacture them in Monroe County, and has sold to our knowledge eight of those thrashers and separators to parties in this province, all of which are highly spoken of; but Mr. Pitts, the original inventor, has lately made great improvements on the old machines, and has besides added strength and speed to the horse-power and thrasher. A few of those machines will be built expressly for us by Mr. Pitts, and if any of our friends are anxious to do a large and profitable business in thrashing and cleaning grain upon contract, they may order one through us.

Pitts' Corn and Cob Grinder.—Ample notices has already been given of the extraordinary power of this machine. They may also be had of ~~any~~

A Sketch of Belgian Husbandry.

The farms in Flanders are small, the average size being not over fifty imperial acres. Some are held on lease, others are not. The terms vary from three to fifteen years, some multiple of three as far as fifteen being the duration of a lease. In some the tenants have it in their power to quit at the end of every third year, while the landlord cannot put him away till his lease be out. It is impossible to say what the average rent of the farms is; but so far as I could ascertain, it may be stated at 30s. the acre, for the best soils, exclusive of burdens, which are generally one-fifth of the rent.

The farmers of Belgium are a hard-working class of men—in the habit of laboring their farms, and generally ignorant of every other subject but their profession. But in it truly they show rare sagacity and experience; and though unaided by, and almost despising, the light of science, they discover in some parts of their system of Agriculture perfection to which science has never yet guided the farmers of this or any other country. When we look back to the ancient grandeur of Belgium, when its cities were the marts and factories of Europe, and consider the consequent increase of population in a country naturally unproductive, we will discover a sufficient stimulus to excite the energies of a people gifted by Nature with an indomitable perseverance and unwearied industry. This disposition, as well as its effects—their Agriculture—has been handed down to the present generation of farmers, and still manifests itself in many operations which the negligent farmer would consider unprofitable, or at least superfluous; and it is from this praiseworthy industry that Belgium, comparatively a poor country, is considered by strangers as unrivalled in the salubrity of its climate and the fertility of its soil, and that the great part of the kingdom is prevented from returning to its original barrenness.

The number of servants who live on the farm throughout the year may be stated at six to the fifty acres, and these are paid as follows:—The men who perform the work of plowmen and laborers, receive 10s. a month, with their meat which the farmers value at 6d. a day, thus making the full wages of a man equal to 25s a month or £15 a year. Their food consists of boiled milk and bread for breakfast, soup or butter-milk and bread and butter for dinner, with potatoes and pork five times a week, and bread and milk for

supper. The soup used is composed, according to Mr. Radcliff, of butter milk boiled and thickened with flour or rye-bread, potatoes, salt fish, various vegetables, and eggs. They work from daylight till it is nearly dark at this season of the year, which, after deducting the hours of rest, will be about ten hours a day. In summer it is longer. The women who are hired to live on the farm, receive about 4s. 6d. of wages less in the year than the men. It may be observed that almost all the farmers take the same food as their servants. The day laborers, who are only employed at certain seasons, such as weeding the crops and engaging in the operations peculiar to flax culture, receive 7d. and 8d. a day, with their meat; and boys and girls have 5d. with their meat. An ordinary working-man will live very comfortably in a town in the south of Belgium, paying £15 for victuals and £2 for the rent of one room for the whole year.

The farm buildings are generally built in the form of a square, and consist of a dwelling-house, byre, barn, stable, servants' sleeping room, and cart-shed. The middle of the area included in the square is several feet below the level of the houses, and is admirably adapted for saving manure. The greatest cleanness prevails in every department of the steading.

The strength of horses kept on a farm is at the rate of a pair of horses to the fifty acres. And the number of animals supported altogether far exceeds any thing we are accustomed to in this country. This indeed, is one of the secrets of their farming; and we have no hesitation in saying that, in this particular, they excel the farming of any country with which we are acquainted. The keep of a horse is estimated at 20d. a day. It is generally fed during the winter on oats, straw, beans and hay; and in summer on cut grass. The horses are small, but compact, handsome, with beautiful action, and high-spirited. As no attention has been paid to the improving of the breed of cows, they are not distinguished for excellencies. They answer the purpose of the dairy, for which they are principally kept: they are generally black and white in color. After being for some years in the dairy, they are fattened or sold lean to the butcher, who is generally feeder as well as butcher. The most of the beef used in Belgium, is that of these old cows. They have a practice by which they ensure the regular feeding of the calves, which they consider

essential to quick fattening. Immediately after they have got their usual quantity of milk, baskets are put on their mouths, to prevent their eating anything in the interval between the feeding times. Few sheep are kept, and these are of the worst description.

The fields are small, and are divided by ditches. There is no such a thing as hedge or dyke enclosing a field. These from the peculiar management of the stock on their farms, are quite unnecessary. But where thorns are used as fences, as around nurseries and gardens, the settings are put very close together; and, sticks are run horizontally along, and the young shoots are tied to these, so that in a short time, from the intertwining of the shoots, now grown into branches, the fence becomes quite impenetrable. Under-drainage is never practiced. Much of the soil does not require it: but to facilitate the drying of the fields, and to draw off the surface-water of the plants, a spading of earth is taken out from every furrow, and scattered over the ridge, so that, in a heavy shower, the rain-water finds a ready course to the ditches which skirt the fields.

One of the points in which the Flemings show their skill of management, is the attention they pay to the working of the soil. Unless the soil has been thoroughly pulverized by repeated plowings and harrowings, they forbear from sowing any crop. To this, in particular, among other causes, we must attribute the practice prevalent there of using small quantities of seed, and the beautiful, healthy, and equal braids which cover the surface in spring. In many places they are not content with the mere use of the plow for this purpose, but resort to the spade also, either in giving an additional depth to the furrow, or in turning the whole soil over with his implement. In the province of Antwerp, we mentioned before that the spade was far more used than the plow for agricultural purposes.

An operation seen daily at present is the picking of the weeds from the young crops. Often the land is raked well before the workers commence their operations, for the purpose, as the farmers allege, of separating the plants, that the weeds may be more easily distinguished. But there is evidently another and more beneficial effect, the raking will have upon the crops. It will loosen any crust that may have been formed on the surface, and thus admit of a more ready access of the air to the roots of the plants and the

quantities of manure which are covered by the soil, thus aiding the action by a supply of oxygen. Some may object to the raking, from its exposing the plants to the action of drouth; but the good derived from it, for the reasons stated, is more than sufficient to counterbalance any risk from drouth. After the raking, the workers go over the field on their knees, picking out every useless plant. This is perhaps repeated several times in the season, according to the state which the field is in. Flax costs far more labor in weeding than any other crop; and they spend double the time on it from the importance of the crop. A Scotsman, ignorant of agriculture, in passing through Belgium, at this season, and seeing an extended row of women creeping on their knees among the young crops, and looking with the greatest care for injurious weeds, would be apt to extol the industry of the people, while he would accuse his own countryman of indolence and carelessness in minute, but on no less important points of husbandry. But he would be doing his own countryman an injustice, in as far as he would condemn them for their non-performance of what they do in a more economical and as effectual a manner as is to be met with in Belgium; we allude to the practice of drilling grain crops, by which means the weeding of the crop is far more expeditiously accomplished than it is by the plan resorted to in Flanders. This careful attention to the weeding of the grain crops is the more necessary in Belgium, where they are all sown broadcast; the soil is of that class which encourages the growth of annuals, and summer fallow of green drilled crops form rarely a part of their rotations.

The implements used in Flanders are so simple and rude that they scarcely deserve mention. There are two kinds of plows employed; one which is held by one hand only, and is of the rudest construction; and the other, called the Wallon plow, in which the body is attached, by its beam, to a framework on wheels, which connects it with the horses, and regulates the different depths to be plowed. In this the mould-board is moveable, and is changed at the end of every furrow from one side to the other.

The next subject of which we shall speak is the manures of Flanders; and some conception of the importance of this subject may be formed, when we mention that it regulates, not only the whole, but every individual part of the manage-

ment of a Flemish farm. The first object and great aim of a Flemish farmer is to make or get manure; and to carry this into effect, nothing that can contribute in the least to increasing a dung-hill is thrown away. He cultivates food for cattle, and ties them up all the year round, that he may not lose any of the manure. He sows rape and allows it to blossom and ripen, that he may obtain the seed for manure. His ashes-cart and urine-barrels traverse every street in a town, every by-way in the country, to collect this important necessary for his farm. It is in their management here that the farmers of Belgium excel those of every other county, and are thus enabled to extract more from the land than any other body of farmers. They act up, in short, to the true old adage that "Muck is the mither o' the meal kist." The principal manures used are farm-yard dung, urine or liquid manure, rape-cake, and ashes. Minerals are seldom, if ever used, and bones are almost unknown. Included before to the comparatively great number of animals kept by the Flemish farmers on their few acres. This they do principally for making manure, to enable them to carry on their system of farming. On a farm of 63 acres, 3 horses and 15 milch cows, and several heifers for supplying the stock were kept through the year, besides 6 cows and a few calves that were fattened yearly. In another of 77 acres extent, 4 horses and 20 cows, with a requisite number of heifers, were kept, besides from 20 to 30 calves being fattened off yearly; and a third, of 88 acres, 5 horses and 20 cows, besides, heifers and calves, were kept. These farms were all arable, and were situated in one of the finest districts in Belgium. Mostly every crop receives some of this farm-yard dung, which is always well rotted before being applied. One of the peculiarities of the Flemish system is, the extensive and various uses they make of the urine from the animals kept on their farms. Every one has heard of the urine-tanks of Flanders, which are to be found all over the country, at home, and in the fields. They are built in a most substantial manner, and so far under ground that when they are covered in, the farmer is enabled to cultivate the soil over them. Contracts are generally entered into between the farmers and those in towns who have much of this at command, such as brewers, distillers, &c., who fatten animals from the refuse of their works. (§10) is commonly given for the urine of one animal for a year. The farmers, at stated periods, convey, by means of barrel-carts, what is collected in towns to his subterraneous receptacles at the corners of his fields, to be ready for the seed time. The crop to which it is principally applied is flax; and then they dissolve it in rape-cake, which renders it a most powerful manure. After the flax-seed has been sown and covered in and rolled, so that the surface is made quite smooth, they proceed to apply this mixture. It is applied in the following manner:—Five men are employed altogether, two to pump, two to scatter it, and one to drive it. A rectangular piece of ground, thirty yards in breadth is measured off across the ridge; this is subdivided into six portions of five yards each. The field was laid off in ridges of ten yards. Six wooden vessels are filled, and placed in the middle of a ridge, at a distance of five yards from one another; so that the contents of each vessel which is about the size of a potatoe firlet, is the allowance for every fifty square yards. There is nothing in which they manifest such economy as in saving of this material, which they prize as a most valuable assistant to their labors. Rape-cake, besides being applied, as mentioned above, with the liquid manure, is also used in a dry state. The rape is cultivated principally as manure, and is used extensively where the cropping is very severe. Ashes are never used but as a top dressing to clover; but the traffic which is carried on in them between Holland and Belgium is sufficient to form a distinct trade with a certain class of merchants in Belgium. The farmers in Belgium set a high value on them, and place so much dependance on them for the success of their clover-crop, that (I understand from what I have read) there is a current saying among them that, "He who buys ashes for his clover-crop pays nothing; but he that does it not pays double." It is really surprising that this manure, which has been proved to be efficacious by a class of experienced farmers like the Flemish, has never yet been tried, or at least sufficiently tested, in Scotland. I believe some were imported in the beginning of this year by Messrs. John Mitchell & Co., in Leith; but I am not aware that they have met with the reception we would anticipate from the well-known results of their application in Belgium. There is nothing so much wanted at present, in the Agriculture of Scotland, as a good lasting top-dressing for clover. The

failures in this crop have been frequent of late and the effects of nitrate of soda last only with the crop to which it is applied, while sad disappointments have been experienced in the use of gypsum. But before recommending an extensive use of this material I would suggest a few comparative trials to be made with it, gypsum, soot and other substances; if the failure of gypsum arose from there being a supply of it already in the soil sufficient for the growth of the plant, an application of Dutch ashes might be attended with a similar result, as the great proportion of the ingredients of the ashes are salts of lime, with the useful addition, however, of some salts of soda. Some attribute their great effects in Belgium to the lime which they contain, as few of the soils there have any amount of lime in their composition. They are applied in different quantities to the soil, from ten to thirty bushels an imperial acre.

The crops raised in Belgium are wheat, oats, rye, flax, potatoes, rape, and clover, as principal; and, as secondary, turnips, carrots, buckwheat, tobacco, and spurry. The farmers consider flax and rape the best paying crops they cultivate, and are the most exhausting; hence the enormous quantities of manure given them.—The rape is sown in July, transplanted in September, and cut in June of the next year. The clover which is sown for seed as well as for food for cattle, is an important crop with the Flemish farmer. He is not particular among what he sows it. We find it growing amongst flax, wheat, oats or rye. There are two varieties of rye used, winter and spring. The winter variety is almost always sown after potatoes in December, and some of it cut green in spring, before the clover is ready for cutting. It thus answers the purpose of early tares in this country. Another crop is taken the same year, after it is cut. The ground is plowed several times for potatoes. When the last plowing is finished, the furrows of which are about seven inches wide, one man walks up one of the furrows, and with an instrument similar to that used for picking up turnips, makes a hole, into which a boy drops a potatoe.—Eight inches farther on, another potatoe-set is put in making the hole for which he draws the soil over the previous setting. This he does every second furrow, so that the distance between each row of potatoes is not more than fifteen inches. one man and a boy do about 450 yards in an hour.

The turnips are almost always taken as a second crop in the year. Immediately after the rye is cut, they begin to prepare the land for turnips; and, by the the powerful agency of the liquid manure, a beautiful braird is obtained in a few days. The turnips have attained a pretty good size when they are pulled, and, with the potatoes, form the winter food for the animals on the farm. Carrots are often sown with flax, so that they are enabled to have two crops the same year from the land, for by the time the flax is pulled, the carrots are considerably advanced. The method of double cropping is very frequent in Flanders, and is another instance of what, by economy of manure and a judicious application of it, they are enabled to produce from the soil.

The subject which naturally comes after this is the rotation of crops in Flanders. I was prepared before crossing the channel, to encounter some little difficulty in this subject, from having read of the great variety of rotations to be found there. Every field, Mr. Radcliff tells us, has its own rotation. But the four, five, or six years' course to which we are accustomed in this country, made me form but a faint idea of the difficulties of comprehending the Flemish course; and therefore, as I began to study them, these exceeded my greatest anticipations, and every day that I renewed my inquiries but plunged me into greater perplexities. I could perceive no fixed principle on which they founded their constantly varying rotations. The same farmer would give me one day one rotation, and the next another totally different from yesterday's, as the rotation he practiced on his farm; and were I to transcribe all the various systems I jotted down in my note-book, as those followed on farms within the narrow compass of a few miles, I would fill as many pages as this short sketch of Belgium farming would require. With such conflicting statements, and with no prospect of unravelling the mystery, I began to solace myself with the thought that the Flemings had no such thing as a rotation; that they knew the value of a change of crops each year. and therefore they practiced a succession rather than a rotation of crops. If they are rotations, it is difficult to tell where they commence and where they end; and they are besides, extremely long. The principle they seem to go upon is, that the same crop be not taken two successive years from the same land. And on examining my heterogeneous mass of rotations, I have been enabled to trace out the few following facts:— That wheat and rye always succeed potatoes; and rye, potatoe wheat: the place of flax seems to be after oats, and before wheat or rye. Clover is sown with any of the principal crops. Rape seems to succeed oats or rye. I think I cannot do better than conclude this part of my subject in the words of Mr. Radcliff:

"In Flanders they would consider their industry and their manure inefficacious without the aid of a precise and well-regulated rotation; hence the variety of successions which we observe at every variation of the soil. They have been farmers time out of mind, rotation farmers for centuries: there is not a cultivated acre, the proprietors of which are not matter of notoriety; and according to those properties, the most suitable succession and the most profitable application of manure have been since resolved on, and are now invariably practiced."

It may not be out of place here to introduce the management of a farm in the high country or Walloon district. The farms there are much larger than in the low country: 150 acres are there considered a small farm, and many of them are 1,000 acres in extent. The size of the farm about which I obtained most information, was 200 acres. The whole of it was under the plow, but twelve acres of meadow. There were only three plows used: but twelve horses kept, and for farm work alone. The cause of this great number of horses is, that they never put fewer than four horses, and often six into their wagons. They have besides twelve young horses of different ages, and fifteen cows, which is the whole of the stock kept on the farm. The rotation is generally potatoes, wheat, rye, oats, with clover sown with one or other of them. When we speak of this being the rotation, we do not mean that it is followed with unaltered regularity; for the most profitable crop here is wheat, which the farmer endeavors to grow on a third of his farm. They are near lime here, of which they avail themselves, by applying considerable quantities to the soil. I saw some applied as a top-dressing to young clover. Ashes are also used for the same purpose; but they are much redder in color than those I saw in the low country. The coal burnt here is always mixed with clay, to bind the pieces together, as it is in small pieces, the largest not being bigger than a hen's egg. This may cause the red color in the ashes referred to. They are not so careful of their manure as in Flanders, nor does the same attention seem to be paid to the land. Wages are much the same as those mentioned before.

This is a rough outline of Belgian farming, from personal observation there. I must admit that there is much that might be profitably introduced and mingled with Scottish husbandry.

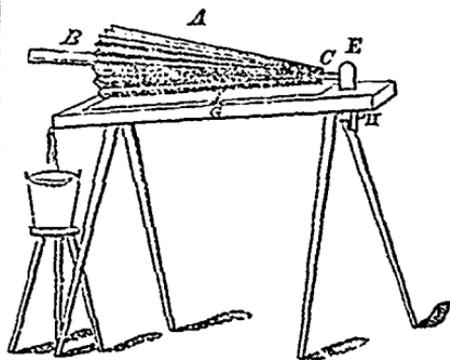
A little more latitude and variety in our rotations would, while it would increase our productions, benefit the soil. But such a change would have to be introduced with caution, as otherwise it would shake the whole fabric of our agriculture, which rests so firmly on its present foundation; and while we would cull out the excellencies of Flemish husbandry and engraft them on our own system, we would not commend it as a whole. And he who would attempt to introduce it into this country, either as a whole or in certain of its parts, would not only expose himself to ruin, but prove himself ignorant of the different state of the two countries, and of the first rudiments of good farming.

P. M. L.

—*Jour. of High. Agri. Society of Scotland.*

Butter Worker.

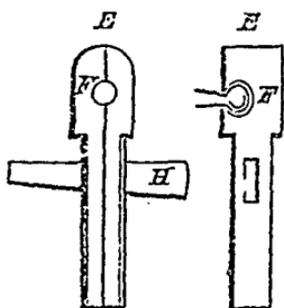
In the *Cultivator*, new series, vol. 1, p. 340, the Editor noticed a *Butter Worker* exhibited at Worcester, Mass. I wrote there, requesting a more particular description of it, in hopes thereby, to improve upon the one that I had previously begun to make on a similar principle; but as I was not favored with a reply, mine was finished without having the desired advantage of a pattern to work from. It however operates satisfactorily I will endeavor to describe the parts, and can venture to recommend it as preferable to the usual mode by a hand ladle, particularly in cool weather.



A, fluted roller, 24 inches long, 8 inches in diameter at handle, tapering to 2 inches at the shank; 16 flutes or creases, worked to an edge so deep as to make the inside of the flutes, a right angle and running out to the surface of the shank.



- B, handle ; straight, $7\frac{1}{2}$ inches long, 2 1/2 inches diameter.
 C, shank ; 5 inches long, $1\frac{1}{4}$ in diameter.
 D, ball ; 2 inches in diameter.



E, socket block, made of two pieces, each $3\frac{1}{2}$ by $1\frac{1}{2}$ inches, shouldered to rest on the top of table, passing through, secured by a key wedge through both parts, length so as to bring the bottom of the roller fair upon the block.

F, socket turned into the block, one half the socket in each part, 4 inches from the top, to enclose and confine the ball, which should, however work freely.

G, table, inclined.

H, wedge-key, to secure the socket block firmly to the table.

I, marble block, 24 inches square ; around it a gutter cut in the table to receive the buttermilk, and conduct it to a central point, where it can pass off in one stream.

If a more simple or useful machine for the purpose is in use, I shall be pleased to see it described in the *Cultivator*.

ROBT. W. E., JR.

New York, 4th mo., 1846.

—*Alb. Cult.*

Importance of Well Directed Labor.

“What great effects from little causes spring,
 What wealth does labor well directed bring.”

A single stroke of an axe is of little consequence ; yet by the continual application of that small power, properly directed, what amazing effects are produced ! The sturdy oak and lofty pine do not simply own its power, but whole forests before it, and the wilderness becomes a garden.

Industry well directed, will give a man a competency in a few years. The greatest industry misapplied is useless.

As an example, there is my neighbour, Seth Steady, the Blacksmith, is not only an indus-

trious man, but his industry is applied to one object. His hammer is heard at dawn of day, and the fire blazes in his shop during the evenings, from the 20th of September to the 20th of March. Go to this shop at any time of the day for any kind of work, you are sure to be waited upon. The consequence is, his purse is filled with dollars, and his cellars well filled with provisions, and that's what I call quite comfortable. Although suitably liberal, and enjoying the good things of life as he goes on, ten years of health will enable him to purchase a good farm.

As a contrast, there is my friend Nat Notional, the busiest and most industrious mortal in existence ; as the old saying is, “he has to many irons in the fire, “and with all his industry he goes behind-hand.

He has a fine farm, but instead of pursuing the cultivation of it, he flies and seizes on every new project that occurs.

A few years ago he concluded to give up the dairy business, in consequence of the low price of butter and cheese ; sold his cows at a low figure, and purchased sheep at a high rate, for wool then commanded a high price. By the time he got fairly into the raising of wool, down went the price of wool, and up went the price of butter and cheese. He then sold his sheep and purchased cows again, for cheese was up, and wool was down. Last year, after sowing a number of acres of grain, he resolved to rent his farm, sell the grain on the ground, buy a team and go to hauling ; for, by a nice calculation, he had proved that money might be made by it. A team was procured ; but after one or two trips, he concluded to sell his team, build a saw-mill, and go largely into lumbering. The dam was completed, the irons procured, and three-fourths of the expense incurred when by a nice calculation, (for no one makes nicer calculations,) he found that an oil-mill would afford the best profit ; and to work he went with great industry, building an oil-mill. I happened to go there a few weeks afterwards, and the whole organization of the mill was undergoing an alteration, to fit it up for a cotton and woollen manufactory.

A quizzical friend intends to propose to him, to abandon that project and enter largely into the manufacture of flour, and I have no doubt that he will readily accede to the proposal.

So with all his industry and expense, he is neither benefiting himself nor the public.—*Alb. Cult.*

Lowell Carpet Manufactures.

There appears to be no bounds to the extent of the enterprise of our American neighbors. When will the Canadian people turn their attention to the development of their great resources? As we have repeatedly stated, what has been done in the one country may be as easily accomplished in the other. The field for manufacturing enterprises of course is not so great in Canada as in the United States, but in proportion to its population, it is equally so. The great thing required to carry out a manufacturing enterprise successfully, is the employment of a liberal capital and skilful managers and operatives. This may be done with much ease, if only every well-wisher of their country would turn their attention to the production of real wealth, and encourage the development of latent genius. The flourishing and wealthy city of Lowell is a practical illustration of what may be accomplished through the efforts of a few enterprising individuals. Lowell numbers some of the most extensive manufacturing establishments in the world, and who, we would ask, were the proprietors of this great wealth some twenty years since? We answer, humble farmers' and mechanics' sons. Even the very factory girls who earn their six or eight dollars per week are large stock-holders in most of the Lowell establishments.

If the Canadian people have any desire to see their country improve as rapidly as doth their neighboring republic, they must adopt equally as rational a course in influencing the production of wealth in the country. The entire resources of Canada were employed the past season in the importation of goods manufactured in other countries: and the worst of this feature is, their appears no bounds to the credit which our importing merchants employ in the purchase of those goods. The entire banking capital of the country, together with the value of its surplus agricultural produce, is virtually mortgaged and swallowed up in the business of importing goods from other countries, most of which might have been produced in Canada, had her sons sufficient patriotism and intelligence to invest the capital employed in this way, in establishing useful manufacturing establishments. To illustrate, we will suppose the importations of 1846 to be fifteen millions of dollars, being nearly three pounds to each inhabitant in Canada. These importations must be paid for by the actual surplus produce of

the country; the amount yearly brought into the country for the payment of troops, and by emigrants, and the accommodation which is furnished importing merchants by the banking institutions of the country. Nearly the entire floating capital of Canada is employed in extravagant and altogether unwarranted commercial operations, and the obvious result of this policy is, to drain the country of all its ready cash, and leave it comparatively penniless. Suppose, instead of the fifteen millions of importations, that only one-third of this amount had been brought into the country, and the other two thirds of capital and risk had been employed in carrying out the useful enterprises of which the old Bay State has become established; the result of this course would have been a healthiness in the money market, and buoyancy of spirits on the part of the inhabitants of the country, altogether unknown in its former history. In fact if the balance of trade had been as much in our favor as it now is against us, money would be abundant, and every productive interest would be in a flourishing condition.

In the capacity of editor we shall not cease agitating the importance of encouraging domestic manufactures, believing that a successful agriculture is now in a great measure dependant upon the manufacturing prosperity of the colony.

"The carpet power looms have been so very successful, that, 224 new looms will be set in operation. The following statement will show the amount and character of the new improvements which are contemplated by this company. A new carpet mill, for 224 power carpet looms 272 feet long, 138 wide, two stories high, with a flat roof; lighted through the roof by 160 windows in the form of pyramids, 8 by 5 feet at the base. A mill for making worsted and carpet filling, 240 feet long, by 52 feet wide, 5 stories high, to stand upon the ground now occupied by the present carpet mill. A machine-shop, 140 feet long, by 16 wide, 3 stories high. A store-house, about 400 feet long, by 24 wide, 1 story. A counting house, and for other purposes, about 100 feet long, by 24 wide, one story. And probably some two or three blocks of houses.

"The new carpet power loom, invented by Mr. Biglow, is an improvement, the exclusive use of which would enable its owners to monopolize the carpet manufacture of the world. About a year since we saw these power looms in operation on the two and three ply carpets along

side of the accustomed looms conducted by the hand work of skilful men trained in the best carpet factories of England. A single girl on the power loom would do the work of two or three experienced men. About fifty looms had then been prepared for the Lowell mills: one of these complicated machines in other times would be considered to do a great business in carpet weaving. Two hundred and twenty-four of them might manufacture carpets sufficient for the use of the whole country. It should no longer surprise us that the cheapening of such a luxurious article, as the better kind of carpets, creates a demand for the article equal to the additional supply. The power loom reducing every thing to a mathematical certainty, makes a better and more uniform carpet than the hand loom. Every step taken by the government for opening trade is an encouragement to American manufactures; contributing to their enlargement in any possible extent; and this great carpet establishment is destined to consume millions of pounds of the fleeces of sheep the best of all adapted to this northern climate."—*Lowell Courier*.

Agricultural Warehouse.

All who are acquainted with the true condition of Canadian Agriculture, must be aware that low prices in bread-stuffs must be expected, unless some extraordinary change takes place in their prospects. We are not among those that would discourage the farmers, but nevertheless, we consider it a duty we owe the subscribers of this journal, to place facts before them in such a light, that they cannot be misunderstood. To meet the low prices which will obviously have to be received for almost every description of Agricultural produce, great improvements will have to take place in the system of cultivation generally practiced; and the most approved machinery will have to be employed, by which means the costs of production may be greatly lessened. We were in hopes that some one competent for the task would establish an Agricultural Warehouse for the sale of the most improved machinery, in some central situation in the country, but in this, as in many other matters of a similar nature, we have been mistaken. Seeing the actual necessity for such an establishment, we have concluded to engage in the business ourselves. It will probably be some months before we can complete the necessary arrangements to

open our establishment, but in the mean time we shall hold ourselves in readiness to execute any orders that may be entrusted to our care. In connection with the agricultural agency business, we shall open an office for the sale of cultivated farms; and shall also attend to orders for every description of machinery manufactured in this country and the United States. A constant supply of Agricultural Books, Magazines, and papers, will at all times be on hand, which will be afforded at the cheapest possible rates. In short, it is our intention to supply the producing classes of this country with every article in the way of improvement that they may be anxious to procure, which will be offered for sale at a bare living profit for cash.

If any of our friends are anxious to purchase seed wheat or other grains of approved varieties, or any description of agricultural machinery, we shall be pleased to attend to their orders, with the greatest possible degree of despatch.

It is our intention to get an experienced mechanic to manufacture a machine for reaping wheat, of the most approved kind, which will be on sale at the Agricultural Warehouse at a greatly reduced price. We shall also have built, a machine for mowing grass, which, with the aid of one man and a horse, will mow at least ten acres of grass or barley, in a day of ten hours. Potato-pickers, portable horse and steam saw mills and threshing machines, from one to eight horse power, with separators will also be on sale.

The friends of Canadian Agriculture may rely that no exertion shall be spared to introduce the very best machinery and agricultural seeds into the market. The only object we have in view in engaging in this new enterprise is, to create if possible, a greater thirst for improvement in agricultural, horticultural, and mechanical pursuits. From our knowledge of the country and its business resources, we flatter ourselves that we shall be successful in earning a liberal patronage at the hands of the friends of improvement.

Persons addressing us, by mail, on any subject connected with the Agricultural Warehouse business, will please observe to pay the postage; all who do not comply with this reasonable request, must not consider it strange if their demands should not be attended to.

To mend Cracks in Stoves.—German Method—Take equal parts of wood ashes and common salt, and mix them to a proper consistence with water; with this fill the cracks.

On an Improvement in the mode of Attaching Horses to Waggon.

BY J. H. GRIEVE.

Having observed amongst the topics proposed by the Society as subjects for prize essays, that of the use of one-horse carts, I thought it might be agreeable to you to receive some remarks relative to different modes of traction which have been suggested to me by actual observation, and which, so far as my knowledge extends, have as yet passed almost without notice.

There is no mechanical reason why a single-horse cart should possess any advantage over a four-wheeled waggon; and if that opinion has gained ground in this country, it is wholly to be attributed to the defective manner of application of horse-power.

In one-horse carts, a part of the load weighs upon the saddle placed behind the shoulders of the horse; and, as the principal fulcrum upon which he acts is concentrated in his hind-feet, it may, at first sight, appear that the load upon the back would assist in the effort of traction, and I have no doubt that it does so to a certain degree; but this small advantage is only gained at the expense of the muscular power of the animal, and has a natural tendency to exhaust and fatigue him.

If the use of waggons has hitherto proved unsatisfactory, the cause is merely that no sufficient care has been taken to ensure the *simultaneous effort of the horses*, so that a great part of their power becomes inefficient.

Nothing, indeed, can be more opposed to reason and good sense than the manner of yoking several horses in tandem that is usually practised both for carts and waggons, particularly in the south of England.

In the first place the shafts are often too much elevated, and then the shaft-horse is borne to the ground by the efforts of those that precede him, or he is made to swerve from side to side by the alternate jolting of the wheels, or by the leaders varying from the straight line of traction.

In the case of four-wheeled waggons, with horses yoked abreast, the traces of each horse are always fixed to the splinter-bar; it is more than difficult for the driver to ascertain if all his horses are exerting their strength together, and it is almost impossible for him, even with the utmost care, to force them to do so.

A much better method of yoking has been applied for ages past to the plow, viz. that of the swing-bar; but, strange to say, this system has not been adopted for carriages, with the exception of the leaders of the stage coaches; and this only proves that convenience, or, we may say, necessity, has been the primary cause of its being adopted at all, and not any sense of the superior mechanical arrangement of the system.

A little reflection will, however, show that this arrangement is better adapted than any other to produce simultaneous action—each horse being so placed respectively to his neighbor as to operate on a balance-beam; and it is self-evident that neither can draw unless the other acts as a counterpoise; the result is that the full and united force of the team is obtained for the purpose of traction.

For centuries past this system has been successfully applied in Belgium to the yoking of horses to four-wheeled waggons; and I could cite various instances of great loads conveyed in that manner, but will only mention a single instance of a load of goods which I myself saw weighed, and which was brought from Antwerp to the neighborhood of Mons, a distance of about 72 miles. The waggon was a very heavy one, with the wheel-tires 8 inches in breadth, and was drawn by five horses, and the load weighed fully 14 tons. Now when we take into consideration that several considerable acclivities had to be surmounted, at only two of which spare horses had been used, this example alone is sufficient to demonstrate the evident superiority of this system of traction. Doubtless the paved roads offers less friction than our usual macadamized ones, but this advantage will not account for the marked superiority of this load, which amounts, including the weight of the waggon, to about 3½ tons per horse.

I may observe that in Belgium the load is strictly limited, by law, in proportion to the breadth of the tires, and that a greater load than that above cited could not be conveyed during fresh weather; but instances have occurred of much heavier weights being drawn by the same number of horses during hard frosts, when no injury can be done to the roads.

The horses usually employed on the road are of the old Flanders breed, the same as the common dray-horse in London, but evidently inferior to them in strength and weight.

Waggons of the same nature, but of a lighter construction, are also generally employed for farm purposes and are found convenient and effective.

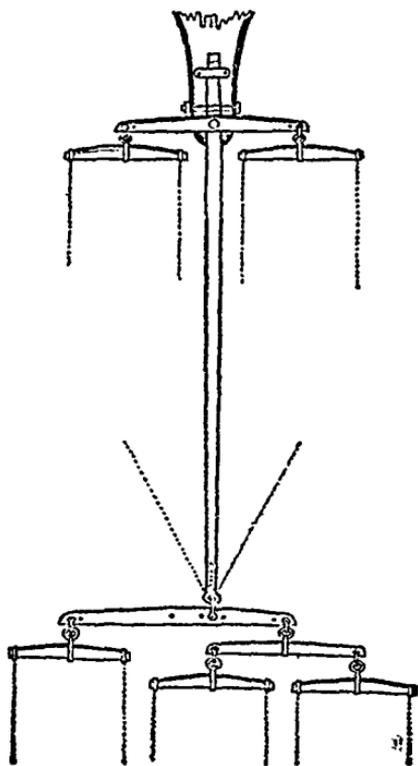
The Belgian Government have applied the same principle to the yoking of the artillery-trains; and it is certain that no guns of the same weight, and drawn by the same number of horses, would otherwise be able to traverse rough and uneven ground with the same facility.

It may be remarked that provision is made to adjust the leverage to the power of each horse, so that the pairs may be always equally matched, if

not in strength, at least in their effective efforts. To explain this more clearly, I have subjoined a diagram representing the fore-train of a waggon adapted for five horses. It will be observed that spare holes are provided in the swing-bars to change the leverage.

It is curious, but nevertheless the case, that the whole team of five horses is guided by a single small line tied to the middle of the bridle-reins of the off-hand leader.

3 King's Road, May 12, 1845.
—*Jour. of Royal Ag. Soc. of England.*



Grafting.—It is often, in grafting upon slender stocks and branches, very inconvenient to attach and support a great lump of clay, which, in spite of the greatest care and attention, will, either in very wet or very dry weather, crack and fall away. Last Spring I made a trial of sheet India-rubber, cut into narrow strips or bandages, from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch broad, which I applied to the graft—having first fixed the graft with bass—and with success. The India-rubber presents all the requisites sought for in clay; it is light, and water-

tight, and, moreover, it will not fall away; and it is elastic, which admits of the swelling of the scion in its growth, and it is applied with perfect ease and quickness. After wrapping the bandage round the graft and stock, as you would a linen bandage on a cut finger, the last turn only requires securing by tying with a bit of thread or thin bass; and it has a very light and neat appearance, when the operation is completed.

—*Jour. of Agri.*

G. L.

Provincial Agricultural Association and Board of
Agriculture.

We have great pleasure in being able to present to the friends of Canadian Agricultural Improvement the accompanied proceedings of the meeting for the formation of a National Institution, which took place on the 15th and 16th ult., at the Court House, Toronto. Owing to the busy season, the meeting was not numerously attended, but the gentlemen who took part in the proceedings, manifested a great degree of praiseworthy zeal in their endeavors to promote the object for which it was called, and their appeared a unanimous sentiment throughout the assembly, that the demand of the country, at this important and critical crisis, actually required that there should be a concentration of effort put forth without delay, in efficiently maintaining its agricultural and other industrial interests.

The following synopsis of a Constitution is submitted to the public for this consideration; and although it may not fully illustrate the character of the proposed Institution, it will at least explain its nature and objects, so that the Delegates, when they meet at Hamilton on Monday the 16th inst., may be prepared to adopt, reject, or amend what has already been done, in a manner, it is to be hoped, that will tend to the advancement of the important cause for which the Association has been organized.

In order to convince the public that the Institution shall be what its name would indicate,—truly national in its character and all its bearings,—it was deemed proper that the next meeting should not be held in Toronto; this arrangement, we trust, will have an influence of preventing any local prejudice that might have crept in, had the next meeting been appointed at the same place where the other preliminary meetings were held.

It is to be hoped that every Agricultural Society in the Province will be efficiently represented at the approaching meeting at Hamilton, so that the necessary arrangements may at once be made for the holding of a Provincial Fair in the month of October next.

1st.—That the Association be called the Provincial Agricultural Association and Board of Agriculture for Canada West.

2nd.—That the Members of the Association be composed of persons subscribing annually to the amount of Five Shillings and upwards.

3rd.—That those persons who shall subscribe

to the amount of Two Pounds Ten Shillings and upwards, shall be constituted Life Members of the Association.

4th.—That the Association shall be governed by Delegates sent by the several Districts, who shall meet annually for the Election of Officers, and the transaction of the business of the Association.

5th.—Each regularly organized Agricultural Society shall be entitled to send Two Delegates, of their own selection, but should no such selection be made, then the President and Secretary of such Society shall be Ex-officio Members of the Association to meet at such time and place, after the first meeting, as shall then be determined upon.

6th.—That the Delegates shall elect their President, Vice-President, Secretary, and Treasurer, at their first meeting, which will be holden in the Court House, at Hamilton, on Monday, the 16th day of August next, at Two o'clock, P. M.

7th.—That the funds of the Association be raised by Subscriptions of the Members of the Association, Voluntary Subscriptions, and such Funds from the various Agricultural Societies as by them may be appropriated, and any Grant which may hereafter be obtained from the Government, by application through Parliament.

8th.—That Annual Fairs or Exhibitions be holden at such time and at such place as shall be determined upon by the Delegates at their Annual Meeting, and such arrangement to be made by them as will most effectually tend to the advancement of the general interests of the country, and especially the Agricultural and Manufacturing."

Preparation of Land for Winter Wheat.

Soils differ so much in their character and component parts, that it is difficult to lay down any system of cultivation that would admit of universal application. In giving directions for preparing land for the winter wheat crop, we shall endeavor to embody in the fewest possible words, the best systems with which we are practically acquainted, and shall leave our intelligent readers to draw their own inferences.

When land is in a pretty high state of cultivation, it may be sown with flax, and afterwards with winter wheat. In most cases once ploughing will be sufficient to prepare the ground after

flax for winter wheat. If the land be grassy or should require a second ploughing, previous to doing so, the ridges should be harrowed singly lengthwise, and the second ploughing may with advantage be done with a ribbing plough. Pea stubble, if rightly managed, may be made to produce a larger yield of wheat on the rich vegetable mould of Canada, than if the latter crop had been sown after a well-prepared summer-fallow. In sowing winter wheat after a summer crop, it is desirable to have the seed sown at least as early as the first week in September, or in other words, it should be sown eight or ten days earlier than if the land had been summer-fallowed. The usual course in managing bastard-fallows, has been to sow it after the summer-fallowed land had been sown, and in not a few instances has the land been in a very foul state. If a fair chance be given the flax and pea fallow system of preparing land for winter wheat, it will soon obtain general favor among the best wheat growers. One thing is certain, that the more the soil is robbed of its supply of food for producing vegetable substance, the less danger will there be of getting an over-growth of straw, and consequently less risk of rust.

On light sandy loams, the English red clover should be extensively cultivated, though no system of farming is complete that does not embrace the cultivation of this invaluable grass; and after the second year's crop of clover, the sod may be inverted with a single ploughing, and pressed, and sown with winter wheat. Of the various methods of growing wheat after bastard-fallows, this probably is the cheapest, and upon light sandy soils is decidedly the best. If wheat be sown upon an inverted clover ley, there are a few particulars that must be observed to secure a prospect of success. Previous to the land being sown to clover, it should be in a high state of cultivation, and entirely free of wild grasses. The ploughman must turn a deep, well-proportioned furrow, averaging about seven inches by ten, which are to be laid in straight lines in an angle of about forty-five degrees. The wheels of the presser, should have the appearance and shape of the back of a common saucer, and should carry about six hundred pounds of stones. They will simply compress the furrow slices snugly upon each other, without in the slightest degree defacing any other portion of them but the interstices. When these points are observed, the cultivator may, without further

difficulty, grow winter wheat upon an inverted clover sod.

There are some other crops which might be cultivated with great success, as a preparative course for winter wheat, two of which only we will mention at this time. Upon light, sandy, gravelly soils, the common white bunch bean might be harvested in time for sowing fall wheat. If the beans be sown in drills about twenty inches asunder, they may be cultivated and kept clean at a very trifling expense. It will not cost more to keep this crop clean than the necessary labour for a crop of drilled potatoes. White beans find a ready sale in the market, and, make excellent meal for sheep. The common horse bean has not yet been brought into general cultivation in this country, but from a few successful experiments in their cultivation that lately came under our observation, we purpose to give them a trial on a pretty extensive scale, for the express purpose of cultivating them as a preparative crop for winter wheat. On deep rich clay soils, they would doubtless answer a good purpose, inasmuch as they would reduce the soil of very much of that principal which produces straw, and the soil, by the process of cultivating the crop, would become in a superior degree adapted for the wheat crop, with a single ploughing.

We have in the foregoing remarks rather hurriedly touched upon some of the best methods of cultivating land for the winter wheat crop; any practical cultivator, however, will be able to clearly understand our meaning. It is folly to pursue the old course of making naked summer-fallows, with a view of farming with profit, as the prices which the wheat crop will bring under free trade principles, will not warrant this useless and extravagant mode of cultivation. Some may raise objections to our views on this subject, but it should be borne in mind, that what we recommend to others, we practice ourselves; and besides, we are delighted to see scores of our fellow farmers falling in by degrees with our notions, most of which prove greatly to their advantage.

Bees-wax—The neatest way to separate bees-wax from the comb, is to tie it in a piece of linen or woollen cloth or bag with a pebble to keep it from floating; place it in a kettle of cold water over the fire; as the water heats, the wax melts and rises to the surface, while all the impurities remain in the bag.

Making Cheese.

Two years ago I was acquainted with the practical part of cheese-making, and in order to hold on to the knowledge gained by experience, I commenced entering in a book the heat of the milk, and the heat of the air at the time the rennet was put in; each cheese was numbered, and any other remarks made which might be called forth by circumstances during the process, or until the cheese was safely deposited on the shelf. On referring to my book for the past season, I find that all the cheeses from No. 76 to 106 (at which number we quit making) were of an excellent and pretty uniform quality. The variations of the atmosphere was from 60 to 90 degrees—the heat of the milk from 82 to 90, when the rennet was added, but mostly 85 or 86. I also find by referring to my book, that the cheeses from No. 1 to 75 were made from milk coagulated at a greater degree of heat, sometimes even as high as 96. The weather was mostly hot during the time these cheeses were made. They were not, however, of uniform good quality. Some heaved up and became like loaves of bread in shape, others cracked, making excellent harbor for flies and other insects, and one or two landed in the hog-trough, not however, from poverty, for richness seems to be a fault of my cheese.

The only material difference between the cheeses made after No. 76, and those made before it is, the different heat of the milk when the rennet was added. During the time our cheeses were good, our process was as follows: the milk 85 degrees—small handful of salt to be added to every 10 or 12 gallons of milk. Let the rennet be strong enough to do its office in one hour, then cut the curd into squares with a long knife reaching to the bottom of the tub—spread a clean strainer over it, through which in ten minutes begin carefully to dip off the whey, by gently forcing down a bowl or tin pan—heat some of the first dipped off, when the curd has become somewhat compact, pour in some whey at such heat as will make the mass in the tub 90 degrees, after the curd has been coarsely broken up by the hand to allow the warm whey to mix with it. At this stage of the process, wait from five to ten minutes, then commence dipping off the whey and get the curd pretty dry as soon as possible—take it out in handfuls and put it in a strainer and vat, and put it under a screw-press for about

fifteen minutes, pressing very gently at first, but with considerable force before the expiration of the fifteen minutes, when it should be taken out and broken up till there are no pieces of curd larger than a kernel of corn. This should be done as quickly as possible, and in a warm place if the day is cool; if this is not attended to, the particles of curd may not unite well, and the cheese might be unsound.

While curd is in the fine state a portion of salt, to the taste of the maker or his customers, may be added and mixed well with it; or the salting may be done after the cheese is finished pressing, by keeping it twenty-four hours in a tub, rubbing it frequently with salt, and turning it over, taking care to pour off the brine daily. We have practiced both these methods of salting with success, (our cheeses are about 12 lbs.) but I prefer the latter method, though the first mentioned does not give one-tenth of the trouble. Gentle pressure only should be applied when the cheese is first put to press, and here I think the advantage of the screw press is apparent. With it, a pressure of from 1 to 1,000 lbs., as the state of the cheese may require; in an hour or two, or when the cheese has pretty much done dropping, turn it and put it in a dry cloth, and repeat this once or twice, or more if you chose before the expiration of twenty-four hours, when the cheese may be taken out wholly to make room for its successor.

A SUBSCRIBER.

—Am. Ag.

Points of a Good Dairy Cow.

It is admitted that cows are sometimes met with which give large yields of milk and butter, that have few or none of the points usually considered indicative of excellence. Some farmers, indeed, seem to consider beauty or symmetry wholly incompatible with good milking qualities, and judging from their own herds, believe that the more ugly and uncouth the shape and appearance of their cows, the better they are.

Although in this case the breeder should regard dairy qualities as of the first importance, he should by no means be satisfied with these. His cows may give large quantities of milk under circumstances which particularly favor them, and yet lack some of the essential requisites of profitable stock—such as constitution, and an ability to sustain themselves under disadvantage.

of food and climate. A weak constitutioned cow when highly fed and well protected, frequently gives much milk, though it is apt to be deficient in richness; and notwithstanding she requires more and better food, and more care in sheltering, &c., than a hardy one, she will not last long, but will fail at an early age. Her weakness also exposes her more to the attacks of various diseases, which, as she has not the energy to resist them, are likely to prove fatal. Thus, excepting for use in the dairy for a short time, she is nearly worthless. Her progeny usually inherit her feebleness, requiring, if reared, very careful nursing, and in the end seldom prove profitable. Hence the breeder of dairy stock should endeavor to unite in all his animals all the qualities on which their aggregate value depends.

The points of a perfect milch cow are,—the head small; the muzzle fine; the face rather dished; and the space between the eyes wide. A wedge shaped head should be avoided, as indicating weakness of constitution. The eye should be large, full, bright and expressive of mildness and intelligence; the horns slender and of a waxy appearance; the ears thin; the neck small at its junction with the head, rather thin than fleshy, but pretty deep and full where it joins the body. The breast need not be so wide as cattle designed chiefly for fattening, but it should not be too narrow;—the portion of the chest beneath the shoulders deep; the shoulders nor coarse and projecting, but well laid in at the top; the back straight; the loin and hips wide; the rump long and the pelvis wide. The ribs not quite so round as is preferred for grazing stock, but still giving to the carcass a barrel-like form. The flanks should be deep and full; hind quarters long and wide; the thighs thin; the tail slender, excepting at its upper end, where it should be large; it should not rise much above the level of the rump; the legs rather short, and small and flat below the knee and hock. The skin should be of middling thickness, mellow and elastic, and of a yellowish color as indicative of richness of milk; the hair thick and soft. The udder should be capacious, spreading wide on the body, but should not hang low, without fleshiness, but having plenty of loose skin; the teats of medium size, regularly tapering from the upper end, widely separated from each other, and placed well on the forward part of the bag. The milk-veins large, springing out near the fore legs, and

appearing well developed to their junction with the udder.

The points relative to the skin, udder, &c., though mentioned last, we consider most indicative of good milking qualities.

Some of the best cows for the production of butter, have been known to possess nearly all the above characteristics—they therefore approached nearly to perfection, for all the while they had all the requisites of dairy cows, they possessed those also that would fit them for other purposes and greatly enhanced their value. Their progeny, if females, were such as were wanted for cows—if males, and by a bull of the right kind, they made the most valuable stock for work or fattening.

There is not only a great difference in the amount of cream and butter afforded by a given quantity of milk from different cows, but the quality of the butter produced by the same process is likewise very different. It is well known that butter of the best quality cannot be made from some cows, whatever the quantity they yield. In our experience, we have generally found this to be the case with cows giving a large quantity of thin milk. We have also noticed that coarse-boned, hard-skinned, unthrifty cows, generally afford the poorest milk and the poorest butter.

It has been laid down as a rule that cattle which fatten readily, usually give richer milk than those of an opposite character. A reference to some breeders, we think supports this conclusion. The old Short Horns for instance, gave poor milk, and they were very lean and unthrifty. The improved breed, on the other hand, fatten easily, and though they give less milk than the old stock, it is of better quality. The Kyloes and Galloways, breeds which are much disposed to fatten, give milk of remarkable richness. Now, although we would by no means encourage an excessive fattening tendency in dairy stock, we believe that for the purpose of obtaining rich and good butter, the fattening properties should not be disregarded. In connection, therefore, with the points which indicate a disposition to secrete milk, we would unite those denoting constitution and a moderate tendency to make fat, in order to constitute an animal whose produce should be superior in quality as well as quantity, and which should combine the requisites that would increase to the greatest extent her ultimate profit and value.—*Alb. Cult.*

THE HORTICULTURIST.—The first number of this neat work has come to hand. It is devoted "to Gardening, in a thoroughly practical as well as scientific sense; to the description and cultivation of Fruit Trees; to Gardening as an art of taste, embracing essays, hints and designs on ornamental and landscape gardening; Rural Architecture, including designs for rural cottages and villas, farm-houses, gates, lodges, &c. &c."

This publication is afforded for three dollars per annum, exclusive of postage. Each number contains 56 pages, illustrated by numerous engravings. Published monthly by Luther Tucker, Esq, Albany, and edited by A. J. Downing, Esq.

If any person is desirous of subscribing for the *Horticulturist*, we shall feel a pleasure in ordering it, provided we are furnished with the amount of the subscription.

Management of Honey Bees.

The art of managing bees in this country is but very imperfectly understood, so far as profit, health, and productiveness are concerned.

It is generally supposed that bees require little or no air, and if they prove unproductive, &c. are lost from the ravages of the bee-moth, it is a mere matter of chance, wholly beyond the control of the owner.

I now propose giving the result of my own personal experience in the management of bees for some years, on Long Island, and from the happy effects of my course of procedure, I think my remarks will not prove wholly void of interest, or advantage to those who are unsuccessful in this branch of amusement and profit.

The first desideratum is the *dimensions of the hive*. There is a certain size, of which hives must be made, in order to ensure success in its greatest degree. If we make them *too small*, the bees are more liable to perish from the effects of an unfavourable winter, and from the ravages of the bee-moth, in consequence of the *weak* condition of the stock. If we construct them *too large*, they will require *two* years to fill the hives, and increase by swarming is much lessened, and in some cases entirely prevented for a series of years. Now, in order to illustrate this position, I will observe that hives are used in this country from 8 by 12 inches, to 12 by 18 inches. If we use the smaller size, the quantity of bees that the dimensions of the hive admit of wintering over, is too small to do well, as it has been thoroughly tested

that strong stocks winter best, and consume *less* honey than *weaker* ones! This may appear strange to the uninitiated, yet it is true, for the reason that the bees are less exposed, in strong stocks, to the various winter changes of weather, to which our climate is subject. A few warm days in winter will put the whole of a *small* stock in motion, whereas a strong one is less affected; and when once aroused from their lethargy, they consume double the quantity of honey that they do when in a state of quiescence. But setting this matter entirely out of the question, there is yet a good reason for having large hives. Bees in their natural state throw off generally at first, swarms of a size that nature teaches them are the best adapted to prove prosperous; and it matters not how large you furnish hives, where they swarm, which is seldom a very large hives, the quantity of bees is not in proportion to the size of the hive, but in accordance to the laws of nature. Now, to come to the point with as few words as possible, I have found, from practical demonstration, that *hive one foot square* in the clear, conform more to the natural requirements of bees than any other. In a consideration with apianians who make a business of the sale of bees, to make their hives much less than this, as thereby they increase their profits. I have an instance of the deplorable effects of this in the case of a neighbor, who went to great expense in building bee houses, which he filled with "patent hives" from a well-known apianian of New York, on the principle of 8 by 10, or somewhere about this size, at an enormous cost, and now, where are they? From six hives procured several years ago, he has only *one* now remaining, and when I last saw that one, "solitary and alone," throwing out an occasional pale sickly bee, in quest of food, while the air of my premises was literally "vocal with music," and the furious dashing *whiz* that resounded in my ear as I approached them, giving indications of power, vigor, and prosperity—I say, when I saw this great difference from positions only a few rods distant, I grieved that darkness should yet hover over the apiaries of thousands who seem indifferent to their success, or rather consider success as a matter of chance rather than of science.

Having spoken of the effects of *too small* hives, I will now give my experience in *too large* ones.

In 1842 I had a few hives made 12 by 18 inches, in the clear. (In speaking of the size of

hives, I refer to the body of the hive for the dwelling of the stock, without any regard to what are termed *supers* for storifying.) I found that it took two seasons to fill them, and when filled, they did not swarm at all some seasons, for this reason, that however great the quantity of the bees in the summer and fall there is in a hive, they dwindle away before spring to a certain quantity, and thus leave a vacant space of some six inches, or more, at the bottom of the hive, to fill up with the increase of spring, while smaller hives are full, and are throwing off swarms in profusion. Not only does this retard swarming, but the queen bee, in whose power all swarming lies, surveys the place of her tenement, and when she then finds that the whole of the room can be occupied by her vassals, she will either lay the foundation of no new queens, or when they are brought into existence, she will destroy them as fast as they appear, and no swarm is ever thrown off without a queen; hence, large hives are not only unproductive as regards increase of swarms, but there will not as much honey be stored in the *supers* in hives 15 or 18 inches deep, as in those of less depth, for the reason of the greater obstruction to which the workers are liable in ascending to the *supers*; thus being the case, it would naturally suggest to our minds that broad and shallow hives would do better than those that are about square, such as I consider best. This would be the case so far as storifying is concerned, but it is important that the bees should be kept as compact as possible, to secure them against the sudden changes of winter weather, and also to be in better condition to resist the approaches of the bee-moth, than an extended surface would admit of.

Well, in regard to my large hives, I saw the fallacy of such dimensions, and conceived the idea of cutting them off in April last, while occupied with bees, which operation I performed personally with a common hand saw, the *modus operandi* of which I shall give in a succeeding chapter, as well as some other difficult and perilous performances. I say *perilous*, for when a thousand bees dart with furious ire at one's hands or face, a small displacement of any part of his shield, by accident, would be worse for him than the charging of the Mexican batteries, as did the indomitable Capt. May and his valiant dragoons

After cutting these hives off, I found that they contained but a very few more bees than hives of

12 by 12 of last year's swarms, and these stocks in hives of that size, actually swarmed this season first. This result, with various other proofs, rendered it conclusive to my mind, that hives very near square are best, and that 12 by 12 inches in the clear, when managed on my plan, is as near correct as can be.

In my next I shall treat of the position of the apiary—ventilation of hives—the bee-moth; how guarded against, and the fallacy of the "patent hive" system, as adapted and recommended by some of our apiarians.

T. B. MIXER.

Ravenswood, June 1st, 1846.—Am. Ag.

Culture of Strawberries in Alternate Strips.

—A still more easy and economical mode than that of culture in rows, is that of growing the strawberry in alternate strips.

Early in April or August, being provided with a good stock of strong young plants, select a suitable piece of good deep soil. Dig in a heavy coat of stable manure, pulverizing well and raking the top soil. Strike out the rows, three feet apart, with a line. The plants should now be planted along each line, about a foot apart in the row. They will soon send out runners which should be allowed to take possession of every alternate strip of three feet—the other strip being kept bare by continually destroying all runners upon it, the whole patch being kept free of all weeds. The occupied strip or bed of runners will now give a heavy crop of strawberries, and the open strip of three feet will serve as an alley from which to gather the fruit. After the crop is over, dig and prepare this alley or strip, for the occupation of the new runners for the next season's crop. The runners from the old strip will now speedily cover the new space allotted to them, and will perhaps require a partial thinning out to have them evenly distributed. As soon as this is the case, say about the middle of August, dig under the whole of the old plants with a light coat of manure. The surface may be then sown with turnips or spinage, which will come off before the next season of fruits.

In this way the strips or beds, occupied by the plants, are reversed every season, and the same plot of ground may thus be continued in a productive state for many years.

Both of the above modes are so superior to the common one of growing them more closely in beds, that we shall not give any directions respecting the latter.—Downing.

Neatness in Farming.

We have somewhere heard the remark, that with the good farmer, every thing gives way to his business—that utility is all, and appearance nothing;—hence you are not to expect neatness about his dwelling, his door-yard being cut up into mud by the farm-wagon and the manure cart, contiguity of barns, pig-pens, and kitchen, such as convenience, and no freedom from the peculiar odors of hog-yard and rich manure-heap, may dictate.

Now, to speak bluntly, this is all nonsense. It so happens, that in farming, neatness and thrift almost invariably go together. The same love of order which prompts the farmer to clear his yard of broken barrels, old hoops, fragments of boards and sticks of wood, and whatever else defaces and defiles his premises,—also prompts him to have a place for every thing and every thing in its place, which is calculated to bear upon real and substantial profit.

Some of the very best farmers with whom we are acquainted,—whose eminent success and heavy profits, separate them in this respect in bold distinctness from the rest of their neighbours,—are patterns of neatness; and the touch of their hand in the expulsion of every kind of nuisance is visible all over their farms. Their door yards show that the master is “at home;” the barn-yard, which is not so near the house, that all the butter and cheese manufactured is flavored with the effluvia, exhibits the same neatness, even where all the refuse of other places is collected for enriching in due time the rest of the farm. A farmer of our acquaintance, with 160 acres, in whose farm-yard we could scarcely ever discover a wisp of straw in the wrong place, remarked, “O, I don’t attempt to make a great deal from my farm—I expend so much in improvements, that my clear profits are only about a thousand dollars a year.” Another of those neat farmers in whose fields cockle, docks, and ches, obtain no foot-hold, nor along whose fences a solitary elder bush or nettle is ever seen, raised twenty-seven hundred dollars worth of farm produce at the prices of 1844; and both of these farmers live in Western New-York, where prices are comparatively low, entirely away from the peculiar advantages of market which nearness to great cities gives.

Now, let no one say that these remarks are made at the wrong season of the year, and that

nothing can be done for neatness and order in the winter. The same general rule, in some shape or variation, has an almost infinite number of applications. The care of domestic animals in winter, needs pre-eminently the application of this rule. No animal can thrive well in the midst of dirt. Even a pig does not love dirt for dirt’s sake—he only happens to be so much of a philosopher, or rather stoic, that he is willing to endure dirt for the sake of a soft and cool bed in summer; for it has been found that these animals thrive better and fatten much faster when kept clean and *well curried*.

Horses and cattle are often neglected in cleanliness. We have actually known some who did not clean the manure from horse stables for months, allowing it gradually to thicken under foot with the accumulating litter till a foot in thickness,—and reasoning doubtless as the boy did who combed his hair once a month, and was astonished that such torture and trouble from the operation could be endured daily by other people. A farmer who does his own chores, can hardly afford to keep his horses so finely as the gentleman of wealth, who has a man for no other purpose; but every one should have his stable floor perfectly clean at least twice every day, once in the morning, and once at night, before littering, and oftener would be better. Remember that the oftener it is done the easier it is accomplished.

There are many other particulars where neatness may be attended to in winter. Gate hinges and gate fastenings often need repair, that they may shut like clock work; boards become loose on old barns and board fences; tools become awkward for use, and need remodelling or renewing; and many other small matters, in doors and out, require attention. We are aware that to many of our readers, who are already examples for others, such hints as the preceding are not applicable—to such we can say that they need not read them—like the man who chiseled on the stone at the fording place, “When the water comes to this stone, it is unsafe to cross.”—*Alb. Cult.*

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

Bees—Effect of Exposing Bee-hives to Hot Sunshine.—It has been mentioned that honey-combs melt when the hives are exposed to a hot sun; but as that happens but seldom, it may be worth while to relate how the catastrophe operates on bees. Last season a friend of mine had a colony, in a straw hive, exposed to the sun. In July he was anxious for the bees to work in a glass on the top of the hive; the entrance being small, the heat in the hive increased, so that the combs collapsed. The drenched bees turned outside the hive; while the hum of those that could not enter, caused the affair to be observed. Being at a distance I did not see the catastrophe until the next day. Under the hive were dishes collecting the honey dropping from it, in which many of the poor bees were drenched in their treasure; outside the hive was literally covered with bees escaping from the wreck. After a little manœuvring, I removed the hive, and part of the combs fell on the floor, crushing many of the bees. Having cleared the floor, and also the broken combs from the hive, after the honey had drained a little, the hive was placed in its former position, fenced from the sun by a cloth. The bees soon took possession again, excepting those that happened to fall on the ground, which were in a sad plight, smeared with honey and dust. I then to relieve them put the whole into a pail of water, then spread them on a cloth to clean themselves in the sun, which they did, excepting those that were disabled. It is unnecessary to say that if the hive had been shaded the calamity would not have happened; but before honey-combs collapse, a hive must be hot indeed. It is surprising what an amount of heat bees can stand inside their hive, even until they are drenched by the vapor from their own perspiration. In hot countries that moisture may be of use to bees; for in summer, with us, they are fond of sipping or licking it; but damp in winter causes their combs to turn mouldy, and often proves destructive to colonies.—*Lon. Gar. Chron.*

Valuable Recipe.—Cure for a Cancer.—It has been ascertained that the application of raw cranberries, applied as a poultice, will cure this most inveterate disease. We know of one instance, a lady of our acquaintance, who had a cancer in her breast, which had become as large as a pullet's egg, and which was an inch from the surface of the skin. In this case it

was a hereditary disease, and she regarded it as a death warrant. She was persuaded, however, to try the cranberries, and they effected a cure. It is now between two and three years since it disappeared, and has no intimation of a return of the disease. The cranberries were smashed in a mortar, spread on a cloth and laid on, changing the poultice three times a day. In two or three days it became so sore it drew out pustules that filled like the small pox: and this process was renewed with the same effect until the whole was drawn away, the cancer becoming softened and decreasing in size at every application until it finally disappeared.—The virtues of cranberries are but imperfectly known—they are cooling and useful in removing inflammation, and have been known to cure an obstinate sore throat. We have never known it tried, but are persuaded it might be useful in bronchitis. Hearing of this, brings to mind an anecdote, related to us in the Eastern region:

Some years ago, a bed of cranberries was discovered within about six miles of Fort Fairfield: It was before the Fort was built, and a party were exploring the country, under the conduct of Indian Guides. The Indians set up a shout, and evinced their delight by such frantic gesticulation, that I was persuaded, says our informant, those children of nature knew of some virtue they possessed, that we were ignorant of, and yet so much was my attention absorbed by the business I was upon, that I never thought to ask them.—*Etc. Sent.*

To destroy Worms in Trees.—Take six or eight quarts of strong ley in an old pail, and dissolve in it a pint of soap. Nail a stout piece of cloth like the fragment of an old carpet, or quilted coat collar, to the end of a long pole, by wrapping the cloth once or twice around, and leaving a loose, dangling portion, 12 or 15 inches long. The cloth should be strong to prevent its tearing on the spikes of limbs. By wetting this swab in the pail of ley, it can be wrapped about nests of worms in a way that will kill the whole family, if applied early in the morning or near sunset. At these seasons of the day the worms are at home.

No one should permit insects to harbor in his fruit trees and consume their foliage.—*Gar. Far.*

To make Black Ink for Ruling.—Take good black ink, and add gall as for blue; do not cork it, as it will prevent it from turning black.

Lessons from Experience.

Moving heavy Rocks.—Everybody knows, that is acquainted with digging heavy rocks, that a common bar is too short to afford lever power sufficient to break them up from their earthy beds; and the common heavy wooden lever will not bite so as to hold its gup, especially if the rock at the point be hard and smooth, and without a little roundish. This trouble is easily prevented, and the process is as follows.—Take a good stick of timber of a length and size to your liking, and after giving it the proper shape, let your black-smith take a wide bar of iron and weld on to one side of one end of it, and the whole width of the bar, a narrow piece of good steel; let him then turn it over on his anvil, and with a very sharp chisel, trim the end so as to leave the side on which the steel was laid, quite sharp. This sharp edge is then turned up a little, say about three-eighths of an inch, like a tooth-key. This end is then finished, all but the hardening part, which your black-smith will please to remember after finishing the other part. The next thing is to cut off a piece of your bar some eight inches or more in length, and draw down the end not steeled quite thin. You may then have three or more holes punched, of a size that will receive some small bolts, of strength sufficient to hold this piece on one side of the end of your wooden lever. Three-eighths of an inch in diameter for these bolts will be about right. These bolts ought to have large heads on the under side, and be settled into the wood, so that your lever shall be smooth and fair; and the same precaution must be used on the upper side where they rivet down on the iron; and for this purpose it would be well to have the holes in the iron a little the largest on the upper side, so that the bolt would rivet down even with the surface. It is now to have a temper to the biting edge, then firmly fastened to your lever, and it is ready for use. You will remember, also, that such an instrument is worth preserving as much as your plow or harrow; you will therefore use it carefully, taking care of it when not in use; and one thus fitted and taken care of, will last for years, and will hang to a rock like a tooth-key to a rebellious grinder.

There is another small contrivance I have sometimes seen used in turning over heavy rocks with cattle, which works well. Instead of hooking your chain directly into the ring or staple of the

yoke, you fasten it to the axle between the cart-wheels (the cart body being first taken off) and your cattle drawn by the tongue attached to the wheels. It is to be remembered that the wheels are backed nearly astride of the rock, so that the chain pulls very different from what it does as usually fastened. This plan is of service only in turning over flatish rocks. If the rock is round or square, nothing would be gained; or if flat, if it stands nearly perpendicular, the result is the same.

Shocking Corn.—There is a practice getting much in fashion, in this vicinity, of shocking corn, which I like; and it being simple, any one can prove it to his own satisfaction. It is simply this,—take a smooth pole about ten feet long, and with an inch and a half auger bore two holes near one end, and put two legs about three feet in length, standing astride like two of the legs of a saw-horse. These legs hold up one end of the pole, while the other rests on the ground. You may then bore with the same auger, or a smaller one will do as well, some five or six holes beginning at about three feet from these legs, at a foot apart or just as you find convenient. These last holes must be bored so that when a smooth rod is pushed through one, it lies horizontally, and it forms right angles with the pole through which it passes. The horizontal cross-rod may be about three feet long; and when made and placed in one of these holes, your instrument is done. Now for its use. Instead of binding the prostrate corn, you take it up in your arms and set it firmly against your pole in one of its angles formed by the cross-rod, and as there are four angles, this process is repeated until the shock is formed, the top is then turned down as usual, and bound with a strong stalk or anything more convenient. Your three foot rod is then drawn out, and the ten-foot pole, and leaves the shock erect without any other ceremony.

Salt and Tar.—As every farmer usually has these articles, it may be well for him to know their value. My experience has taught me the following lessons; and first, salt will cure wens or tumors on cattle. I once had an ox that had a tumor on his neck, a few inches back of his jaw, and apparently attached to his windpipe. Sometimes he appeared to breathe with some difficulty; and the wen had increased to the size of a goose egg. Various expedients were resorted to without success, until I had used 4

was cured on the human head by washing repeatedly in brine. The process of washing, however, seemed too tedious; and so I concluded to mix salt and tar, and apply to it. It soon began to diminish, and after several applications it had nearly disappeared, when the ox was accidentally killed. The tumor was now a very small hard bunch, not larger than the end of your finger. Since that I had a young steer disfigured by warts, mostly about his nose and face, though he had not a few about his body. I applied salt and tar to these. The first application healed, and the second completely cured them.

Query—What might be its effect in the disease is said to proceed from an ulcerated tooth, I should try to penetrate from the outside to the seat of the disease, and then apply salt and tar externally. By so doing I should expect to save the tooth, and still effect a cure.

J. H. JENNE.

Peru, *Mc. April*, 1846.—*Am. Ag.*

Age of Cattle by their Teeth.

A subscriber asks, can you give me any information concerning the telling the age of cattle by their teeth?—say yearlings, two-year olds, and from six months and upwards.

A calf at birth, in respect to its teeth, presents no uniform appearance; the state of these organs is in other animals, depending upon the maturity it has obtained.—Sometimes their will be no teeth; but usually it will have two incisors on the front of the lower jaw. About the middle of the second week a tooth will be added on each side, making four; at the end of the third week there will be six, and in a month eight; which is the full complement of its temporary incisor teeth.

At the end of the fourth month the two front ones will begin slowly to wear down on the edge, and to diminish in size, and assume a triangular shape till the end of the eighth month, these two will scarcely be one half the size of the others, which will be sensibly lessened. The diminution now extends to the four central teeth, which at eleven months will be plainly separated from each other. At fifteen months the same will be true of the six central ones, at eighteen months the whole eight will be so diminished that it would seem difficult for him to procure his food.

The process of diminution is now a little re-

tarded and is confined to the two central teeth, which waste away to the size of crow quills.

At the age of two years two plump permanent teeth have come up in front, while the other six milk teeth remain.

A little before the commencement of the third year the second pair of incisors will disappear and in their place will come up two permanent teeth, the four outside milk teeth still remaining. These latter will now diminish very fast, but will not give way. At the age of four years there will be six permanent teeth, and apparently no milk teeth, but if the mouth is examined the tooth that should have disappeared, and milk tooth that is to remain, will be found huddled together behind the sixth permanent one. At the commencement of the fifth year the eight permanent incisors will all be up, but the outside one will be small. When the animal is six years old it will be full mouthed, that is, the incisors will be fully grown.—*Prairie Farmer.*

Heading down Fruit Trees.—When any fruit trees have begun to decline, and are thin of young wood, you may often restore them by heading down such limbs as are in the worst state, to those parts where young shoots appear, and close to the most vigorous; but this should not be done generally, the same season, lest it give such a sudden check to the sap as totally to destroy the tree. But if every other branch all over the tree were headed at proper lengths, each close to some young shoot, new and healthy wood would be produced, which would soon come into bearing. The next spring after the first branches were headed, the remaining old branches may be cut out, as directed above; after which the head of the tree will soon be filled with bearing wood, which may afterwards be pruned as directed for other trees.—*M. Mahon.*

Remedy for Lockjaw.—We would state for the benefit of those afflicted with this disease that a common cent, or a piece of copper, bound firmly upon the wounded part, and in actual contact with it, will cause almost immediate and entire relief, and cause the wound to speedily heal, whether it be made by rusty nail, steel instrument, splinter, or any other cause, either in the foot, hand or other part of the body. Rusty or tarnish copper, is preferable to bright copper, though either will answer.

Discussion in Relation to Cattle.

The discussion at the weekly Agricultural meetings at Boston the past winter, have been reported in many of the papers published in that city. Judging from the reports, we should suppose the meetings had been generally well attended, and that a considerable number of the farmers have taken part in most of the discussions. We give the following abstract from the reports of the discussion on neat cattle.

Mr. Gleason, of Weyland, pays considerable attention to rearing cows, and is careful to select calves that come from good milkers; the bull should also be of good stock. Two calves are put with a farrow cow and turned to pasture. If the cow is unwilling to "own" the calves, he shuts up the cow, and puts the calves in a pen near by. She will generally own them in a few days, but if not, he puts a dog in the stable with the calves. The dog will bark and the cow bellow, and in a short time she will own the calves. He lets the calves run four months with the cow. He keeps more or less of the no-horn or "buffalo" cows, and thinks they are good milkers. [The *Boston Cultivator* in reporting this discussion, calls these no-horned cattle "Galloways," and we have noticed some of the other Boston agricultural papers apply that name to them, but with what propriety we cannot discover. We have seen, in various parts of the country, many of these "buffalos," (a strange name truly, for cattle which have no horns,) but have never found more than three or four which exhibited any of the distinguished marks of the Galloways.] In selecting cows, Mr. G. prefers those which have a bright full eye, light neck, thin shoulders, broad hips, small tail, flat horn, and the udder of a yellow color. He would avoid a cow with black teats. He would avoid driving milch cows any considerable distance—even half a mile he thought too far to drive to pasture, and was satisfied it made the quantity of milk less. He was certain a cow wintered in the stable would give less milk than one which had the range of the yard.

For oxen, Mr. G. prefers a full eye, long face, broad back, deep, broad brisket, rump rather sloping than rising. An ox with a very thick hide is not generally so spirited. He was careful not to buy an ox with crooked legs, as they were more likely to get lame. Commences breaking oxen when they are two years old.

In relation to breeds, he said he had reared Durhams,—they were larger and handsomer than native cattle, and sold more readily—had seen fine milkers among the Ayrshires and Durhams, but he thought the native cows, on the whole, were as good as any.

Mr. Buckminster, editor of the *Mass. Ploughman*, admitted he was somewhat prejudiced against the Durham breed of cattle. He said he had taken much pains to know what was their product in milk and butter. He had invited the owners of such cattle to show the yield of their dairies, and though he had found instances of very good cows of that breed, he was bound to say, generally, they were not equal to the native cattle of the country. He said we have cows in New England that have made their 14, 16, and 18 pounds of butter per week, and he thought would be easier to find a dozen such cows, than a dozen Durhams that would yield as much in proportion to their size. We want the greater yield in proportion to the size of the animal and the nourishment she requires. He called attention to the fact that the State Agricultural Society, in its efforts to improve the stock of the country, had lately imported Ayrshires and Deros, but no Durhams. He thought the milk of cows which gave a very large quantity, was not so good. He had a cow which made fifteen and a quarter pounds of butter per week in June last, and the greatest quantity of milk she gave was 18 quarts a day.

Mr. Sheldon of Wilmington, had paid considerable attention to the rearing of cattle—had owned at one time about 100 yoke of oxen. He thought benefit had been derived from imported cattle by crossing with the native. The mixed breed have better feet than the natives. An ox should be broad between the eyes, should have straight, broad, and rather short hoofs, round ribs, straight back, hips falling off about an inch nine out of ten oxen which give out, fail in the fore feet. The legs should be straight, and they should toe straight forward. He thought it a bad practice to drive oxen with a goad, (a stick with a brad in one end of it,) as they did in Maine—it irritates the cattle and makes them either crowd or haul apart. The best feed for working oxen, he thinks, is chopped hay and Indian meal.

Mr. G. thought sufficient care was not taken with our native cattle, to improve the breed. A good milker has usually a put calf, and it is too

apt to be given to the butcher. He said, our native cattle sell better at Brighton, than the Durhams. [For what purpose? Are real Durhams sold there?—Ed.] He bought one cow at Brighton that had such excellent qualities that all her descendants (?) proved superior. She had the right blood. He thought cows should be stabled and kept warm in winter, to afford most profit—would give them chopped food. If the fodder was chopped and wet they would need but little water. He preferred shorts and carrots to Indian meal for cows. He thought it very injurious for cows to drink ice-water—would make the water for them to drink, as warm as that of brooks in summer. If cattle were swelled (hoven) he gave them half a pound of ground mustard seed mixed with lard.

Mr. Brooks, of Princeton, said he raised from 100 to 150 heifers annually. He buys the best he can find, before they are weaned and wens them on porridge. They are mostly of the native breed. He generally gets about four good cows in every ten raised. He thought the Durhams did not stand the winter well, and he believed the Mass. State Society had acted wisely in not importing Durhams, as the Ayrshires and Devons were preferable. The Ayrshires, he thought, winter as well as the natives, but he preferred the Devons. He spoke of the Devons reported fifty years since by Christopher Gore. (Upon what authority does Mr Brooks speak of Devons imported by Gov. Gore? We are in possession of proof that the bull which obtained such celebrity as the "Gore bull," and whose numerous descendants, to the latest generation, are commonly called the "Gore breed," was presented by the late Charles Vaughan, Esq., of Hallowell, Maine, to Gov. Gore, in the year 1792. The year previous, 1791, Mr. V. imported two bulls and two cows. While on the passage, one of the cows produced the calf given to Gov. Gore. The cows were selected from a milk-farm in the vicinity of London, and instead of being Devons, were probably *Yorkshire Short-Horns*.—Ed.]

Mr. Brooks mentioned a disease with which milk cows in his neighborhood had been afflicted. They had a propensity to eat bones—they became weak and their bones would sometimes break in trying to rise from the ground. He attributed the disease to the want of phosphate of lime in their food. He had cured the disease by giving the cows bone meal.

Mr. Cole, editor of the *Boston Cultivator*, observed that this disease had been prevalent in some of the dairy districts of England. Chemists had attributed it to the exhaustion of the phosphate in the soil, and had recommended bone manure, which had been used with success.

Mr. Davenport, of Mendon, had kept a cow in the stable four or five years, she seldom leaving it. He gives her two quarts of meal per day, regularly, and roots and hay, with grass in the season of it. He covers her with a thin covering in summer, to keep off the flies, and with a thick blanket in winter to keep her warm—warms her drink in winter. Under this treatment, there is but little falling off in the quantity of milk till a short time before calving. Though she is a small cow not weighing over 700 pounds, she has given from eight to sixteen quarts at a milking. Her [hind] quarter is long and her skin loose.

For swelling or hoven, Mr. D. gives a pint weak ley. He puts about a pint of ashes to a pailful of water. He had given this to both cattle and horses with good effect.—*Alb. Cult.*

Importance of Doing Business in Season.—

"Take time by the foretop." Old grandfather Time, so far as I have seen him pictured out in all the editions of the New-England Primer, is as bald as a cobbler's lapstone. The text, therefore, cannot be taken literally. To make it understood right, and it is full of wisdom, is my present purpose. Gentle reader, to "take time by the foretop," means nothing more nor less than to do your business in season.

If you are a farmer, it is particularly necessary that you should "take time by the foretop." The whole of the profits of the farmer depend on his business being done in season. If a week gets the start of you in the spring, you may chase it all summer without overtaking it.

Now for the contrast. There's neighbour Scrabble; he has a good farm, and is a hard working, frugal man; nevertheless he is always behind-hand. He plants his corn when all the neighbours are weeding theirs; it gets hoed but once, because the harvest presses upon him; the early frost generally kills half the weeds do not choke, and the consequence is, from off an acre which ought to yield him 50 bushels, he gets but 15 or 20. Come, Mr. Scrabble, pull up—get your crops in well, and in season; "take time by the foretop," and your labor will be easier by half, and twice as profitable.—*Alb. Cult.*

Hints to Country Housekeepers.

My country friends have discovered long ago, or I have been strangely misunderstood, that I am a utilitarian, and therefore they will not be surprised at receiving another lecture upon the advantages of early rising, and household economy as connected with it. The subject can scarcely be brought too frequently into the notice of young people; or borne too constantly in mind by those more advanced in years, who value time as it should be valued, and the acquisition of industrious habits, with the wonderful effects which may be produced by the careful management of the hours not necessarily devoted to sleep. I would have everybody, women and children not excepted, for, to them indeed, I especially address myself, *always employed*. Their occupations might be as various as their convenience should require, or their tastes dictate—from making a loaf of bread or a shirt, embroidering a purse, arranging a bouquet, or painting a flower, up to studying a science or calculating the return of a comet; but they must be at work upon something; even when the object may appear very trifling—unless higher duties are neglected, it is not waste of time,—and is better than doing nothing; above all, never be guilty of so sad a mistake, as to dignify *idleness* by calling it *rest*. If the hands are tired, let the head work by reading and reflection; if the whole frame has been overtasked, and the mind sympathizes too much to be exerted to advantage, I should recommend, as the best restorative, a short sleep, and a drive to visit some agreeable neighbor,—nothing restores the exhausted powers more effectually, than interchange of sentiments with a friend. Such extreme cases, however, can seldom happen, except to those who are compelled to work for a livelihood, or the welfare of their families,—and to them rest is a luxury too dearly bought, to be denied or curtailed.

The celebrated Sir William Jones was a very early riser; and when he was asked how he accomplished so much more than other men, he alluded to this habit, and added, "*I never do nothing*"—a maxim which ought to be written in letters of gold, and adopted by every one who aspires to excellence. Children love to rise early, and they should be allowed to continue to do so; they hate idleness, and they should be encouraged to employ their little fingers in string beads, making chains of dandelion stems, or any other attractive childish pastime, which would teach these habits of *patient labor*, which though they may be laid aside for a time, are never entirely forgotten, and are resumed

much more easily than they can be acquired, when thought begins to influence the actions of young women.

Let us now suppose that my country women think with me, that early rising is essential to the good government of a family—that a late breakfast not only deranges the business of the whole day, but by throwing a portion upon the next, will introduce confusion, not soon remedied—and then they will also agree with me that a farmer's family should never breakfast later than six o'clock in summer, and seven in winter. Habit will soon make this agreeable, and they will wonder at their reluctance to adopt the plan, and be agreeably surprised to find how much too short even the longest day is, for all they wish to accomplish.

In this country I believe no lady delegates all the household cares to her domestics, however numerous they may be; and in the rural districts, where trained servants are so hard to be obtained, and so difficult to keep, if she wishes to be spared the horrors of *keeping house all day*, she must devote an hour or two every morning, exclusively to the inspection of every department of her establishment—dairy, poultry-yard, kitchen, and garden—all must be carefully reviewed—and errors reformed before they become confirmed abuses. If she is regular and systematic, her labor will be light; and much trouble will be saved; and, what is of much more importance than at first sight appears to be, no one need be put out of temper by being gently reminded that they have broken a *rule*.

The whole family should be ready to take their seats when the coffee is placed upon the breakfast table, no laggard should be waited for, nor indulged in a lazy habit by having hot coffee and muffins ready whenever he thinks proper to make his appearance. I have known a case where three or four cold, comfortless breakfasts, operated wonderfully in curing a heavy sleeper of indulging in the other nap. As soon as breakfast is over, and while the servants are eating theirs, the lady should wash the cups, glasses, &c., and arrange the pickle plates, cutlery, salt-cellars, and other matters, for the dinner table—and even trim the lamps, which seldom burn well when left to the care of subordinates.

Each member of a family, daughters and sisters, should have a regular task to perform, which may be taken in rotation, that all may be familiar with every department of housekeeping—but no interference with each other's duties should be allowed, beyond a kind hint to help the ignorant and inexperienced beginner. When the cock has put every thing in its proper place, the lady should go into the kitchen

to give her orders for dinner; review all that is left of cooked meats from the day before, and direct clearly the manner in which the fresh provision is to be dressed; she will not be able to do so, unless she knows practically as well as theoreticly, how to compound each dish she orders—and remembering that “spices are the invisible spirit of cookery, which should rather be suspected than tasted”—she should weigh and measure the seasoning for every new dish, until the cook is a complete mistress of her art.

The dinner table should be arranged every day with the same scrupulous regard to neatness, as if company were expected—it will not be more troublesome, nor more expensive, and the husband or father will never hesitate to carry an unexpected friend home to dine with him; nor feel afraid of finding a soiled table-cloth and unpolished knives; nor the mistress of the family fretting over and apologizing for a badly dressed dinner.

Neatness is only another word for taste and elegance, yet the absence of it involves all that is most unlovely in woman. The females of a family should never appear at the breakfast-table in soiled or tumbled dresses; no matter how coarse or plain the cotton gown; with a clean white kerchief, and the hair accurately brushed, it is all that is necessary to a proper appearance. I cheerfully exonerate country ladies generally, from the charge of want of due attention to cleanliness, but I must confess in sorrow, that, in a few instances, I have been shocked to see fine stockings and embroidered collars worn in the morning, because they were not clean enough to appear during the latter part of the day; and I have seen, may I never witness it again, a dress of expensive material and delicate texture dragged out and soiled, put on at breakfast and worn to the dinner, because none but the family were present! A poor compliment to one's father or brothers to tell them virtually, if not literally, that their good opinion is of less consequence than that of a casual visitor, whom, perhaps one may never see again!

E. S.

—*Butawah.*

THRASHING MACHINES.

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

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

WM. MCKINLAY.

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

FLAX DRESSERS WANTED.

THE subscriber is desirous of employing three persons who are practically acquainted with handling or managing the FLAX CROP. Good wages and constant employment will be given to hands that thoroughly understand the business in its various departments.

W. G. EDMUNDSON.

Newmarket, Home District,
July 1st, 1846.

HAMILTON TANNERY,

(Directly East of the Court House,)

HAMILTON, C. W.

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

☐ Cash paid for Hides, Calf and Sheep Skins.

CLEMENT & MOORE.

Hamilton,
March, 1846.

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

Always on hand a general assortment of Lustre, Pops, Boot Trees and Crimpers, &c. Coach, Belton's, and Grain Leather made to order

ST. CATHERINES NURSERY.

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

In this manner he hopes to attain that degree of accuracy in cultivation which will enable him to avoid these mistakes so unpleasant to purchasers.

Apple, Peach, and Quince Trees, are 1s. 3d. currency, each, or 15 per one hundred.

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

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

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

C. BEADLE
St. Catherines, January 1st, 1846.

BEAUMONT FARM FOR SALE.

THE above Valuable Property is within 3 miles from Bytown, and two miles from the Gloucester Mineral Springs, and consists of 215 acres of the best Land, of which about 200 Acres are under cultivation. It fronts the Ottawa River in the Township of Gloucester. There are on it erected two first-rate new Barns, 40 x 60 feet, a large Stable and Sheds, a good Log House for the working men, the best Wharf on the Ottawa River, a Stone Cottage 51 x 56, to be completed on the first day of July next, and as a Farm House will be inferior to none in this Province. On a part of the said Farm there is an inexhaustible Quarry for Cut Stones—the nearest to the flourishing town of Bytown, and owing to its intercourse with the Lumber trade, is the best market-place in the Province, which must render this farm a desirable acquisition. The owner will also sell his stock of Cattle, Horses, Farm Utensils, and a new and unlimited-power Stumping Machine.

For further particulars, apply to
J. BARREILLE.

Bytown, 10th April, 1846.

TO THE FARMERS.

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

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

LIVE AND LET LIVE,

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

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

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

WM BARBER & BROTHERS

Requesting Woollen Factory.

Georgetown, 13th April, 1846. } 3

EASTWOOD & Co.

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

YONGE STREET, TORONTO,
AND
KING STREET, HAMILTON,

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

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

Every description of **RULING and BINDING** done to order.

RAGS bought and taken in exchange.

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

J. CLELAND,

BOOK AND JOB PRINTER,
KING STREET, TORONTO,

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

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

The British American Cultivator

(FOR 1846, NEW SERIES)

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

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

W. G. EDMUNDSON, Editor.

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

Advertisements will be inserted for One Dollar if not exceeding Twelve lines, and in the same proportion, if exceeding that number.

Terms—One Dollar per year; Four copies for Three; Eight for Five; Twelve for Seven; and Twenty for Ten Dollars.

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

Editors of Provincial newspapers will oblige the Proprietors, by giving this advertisement a few insertions.
Toronto, Jan, 1846.