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THE
CANADIAN AGRICULTURIST,
AND JOURNAL OF TRANSACTIONS

OF THE

BOARD OF AGRICULTURE, AGRICULTURAL ASSOCIATION, &c.

VOL. VIII.

TORONTO, OCTOBER, 1855.

No. 10.

Agriculture, &c.

AGRICULTURE IN GERMANY.

S. W. Johnson, a foreign correspondent of the *Country Gentleman*, writes from Heidelberg, as follows:—

"Heidelberg—Rape, its Culture and Use—Beet Sugar—Prof. Bunsen—Cooking Vegetables.

Heidelberg lies on the Neckar, some miles above the confluence of that river with the Rhine. From the heights above the top, the view northward and westward extends over the fertile Rhine and Neckar valley, and the courses of the two streams may be plainly traced. The vegetation of this and the neighbouring valley, was far more advanced at the date of my visit, April 23, than that of Bavaria and Wirttemberg. The spring field-operations seemed nearly completed and winter crops were well up. My notice was particularly arrested by the winter rape (*Brassica napus-oleifera*). I was astonished to find that while grass had attained at most, a height of three to four inches, this plant was two or even three feet high, and already in blossom. It is chiefly cultivated for the sake of the oil obtained from the seeds, which is one of the most common means of illumination in Germany. The oil has a greenish yellow colour, is free from disagreeable odour, burns clearly, and is greatly preferable to whale oil. The rape cake, or residue after the expression of the oil, constitutes a highly nutritious food, valuable as an addition to coarse fodder, especially for fattening animals. It has a peculiar taste, which is at first disagreeable to cattle, but they shortly get accustomed to it, and learn to relish it. It is then equal in every respect to linseed-oil cake. When there is a deficiency of food in the spring, the green plant is often used as fodder. This plant is said to be of easy cultivation, and appears worthy of extended trial in the United States.

The soil of the Rhine and Neckar valley is good, and the tillage is admirable. One of the chief pro-

ductions of this country is the sugar beet, from which immense quantities of sugar are annually fabricated.

I have lately observed in our agricultural papers, inquiries concerning the manufacture of beet sugar in the United States, viz., whether it could be carried on profitably there. In your columns, articles have appeared representing the success of the manufacture there as highly problematical. From what I can learn, these opinions are perfectly just. The fact that sugar costs more here than in the United States, and the production here is protected by duties on foreign sugars, sufficiently show the true state of the case.

In Europe field labourers are abundant, and receive but small wages; hence the cultivation of the beet can be carried on very cheaply; besides, all other sources of a supply of sugar are distant. With us the matter is reversed, labour is dear, and the sugar cane is grown profitably in our southern States. The extraction of sugar from the cane is a simpler process than its preparation from the beet; and it is a well ascertained fact that as much sugar is yielded by a crop of beet roots of moderate size and medium weight, as when the roots are of mammoth dimensions. In fact beets are not bought by measure, the price paid diminishes in proportion as the yield exceeds a certain limit. The cane furnishes itself the fuel necessary for the evaporation of the juice, while the beet does not. The farther north the cane is cultivated, the less sugar and the more salts are contained in its sap. The presence of salt diminishes again the quantity of crystallized sugar obtainable from the sap, since, in their presence, the sugar is converted into molasses, during the processes of manufacture. In tropical countries the most beautiful sugar is often obtained directly from the juice of the cane without any purification and without the formation of molasses. To the north, as in Louisiana, the quantity of molasses formed during the manufacture (it does not exist in the fresh juice) is very considerable, except when the most refined methods are employed. Finally, other things being equal, still more loss occurs in making sugar from the beet in colder climates; and

in fact, it is well settled that beets or cane grown on new soil, rich in salts of potash and soda, or upon fields which receive much of these substances in manure, contain less sugar, and yield less of what they do contain in the crystallized form, than when raised on poorer soils. Hot climates are best adapted to the production of sugar from the cane, and doubtless the sugar beet would yield a juice richer in sugar, more free from salts and fermentable matters, and therefore better adapted for the production of this indispensable article, if cultivated further south than has hitherto been the custom. Whether the culture of the two plants might not be combined, is a question to which I invite the attention of our Planters.

It is by no means impossible that a proper combination of enterprise, capital, and Yankee ingenuity under scientific guidance, might establish the beet sugar production on a profitable basis in our western country where lands are cheap; for the processes of manufacture are still very imperfect, and doubtless chemistry, which has been mainly instrumental in bringing the business to its present advancement, can surmount the existing difficulties.

During the last year, an investigation of the influence of various manures and fertilizers upon the sugar beet, was carried out in Heidelberg, with immense labour; and, but for a few circumstances, it would have proved of considerable value. Plots of turnips were treated with weighed quantities of all the fertilizers in common use, and the results were determined by careful weighings and analyses of the produce. Unfortunately the experiments were conducted on too small a scale. Each plot contained but eight turnips, and consequently the tables accompanying the account of the trials are valueless, since a little error of observation, or accident affecting slightly the results on eight turnips, would become very considerable when multiplied by the number of these little plots in an acre; and the results are of no account unless applicable to the quantities actually employed in practice. A repetition of the experiments, with the needful improvements, is promised, and I need not communicate any of the results yet obtained, as they are liable to correction. It is, though, from this kind of researches, faithfully carried out, that progress in the knowledge of the wants and nature of agricultural plants may be expected. They are rather the work of societies than of individuals, and why their importance is not appreciated by any of the numerous agricultural associations of the United States, is hardly to be comprehended. Certainly there is no lack of pecuniary means—it has been thought there is no want of intelligence!

In Heidelberg I met the great chemist, Bunsen, in his newly finished laboratory—the largest and finest in existence, adapted for fifty students. Bunsen has not occupied himself specially with agricultural chemistry; but the influence of his genius and labours is felt in all departments of chemical science, and particularly in chemical analysis. His laboratory is one of the best on the continent for beginners in chemistry, for he devotes great attention to his pupils. Heidelberg is besides a cheap and delightful place of residence.

I conclude with a translation of a note by Prof. Boethger, of Frankfurt, "On the Influence of Water in Cooking Vegetables," which I find in an agricultural paper:—

"If one portion of vegetables be boiled in pure (distilled or rain) water, and another in water to which a little salt has been added, a decided difference is perceptible in the taste and odor, and especially in the tenderness of the two portions. Vegetables, boiled in pure water, are vastly inferior in flavour. This inferiority may go far, in case of onions, that they are almost entirely destitute of odour or taste, though when cooked in salted water they possess, in addition to the pleasant salt taste, a peculiar sweetness and a strong aroma. They also contain more soluble matter than when cooked in pure water. Water which contains 1,420 of its weight of common salt, is far better for cooking vegetables, than pure water, because the salt hinders the solution and evaporation of the soluble and flavouring principles of the vegetables. This explains the advantage of the general use of salt in cooking, and the impossibility of correcting, by subsequent additions of salt, the want of flavour in vegetables that have been boiled without it."

WEEDS.

"One year's seedling makes seven year's weeding."

This old proverb conveys an important truth. Thoroughly to eradicate plants which one prolific parent will give birth, is a matter of no small trouble or expense. The prolification of some species of noxious weeds, is almost beyond conception, and when permitted to mature their seeds on soil under cultivation, and well fitted for their support, they are a great evil, and a source of no small trouble and annoyance to the farmer, to say nothing of the injury they inflict upon his crops. It is an excellent plan, therefore to go over the cultivated fields and lands late in autumn, and eradicate every weed that can be found. No matter how small or insignificant may be its appearance, it will assuredly produce seed; and this when disseminated broadcast over the fields by the winds, will germinate, and give birth to a progeny, the perfect eradication of which will take more time and energies of the laborers, than the crops will warrant.

It has been remarked by a moralist that the thistle and mullein are ever the inseparable companions of the sluggard, and it must be confessed that the atmosphere which appears so congenial to the one, appears to possess something in its constitution highly advantageous to the other. Wherever found weeds indicate one of two things:—that the farmer has injudiciously undertaken more than he can accomplish, and do the work well, or they indicate a state of indolence and inactivity.

Some of our agricultural friends are in the habit of gathering up the spurious vegetation of their fields and depositing it in their yards and styes. This is an admirable plan, provided the vegetables have not become mature. In all cases, however, wherever the ripening of the seed has been effected, and the vital principle sufficiently developed to ensure progaga-

tion, the practice can scarcely be attended with other than the worst results.

A very erroneous opinion appears to prevail in relation to the degree of heat engendered by manure while undergoing the process of fermentation; the common presumption being that it is sufficiently intense to ensure the destruction of any seed which may be exposed to the influence of the fermenting mass. This supposition, however, will, upon careful examination, appear wholly unsustained by results. The fermentation which putrescent manure undergoes—unless under very peculiar circumstances—is rarely, if ever, found to rise sufficiently high to secure this object. The seeds of the common red sorrel—one of the most pestiferous of all weeds in cultivated land, as well as those of the mullein, white weed, and numerous other plants which so annoy us, appear to be in no way injured by the utmost degree of heat that can be produced, without an actual combustion of the heap.

On the contrary many seeds appear to derive an actual advantage from it,—the heat to which they are subjected, inducing a more speedy germination and development, so that by the time the soil is fit for their reception, of the manure in which they are contained, they are just in the proper condition to take root and vegetate, before those upon which the husbandman bases his expectations of a crop, have had time to swell. Owing to this premature development, the fields are often stocked with a spurious vegetation, and that which was supposed to be true economy, results in a ruinous waste; the small quantity of manure accruing from the decomposition of the haulm, being purchased at an enormous outlay of labor; and what is still worse, the soil instead of being purged of its noxious weeds is fouler and more prodigally infested than before. Those persons, therefore, who contemplate cleanliness of cultivation, should destroy the weeds that infest the fields before they mature their seeds. This may require care and labor but is not impracticable. But should any escape the hoe, the scythe, or the hand let them be carefully gathered together in some convenient place and burnt.

The thistle, in some districts is the most troublesome weed with which the American farmer is called to contend. Yet we often see it growing in farm yards, gardens by the road side, and even in corners of cultivated fields, in patches sufficiently extensive to ensure the production of seed enough to "stock" an entire township!

This is bad policy. Although the thistle is a "hard customer" and a most impoverishing tenant, it is yet a harder master. When once permitted to usurp the soil, its eradication is attended with much trouble, and its toleration with ruin to the richest soil. It is common now to consider all productions as weeds, which is not purposely planted or sowed. The wheat that vegetates in the corn field, and the corn plant that springs up accidentally among the cultivated plants of the garden, is as much a weed in the strict acceptation of the term, as the burdock which rears itself in the pasture, or the thistle which fouls the mowing field.

As most species of spurious vegetation are of an indigenous character, they possess, naturally, a hard-

ness and vigour of constitution which enables them to subsist and flourish on soils which are poor and thin, and to survive injuries, which no valuable or cultivated plant, not indigenous in the soil, can do. This tenacity of life will suggest the necessity of extra hoeing, and greater care in their eradication than is usually bestowed.

PROPORTION OF BUTTER TO MILK.

The agitation of this subject in Britain, in consequence of certain statements made by Mr. Horsfall to the officers of the R. A. Society, if it has not been the means of producing more butter, it has brought out many statistical facts from various parts of the kingdom. From several communications published in the *Agricultural Gazette*, we make the following synopsis, will be interesting to American dairymen and dairywomen. It should be borne in mind that the wine quart is probably used in every case.

An Irish correspondent gives the result of experiments on a large scale, extending through the year showing the produce of cows for each month, the kind of food used, the quantity of milk given, the quantity of cream taken off, the quantity of butter obtained, the average quantity of new milk and cream required for a pound of butter. From the table given, it appears that in the summer half of the year, it takes 11 qts. and for the winter half 9 qts. 1½ pnts; and for the whole year 10 qts. 1 pint of milk for a pound of butter, and 2½ pints of cream to make a pound of butter. The cows averaged for the year 217 lbs. of butter each. The writer says—

"The stock from which the above experiments were taken, were chiefly known as the well-bred Irish cow, and the produce of that animal, if well selected, is I think as good as any. No doubt crosses of the Dutch and Durham produce also good dairy cows; but as far as I have seen, the Durham is much better adapted for the butcher than the dairy. The Ayrshire is also good for the dairy, with a tendency to fatten, and is perhaps better adapted to light soils than any of the other breeds. About twenty miles from this (Cork) I knew a large dairy of Devons; they were a very pretty stock, and gave milk of a rich quality but smaller in quantity than the others. To ascertain the comparative merits of the different breeds on the same pasture and with the same treatment would be very desirable."

A Dorchester correspondent writes that the average produce of butter per cow in a year, is "about 13 dozen," or 156 lbs., but that he could mention dairies that have produced "19 dozen or 228 lbs., per cow. One quart of cream makes a pound of butter. It is said much "skim-milk" cheese is made. Many of the best dairies are kept on poor land, but if the cows are not kept on too thick, their yield is great and of the best quality.

An extract from a communication of Mr. Littledale, of Liscard Hall, reads as follows:

"I had churned on Saturday from a lot of cows, about three months calved, and all of the large York-

shire breed, fed on Italian Rye-Grass, 42 gallons of milk, produce 19½ lbs. butter; to day 53½ gallons of milk, produce, 22½ lbs. butter. The produce of butter varies with the breed of cows; in a general way we have found from the large Yorkshire cow it takes 3 gallons for a pound of butter; Ayrshire less; and Alderney still less. At one time I took a great interest in trying experiments upon different cows, and the quantity of butter they would produce; and the most extraordinary yield, which I have never seen equalled since, was from a cow the cross of an Alderney and a Short-horn, after having calved about two months; she gave so rich a milk, that in the lactometer the cream did not separate from the milk; and although a small poor-looking thing, we had 14 lbs. of butter a week from her. We also had a large Yorkshire cow a great milker, and after having calved upwards of three months, she gave us 19½ lbs. of butter in the week; in the lactometer the average of cream for that description of cow was 9, this one's was 18. A cow gives much more butter when she has calved 3 or 4 months, and the quantity of milk is diminished; also a great deal will depend upon the quality of the food. We churn by steam, and last summer we tried the shortest possible time we could do it in; it was a hot day, and we accomplished it in five minutes and a half, the engine making 300 revolutions per minute, and the quantity, 80 gallons of milk; we have also found out in this very hot weather that it pays us well to put American ice into the milk before churning to reduce the temperature to get out more butter; the result of the same quantity of milk without ice, 15 lbs of butter; with ice, 20 lbs.

By a communication from a Suffolk correspondent, it appears that in one week's trial with a large dairy, 12½ quarts of milk were required for a pound of butter.

A Guernsey dairyman writes that he had a pound of butter from 8 quarts of milk, and that he has been assured that 6 quarts has in some cases given that amount. The old Norman pound is here meant, which is equal to 18 English ounces. He thinks the richest milk is obtained when the cow is about six months in calf. He regards 11 quarts of milk to the pound of butter, as about the average. Reckoning nine quarts and 18 ounces to the pound this is a large yield.

Mr. Scott gives a table comprising returns from more than 1000 cows, which shows an average of 1.24 oz. of butter from one quart of milk.

ANOTHER 700 GUINEA SHORT HORN.—Col. Morris and partner, Mr. Becar, have made a recent importation of high-priced Short-horns, purchased at the great sale of Mr. Tanqueray, of Handon, near London, England. By a letter from Col. M. we learn that they arrived in first-rate condition. Col. M. has also received by the same ship, twelve very superior South Down ewes from the noted flock of Jonas Webb. They are in as good order as the cattle. Col. M. sends us the following memorandum:—

Minerva 2nd, roan, calved January, 1850. Sire, St. Marum (8525), dam (Minerva), &c., &c.

Iris, roan, calved June 8, 1850. Sire, Louis D'Or (9336), dam (Lady Love), &c., &c.

Minerva 4, red, calved February 1, 1853. Sire, Lord Warden (7167), dam (Minerva), &c., &c.

Victoria 26, red and white, calved March 25, 1853. Sire, Baron Warlabey (7813), dam (Victoria 4th) &c., &c.

Oxford 16, red roan, calved May 17, 1853. Sire, 4th Duke of York (10,167), dam (Oxford 6th), &c., &c.

Surprise, Roan, calved January 23, 1854. Sire, Gillivan (11,529), dam (Silence), &c., &c.

Louise, red, calved May, 1854. Sire, Sweet William (12,161) dam (Lucy), &c., &c.

Delia, roan, calved November 24, 1854. Sire, Duke of Glos'ter (11,382), dam (Delia Gwynn), &c., &c.

Oliver Jordan, red and white, calved July, 1855. Sire, Duke of Cambridge (12,742), dam (Iris), &c., &c. This calf was born on the voyage, and named after the vessel.

We also have brought out our young Duchess 71st, the progeny of our celebrated cow Duchess 66th (the 700 guinea cow). This heifer calf, as you may recollect, we bred in England, and was got by Duke of Glos'ter. We refused 700 guineas for her this spring, just before shipping her for this country.

BREAD FROM GROWN WHEAT.

There is but little grown wheat in this part of Canada, as the heavy rain occurred before the wheat was sufficiently ripe to be injured by it. In the western part of the province, complaints were more frequent at the time of harvest, but we have heard little on the subject since. We notice a great disparity in the price of wheat west of Hamilton and that grown in the vicinity of Toronto. When 8s. 6d. and 9s. was the ruling price in the Toronto market, 7s. 6d. and 7s. 11d. were the highest quotations in Hamilton, and further west they fell to 6s. 3d. and 7s. Now, the cost of freight from Hamilton to Rochester and Oswego can be little, if any, greater than from this port. Why, then, so great a difference in price? Is it on account of difference in the quality of the grain?

For the benefit of such of our readers as may be compelled to use flour of grown wheat, we extract

the following recipe from the *Michigan Farmer*. A very large proportion of Western wheat is sprouted, and our neighbours have been obliged to set their wits to work to remedy the evil as far as possible. If any of our subscribers know of a better plan than the following, we shall be glad to hear from them, and make it public:—

“Place the flour in a pan under the stove, or where it may become hot, and keep so for five or six hours until thoroughly dried through. Knead the dough harder by working in more flour, and bake slower and longer, so as to dry out the moisture, and you will have light, dry, white bread. A little alum will improve it, if the wheat was badly sprouted.”

Thrashing Machines at the Paris Exhibition.

We hear nothing of the Thrashing Machines sent from Canada to Paris. What became of them? We understood from one of the proprietors of the Brantford Works, at which one of the machines was made, that it had been duly sent, &c. Paige's machine has been alluded to by correspondents at Paris, yet it does not appear in the trial.

We learn that the prize has been awarded to Pitt's machine, an American invention. We believe that this machine threshes and cleans at one operation. The following is a summary of the trial:—

The threshers were tried before the mowers and reapers. Six men were set to threshing with flails at the same moment that the different machines commenced operations, and the following were the results of half an hour's work:—

Six threshers with flails, - -	60 litres of wheat.
Pitt's American thresher, -	740 “ “
Clayton's English “ -	410 “ “
Dunoir's French “ -	250 “ “
Pinet's Belgian “ -	150 “ “

In regard to Pitt's Machine, the *Moniteur* says:

“Pitt's machine has therefore gained the honours of the day. This machine literally devours the sheaves of wheat; the eye cannot follow the work which is effected between the entrance of the sheaves and the end of the operation. It is one of the greatest results which it is possible to obtain. The impression which this spectacle produced upon the Arab chiefs was profound.”

Alderney cows have been substituted for Ayrshires on a large dairy farm in the south of Scotland, and more butter was yielded; but the Ayrshire made the most cheese.

STEAM PLOUGHS AND THEIR FAILURES.

The Canadian Steam Plough, about which there has been some “puffing,” aided by a loan or bonus from the provincial purse, appeared at the Paris Exhibition minus an efficient boiler, a matter, one would suppose, of very easy adjustment. Our own opinion, expressed to the inventor and the Minister of Agriculture on view of the model at Quebec, was, that it must fail for two reasons—1st, It would not work at all (*i.e.* as a plough) in any land except bare fallow; 2nd, It would be *more costly* than horse power, even if it could be made to work on any soil—a point in regard to which we had strong doubts. Lord Elgin, however, pronounced a favourable opinion; some other gentlemen, equally well qualified to judge, concurred, and the money was advanced. Mr. Mechi, upon such high recommendations, undertook to test the thing at Tiptree Hall; but it appears that, in spite of these influential patrons, the steam plough has failed for want of a boiler!

We take no pleasure in recording this failure, although the invention, if it can be called one, never had any merit in our eyes. It would have been very gratifying to Canadian pride, if a humble colonist, and a printer too, had accomplished the long-sought-for achievement,—a practicable steam plough. We fear the difficulties to be surmounted are insuperable, so long as steam engines require a weight of metal in their construction that their own power will not move along the ground. Another inventor lately exhibited a steam plough—or rather a gang of ploughs—*on paper*, which drew a long, flattering notice from a leading city journal; and he, too, asked for public money to test his machine,—whether he has yet received it, we are unable to say. And what do our readers imagine this gentleman proposes to accomplish? Nothing less than this:—He intends to mount an engine, boiler and all, on three wheels; to this he will attach from ten to fifteen ploughs, ranged in proper order, and adapted to turn furrows from six to twenty-four inches deep! By putting on steam, he expects to see his engine start off upon its three wheels, over *soft* ground, and *up* as well as *down* hill,—for where will he find *level* fields?—dragging its formidable array of ploughs after it!

To convince him, if possible, of the absurdity of his scheme, and the folly of neglecting his watches, which he *could* make “go,” for a machine so much out of his line, we asked him the *power* of his proposed engine. He thought about twenty horse

power. We then asked him if he had estimated the *weight* of such an engine with its necessary machinery, and of the carriage on which he proposed to mount it, to say nothing of the ploughs. He had not yet made the calculation! We then asked him how many horse power would be required to drag *one* plough through the earth at a depth of two feet. He had not made the estimate! Our advice was, to procure some reliable data, and then sit down and make these calculations before he asked aid from the Government or from individuals. We stated our belief as in the other case—1st, That the machine would not move itself in soft ground or up an incline; 2ndly, That if it did move its own weight, *one* plough two feet, or even eighteen inches deep, would *anchor it fast*.

There are certain *facts* in machinery as well established as any facts can be. The laws that govern matter, and all experience in the application of them, have established these facts beyond doubt or dispute; and we must therefore make them the starting points in the field of invention. To ignore them, is to insure failure beforehand. The most plausible expedient for overcoming the difficulties presented by the weight, or inertia of the engine itself, is that of a revolving track or "rail" for the locomotive. But even this, we fear, will fail when any considerable incline is to be overcome. A steam plough that will not move, except upon level surfaces, will never be worth much in Canada.

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 Royal Agricultural Society of England.—Meeting  
 at Carlisle.

We take the following Report of this recent meeting of this important Society from the *Mark Lane Express* of July 30th. Notwithstanding the very unfavourable state of the weather, the Show appears to have been signally successful:—

For the last time, at least as it is said, this is an "off" year with the Highland Agricultural Society. The meeting at Carlisle may thus be considered a joint exhibition of the two national associations. In some respects it has been so, but by no means to that extent which might fairly have been anticipated. It is only right to say that no blame rests with the management of that body under whose auspices the gathering took place. The Council of the English Society arranged distinct classes for Scotch cattle and sheep, and it only remained with our northern friends to enter for them. There was ample opportunity, if they only chose to avail themselves of it. This they did to only a limited degree. Many of the premiums offered entirely in compliment to them resulted in but little competition. With the cattle this was particularly the case; while with horse and sheep, on the other hand, we had some better evidence of what Scotland really could do.

If, however, this support was wanting in one way, it was by no means denied us in another. As far as a question of funds goes—"money taken at the doors"—the Carlisle meeting has been one of the most successful of all the Society's shows. The majority of these visitors, too, of course came from the North, and crowds that weather, from first to last almost altogether unfavourable, appeared hardly in any way to effect. On Thursday, above all, they still continued to throng in, and gather round their own favourites sorts. The grey Clydesdale horse, the mountain sheep, and the prize Galloway, were but seldom accessible. And if the Southron had not paid his half-guinea on the day previous, he must have found it hard work to cam over the merits of these champions of Scotland's agriculture.

Fortunately, there was plenty to attract his attention in other directions. As a stock show, that of Carlisle is altogether one of the very best the Royal Agricultural Society of England has ever been able to command. Following the usual course of the prize-sheet, we scarcely remember a class but that was worthily represented. From cattle to sheep, from sheep to horses, and so on to pigs, of various sorts and sizes, and still we came on something very like general excellence. The prize list, to be sure, particularly in cattle and sheep, gave in names that alone assured us we should find the very best of their kind. More than this, however, those beaten were worth beating, and many an animal undistinguished here will live to see a better day. The reader has only to run his eye over the prize list to assure himself of the quality of the Carlisle Show.

Commencing with the first class in the catalogue; as now undoubtedly the most fashionable of all our breeds of cattle, we meet with extraordinary display of Short-horns. This, too, might have been expected. Yorkshire and Lancashire, despite the gradual distribution of the race, have still our best herds; and the houses of both York and Lancaster again did their best. Mr. Richard Booth—as we have just said, the name is a guarantee—took the first prize for the best bull, and again for the best cow; Mr. Townely for the two best young bulls, as well as for the best heifer. After them we have a string of other good men dividing the other premiums and commendations amongst them—Lord Feversham, Mr. Ambler, Mr. Fawkes, Mr. Douglas, Mr. Stratton, and Mr. Sainsbury. The mention of these alone will show what there was to beat. The first prize bull is worthy of especial commendation, and this not only for his real merit in form and touch, his extraordinary length—that long, low, and even look, which argues so much for perfection of form—it is not only for this we would uphold him but, perhaps even more so for the condition in which, to borrow from another pursuit a most significant expression, "he was brought to the post." Of all the bulls entered at Carlisle, Mr. Booth's white "Windsor" was not only the best for shape and symmetry, but he was best fitted to breed from. Compared, indeed with some of the over-fed animals which stood near him, the superficial observer might wonder how he came to be placed first. It is, however, only the superficial that can be deceived in this way, while it is a very great fact to establish that a lean and really used bull, did beat, on his innate merit, all that pampering and over-feeding could make up to show against him. As was well said by those who knew him best, "he was too good for that."

Lord Feversham's bull, which took the second prize here and the first at Paris, is one of Lord Ducie's highly-bred stock—a son of the Duke of Glou-

oester, and purchased at the Tortworth sale. It is rather curious that we do not find more animals from this celebrated herd at our different stock shows. Mr. Gunter and his Duchess, for instance, might surely shine here. Mr. Towneley's young animals were remarkably forward, giving every indication of that early maturity which is argued as one of the greatest recommendations of the Shorthorn; while the first and second prize cows—Mr. Booth's Bridesmaid and Mr. Douglas's Rose of Summer—have, perhaps, taking them together as first and second, never been surpassed. Indeed, to show the excellence of this class, we may mention that Mr. Stritton's Matchless, herself a very perfect animal, claims only a simple commendation.

It would be difficult to say from what cause, but there is no breed of animal which is so uncertain an exhibitor as the Hereford. Of late years, in fact, the meetings have been generally against them. Even at Gloucester, if we recollect aright, the entry was but a poor one. At Carlisle, on the contrary, it was very good, and, taking the whole of the classes, considered by far the best we have had for a long period. There were many good judges, not so wedded to the Durhams, who considered Lord Berwick's bull as the best in the yard.

Of the Devons there was but a small show—compensated for, however, by the excellence of Messrs. Quartley's and George Turner's stock. Mr. Turner's cows were very generally admired, and certainly nothing could show higher breeding or finer quality. Mr. Farthing, who was only competitor against the Devon men, received some well-merited commendations—the “*highly*” proves how close he was to the prize animals.

Coming on to the Scotch Cattle, strange to say, we have the entries yet more limited. In four distinct classes for Ayrshires there were altogether but a dozen entries—for the best bull of any age but one bull sent. In the Angus and either Polled Breeds there were four classes, with just four animals to contend for them—one in class one, none in the next, two in the third, and one in the fourth. The Highland and other Horned Breeds numbered four classes and three beasts! Nevertheless, almost all the prizes offered were awarded, although beyond a pick or two from the Angus and the Ayrshire there was nothing of extraordinary merit. It was the weak feature of the whole show. In the special prizes offered by Mr. Head, the Galloway showed much stronger. Every class was well-filled, and both in the cows and bulls there were some animals of much excellence which came in for a great deal of observation from breeders who had hitherto seen but little of them. We cannot help thinking that our Scotch friends have sadly missed their opportunity, and that it would have been to their advantage to have shown us even something more than Clydesdale horses, Galloway cattle, or mountain sheep.

Co-equal in every way with any other department—taking at length their proper position in the exhibition of an English agricultural society—we have the show of horses. It is but a very few years since that we heard members of the Council assert that it was impossible to obtain anything like a becoming entry of horses for the majority of those prizes they might wish to offer. It is but two years since that we saw at Gloucester one of the very weakest collections of horses, of almost any sort, that any such public occasion could be supposed to make up. It is only right to add that this extraordinary improvement is no merely lucky chance, or turn in the

wheel of Fortune. Much has been done in the interim. Something by the Council of the Society, and more by those friends they have since visited. As members of and spectators at the recent meetings of the national society, we owe something far beyond any formal vote of thanks to the mayors of Lincoln and Carlisle. By their judicious aid a new spirit has been infused into a weak place, and it will be our own fault if this be not only kept up, but yet still further encouraged. Despite ploughing by steam which is to come, and travelling by steam that has come, there is no branch of a farmer's duties that needs more impressing upon him than this greater attention to the breeding of horses. And this is not merely to the breeding of heavy draught horses, but even of hacks and hunters. The Lincolnshire farmers—not the worst in the world—breed their hacks and hunters. The Yorkshiremen have theirs, too, and both with a profit. There are other good farmers, a sad majority so far, who have not a cart-horse fit to show, or a hack that ought to be ridden off their holding.

It is these gentlemen that the Royal Agricultural Society can now aid. It is in ministering to this common want that the English Society now stands pre-eminent. Neither the Scotch nor the Irish national associations have anything like a *generally* good show of horses; nothing, in fact, so far as we have seen, worthy of them. It is, so, rather a proud thing to say, that if you want to see a good horse you must go to the English show. You have him here of every variety—the best to breed race horses, hunters, coach horses, and cart horses. At least, we speak from what we saw at Carlisle; and no one who was there will gainsay us.

But a very short time ago—we must still look back to see what has been done—perhaps one hunter stallion might be ready to take any premium offered under the auspices of the Society. They would not show, it was said. The owners of horses, already in repute, would not risk their being deteriorated by the awards going against them. The best answer to this is the Carlisle Meeting. For the Mayor's prize of forty guineas, there were thirteen thorough-bred stallions shown, and these not merely some of the best bred—with the fame not only of race horses—but many of them winners of prizes at local agricultural societies, as stallions to get hunters. Amongst these were The Era, St. Bennett, A British Yeoman, and The Cure. The premium, it will be seen, was awarded to an Irish-bred horse, Ravenhill, but now standing in the neighbourhood of Carlisle; his chief opponent being The British Yeoman. It must, indeed, have been a very nice point between the two, the Yeoman being certainly the finer horse. A great many of his stock, of all ages, from foals to three-year-olds, were in the yard, and a more promising lot from one horse has seldom been brought together.

The class of coaching stallions, also a special prize from Mr. Richard Ferguson, the owner of Ravenhill, hardly produced so strong a class. This, however, was well carried out by another series of special prizes from the Local Committee, which included, and particularly shone in, hunter and harness mares and geldings. Some of the brood mares were very far beyond even what one is accustomed to rank as “a good sort.” If we might instance one, it would be Sir Wilfred Dawson's Retriever mare, “Madam,” which, with three-year-old colt by The British Yeoman, made up a wonderful family trio. They were classed as harness horses—we should be inclined to put them to something better. The



prizes coming directly from the Society were confined to horses for agricultural purposes, including four distinct classes of Clydesdales. The first prize in the open class went to a Leicestershire horse, "Noupariel," which took the second prize as a two-year-old at Windsor. He is now, at six years old, grown into a very fine horse, combining very happily those two great recommendations of a draught horse, strength and activity. The whole of this class, as well as the two for younger horses, was very strongly represented, while some of the mares and fillies were even better. The two prize mates might be instanced, while the whole class of fillies were generally commended. The entries in horses for agricultural purposes included some from nearly all parts of the kingdom. Amongst these, the few Suffolks shown might by many have been thought worthy a better place. A filly of Mr. Barthropp's was, indeed, very nearly taking a prize in the strongest of all these classes. It struck us, however, that the Suffolks, either by judge or jury, was scarcely so well appreciated as he might have been.

The Clydesdales, though a good, was by no means a uniform or a large show. The first prize horse was a long way the best of his entry, and the same may be said of Mr. Douglas's mare. One or two of the aged stallions rather disappointed us in what we expected to find as the common character of the Clydesdale horse. There was hardly that light active look which, at least, one has been led to associate with the horses of the Clyde. We question whether generally these might not have been better.

The chief strength of the sheep show was with the Leicesters, Cheviots, and Black-faced Mountaineers to all of which the breeders on and over the Border very largely contributed. In the Leicesters, however, they had to succumb to the two best flocks we have—those of Messrs. Sunday and Pawlett, who divided the prizes between them—the lion's share going to the former. The entry of Shearling Rams was very large, while it was almost as remarkable for uniform excellence. Our Scotch friends appear now to depend less and less on a large coarse sheep, and proportionately more on purity of breed. Compared with the other Longwools or Co-swolds, of which there was but a short show, the Leicester has a very refined look, and from what we could gather the comparison was altogether in his favor. There is still no denying that the Cotswolds are extraordinary sheep, the size of some of them being really "prodigious." The entries here were mostly from their own head-quarters in Gloucestershire, and Messrs. Lane, Garne, and Beale Brown again in the ascendant.

In the Cheviots and Mountain Sheep, the north was unquestionably better represented than in any other of those classes in which breeders from those districts might have been expected to distinguish themselves. As special prizes, both sorts were eminently successful—the black faced twisted horned mountain sheep giving a local character to the meeting that should have been further carried out by a better display of the rough-coated Highland cattle. No hogg can be more different than these two varieties of sheep, while to the eye of the stranger the Cheviot looks by far the more useful of the two. Still, for a hard life, there is said to be nothing like a mountain flock.

The Southdowns gave way here to the Leicesters, and the show of them was consequently but a small one. They included, however, many of our best breeders—the Duke of Richmond, Lord Walsingham,

Lord Chichester, Mr. Ringden, and Mr. Lugar. Mr. Jonas Webb's entries were not sent; but his sheep were becomingly represented by Mr. Ringden, who took three out of the four prizes for rams with sheep bred directly from the Babraham flock. In the ewes, Mr. Lugar had a pen of five very beautiful and nicely-matched, which deservedly held the head place in their class, being well backed by two good selections from Lord Walsingham's though by no means of so high a caste as the first prize pen.

The pigs were chiefly remarkable for the immense size which some of them had attained, and the absurd state in which they were exhibited. The judges disqualified some from being entered in wrong classes, and others by the aid of Profs. or Simmonds, for being over age. They might have very justly excused these condemnations, and sent many more out of the Yard as not being in a fit state to breed from. We really believe that, had the weather been fine, and the sun's rays anything as strong as we have had them during this month, some of the unhappy brutes could not have lived through the week. As it was, we heard one or two had to be physicked as they lay—stand they hardly could; and if the fat pigs of the Smithfield week can be made fatter than these, then perhaps we may allow that, in this particular section of the show, one is a breeder's and the other a butcher's. At present we confess we cannot mark the distinction. This department of the Yard was not quite on a par with the excellence to be found in others; though of the two classes, large and small breeds, the small pigs, both of the black and of the white sorts, were much to be preferred.

A very ragged, as well as a very limited poultry show, to be commended only for a few good Dorkings, completes our synopsis of the five stock catalogue. The time of year is said to be against this new feature. It is certain that, so far, the poultry exhibition has not been worthy of the society.

From a cause very easily explained, the implement yard was not numerically so well filled as usual. We are inclined, however, to regard this as anything but a falling off. The northern part of the kingdom is not famous for agricultural implement makers. Beyond the Busbys and Crosskills of Yorkshire, there is scarcely a firm of any very high reputation in this particular branch of mechanics. This will itself go far to account for a comparatively small show. But this is not all. There was a day, and not a distant one either, when the implement department of the Royal Agricultural Shows was crowded with inventions, not half of which were half perfected. The evil arising from this was manifest enough. At present we have not, maybe, so much to labor through, but almost every piece of machinery has now an established character and a recognized use. Manufacturers are gradually declining unprofitable collision with each other, and directing their energies more to the improvement of such machinery as they find they excel in. Thus—the Ransomes, the Howards, and Busbys are known for their ploughs; the Hounslys, Fuxfords, and Clayton and Shuttleworth, as famous for their steam engine. Crosskill has his carts and his clod-crushers. Garrett his drills and his crushers; while the two London firms Messrs. Dray, and Burgess and Key, with Crosskill, here again, are still approaching nearer and nearer to the realization of a reaping machine.

This was essentially the character of the Carlisle Implement Exhibition. With one grand exception there was no novelty, but everyone was found to be still further perfecting what he had already been

distinguished for. This was particularly the case with the steam engines, in the order of merit for which some very remarkable changes occurred. The saving in coal in the first-prize steam-engine is regarded as something extraordinary, and the performance created a very general sensation. It is but right to add that the award was unanimously agreed to, while the achievement must have the effect of calling forth all the energies of other firms who have so far, perhaps, been too well satisfied with what they had attained to. The steam-engine trials at Chelmsford next year will be something more than usually interesting.

Of almost equal importance, and unquestionably of more attraction to the agriculturist himself, are the trials of the ploughs and the reaping machines. In the former of these the struggle was, as usual, between the Ransomes and the Howards, for both of which Mr. Ransome was declared successful; Howards' lighter plough receiving a high commendation. The ploughs of both these firms were beautifully turned out; the competition in the light of general purpose plough very close, and the award in this class one of the few that was at all canvassed. We speak on the authority of one of our best judges who saw the work when we say that the Bedford plough had hardy justice done to it; while a contemporary declares decisively that it ought to have had the prize. We are always loath to go against the judges, and in doing so here we are only quoting the opinion of others.

After but a partial experiment upon rye, the further trial of the reapers has been postponed until harvest, when four have been selected to meet again on the farm of the President, Mr. Miles, in the neighbourhood of Bristol. These are Crosskill's Bell, Dray's Hussey, Burgess and Key's, McCormick, and Palmer's—a Scotch implement. Crosskill's, Dray's, and Burgess and Key's have all been much improved, the two latter particularly in the delivery; and the race, according to the best judges, is supposed to be between them—Dray, from his past successes, being rather the favourite.

Few even of the most sanguine ever expected to see the two hundred pound prize for a steam plough awarded at the Carlisle meeting. In simple truth we are yet a long way from any such a realization. Of all those entered and tried, or attempted to be tried, none did much to advance us in this direction. It is doubtful whether, after all, Boydell's implement will ever be of much use in cultivating the land; while Usher's, much longer known and much more talked of, proved little less than a lamentable failure. Cumbrous and curious in the extreme, it was long before it could be got to move at all; and when it did, it commanded but few admirers. By far the most satisfactory of all the steam implements to be used in the field was Fowler's draining plough, which was exhibited at work outside the yard. It was much appreciated, and, as now amended, promises to be a serviceable and economical invention for landowners and occupiers. Surely, though, this should come directly under the proceedings of the Society, which would no doubt provide for its being put to work. It is just one of those cases where the authority of such a recommendation would be doubly useful.

Amongst other more modern discoveries was Chandler's liquid manure drill, which would now appear to have no competitor. Mr. Spooner's was entered, but not exhibited. The Messrs. Garrett, however, had Chambers' clever manure distributor in their standing, and which, as with Chandler's, again obtained a premium.

## SHOW OF STOCK AT CARLISLE.

In addition to the foregoing general description of the Show, we subjoin a few particulars from the same journal's Special Correspondent:—

A more splendid show of Shorthorns we believe we never saw—so uniformly good, (with one or two exceptions,) and denoting all that beauty of form and color and feature which all so much admire and love to see, but those better and more substantial qualities—a large, rotund proportionate frame, evidencing a tendency or capacity to produce plenty of good lean flesh, and of the primest quality, as well as to lay on, as they do, such enormous quantities of fat. This is as it should be; who can dine from off fat meat? We are glad to notice such a feature at this meeting. We think more attention is given to the breeding of animals of heavier frame, and denoting a tendency or propensity to produce good lean flesh, than heretofore. For the public good, we beg most earnestly still closer attention to this principle in breeding in every class.

The first prize of £30, for bulls over two and not exceeding four years of age was awarded to R. Booth's "Windsor." He is 3 years and 9 months old and described by the *Express* as a splendid animal, having all his proportions in good outline; his color white; he is very cylindrical in form, but if anything of better than cylindrical form, being deeper in frame than circumference. His head is rather plain, and horns wide, but his eye is fine; back is admirably formed, level and broad throughout; his chest is full, and breasts prominent; his shoulder and ribs well out, full plait, peep flank, long rump, and thigh deep, twist very good.

Lord Feversham's bull "Gloucester" took the second prize of £15. He is only 2 years and 2 months old, but possesses all the full outline of maturity.

Mr. Townsley's bull "Master Butterfly" which took the first prize as a bull calf at Lincoln last year, now takes the first prize of £25 as a yearling. He has a beautiful well-formed head and muzzle, and fine eye and horns; his form that of an oblong cylinder of considerable length, and well proportioned; his back, broad, level, and fat, loin unusually broad and full.

The first prize of £20 for cows in milk or in calf was awarded to R. Booth's "Bridesmaid" a roan 4 years and 4 months old. Her frame is beautifully symmetrical, "an animated cylinder of deep and surpassing proportions."

The Herefords, 32 in number, were of average quality. The *Express* says: "we have never seen a much better Hereford bull than Lord Beswick's and many other animals possessed extraordinary merit. If they do not equal the Shorthorns as a breed of cattle, they are at least next in public favour to them." Lord Beswick's bull "Altringham" red, with white face, 2 years and nine months old, took the £30 prize in the first class. The *Express* says:

"This is a superb animal. He is high enough, is well-formed and cylindrically shaped, deep, and good throughout. Good girth and chest, level back, and broad, but ribs, thighs, and twist, not quite corresponding. Extraordinary flank, long and good; frame long, full, and noble; head and neck commanding. We incline to class him as the best bull in the yard—such uniform depth and substance, and oval very fine."

Lord Radnor's bull "Carlisle," same age and co-

lor took the second prize. He is a deeply formed, handsome bull, but not large; of excellent quality; very cylindrical, or rather oval form; deep but not wide hips; narrow thighs; full fair rump; but flat ribs; good flank.

The show of Devons was small, only 23 animals, whereas the average of the past nine years was 51 and that of Shorthorns 98.

James Quartly's, 2 years and 3 months old bull "Napoleon," took the £30 prize in the first class. He is red, beautifully formed, symmetrical and compact, and of exceeding quality, handsome head, "hips as usual, somewhat too narrow," flank and other lower parts fair, though rather defective. The same gentleman's bull, "Duke of Wellington," took the second prize. In the class, cows in calf or in milk, G. Turner's 6 year old cow "Lady," took the first prize, and his 5 year old cow, "Hawthorn," the second.

The show of horses was large and good, the Clydesdale predominating. In sheep, the Leicester were best represented, though the pure animals were principally from two flocks, those of Messrs. Landry and Pawlett. There was a short show of other longwools, but Messrs. Lane, Garne & Brown exhibited some of their Cotswolds, which, in the language of the *Express*, were, "extraordinary sheep, the size of some of them being really prodigious." The show of Southdowns was small, but included somewhat excellent animals from the flock of the Duke of Richmond, Lords Walsingham and Chichester, and Messrs. Rigden & Lugar. The pigs, it is said, "were chiefly remarkable for the immense size which some of them attained, and the absurd state in which they were exhibited. They were so fat, that had the weather been hot, "the unhappy brutes could not have lived through the week." The small breeds, both black and white, had the preference. The poultry show, which is a new feature, was a failure.

#### CROPS IN NEW YORK.

The Rural *N. Yorker* the leading agricultural journal of western New York, makes the following reference to the grain crops of that State:

LOOKING AT WHEAT—or rather the weather-beaten straw which ought to contain wheat—we see little to cheer us. That which has been "put to question" of the threshing machine, has turned answer in a product of from five pecks to ten and even fifteen bushels per acre. In some localities very little of the Soule's or Hutchinson wheat—however promising it may have looked before the harvest—will replace the seed sown, in quantity; and as to the quality, the shrunk, grown, weevil-eaten kernels are such as would have been thrown to the pigs and chickens three years ago. The Mediterranean and Golden Drop do better, but they disappointed the farmer by the meagre product. The weather and Hessian fly injured them, while the weather and midge did their worst to later varieties. Here and there a region escaped with small damage from the latter, but it is nevertheless true that wheat may be put down as a failure, so far as any profit is concerned [even at \$2 a bushel,] in any of the best grain-growing districts of Western New York.

OF OATS there are enough in the country to furnish fuel to every equine locomotive on the track, or

off, either. Still thousands of acres were drowned out by the June rain, and other thousands injured more or less. Oats are plenty and they will be needed, for.

THE HAY crop has been got in—or left out—in miserable condition. There are meadows of greater or less extent, or many a farm, where the grass rotted—yes, *rotted*—in the swath or cock, and is entirely worthless except for manure. Many a musty mow of hay will be tramped into the dung heap next winter, or forced down the cattle by sheer starvation and the lack of decent straw as a substitute. Some good hay was secured—the second growth after the rain—and some snatched up between the showers—but hay and wheat this year cost the farmer higher prices than he will be likely to get for them.

BARLEY is a good crop. We have seen as fine fields of barley as ever ripened in Western New York. But it was not sown very extensively, at least we have noticed little.

#### WHY IS FARMING UNPROFITABLE?

Why is it that nine-tenths of our farmers find farming to be unprofitable? By *unprofitable*, I mean paying day-wages to the farmer, and but a very small per centage on the capital he has invested in land, stock, tools, &c. Now this is a serious question—a question often asked, and one to which every practical farmer ought to be able and willing to reply. Hundreds of farmers, who own from one hundred and fifty to three hundred acres of good land, passably stocked, find themselves barely able to prove that they are as well off to-day as they were a year ago: and many declare that the laborer, who has nothing but his hands with which to get a living, lays up more money in a year, than they with all their broad acres and flocks of cattle and sheep. If this be true, and I have no doubt but in many instances it is, a farm managed as a large share of our farms are managed, is a clog to a young man, with a small family who is endeavouring to lay up something for those "rainy days" which are sure to fall to the lot of many, if not all of us, ere we reach the end of the journey of life.

Farming is *not* unprofitable because labor is high, because the seasons are unpropitious, or because farm produce brings a low price. The laborer is worthy of his hire; the harvests are bountiful, and the rapidly increasing number of consumers, renders the prices of provisions, to the producer especially, quite satisfactory. Such is the case, and still the question is asked, why is farming unprofitable?

We frequently read about, and sometimes even see, men who have supported families, on the produce of two, ten, fifteen or twenty acres of land, that was when they commenced, no better than the average, in good style,—given their children a good education, and laid by a few dollars in the bargain. Then why cannot men who own two hundred or one thousand acres of land, make farming profitable? The reason is, *they plant too much*, spreading their limited quantity of manure over too large a surface, thereby impoverishing their land and wasting their labor. Eighty bushels of corn, and other grains in proportion, may be raised on one acre of land much easier than on two, and where land is so cultivated as to produce such crops, it is constantly improving, and *vice versa*.

The farms of A. and B. join each other. A.'s consists of one hundred and fifty, and B.'s of forty acres. A. has forty acres of meadow, on which he annual-

ly cuts, on an average, thirty-five tons of hay. B. has fifteen acres of meadow, yielding two and one half tons of hay to the acre, or thirty-seven and one half tons in all. A. plants six or eight acres of corn every year, which yield him about thirty bushels to the acre, and has other field crops in proportion, with proportionate results. B plants two or three acres of corn, harvests from seventy-five to eighty bushels to the acre, and is able to do all his work himself. A. pays out from one hundred to one hundred and fifty dollars a year for help. A. talks of hard times, and thinks seriously of "moving west," but money could not tempt B. to part with his snug little homestead, satisfied, as he is, that he could never find a better.

The value of A.'s farm is constantly decreasing while the value of B.'s is as constantly increasing; and why? Simply because A. *skins* his land, and B. does not. A. plows and plants indiscriminately - heaps of manure lie around his barns from year to year; he takes no agricultural papers and has no agricultural books, and he sells his best stock, and keeps that which is unsaleable. It is not so with B. Not a particle of fertilizing matter is suffered to remain in the vicinity of his buildings from one year to another; he plows only so much land as he can properly manure: he subscribes for the *Country Gentleman*, and reads it too; he never parts with his choice-t stock; and A.'s talk about the superiority of western lands awaken in him no dissatisfaction with his own.

Farmer B. does not find farming unpleasant nor unprofitable, but farmer A. does—the *why* is self-evident.—*Country Gentleman*.

BREAKING STEERS.

In breaking a pair of steers, first confine one of them in a yard 14 to 18 feet square, high and strong enough to hold him; then enter the pen with a switch three or feet long, and with your pockets filled, not "with rocks," but with ears of corn, apples, carrots, &c.. Tame the steer by feeding him, and convince him that you mean no harm. Having done this, I introduce my business to him, by getting him into a corner with as much gentleness as possible. Here stroke him and pet him in various ways feeding with a nubbin of corn.

Of course he must learn to *haw*,—so I strike him gently on the *off ear* with my switch, and after that with my back towards him, twist his tail, (a little twisting is better than none;) I conduct him again to his corner and order him to *who*,—which from the force of circumstances he is compelled to do. Thus I teach him to *stand* as well as to *haw*, and in a short time he well obey the command in any part of the pen.

After sufficient practice in the pen, I let him out into a large yard, and then drive him with equal success. Here he becomes well accustomed to the *Who, Haw, Goe*, processes. But if he does not prove sufficiently tractable I return him again to the small yard for further discipline. The other steer I serve in the same way.

Preparatory to yoking, I drive them both into the pen and exercise them together, making one stand while the other comes up as if coming up under the yoke. Then taking the bows out of the yoke, I lay it on their necks, taking care not to frighten them in the operation, then put in the bows, and I have a yoke of oxen! But previous to yoking, drive

them side by side in the large yard. While driving in the large yard either single or double, use a whip 8 or 10 feet long, and when driving both, put on a lash two feet long.

CAUTIONS.—Keep cool! use caution for yourself and for your cattle. If they *kick* you, look out next time, but don't return the compliment, for you are not to consider yourself on equal terms with them. A little patting and rubbing is better. If you have not Christianity enough to return good for evil, don't undertake to break steers. I had rather break a pair of wild steers for \$5. than a pair that has been injudiciously handled for \$10.

Be careful not to overload them, and never drive them until they are out of breath.—Many cattle are broken in spirit and constitution while young. Indeed, very few know what a good, well broke and well fed, and well tended pair of oxen can do. Never whip, and never talk loud. The superiority of this mode in economy of time, in ease of execution, and in final results, will be apparent enough to any one who tries it.—*Corr. of Wool Grower*.

THE POTATO ROT.—Since the 20th ult., we have noticed that the tops of potatoes have in some cases been struck with rust, and we hear that the tubers are rotting. To what extent the crop will be effected cannot be told at present. The early portion, in this vicinity, was generally matured before the rust made its appearance, and the yield is large, the tubers sound and of superior quality. The growth of the plant has generally been very strong and of a healthy aspect, till the latter part of August. Some lots which have been most blighted, were the most luxuriant and flourishing till within a day or two of the change. We are inclined to think that the crop set out for a large yield, and that the tubers were generally more abundant and of larger size when the rust appeared, than they have been in any preceding crop, at the same time, for many years. We think, too, that the rust is less virulent than usual, which leads us to hope that a much greater portion of the crop will be saved.—*Boston Cult*.

EFFECTS OF GREEN CROPS.—The proportion which green crops bear to each other with respect to weight of produce, and also in respect of exhausting the soil, if it be drawn from the weight of vegetable substances that is raised from the land:—

|               |    |                 |    |
|---------------|----|-----------------|----|
| Mangel wurzel | 25 | Kohl rabi       | 14 |
| Cabbages      | 25 | Swedish turnips | 13 |
| White turnips | 16 | Carrots         | 11 |
| Potatoes      | 15 |                 |    |

This mode of judging is quite opposite to the commonly received opinion. By taking the weight of nutritive matter which is produced from a given space of ground, as the standard from which to judge the results are very different, and will be found to agree with daily experience, or at least the common opinion:

|               |    |                 |    |
|---------------|----|-----------------|----|
| Potatoes      | 63 | Kohl rabi       | 17 |
| Cabbages      | 42 | Swedish turnips | 16 |
| Mangel Wurzel | 28 | Common turnips  | 14 |
| Carrots       | 24 |                 |    |

SHEEP.—Poor fences will teach ewes and wethers to jump, as well as rams, and for a jumping flock there is no remedy but immoderately high fences, or extirpation. One jumper will soon teach the trick to the whole flock, and if one by chance is brought in, it should be immediately hopped or killed. The last is by far the surest and safest remedy.—So says Randall.

### INFLUENCE OF THE MOON.

The believers in the Moon's influence are quite numerous in Canada, and no doubt some of our readers hold the same faith. We have known farmers put themselves to considerable inconvenience in order to avail themselves of this supposed influence. It may be worth their while to read the following, which we find in that excellent journal, the *Maine Farmer* :—

**TIME FOR FELLING TIMBER.**—An opinion is generally entertained in New England, and especially in Maine, that timber should be felled only on the decline of the moon, for if it be cut down during the increase it will not be of good quality. This idea prevails in many countries. It is believed in England, and made the ground of legislation in France—the laws of the latter country prohibiting the cutting of timber on the increase of the moon. The people of South America adopt the same creed, and the Germans have the most implicit confidence in its truth.

According to some explainers of the supposition, the sap ascends much more swiftly during the decrease of the moon, and they infer, therefore, that timber which is felled in the first or second quarter of the moon, when the pores are more filled with sap, will be spongy and more liable to attack by worms; that it will warp and split by exposure to very slight variations of temperature; but, on the contrary, timber felled in the third or fourth quarters, when the sap ascends with diminished force, will be more dense and durable, and fitter for the purposes of structure.

I think it would be hard to imagine, in the whole range of nature, a physical relation more extraordinary, unaccountable, and reasonable than this supposed correspondence between the movement of the sap and the phases of the moon. Most assuredly, theory affords not the slightest countenance to such supposition, and on the face of it, it is inconsistent with itself; but let us enquire as to the fact, whether it be really the case that the quality of timber depends upon the state of the moon at the time it is felled.

The celebrated French agriculturist, Monceau, made direct experiments for the purpose of testing this question, and clearly, fairly, and conclusively showed that the qualities of timber felled in different parts of the lunar month are the same. He experimented with a great many trees of the same age, and never found any difference in the quality of the timber, when he compared those which were in the decline of the moon with those which were felled during its increase; both afforded timber of the same quality. Other distinguished men have experimented with the same results.

**SUPPOSED LUNAR INFLUENCES ON VEGETABLES.**—It is a maxim, everywhere, among gardeners, that cabbages and lettuce which are desired to shoot forth early, flowers which are to be double, and trees which it is desired should produce early ripe fruit, should severally be sown, planted, and pruned during the decrease of the moon; and that, on the contrary, trees which are expected to grow with vigor should be sown, planted, grafted, and pruned during the increase of the moon. These opinions are totally erroneous. The increase or decrease of the moon has no appreciable influence upon vegetation, for the experiments and observations of celebrated agriculturists have proved this beyond a doubt.

Sauer has attempted to assign the reason for this

imaginary effect. During the day, he says, the sun's heat augments the quantity of sap which circulates in plants, by increasing the magnitude of the tubes through which the sap moves; while the cold of the night produces the opposite effect, by contracting those tubes. Now, at the moment of sunset, if the moon be increasing, it will be above the horizon, and the warmth of its light would prolong the circulation of the sap; but, during its decline, it will not rise for a considerable time after sunset, and the plants will be suddenly exposed to the unmitigated cold of the night, by which a sudden contraction of leaves and tubes will be produced, and the circulation of the sap suddenly obstructed.

If we admit the moon's rays to possess any sensible heating power, this reasoning might be allowed, but it will have very little force when it is considered that the extreme change of temperature which can be produced by the lunar light does not amount to the thousandth part of a degree. An old author, who believes all these absurd sayings, prescribes that beans be planted on the full moon and peas on the new, and it is easy to find sensible people who are eager to believe, without proof, that the moon, at the distance of 240,000 miles, acts advantageously upon the vegetation of beans, in one position, and in the opposite position, and at the same distance, she acts propitiously on peas. What a robust faith such people must have!

**SUPPOSED INFLUENCE ON PUTREFACTION.** Some classic authors have transmitted to us a maxim that the light of the moon facilitates the putrefaction of animal substances, and covers them with moisture. The same opinion prevails everywhere. An impression is prevalent, also, that certain kinds of fish, exposed to moonlight, lose their flavor, and become soft and flabby; and that if a wounded horse be exposed to the light of the moon, during the night, the wound will become irritated and incurable.

Such effects, if real, may be explained upon the same principles as those by which we have already explained the effects attributed to the "red moon." Animal substances exposed to a clear sky, at night, are liable to receive a quantity of dew, which moisture has a tendency to forward putrefaction. But the same effect will be produced, if the sky be clear, whether the moon be above or below the horizon. The moon is only a witness of the fact, not the cause, and should be acquitted of the evil deeds charged against her.

**SUPPOSED INFLUENCES ON SHELL FISH.**—The ancients supposed that oysters, clams, and other shell fish, became larger during its decrease. The poets Lucilius and Gallus believed it to be a fact. This matter has been carefully examined into by Rohault, who compared shell fish taken at all periods of the moon's decrease and increase, and during a period of twenty years, and found that they always exhibited the same quality.

**SUPPOSED INFLUENCES IN SLAUGHTERING CATTLE AND SWINE.**—One can hardly find a person but thinks the moon responsible for the quality, good or bad, of beef and pork. We are told that, if the animal is killed on the moon's decrease, the meat will shrink very much in cooking, but if killed on the increase, the meat will "swell in the pot." They do not pretend to explain this wonderful phenomenon, but simply say "it is so." This piece of folly was proved to be ridiculous more than a hundred years ago. We are told, also, that animals butchered on the increase are much longer drying than when butchered on the decrease. The writer has seen this notion

tested many times, and the weight of evidence (?) seemed to be on the other side of the question. The inventor of the thermometer believed that healthy persons gain two pounds at the beginning of every lunar month. His idea was founded on experiments upon himself, but when the same experiments were tried on a considerable number of persons, the whole theory blows away. Probably Suetonius would have convinced himself to the contrary had he experimented long enough.

It is a prevalent opinion, that more births occur on the decrease than on the increase of the moon. This opinion has been tested by comparing the number of births with the periods of the lunar phases, and it is found that the idea receives new support from the statistics.

Pliny says that eggs should be put to hatch on the new of the moon. Many people think that fowls are more healthy when hatched on the full of the moon. Gircau inclines to the opinion that during the dark nights about new moon, the hens sit so undisturbed that they kill their young or check their development by too much heat; while in moonlight nights being more restless, this effect is not produced. But I am told by an old lady who has raised poultry, that she has never been able to discover any difference in favor of the new or full moon. Certainly fifty years' experiments by a lady who was willing to discard the popular notions of her time are entitled to our respect.

In conclusion, it appears that of all the lunar influences popularly supposed to be exercised upon the earth, few, if any, have any foundation in fact. If the moon thus governs the world, it must be in one of these ways:

*First*, by her gravity or attraction; *secondly*, by her heat; and *thirdly*, by her light.

With regard to her *attraction*, we say that inasmuch as she produces not the least tidal effect on the atmosphere, she cannot, by her gravity, effect trees, vegetation, persons, animals or disease.

With regard to her *heat*, we say that it does not amount to the thousandth part of a degree, and hence can have no appreciable influence.

With regard to her *light*, we say that it has no more influence than any other light, on the same or similar substances.

**SILESIA SHEEP**—*Good Fleeces*.—At a shearing of a portion of the Silesian sheep imported last August, by CHAMBERLAIN, CAMPBELL & LADD, which took place recently at the residence of the first named gentlemen in Red Hook, Dutchess Co., N. Y., the weights of several fleeces, as well as the carcasses from which they were shorn, were noted, and are worthy of being chronicled. The average weight of eight unwashed fleeces, from ewes which had suckled lambs during the winter, was 8lbs. 1 oz. The average weight of the carcasses of the same ewes was about 78 lbs. Considering the fineness of the wool, and its high market value, this is a wonderful result,—for it will be seen that, after deducting 33¼ per cent. from the fleeces, they will average 5 lbs 6 oz. of clean, merchantable wool. The sheep shorn were not the best of the flock: A five year old buck, shorn at the same time, produced a fleece (of 13 months growth) weighing 14 lbs. 12 oz.; weight of carcass, 125 lbs. Messrs. C., C & L., say they will cleanse the fleece of this ram, for dollars and cents, in proportion to carcass against any fleece of only 13 months growth, shorn from any rams of any age in America.

THE MILKMAID AND THE BANCKER.

A milk maid with a very pretty face,  
Who lived at Acton,  
Had a black cow, the ugliest in the place,  
A crooked-backed one,  
A beast as dangerous, too, as she was frightful,  
Vicious and spiteful,  
And so confirmed a truant, that she bounded  
Over the hedges daily, and got pounded.  
'T was all in vain to tie her with a tether,  
For then the cow and cord eloped together.

Armed with an oaken bough (what folly!  
It should have been of birch or thorn or holly,)  
Patty, one day, was driving home the beast,  
Which had, as usual, slipped its anchor,  
When on the road she met a certain banker,  
Who stopped to give his eyes a feast  
By gazing on her features, crimsoned high  
By a long cow-chase in July.

"Are you from Acton, pretty lass?" he cried;  
"Yes," with a curtesy, she replied.  
"Why then you know the laundress, Sally Wench?"  
"She is my cousin, sir, and next door neighbor."  
"That's lucky, I've a message for the wench,  
Which needs despatch, and you may save my labor.  
Give her this kiss, my dear, and say I sent it,  
But mind, you owe me one,—I've only lent it."

"She shall know," cried the girl, as she brandish'd  
her bough,  
"Of her beliving intentions you bore me;  
But as to the kiss, as there's haste, you'll allow  
That you'd better run forward, and give it my cow,  
For she, at the rate she is scampering now,  
Will reach Acton some minutes before me."

**RULES FOR MAKING BUTTER.**—The Massachusetts Committee on Dairies says:—"Your Committee, having had much experience in butter-making, offer the following rules as the result of their experience. The newer and sweeter the cream, the sweeter and higher flavored will be the butter. The air must be fresh and pure in the room or cellar where the milk is set. The cream should not remain on the milk over thirty-six hours. Keep the cream in tin pails or stone jars, into which put a spoonful of salt at the beginning, then stir the cream lightly every morning and evening—this will prevent it from moulding or souring. Churn as often as once a week, and as often as circumstances will permit. Upon churning add the cream upon all the milk in the dairy. Use nearly an ounce of salt to a pound of butter. Work the butter over twice, to free it from the buttermilk and brine, before lumping or packing. Be sure that it is entirely free from every particle of buttermilk, and it will keep as long as desired. In Scotland a syphon is sometimes used to separate the milk from the cream, instead of skimming the pans."

**INJURY TO WHEAT BY RAIN.**—Mr. John Johnston, near Geneva, N. Y., writes us that the loss in wheat in Western New York, by weight, in consequence of the rain, will be from eight to eleven pounds to the bushel, and that the loss by shelling was great. He says "I have no doubt that from 30 to 40 per cent. of all the wheat that was out in the rains, is lost to the farmer. Some of my neighbors have had some new wheat ground, and say it scarcely makes thirty pounds of flour to the bushel, which is worse than I ever knew before."

## WEIGHTS AND MEASURES.

In England and America grain is generally rated by the bushel, though it is not the same measure; for here we use the Winchester bushel, which contains 2,150.42 cubic inches; there, since 1826, the legal measure is called the imperial bushel, which contains 2,218 cubic inches; so that 32 of their bushels are about equal to 33 of ours.

The following are the commercial weights of a bushel of different articles, viz: wheat, beans, potatoes and clover seed, 60 pounds; corn, rye flax seed and onions, 56 pounds; corn, on the cob, weighs 70 pounds; buckwheat, 52; barley, 48; hemp seed, 44; timothy seed, 45; castor beans, 46; oats, 35; bran, 20; blue grass seed, 14; salt, 50, according to one account, but Onondaga salt is 56; [the real weight of coarse salt is 85 pounds to the bushel]; dried apples, 24; dried p-aches, 33, according to a table lately published in numerous papers, but according to our experience, both are wrong. We have seen thousands of bushels sold at 22 pounds to the bushel which will measure about three pecks.

**HEAPING MEASURES**—Potatoes, turnips and esculent roots, apples and other fruits, meal and bran, and in some States oats are sold by heaping measure, which contains 2 815 cubic inches. The size of a Winchester bushel measure, is a circular ring with straight sides 8 inches high and  $18\frac{1}{2}$  in diameter. A box 12 inches square, with sides  $7\frac{1}{2}$  inches high, will hold half a bushel.

**COMPARATIVE GRAIN MEASURES**.—Besides the difference between the Winchester and imperial and heaped bushels, before stated, there are a dozen or more local bushels. For instance, at Abington, Eng., 9 gallons; at Peurth, 16; at Carlisle, 24; at Chester, 32, *etcetera*. In France, the *setier* is as 4.427 to 1.000 compared with the imperial bushel; that is 4.427 bushels. In Holland, the *mulle* is as 3.157. In Prussia, the *scheffel*, 1.479. In Poland, the *korsee*, 1.451. In Spain, the *fanega* 1.599; that is, 99 thousandths over a bushel and a half.

**BARREL MEASURES**—Rice, 600 pounds; flower, 196 pounds; powder, 25 pounds; cider and other liquids, 30 gallons; corn, 5 bushels, shelled. By this latter measure crops are estimated, and corn bought and sold throughout most of the Southern and Western States. At New Orleans, a barrel of corn is a flour barrel full of ears. In some parts of the West, it is common to count a hundred ears for a bushel.

**TON WEIGHT AND TON MEASURES**.—A ton of hay or any coarse, bulky article usually sold by that measure, is twenty gross hundred that is, 2,240 pounds; though in many places that ridiculous old fashion is being done away and 2,000 pounds only counted to a ton.

A ton of timber, if round consists of 40 cubic feet; if square, 54 feet. A tun of wine is 252 gallons.

A **QUARTER OF CORN** is the fourth of a ton, or eight imperial bushels. This is an English measure, not in use in this country, though very necessary to be known so as to understand agricultural reports. So of several of the following weights and measures:

A **LAST**, of soap, ashes, herring, &c., 12 barrels; of corn, 10 quarters; of gunpowder, 24 barrels; of flax or feathers, 1700; of wool 12 sacks.

A **SACK OF WOOL** is 22 stone; that is, 14 pounds to the stone, 308 pounds.

A **BOLL OF WOOL** is the same weight.

A **PACK OF WOOL** is 17 stone 2 pounds: 240 pounds, a pack load for a horse.

A **TOD OF WOOL** is 2 stone; that is 28 pounds, 6½ tods, 1 wey, and 2 weys a sack.

A **CLOVE OF WOOL** is 7 pounds, or half stone. Recollect, a stone is 14 pounds, when talking of wool feathers, &c.; but when applied to beef, fish and other meats, it is only 8 pounds.

A **TRUSS OF HAY**, new, 60 pounds, old, 56; of straw, 40 pounds. A load 36 trusses.

A **FIRKIN OF BUTTER** is 56 pounds; a tub, 84.

A **SCOTCH PINT** contains 105 cubic inches, and is equal to 4 English pints.

A **FARLOT OF WHEAT** is 21½ Scottish pints.

**TROY WEIGHT AND AVOIRDUPOIS WEIGHT**—One hundred and forty-four pounds avoirdupois, are equal to 175 pounds Troy; 175 ounces Troy are equal to 192 ounces avoirdupois. All precious metals are bought and sold by Troy weight.

**THE KILO-GRAMME**, of France, is 1,000 grammes, and equal to 2 pounds, 2 ounces, 4 grains, avoirdupois.

A **CHALDRON OF COAL**, is 58½ cubic feet, generally estimated 36 bushels. A bushel of anthracite coal weighs 80 pounds, which makes the weight of a chaldron, 2,880.

**WEIGHTS OF A CUBIC FOOT**.—Of sand or loose earth, 95 pounds; compact soil, 124; strong or clayey soil 127; pure clay, 135; mixture of stones and clay, 160; masonry of stone, 205; brick 125; cast iron, 450; steel, 489; copper, 486; lead, 709; silver, 654; gold, 1,203; platina, 1,218; glass, 180; water, 62; tallow, 59; cork, 15; oak timber, 73; mahogany, 66; air 0.0753. In the above fractions are discarded.

A **BALE IN COTTON**, in Egypt, is 90 pounds; in America a commercial bale is 400 pounds, but is put up in different States, varying from 280 to 720 pounds. Sea-Island Cotton is put up in sacks of 300 pounds.

A **BALE OF HAY**, is 300 pounds.

A **CORD OF WOOD**, is 128 solid feet, usually put up 8 feet long, 4 feet wide, and 4 high. In France, a cord of wood is 576 feet.

A **STACK OF WOOD**, is 108 solid feet; 12 feet long 3 high, and 3 wide. A skid of wood is a round bundle of small sticks, 4 feet long, girding for a one-notch, 16 inches, two notch, 23 inches; three-notch, 28 inches; four-notch, 33 inches; five-notch, 38 inches. A billet of wood is similar to a skid, being 3 feet long, 7, 10, and 14 inches round. They are sold by the score or hundred. A score is 20 in number.

**FAGGOTS** are bundles of brush 3 feet long and 2 feet round. A load of faggots is 50 such bundles. A *quintal* of wood is 100 pounds. All fuel should be sold by the pound.

A **PERCH OF STONE** is 25 cubic feet, piled, or 22 in the wall.

**LIME AND SAND** to a perch of stone. Three pecks of lime, and two-thirds of a cue horse cart load of sand.

**WEIGHT OF LIME**. A bushel of limestone weighs 142 pounds; after it is burned if weighed directly from the kiln, 75 pounds; showing that 67 pounds of carbonic acid and water have been driven off by fire. This bushel of lime will absorb 20 pounds of water, gradually applied during several days, and will then be in a state of dry powder, weighing 93 pounds; showing that 13 pounds of water have been converted into a solid, dry substance.



**TO MEASURE A TON OF HAY.**—One hundred cubic feet of hay in a solid mow or stack, will weigh a ton.

**TO MEASURE CATTLE TO COMPUTE WEIGHT.**—Ascertain the girth back of the shoulders, and the length along the back, from the square of the buttock, to a point even with the point of the shoulder blade; say the girth is 6 feet 4 inches, and the length, 5 feet 3 inches, which, multiplied together gives 31 feet. Multiply this by 23, the number of pounds allowed to the foot, between 5 and 7 feet girth, and the result is 713 pounds, for the number of pounds of beef in the four quarters. Girths from 7 to 9 feet allow 31 pounds to the foot. Cattle must be fat and square built to hold out weight.

**TO MEASURE GRAIN IN BINS.** multiply the length and width together; and that product by the height in cubic inches, and divide by 2.150 and you have the number of bushels.

**TO MEASURE CORN IN THE EAR,** find the cubic inches as above, and divided by 2.815, the cubic inches in a heaped bushel, and take two-thirds of the quotient for the number of bushels of shelled corn. This is upon the rule of giving three heaping half bushels of ears to make a bushel of grain. Some falls short and some overruns this measure.

**BOARD MEASURE.**—Boards are sold by face measure. Multiply the width in inches or any number of pieces of equal length, by the inches of the length. Divide by 144, and the quotient is the number of feet, for any thickness under an inch. Every fourth inch increase of thickness, adds a fourth to the number of feet in the face measure.

**LAND MEASURE.**—Every farmer should have a rod measure, a light, stiff pole, just 16½ feet long, for measuring land. By a little practice he can learn to step just a rod at five steps, which will answer very well for ordinary farm work. Ascertain the number of rods in width and length of any lot you wish to measure, and multiply one into the other, and divide by 160 and you have the number of acres, as 160 square yards make a square acre. If you wish to lay off one acre square, measure 13 rods upon each side. This lacks one rod of being full measure.

**U.S. GOVERNMENT LAND MEASURE.**—A township is 36 miles square, and contains 36 sections, 23 040 acres. A section, one mile square, 640 acres. A quarter section, half a mile square, 160 acres. As this is 160 rods square, a strip one rod wide or every rod in width is an acre. A half quarter section, is half mile long, north and south, almost universally, and a fourth of a mile wide, 80 acres. A quarter-quarter section, is one fourth of a mile square, 40 acres, and is the smallest sized tract, except fractions, ever sold by the government. The price is \$1.25 an acre.

**MEASURE OF A MILE.**—While engaged in the compilation of this valuable article, we received the following table from a friend in Maine, who, in remarking upon the indisposition of some persons to take an agricultural paper, "because" they say "it pertains to the system of book farming," says some object to take *The Plow* because "they can't afford it." We are sorry for their poverty, but more so for their ignorance, and stupid determination to remain in it. This single article which is less than the fifth part of what we give them for fifty cents, would cost any one of them fifty times the price of *The Plow*, in labor, to glean this information from fifty dollars worth of books. Our measure of distance is by the standard English mile, which is 5,280 feet in length, or 1,760 yards, or 320 rods.

An English geographical mile, is equal to 2025 yards.

|                        |     |                 |          |          |
|------------------------|-----|-----------------|----------|----------|
| Ancient Scottish mile, | 1   | mile            | 224 yds. | English. |
| Ancient Irish mile,    | 1   | "               | 480      | "        |
| German short mile,     | 3   | "               | 1579     | "        |
| German long mile,      | 5   | "               | 1326     | "        |
| Hanoverian mile,       | 6   | "               | 994      | "        |
| Tuscan mile,           | 1   | "               | 48       | "        |
| Russian mile,          | 4   | "               | 1197     | "        |
| Danish mile,           | 4   | "               | 1204     | "        |
| Dantzic mile,          | 4   | "               | 1435     | "        |
| Hungarian mile,        | 5   | "               | 313      | "        |
| Swiss mile,            | 5   | "               | 353      | "        |
| Swedish mile,          | 6   | "               | 1110     | "        |
| Arabian mile,          | 1   | "               | 330      | "        |
| Modern Roman mile      | 132 | yards less than | English. |          |

LENGTH OF LEAGUES.

|                          |   |   |      |   |
|--------------------------|---|---|------|---|
| French posting league,   | 2 | " | 743  | " |
| French league,           | 3 | " |      |   |
| English league,          | 3 | " |      |   |
| Spanish judicial league, | 2 | " | 1115 | " |
| Portugal league,         | 3 | " | 1489 | " |
| Flanders league,         | 3 | " | 1584 | " |
| Spanish common league,   | 5 | " | 376  | " |

LENGTH OF OTHER MEASURES.

|                   |   |   |     |   |
|-------------------|---|---|-----|---|
| Persian Parasang, | 3 | " | 806 | " |
| Russian Werst,    | 6 | " | 593 | " |
| Turkish Bein,     | 1 | " | 66  | " |

A German geographical mile is equal to 4 English miles or 8100 yards.

SCRIPTURE MEASURES.

"A Sabbath's Day's Journey" is 1,153 yard—about two thirds of a mile. A *day's journey* is 33½ miles. A *reed* is 10 feet, 11½ inches. A *palm* is 3 inches. A *fathom* is 6 feet. A *Greek foot* is 12½ inches. A *Hebrew foot* is 1.212 English foot. A *cubit* is 2 feet. A *great cubit* is 11 feet. An *Egyptian cubit* is 21.888 inches. A *span* is 10.944 inches.

As the superficies of all our States and Counties are expressed in square miles, it should be borne in mind that the contents of a mile is 640 acres.

**NUMBER OF SQUARE YARDS IN AN ACRE.**—English 4,840; Scotch, 6,150; Irish, 7,840; Hamburg, 11,545; Amsterdam, 9,722; Dantzic, 6,650; France, [hectare,] 11,960; Prussia, [morgen,] 3,053.

**MANURE MEASURE.**—This is generally estimated by the load, which is about as definite as the phrase about as big as a piece of chalk. It ought to be measured by the cubic yard or cord. A *cubic yard* is 27 cubic feet, each of which contains 1,728 cubic inches. A *cubic cord* is 125 cubic feet. As the most of farmers have an idea in their minds of the size of a pie of wood containing a cord, they would readily compare that with the quantity of manure if stated in cords. Every cart or waggon box, before it leaves the maker's shop, ought to have the cubic feet and inches it will contain indelibly marked upon it. This would enable the owner who has read *The Plow*, to calculate the amount of his load of grain, roots, earth, or manure.

**WEIGHT OF MANURE.**—A solid foot of half rotten stable manure, will weigh, upon an average, 56 pounds. If it is coarse or dry, it will average 43 pounds to the foot. A load of manure, or 36 cubic feet, of first quality, will weigh 2,016 pounds; of second quality, 1,728 pounds. Weight to the acre Eight loads of first kind, weighing 16,128 pounds will give 108 pounds to each square rod, and less than two and a half pounds to each square foot. Five loads will give 63 pounds to the rod. An acre con-



taining 43,560 square feet, the calculation of pounds per foot, or of any quantity per acre is easily made.

**THE MEASURE OF MIND.**—May be considerably expanded in every youth who will carefully study these pages, which we have prepared with a measure of labor especially for the benefit of all who measure the capacity of our intellect to give useful information by our monthly chronicle of matters calculated or at least intended to elevate the minds of our readers immeasurably above those who are still groping in the darkness of wilful ignorance, because of their misjudged economy in not patronising agricultural papers and schools.—*The Plow.*

### THE MONTHS—OCTOBER.

“What though the chill and frosty morn  
Late of its fair proportion shorn;  
The hasty twilight, that betweaves  
Of their full length the darkening eyes;  
The length'ning nights, that now assume  
More than their equal share of gloom,  
Mind us of charms, alas! gone by,  
And haply wake a longing sigh:  
Yet much, when once is spent and past  
The tempest's equinoctial blast,  
While yet the radiant noons retain  
Signs of fair Autumn's mellow reign,  
Ere yet the deep'ning shadows near  
Of dark November's form appear:  
With much is calm OCTOBER fraught  
To prompt the sadly pleasing thought;  
With much amusement to dispense,  
And pleasure to the admiring sense;  
With much, enjoyment's better past,  
To store the mind and warm the heart;  
If objects, which the sense amuse,  
Give cause for more exalted views;  
And forms of earth be made to bear  
Stamps of a heavenly character.”

MANT'S BRITISH MONTHS.

The name of this month comes from the Latin, without change, and signifies the eighth month, reckoning from March. The Saxons called it *Wynamonat*, that is, Wine-month, as being the period for gathering the vintage; and also *Winter Fyllth*, from the near approach of that season. It was dedicated by the Romans to Mars. In old pictures it is represented by a man sowing grain; but, in more modern ones, by a man with a basket of chesnuts, and clothed in a mantle of the colour of the decaying leaf, which, at this period, begins to strew the earth and clothe it in a sad coloured garment. The Scorpion is the sign which the sun enters on the 23rd of this month.

The glory of summer has now passed away, Autumn is fast drawing to a close, and stern winter with frosts and snows, is about making his advent. Notwithstanding, the present month is often as pleasant and agreeable as any of the year, the gloom of whose decline is often enlivened by the variety of rich bright colours exhibited by the

fading leaves of shrubs and trees. So varied and glowing, indeed, are the tints, so harmonious their combinations, so exquisitely tender and soothing the emotions that they give birth to, as to render our autumnal scenery, both to the painter and the man of sentiment, more interesting even than the blossoms of spring and the radiance and verdure of summer.

“These virgin leaves of purest vivid green,  
Which charm'd ere yet they trembled on the trees,  
Now cheer the sober landscape in decay:  
The lime, first fading; and the golden birch,  
With bark of silver hue; the moss-grown oak,  
Tenacious of its leaves of russet brown;  
Th' ensanguined dogwood; and a thousand tints  
Which Flora, dressed in all her pride of bloom,  
Could scarcely equal, decorate the groves.”

The fall of the leaf, so peculiarly characteristic of October, has always been a favourite theme with the poet and moralist, as illustrative of the changeableness of human life. “We all do fade as a leaf,” is a solemn fact, of which we are annually reminded by the changing foliage of autumn. Our Canadian woods, comprising so great a variety of trees, many of them of gigantic dimensions, are peculiarly beautiful and diversified under a clear, blue, autumnal sky, and afford, perhaps, the most captivating and impressive sight throughout the whole year. The richly-diversified tints and hues of forest trees, at this season, give an air of grandeur to the landscape which is altogether unrivalled; and yet, accompanied as it is, and must be, with the thoughts of decay and approaching desolation, the scenery of autumn generally inspires the observer with pen- sive emotions, approaching to sadness. It has been well remarked that “the fall of the leaf indicates, not the death, but the life of the tree.” Were the tree dead, the leaves would all adhere to the branches, and it would be more difficult to remove them than in the case of a living tree; but in the natural fall of the leaf, the sap retreats to the root, and, by the condition of its vessels, produces that remarkable change which is so especially characteristic of the present season. In the removal of trees and plants, therefore, (for which this month, in many cases, affords a convenient season,) the cultivator may anticipate the best results from such trees as shed their leaves soon after their removal; the sap has probably retreated to the root, and will put forth again with renewed energy in the ensuing spring. The tree on which the shrivelled leaves remain long and cling closely, is, probably, dead.

“The chief business of nature at this season, as

far as concerns the vegetable world, appears to be *dissemination*. Plants have gone through the progressive changes of springing, flowering, and seeding—have at length brought to maturity the rudiments of a future progeny, which are now to be deposited in the fostering bosom of the earth. This being performed, the parent vegetable, if of the *herbaceous* kind, either totally perishes, or dies down to the root; if a *tree* or *shrub*, it casts off all those tender leaves that the spring and summer had put forth. Seeds are scattered by the hand of nature in various manners. Those of them which are furnished with plumes, or wings, are dispersed far and wide by the high winds which rise about this time. Hence plants with such seeds are, of all others, the most generally to be met with—as dandelion, groundsel, thistles, &c. Others, by means of hooks with which they are furnished, lay hold of passing animals, and are thus carried to distant places. The common burs are examples of this contrivance. Several, when ripe, are thrown out with considerable force from their receptacle, by means of a strong spiral elastic spring, of which the *impatiens*, or touch-me-not, and all the species of *cardamine*, or cuckoo-flower, are instances. Many are contained in berries, which, being eaten by birds, the seeds are discharged again uninjured, and grow wherever they happen to light. Thus has nature carefully provided for the propagation and wide distribution of her vegetable offspring.”

Field sports are now attracting the inhabitants, both of town and country; and the pursuit is generally followed with much earnestness and zest. In the old country, Partridge shooting commenced last month; and the first of October witnesses a large destruction of that beautiful and delicate bird—the Pheasant. Hare-hunting is usually a little later; and Fox-hunting begins about the middle of the month.

Valid objections, chiefly of a moral nature, may undoubtedly be urged against the immoderate pursuit of field sports. When they engross too intensely the attention, their tendency is to occupy much of the time which should properly be devoted to the more serious and important duties of life, and the purposes of mental and social improvement. There is, too, some danger of the moral sensibilities becoming blunted; although we are not of those who would prefer indiscriminately the serious charge of inhumanity against field-sports generally. When pursued in moderation, they tend to strengthen the powers of the body, without necessarily hardening

the heart. In the zeal for destruction which seems to pervade more or less all ranks and classes of society at this particular period of the year, it may seem out of place to speak not of the usefulness of the animals which, for the special object of the pursuit, or to offer a recommendation in their behalf, that the war against the species may be regulated, and kept within due bounds, so that man may not reduce their numbers to his own injury. In the case of the partridge, as well as in that of many other birds, it is fully believed that if we understand their habits aright, we should often be disposed to cherish that which we are now zealous to destroy. This has been found to be the case with that useful bird, the Rook, in several countries of the old world. Wherever rooks have been indiscriminately destroyed, the farmers have been sure to suffer more than before from certain kinds of insect-depredators.

The farmer has, ere this month commences, committed his seed-wheat to the ground. There are few objects more characteristically rural, we might perhaps say more pleasing and suggestive than the sower going forth to sow. Modern improvements in machinery have in this, as in numerous other instances, materially changed the mode of this indispensable operation, and in some degree diminished its associative poetic power. Still, in whatever manner the sowing of grain may be performed,—upon the ultimate result of which the very existence of countless millions depends,—we learn to comprehend and to cherish one of the most important of all truths, that the wise and beneficent Author of Nature carries on the government not only of the physical, but also the moral world, by immutable laws, expressly adapted in each case to the wants and condition of all things. How calculated is the sower, as he scatters the seed on the furrows, well prepared and manured for the purpose,—to remind us of the intimate, aye the indissoluble, connection between reaping and sowing, not only in reference to the material world, but also to the mind and heart. “Whatsoever a man soweth, that he shall also reap,” involves an unchanging principle of universal application; and he is the truly wise who profits by its proper application.

The agricultural year is now fast drawing to a close,—root crops are what the farmer has to gather in; active preparations have to be made for sustaining the domesticated animals during winter. Our grain harvest has been generally abundant; and mostly secured in a favourable condition; and

our hearts should be deeply imbued with gratitude to God for the large measure of peace and prosperity with which this highly favoured Province is blessed.

B.

## Horticulture.

**LONDON CURRANTS.**—A writer in the *Horticulturist* speaks of the fine currants of the market gardens near London, which are grown in the following manner.—They are planted in rows twenty or thirty feet apart, and three or four feet apart in the rows; the ground, which is naturally good, is highly manured, and cropped between with vegetables. When the plants commence bearing, they are pruned very hard; the greater part of the young wood is thinned out, and what is allowed to remain is shortened back to three or four inches. By this means the trees are always kept short, never attaining a greater height than two or three feet. These strong manured and well-pruned trees produce magnificent fruit, and in great abundance, well remunerating the market gardener for all his trouble.

**TO PREVENT FRUIT TREES FROM SPLITTING**—For preventing forked fruit trees from splitting under their weight of fruit, Isaac Lewis, of Hopkinsville, Kentucky, has given us his plan. "My plan," he writes, "which I have followed for thirty years, is this: When I find a forked tree that is likely to split, I look for a small limb on each fork, and clean them of leaves and lateral branches for most of their length. I then carefully bring them together and wind them round each other from one main branch to the other. In twelve months they will have united, and in two years the ends can be cut off. The brace will grow as fast as any other part of the tree, and is a perfect security from splitting. I have them now of all sizes, and I scarcely ever knew one fail to grow."

**HINTS FOR GARDENERS.**—All growers of raspberries, gooseberries, blackberries, currants, &c., can secure their bushes against disease and unproductiveness, by *mulching the roots well*. Any old trash in the garden answers for this purpose—such as weeds, grass, leaves, and the scrapings from the avenues. It acts as an extirpator of weeds—as a cooler and moistener of the soil—and as the *best manure*, when it rots, that can possibly be applied. We never knew a gooseberry bush that had been properly thinned out, and not bound up too closely, shewing *mildewed fruit*, or that did not bear abundantly every year. These mulchings should be applied three times in the season—in the spring, in midsummer, and late in the fall. It should also be remembered, as it respects raspberries, that any grubbing or digging about their roots should be carefully avoided. In nearly if not quite every instance where we have disturbed the roots of the raspberry, the stalks either perished over winter, or were so much injured as to be next to worthless the following season.—*Germantown Telegraph*.

## PLANTING TREES.

Many are deterred from planting trees by the thought that they will not live to see them sufficiently grown for any useful or ornamental purpose. H. F. FRENCH, Esq., in the *New-England Farmer* remarks:

If I could assemble all the boys of New England together in this old village, and show them the trees that my own hands have planted and assisted others in planting, no doubt a score of years would witness such an improvement in the streets of our town as no mere talking or writing can accomplish. Twenty-five years ago or thereabouts, the old Lombardy poplars which had been planted about the paternal mansion when it was built, in the first years of the century, were decayed so as no longer to be an ornament and were cut down. There stood the tall, white three story house close to the street, with only a few lilacs and roses to shelter it. Now, as you approach the mansion on either side, no glimpse of it, except of a chimney top, or of a window or door, where the branches have been cut away, can be seen. The rock maples and horse chestnuts and elms have interlaced their boughs and lifted their heads so as completely to shelter it. A quarter of a century has sufficed to increase the tree which a boy would carry on his shoulder to a foot or more in diameter. Yesterday I fixed a swing for my children upon a chestnut which grew from a nut which I saw my father plant in the garden, and which I transplanted to its present place some twenty years ago. The street is lined for half a mile with elms and maples which we boys of the village with our own hands dug from the rocky soil of the forests and planted. Now they are the beauty and glory of the place.

**GAS TAR AND GARDEN INSECTS.**—Gas tar may yet amount to something.—Its unpleasant odour seems to keep away all insects from garden crops. Galiguani's Messenger says:

"A French gardener, whose frames and hot houses required painting, decided on making them black, as likely to attract the heat better, and from a principle of economy he made use of gas tar instead of black paint. The work was performed during the winter, and on the approach of spring the gardener was surprised to find that all the spiders and insects which usually infested his hot house had disappeared, and also that a vine, which for the last two years had so fallen off that he had intended to replace it by another, had acquired fresh force and vigor, and gave every sign of producing a large crop of grapes. He afterwards used the same substance to the posts and trellis work which supported the tiers in the open air and met with the same results. All the caterpillars and other insects completely disappeared. It is said that similar experiments have been made in some of the vineyards in the Gironde with similar results."

**MELON BUGS.**—The Maine Farmer has the following:—"Reader, are you ever troubled with that terrible pest, the melon or squash bug? You need not be. Get 4 lbs. quassia chips and pour four gallons of boiling water over them in the barrel. Cover to keep in steam and stand 12 hours; then fill the barrel and water daily. Bugs don't like bitters."—The Bangor Whig endorses the above, and adds:—"A friend here guarantees the correctness of the statement, and informs us that an occasional application of the decoction, say once a week, to his rose bushes, has enabled him, for two seasons, to preserve their foliage from the insects which infest them. It will operate both as prevention and cure."

**WHALE OIL SOAP FOR INSECTS.**—Both last season and the present, we have been much annoyed by the rose-slug, which was so plenty as to totally destroy the foliage on several kinds of roses. We tried common soap-suds, tobacco water, and fumigation with tobacco, to no purpose. We could kill the aphids and all other insects on the shrubs, except the slug. That would live in a strong infusion of tobacco for hours, and then, on being restored to the rose-bushes, would pursue its instinctive course as if no thing had occurred. At last whale oil soap was tried. This finished them quickly. The proper quantity is two ounces dissolved in a gallon of water, to be applied with a syringe, taking care to have the liquid strike the under side of the leaves, where the slugs generally keep themselves. A friend who has tried this kind of soap on some very fine roses on which the slug had made its appearance, reports the same success, there not being an insect to be found on the shrubs at this time.

**MELON APPLE.**—A late number of the Horticulturist has a beautiful cut of this apple, which is now obtaining so great celebrity in New York and the East. We have never seen but a single specimen of the apple.—About nine years ago a friend, returning from Central New York, brought us some specimens of different varieties of fruit, and among them some Northern Spys, over which he seemed to desire us to be much elated.—After tasting these, we came upon a rich, red, good sized, symmetrical one which seemed to us to excel any apple we had ever eaten. On enquiring the name of it, we were told it was a new variety called the "Melon" apple. We have never forgotten that fruit, and are not surprised at the celebrity it is now obtaining. Judging by that specimen it is as much superior to the Northern Spy as the Spy is to a cucumber. True, further acquaintance with it might modify our opinion of it somewhat; but we are ready to say of it, as we have said of single good speeches, that the man who could make one such ought to be able to make one more.—*Prairie Farmer.*

**CUCUMBER SEED.**—Some people do not know how to cleanse the cucumber seeds which they save from their own garden.—They cut the cucumbers open, dry them and dig out the seed with the dried mucilage adhering to the seeds. A better way is—when the cucumbers are ripe, cut them open and scrape out the seed, with all the mucilage, into an iron vessel large enough to contain them. Put water into the vessel and set it in a place moderately warm. In a few hours fermentation will take place, that will collect all the mucilage together on the top of the water, leaving the sound and heavy seeds to sink clean at the bottom. Pour off the water with the thick stuff at the top, and then you have the seeds clean. Put them where they will dry, and then lay away till next spring.

**HEALING PAINT FOR DECAYED BRANCHES, OR SNAGS, IN FOREST AND OTHER TREES.** Dissolve two ounces of corrosive sublimate in spirits of wine and mix with three pints of best tar. The decayed parts to be pared off or gouged out below the level of the surrounding sound bark, and the wound well painted over with the above. All limbs that require removal should be cut off close to the trunk, or larger branch, and treated in the same way.—*Gard. Chron.*

**RAILROAD CAKE.**—One cup of white sugar, one cup of flour, two tablespoonfuls of melted butter, three eggs, one teaspoonful of lemon essence. All ingredients stirred in together, and baked in a long narrow tin.

## Communications.

### USEFUL ASSISTANCE OF CHEMISTRY TO THE FARMER.

[CONCLUDED.]

In every plant, and in especial abundance in the parts of plants most valued for food, in the seeds of the cereal and leguminous (the grain and podded) crops; and in the roots of the turnip, the potato, and the carrot, we find another gas which disappears when the plant is burned. Its presence gives peculiar properties to the parts in which it is found. It is named nitrogen; and, like oxygen, is one of the chief constituents of the atmosphere; but though forming the great bulk of the air, it is distinguished rather by the want of the properties possessed by its other constituents, than by any characters of its own. It differs from hydrogen by not being inflammable; and, unlike oxygen, it is incapable of supporting flame. It forms four-fifths of air; and is, therefore, constantly presented to plants; and we have reason to believe that it is not taken by plants directly from the atmosphere; but that they procure it from certain compounds which it forms and especially from a gas termed ammonia, which is a compound of fourteen parts of nitrogen, with three of hydrogen. Ammonia is invariably diffused through the air; and though, like the gases of which it is composed, is invisible, it has both smell and taste; and its pungent odour is familiar. It is this pungent gas that effects the eyes in the ill-ventilated stable; and it is also given off together with carbonic acid, wherever animal and vegetable matters decay. Ammonia dissolves readily in water; and a strong solution of it forms the hartshorn of the apothecary. It may be procured by heating together quick-lime and one of its compounds, sal-ammonia. We have reason to believe that it is from ammonia that the plant receives the nitrogen it requires. Evolved in the soil during the decay of manure and of the dead roots of plants, it accelerates vegetation; and by enabling our crops to procure it by artificial means, we increase their development, and cause them to afford us a larger amount of those nutritious compounds, upon which their value as food depends.

Such are the substances which chemistry shows us compose that large portion of a plant that disappears into the air when it is burned. Originally derived from air and watery vapour, heat merely breaks up the compounds in which they had for a

time been united. They but assume their primitive forms, and ascend into the air to be brought down in the shower, and to constitute materials for new tribes of plants. Thus the carbon of the cargoes of fuel consumed in cities, and that given out from the lungs of their inhabitants, and the ammonia which escapes from the smoking manure-heaps of the careless farmer, are made to contribute to the general vegetation of the country. In every plant that has been examined there is found, in addition to the portion composed of the substance we have been considering, a small quantity of incombustible ash. This ash, in the infancy of science, when observed, was imagined to be merely an accidental impurity, and without influence on the growth of the plant. Its proportion is very small, varying from one-half per cent. to ten or twelve per cent. of the weight of the dried plant. But modern investigation has shown that the four or five pounds of ashes that are left upon burning a ton of the wood of the oak are as essential to the life and health of the tree, as the materials that escape into the air. The celebrated Davy seems to have had some faint idea of the importance of these earthy matters to the plant; but it was reserved for that great philosopher, whose writings have done so much to direct the attention of all classes to the application of science to agriculture, Baron Liebig, to point out their true importance. It is now acknowledged that the matter which is left upon burning a plant, is essential to the existence of the plant; and though all the elements contained in its combustible part were supplied, it would, without the matter of the ash, be impossible for it to come to perfection.

An examination of the bodies of animals shows us the necessity of this arrangement; and if it were possible that the seed could vegetate and grow into the perfect plant, without extracting from the soil these matters, it would be useless to us for food. The incombustible, like the combustible part of plants, is composed not of one, but of several kinds of matter. When the ash, for example, which is left when the bulb or the tops of the turnip are burned, is examined by the means which chemistry enables us to employ, it is found to consist of at least ten different substances. Some of these substances are well known, as they are of great commercial importance, and generally made use of in the manufactures of this industrious province. Thus we find in the ash of the turnip a considerable amount of the substances—potash and soda; the former of which exists in the potashes, and the latter in the soda ash and barilla of bleachers. It also

contains the white substance, magnesia, which is met with in the shop of the apothecary, the well-known substance, lime, which is so highly valued as a manure by farmers, and the compound of iron, which gives the red colour to the soils formed by the crumbling down of trap. We also discover in it, chlorine, the active ingredient of bleaching liquor, and sulphuric acid, the oil of vitriol of the bleach green, and also another sour substance, called phosphoric acid, which is formed when a common lucifer match is burned, by the union of the once rare, but now well-known waxy-looking substance, phosphorous, with the oxygen of the air. It also contains silica, the earthy matter which forms the bulk of sand. The earthy, incombustible ingredients are only ten in number; and, in the combustible part, we have seen that only four substances are discovered; and yet out of these fourteen substances every plant, the poisonous hemlock, as well as the nutritious grain; the fragrant rose-tree, as well as the stinking garlic, procure their materials. In the hand of nature these materials are plastic beyond anything that we can conceive; by a simple change in the arrangement of two or three elements, an oil, which is a deadly poison, is converted into an innocent drug; and, as is every day performed in the sprouting seed, an insoluble and tasteless starch, converted into a soluble sugar. It is from the soil, in which the seed expands into the plant, that it must produce all the substances that we discover in its ash. Here, then, the connection between the plant and the soil, is as close as between it and the air. But there is an important difference to the practical farmer. In the atmosphere, the store of carbonic acid, water, and ammonia, it is inexhaustible; and it is the same at all times and in every country. A thousand agencies are at work, maintaining its purity, and securing the uniformity of its composition; but it is not so with the soil. If we examine the soil from one of our fields in the same manner that we examine the plants that grow upon it, we find upon burning it, that only a small portion is consumed, and that a large amount of incombustible matter remains. This matter, like the ash of the plant, is found to consist of several ingredients; but does not always contain the same number of substances; and its character is found to differ widely in different parts of the same country; and even in fields lying in the same neighbourhood. If we cast our eyes over a geological map, we will perceive that different parts of the country are shaded by different colours, which are used to mark the different kinds of rocks which prevail in them.

The farmer cannot have travelled beyond his own neighbourhood without having his attention attracted by the great variety in texture and appearance, presented by the rocks exposed to view in the cuttings of the public roads. These rocks do not differ more widely in appearance than in chemical composition.

The soil which the farmer ploughs, has originally been produced either by the crumbling down of the bed of rock upon which it rests, or by the fragments of rocks carried by water from some distance. It therefore requires no argument to convince us that the character of the earthy matter which a soil yields, when it is burned, must depend upon the kind of rock from which it has been derived; and we can conceive how a soil formed by the crumbling down of a granite rock may contain potash and the other ingredients of granite, and be deficient in lime. Thus experience shows us that the decay of a basaltic rock affords a rich loam, containing a considerable amount of iron, while granite soils are deficient in several of the most important ingredients of plants. It is necessary for the progress of rational agriculture that farmers should be enabled to judge of the composition of rocks and soils. The rocks are the great storehouse in which nature has locked up materials for the nourishment of the vegetable tribes and the support of our bodies. To the farmer is entrusted the task of unlocking their treasures; and, by his mechanical operations, he facilitates their conversion into food. If every soil contained the inorganic materials which plants require, and in sufficient quantity, his task would be comparatively easy; but soils, we have seen, must differ, as the rocks from which they are derived differ; and must, therefore, exercise an unlike influence upon plants.

If we look at the chemical inventory of the stock of materials usually found in a fertile soil, compared with that of another which had been found unproductive, we find that, while the first contains a sufficient supply of all the materials required for the support of plants, the second exhibits merely traces of several of them; so that they must be supplied by art. But not only do the soils of different parts of a country differ in chemical composition, the clay slate soils of one district from the basalt and limestone soils of another; but the experience of centuries has taught the farmer that soils naturally fertile, stored with every thing that plants require, may be deprived of their fertilizing materials, and rendered incapable of yielding a profitable return for the la-

bour of the husbandman. Every plant that we cultivate takes away a certain quantity of the matters which have been described; and as these materials are not found in equal proportions in all soils, it is clear that some of them must in a few years be totally carried away in the crops which the farmer sends to market; and this is precisely the condition of much of the soil in portions of this country at the present time; rich in some of the materials of plants, but deficient in others; and, therefore, without artificial assistance, without what are called manures incapable of yielding crops. It is not sufficient that the soil contains one or two of the substances that we discover in the ash of the plant; they must all be there, and in proper quantity, or it will not flourish. The great object of modern agriculture is, to enable the farmer economically to supply, by art, the materials in which his fields are naturally deficient, or which, in the course of cultivation, have been removed from them in his crops; and it is in this department that chemistry is qualified to give the farmer most useful assistance. It studies for him the composition of the crops he desires to cultivate; and shows him the substances which his fields must contain to produce them. It can guard him from fraudulent imposition in the purchase of these substances, or point out to him, in his own neighbourhood, lying at his own doors, materials which may with advantage be substituted for the fertilizers of the manure market, and the manures which are at present brought, at so great an expense, from other countries. J. F. H.

Pine Grove, 18th August, 1855.

## Scientific.

### PRACTICE OF SHOEING HORSES.

Mr. Chas. Percival, veterinary surgeon of the Royal Artillery, furnishes the following communication to one of the Dublin papers:

I have lately been devoting much attention to shoeing, and flatter myself that the horses under my care, are as well shod as any in her Majesty's service.

The shoe I found in use here was made concave next to the foot, and flat on the ground surface, than which, in my opinion, nothing could be worse. This shoe I have had reversed, making the latter as concave as the foot will possibly admit of, leaving only sufficient room between the shoe and the foot, for the pricker to pass freely round, to remove dirt, &c. To the heels of the shoe I have given an inclined plane outwards on the foot surface, with three nails on the inside and four on the outside. The heels, instead of being cut off straight are well sloped

and about the same thickness as the toe. The shoe one-third as thick at the heel as the toe, recommended by the late professor, the majority of our horses could not travel in. There are many pernicious practices which smiths in general, if left to themselves fall into, viz:

1. Mutilating the frogs by improper cutting. I have at length got my farriers to understand that the only part of the frog which ever requires cutting, unless ragged, is the point, to prevent the sensible frog being bruised between it and the coffin bone.

2. Inflicting serious injury to the crust by improper use of the rasp, but especially the coarse side of it.

3. In fitting the shoes, by cutting too much out of the crust at the top to admit the clip. The shoe is consequently set too far back, instead of being fitted full to the crust, and afterwards rasping away the crust, making the foot, in fact, to fit the shoe instead of the shoe to fit the foot. This is a faulty practice and very seriously so, which smiths in general are very apt to fall into; one, too, which renders the crust shelly, for that part into which the nails are driven from time to time is in this way rendered weak.

4. In turning shoes, smiths in general do not attend sufficiently to bevelling or sloping the edge of the shoe from the foot to the ground surface, which I consider of great importance, especially if horses are given to cut or interfere in their action.

5. Cutting the heels of the shoe off straight. This is another bad practice. If well sloped, like a shoe for hunting, to which there cannot be any objection they are less liable to be pulled off by the hind shoe catching in them, and contribute more to the safety of both horse and rider.

6. Leaving the inner edges of the hind shoes a. the toe sharp, which, if rounded, will in a great measure prevent over-reaches, as well as render the fore shoes less liable to be pulled off by their catching in the heels of the former. Squaring the toe of the hind shoe for horses that forge, or "carry the hammer and pinchers," as it is termed, leaving the horn projecting over the shoe, is in my opinion, good as a general rule, not only preventing that unpleasant noise, but rendering horses less liable to over-reach and pull off their fore shoes, provided, however, attention be paid to the rounding the inner edge.

7. In rasping the under part of the clinches, farriers are very apt to apply the edge of the rasp improperly to the crust, forming a deep groove round the same, which cannot but be injurious to the foot and, together with taking away too much of the crust in finishing off the foot, must have a tendency to render it shelly. Curving the shoe at the toe after the French fashion, where horses go near the ground, I am very fond of; but I cannot see any advantage in it as a general practice.

REMARKS.—We hope every shoer of horses who reads this, will compare its suggestions with his practice. As is the case with most of the mechan-

ics of this country, there is only one in a hundred that understands his business. It requires *art*, to shoe a horse properly, as to make a watch. There are important principles involved in the operation which the smith should study and understand. We believe there are more horses led into shambling gaits, and awkward over-reaching and stumbling habits, by bad shoeing, than by all other causes combined. And when the horse has acquired these habits, he is check-reined, martingaled, and abused in other abominable ways, because he does just what his owner ought to know he would do under such a course of shoeing!

#### THE WINDS.

The New York *Tribune* in its report of the meeting at Providence of the American Association for the advancement of Science, gives the following synopsis of a paper read by Capt. Wilkes, U. S.N., on the subject of winds:

Capt. Wilkes approached this subject with diffidence, as the theory of storms is very old. There is found to be a belt of heated water running around the world. The equator of heat lies mostly north of the Equator, dipping only once south of the Equator for a few degrees in the centre of the Pacific. Temperature is the great destroyer of the equilibrium of the atmosphere. Franklin first discovered that a north-west storm began at the south-west. Trade-winds have no connection with the rotary motion of the earth. Under the Equator we find winds blowing from the west. Take the world over, there is more west wind than from the east. The south-east trade winds are entirely different from those of the north. Trade-winds never flow home to the land—calms or monsoons intervene. In the Pacific the trade winds are much more irregular than in the Atlantic. The heated belt of water, the heated deserts, and the heated mass of water in the centre of the Pacific, are the causes of trade winds. All of them rush toward the heated areas. The circulation of the atmosphere is not between the Equator and Poles, but between the upper and lower regions of the atmosphere. When the trade winds pass the Andes they make a leap of 300 or 400 miles before touching the sea again, and in that space are the monsoons. When the sun is vertical the trade winds are fitful and squally, and regular as the monsoons are. The land and the sea breezes are the illustration of all winds, and even of storms. Cold air will go to the warm, and never the warm to the cold. No return current was noted at the top of Mannahoa. The earth does not slip away from its atmosphere, as meteorologists suppose. This is shown by the ascent of aeronauts. Here he proved to the satisfaction of all doubters that the winds are not caused by the inertia of the atmosphere, letting the earth slip past it, which, if it made the wind would make it blow 1,000 miles an hour. There are no rain bearing winds. Vapor percolates or filters through the atmosphere, and travels against the wind. On a point of the western coast of South America in the rainy season it rains just five hours each day, and then clears off, and it takes the sun just about the same time to cross the Atlantic, and it seems to bring its daily supply of rain with it.



## Miscellaneous.

### THE MORALS OF FRUIT STEALING.

Under this heading the *Rural New York* publishes the following sensible and reasonable article. It is in the right vein to correct the lax public sentiment so prevalent in most sections of the country. The remedy suggested in the closing paragraph is the great desideratum, and its adoption would promote a healthy morality, and protect the suffering portion of community.

Judging from the universal laxity of morals on the subject of fruit stealing, prevalent in almost all parts of the country, it would almost seem that the injunction, "thou shalt not steal," was generally understood as not intended to have any application to the various articles of property included under the general name of fruit. Parents who would shrink from the thought that a son had been guilty of stealing a shilling's worth of goods from a neighboring store, as from the icy coils of a deadly serpent, too often look with stolid indifference on the perpetration of a robbery of a fruit orchard to the amount of five or ten dollars.

In the one case the idea of disgrace is always attached to the act, as it should be: while in the other, it is not so, but only looked upon as a piece of innocent if not praiseworthy amusement. But let us give the subject a little examination, and see if we should not give the fruit thief quite as indelible a stamp of infamy as we do the person who is guilty of stealing any other sort of property. A plants a half dozen choice pear trees, and stakes them, and prunes and nurses them for eight or ten years, all on the strength of the hope of enjoying their delicious fruit when they come into bearing. And at last he has the satisfaction of seeing a few fine specimens of fruit growing, and many ripening on each of them—he goes out one morning to see if some of them may not be ripe enough to gather, and judge of his disappointment, you who wink at fruit stealing, when he discovers that a thief has got the start of him—that they have all been stolen the previous night. Now, supposing the intrinsic value of the fruit thus stolen does not exceed one dollar, does the reader think for a moment that that is the extent of the injury to the person losing them? By no means, for A. would have preferred that five dollars worth of grain, had been stolen from his granary—and why? simply because he had waited so long for them to grow—had watched their growth with so much interest, and had confidently expected [as he had a right to expect] to gather them for his own use. I deed the mere money value of the fruit in the market is not the full extent of the loss he has sustained. His disappointment and vexation are not included in this, nor the thought that in spite of his utmost vigilance in future, he has no reliable guaranty against a like misfortune the next season. For growing-fruit cannot be locked up and protected with the ease that most kinds of property can.

So utterly at fault is public sentiment on this subject, that many who have depredations committed upon their fruit, hesitate to prosecute the offenders, when discovered, fearing that such a proceeding will hardly be sanctioned by the community. Now, we submit that this is all wrong—that there is no good reason why the fruit thief who prowls about in the night, when honest people are asleep, for the purpose of plundering fruit orchards should not be held up to

the scorn and contempt of the community, and placed in the same category as the sheep-thief, the robber of hen-roosts and the burglar.

There is great need of a change in public sentiment, in respect to this matter. The evil is so prevalent in many sections of the country as to deter many from attempting to cultivate fruit to any thing like the extent they otherwise would. Let the press especially the *Agricultural Press*, speak out fearlessly on this subject and let all good citizens frown down the idea altogether too prevalent in community, that "it is not larceny to steal fruit." In our opinion the remedy for this evil is in the keeping of the respectable portion of community, to a very great extent; for just so soon as the robber of orchards comes to be looked upon by all respectable people in the same light that the robber of hen-roosts is, the fruit on the trees will become as secure as are the pullets on the roosts—and not before.

### CHANGES IN ORTHOGRAPHY.

The following specimens of the Lord's Prayer, in the style in use at various periods, will exhibit the changes which our vernacular has undergone since its formation, six centuries ago:

A. D. 1300.—Fadir our in hevena. Halawyd by thi name, thi Kingdome come, Thi wille be done as in hevne and in erthe. Oure urche dayes bred gives us to day. And forgive us oure dettes, as we forgive our dettours. And lede us not into tempation, Bote delyvere us of yvel. Amen.

A. D. 1380.—Oure fadir that art in heunes hallowed be thi name, thi kingdom come to, be thi wille be don in erthe as in hevne, geve to us this day our breed oure other substaunce, forgeue to us our dettis as we forgouen to oure dettours, lede us not into temptation; but delyuer us from yeul. Amen.

A. D. 1531.—Oure father which arte in heven halowed be thy name. Let thy kingdom come. Thy wyall be fulfilled as well in earth as it ys in heven. Geve vs this daye our dayly breede. And forgeve vs oure trespasses, even as we forgeve our trespassers. And leade vs not into temptacioun; but delyver vs from evell. For thyne is the kingdome and the power and the glorye for ever. Amen.

A. D. 1562.—Ovr father which art in heauen, sanctified be thy name. Let thy kingdom come. Thy wille be done, as in heaven, in earth also. Giue vs to day our super-substantial bread. And forgiue vs our detters, as we also forgiue our detters. And lead vs not into temptation. But delieue us from evil. Amen.

A. D. 1611.—Our father which art in heauen, halowed be tha Name. Thy kingdom come. Thy wille be done, as in heauen. Giue vs this day otr dayly bread. And forgiue us our debts as we forgiue our debtors. And lede vs not into temptation, but delieuer vs from euil. For thine is the kingdome, and the power, and the glory for euer. Amen.

MONSTER GUNS.—Wrought iron guns of monster size and calibre are in course of manufacture at the iron works of Messrs. Nasmyth, near Manchester. They will be upwards of three feet in diameter, and about twelve feet long, weighing upwards of twenty tons each, and will discharge a shell of 1,000 lbs. weight a distance of five miles. The Artizan states that it does not expect very brilliant results from these guns, on account of a defective mode of mounting them, no allowance being made for horizontal recoil in the manner they are slung.



## EXPLANATION OF MILITARY PHRASES.

A "Division" consists of a force amounting to several thousand men, and is composed of two or more brigades, as a "brigade" is formed by several regiments which "regiments" consists of a certain number of companies. A proportion of artillery is usually attached to each division, with one or more batteries so that a division can act as a small army, complete in itself. It is a Lieutenant General's command, and each brigade is under a Major General.

The "Staff" consists of the Generals and their aides-de camp, Brigade Majors, Assistant Adjutant and Quartermaster Generals.

When civilians read that a division, brigade, or regiment moved in, "close column," "open column" or "column," at quarter distance," they perhaps convey no definite idea to the uninitiated. But if they understand that a "close column" of a regiment is formed by the companies of which it is composed being drawn up in rear or close behind each other, so that a solid square can be formed in a few seconds, or a line formed on any named company by the remaining companies deploying on the company indicated, which company stands fast during the movement of the others, the meaning is at once obvious.

A "Column at Quarter Distance" has an open space between the divisions and companies of which it is composed of one fourth of the ground occupied by each, so that by closing the first and second to the front and moving up the two rear companies, while the remainder wheel outward by sections, a square four deep, is formed.

An "Open Column" is when the companies of a regiment are placed behind each other with intervening spaces, sufficient to allow each company to wheel on its flank or pivot, and thus form into a line, &c.

An "Echelon Movement" is a term applied to an oblique line of march, which movement is accomplished by wheeling the companies a given number of paces before marching, according to the degree of obliquity required.

A "Wing" of a regiment implies one-half; thus every regiment has right and left wing. The same term may be applied also to any army.

"Outlying Picquet" or Picket, is a small body of men, commanded by an officer. Its place is in front of an army, to prevent surprise. Picquets are constantly on the alert, and sleep not. This duty generally commences at sunset and terminates after full daylight.

"Inlying Picquet" is a similar force which remains in the camp, ready accoutered to turn out on the slightest alarm.

"A Covering Party" generally consists of an officer and forty or fifty men, who take up a position in front of the principal trenches and protect the workmen employed therein from molestation.

"Trenches" are long narrow excavations, some feet in depth, the earth from which is thrown up towards the enemy, so as to afford shelter to the troops who guard them during the night against surprise, &c.

"Gabions" are baskets of a cylindrical form filled with earth, and which are placed opposite the enemy's batteries as a protection to the men when they first break ground and commence to entrench themselves.

The term "Fortress" is applied to a fortified place on an extensive scale; that of "Fort" to a smaller fortification.

A "Bastion" has two or more faces of such a form that, when several of them are joined together a pentagon is the result. It is called the system of "reciprocal defence," as one projecting bastion in the pentagon defends another. A ditch, either wet or dry, adds to the difficulty of approach.

"Lunettes" are small works usually raised in front of salty ports, &c., and when filled with men, are capable of offering considerable resistance.

A "Redan" is a triangular work, generally constructed in front of a more extensive fortification, which it partially protects, and renders an attack on it more difficult.

"Embrasures" are openings in a work through which the guns are pointed.

"Loopholes" are small apertures in a work through which muskets may be fired.

"Redoubt" is a general name for nearly every kind of work in field fortification. Redoubts are sometimes triangular, with flanks; sometimes in the form of a star, called a Star Fort. Redoubts for the defence of positions are in general intended to contain only about fifty men with their guns; but work in form of irregular polygon are sometimes constructed to contain from one thousand to fifteen hundred men, and from twenty to twenty five pieces of artillery, if intended for the protection of any place.

## THE WAY THE RUSSIANS TREAT THEIR HORSES.

The Russian coachmen seldom uses his whip, and generally only knocks with it upon the foot-board of the sledge, by way of a gentle admonition to his steed, with whom, meanwhile, he keeps up a running colloquy, seldom giving him harder words than "My brother—my friend—my little white pigeon—my sweetheart" "Come my pretty pig-on, make use of your legs," he will say "What now! art blind? Come, be brisk! Take care of that stone there. Dost see it? There, that's right! Bravo! hop, hop, hop! Steady boy, steady! What art turning thy head for? Look out boldly before thee! Hurra! Yuhk! Yuhk!"

I could not help contrasting this with the offensive language we constantly hear in England from carters and boys employed in driving horses. You are continually shocked by the oaths used. They seem to think the horses will not go unless they swear at them, and boys consider it manly to imitate this example, and learn to swear too, and break God's commandments, by taking his holy name in vain. And this while making use of a fine, noble animal he has given for our service and not for abuse. There is much unnecessary cruelty in the treatment of these dumb creatures, for they are often beaten when doing their best, or from not understanding what their masters want them to do.

The man who is driving a cart will often stop on a cold winter's morning, and fancying a glass of ale will warm his inside, leave his horse standing in the cold till their legs are stiff; then he comes out half intoxicated, feeling he has lost time, and that his horses must make up for it. So before they perceive him, for he has covered their eyes with blinders, he gives them a great lash, and the poor beasts start, and finding their legs set off with cold, do not at first go as quick as he wishes. And then he gets angry and curses the poor beasts, and lashes them about the head and on the most tender parts, endangering their

eyes—which are very prominent—with the end of the lash. The drink and the using this bad language, make him get in a passion—for making use of angry words gives rise to bad feelings—and all have an uncomfortable journey. His horses, whether his own property, or entrusted to him by his master, are the worse for the treatment, and the man becomes brutal and hardened.

Now a merciful man is kind to his beast, and a really good driver knows that creatures that are kindly and steadily treated do better and go more willingly. I rode out de the *Free Trader* one morning. It had three fine horses harnessed to it. The driver mounted his box, and put his long whip into a hole in the box, but tined his coat, and called *teck, teck*. Away the horses set off and went willigly and briskly, till he saw a passenger witing to get into the coach. "Wo—wo!" he cried out. *Imm. diately* they stopped and the man got in. "tigh!" The docile creatures pricked up their ears and off they set again. The same thing was repeated many times, and the horses always obeyed directly. The man looked proud of the fine obedient creatures in such good training, and the whip had an idle life of it, for they went far more willingly with-out it.

#### ANTIPATHY TO SPIDERS.

Few people like spiders. No doubt these insects must have their merits and their uses since none of God's creatures are made in vain; all living things are endowed with instinct more or less admirable; but the spider's potting, creeping ways, and a sort of wicked expression about him, leads one to dislike him as a near neighbor. In a battle between a spider and a fly; one always sides with the fly; and yet of the two the last is the most troublesome to man. But the fly is frank and free in all his doings; he seeks his food openly; suspicious of others, or cover designs against them, are quite unknown to him and there is something almost confiding in the way he sails around you, when a single stroke of your hand might destroy him. The spider, on the contrary, lives by snares and plots; he is at the same time very designing and very suspicious, both cowardly and fierce; he always moves stealthily, and if among enemies, retreating before the least appearance of danger, solitary and morose, howling, no communion with his fellows. His whole appearance corresponds with his character, and it is not surprising therefore that while the fly is more mischievous to us than the spider, we yet look upon the first with more favor than the last; for it is a natural impulse of the human heart to prefer that which is witty and unsuspecting, even in the brute creation. The cunning and undeigning man himself will, at times, find a feeling of respect and regard for the guileless and generous stealing over him; his heart, as it were, giving the lie to his life.—*Miss Cooper's Rural Hours.*

EVERYTHING LENT.—An old quaint writer once said that children, relatives, friends, honors, houses, land, and endowments, the goods of nature and fortune, nay, even of grace itself, are only lent. It is our misfortune to fancy they are given. We start, therefore, and are angry when the loan is called in.—think ourselves masters, when we are only stewards; and forget that to each of us it will be said, "Give an account of thy stewardship, for thou must be no longer steward."

#### The Sulky Boy.

This is a species of ill-temper with which you are all familiar. We see persons afflicted with it almost every day—and a sad affliction it is, too, both to themselves and to their neighbors. There is Robert—for instance—a good boy, in many respects, but once in a while he has a desperate fit of the sulks, which nearly if not quite balances the credit side of his character, and leaves him with more demerits than merits. So long as he can have his own way, every thing goes on pleasantly, but let his father interfere with some plan he has formed, or set him about some job he does not like, and you will soon find out what his temper is. For hours after, perhaps for a day or two, he is surly, morose and gloomy. He says but little, but when he speaks he saps and growls like an angry wolf. He pouts, scowls and looks sour at everybody, friends as well as foes; and should you attempt to reason kindly with him on his folly he grows more obstinately sullen than ever. Do you ask what good all this does? I do not know. There certainly can be no pleasure in this punishing one's self; on the contrary, he greatly aggravates his disappointment. A cheerful, sprightly temper makes its possessor happy; but a sulky one can only render its owner wretched. The lad I have described indulges only occasionally in these fits; but there is danger that this sullen state of mind will after a while become permanent with him, if he does not soon break himself of the habit. He is gradually souring his disposition, and the habit is growing upon him. It will be well if he does not turn out in the end a mere Nabal—the churl whose character is described in 1 Sam. 25—*Boy's Own Guide.*

#### ANIMAL SAGACITY.

In the immense forests of North America the moose-deer is hunted by the Indians with such relentless perseverance, that all the instincts of the quadruped are called forth for the preservation of its existence. Tanner, a white man who lived thirty years in the woods, thus describes the extraordinary extent of the moose's vigilance:—"In the most violent storm, when the wind and thunder and the falling timber are making the loudest and most incessant roar, if a man, either with his foot or his hand, breaks the smallest dry limb in the forest, the moose will hear it; and though he does not always run, he ceases eating, and concentrates his attention to all sounds. If, in the course of an hour, or thereabouts the man neither moves nor makes the least noise, the animal may begin to feed again, but does not forget what he has heard and is for many hours more vigilant than before."

CLOUDS.—There is certainly something mysterious in the clouds, and certain kinds have often a wonderful influence over us.—They march, and would take us up with their shadows and bear us away; and while their forms are lovely and variegated their brightness and the splendid light that then reigns on the earth, are like a prophecy of an unknown, ineffable glory. But there are also dim, and grave, and terrible forms of clouds, in which all the terrors of the ancient night appear to assail us. The heaven appears as it would never become clear again, the cheerful blue is expunged, and a lurid copper red, on a black grey ground, awakes terror and awe in every breast.

## CHINESE AND ENGLISH FASHIONS.

EUROPEANS who go to China are apt to consider the inhabitants of the Celestial Empire very ridiculous and the provincial Chinese at Canton and Macao pay back this sentiment with interest. It is very amusing to hear their sarcastic remarks on the appearance of the devils of the West, their utter astonishment at the sight of their tight-fitting garments, their wonderful trowsers and prodigious round hats like chimney pots, the shirt collar adapted to cut off the ears, and making a frame around such grotesque faces with long noses and blue eyes, no beard or moustache, but a handful or curly hair on each cheek. The shape of the dress coat puzzles them above everything. They try in vain to account for it, calling it a half garment because it is impossible to make it meet over the breast, and because there is nothing in front to correspond with the tail behind. They admire the judgement and exquisite taste of putting buttons behind the back were they never have anything to button. How much handsomer they think themselves, with their narrow, oblique, black eyes, high cheek bones and little round noses, their shaven crowns and magnificent pig-tails hanging almost to their heels. Add to all these natural graces a conical hat covered with red fringe, and ample tunic, with large sleeves and black satin boots, and a white sole of immense thickness, and it must be evident to all that a European cannot compare in personal appearance with a Chinese.

## STICK TO IT, YOUNG MEN.

The very doctrine of all others, "Stick to it." Who ever knew a mortal to enrol himself under this banner, and come out the little end of the horn? Nobody we'll be bound. Its principle, acted up to with rectitude, purpose, heart and soul, would keep any man above water and in blue sky,

"Stick to it. It's the very history, all experience, the triumph of mind, art, literature, every great and noble work in its direct and appropriate illustration. He would be, do, gain, make save, achieve anything, in whatever department of life, trade, politics, religion, philanthropy, or love, must make it his first and last object of solicitude—the Alpha and Omega of aspiration and action.

Tell us, young man, who never did a thing worth a note, that did not "stick to it."—Look around your acquaintances, and see who is, and who is not "something." In him who is deservedly famous and honored, you will find the man who, years ago, in the strength, determination, energy, and light of an all-conquering resolution, said, "I'll stick to it," and who did and has stuck to it ever since.

What has made great lawyers, statesmen, divines, artists? What has made a Webster, a Choate, a Brougham, a Kossuth? Simply and solely, and truly, by choosing something real and vital, and "stick ing to it." Armed with its principles and inspirations, you may rise to undreamed of heights—wanting it, you may sink to unthought of depths.

FARM MACHINERY.—Among the most useful of machines of the farm, beyond the simple implements of husbandry, may be reckoned the threshing machine, the corn-sheller, the root and straw-cutter, the horse power, and the portable steam engine. The smaller farms will not warrant the outlay necessary for the purchase of all these, but the larger farms, which are frequently destitute of nearly every one of them, ought as a matter of economy to possess the whole.

NOTIONS OF BEAUTY.—The Japanese women gild their teeth, the Indians paint them red, whilst in Guzurat the pearl of the teeth to be beautiful must be dyed black. The ladies of Arabia stain their fingers and toes red, their eyebrows black, and their lips blue. In Persia they paint a black streak round the eyes, and ornament their faces with various figures. In Greenland the women color their faces with blue and yellow, whilst the Hottentot women paint in compartments of red and black. Hindoo females, when desirous of appearing particularly lovely, smear themselves with a mixture of saffron, tumeric and grease. In ancient Persia an aquiline nose was often thought worthy of the crown; but the Sumatran mother carefully flattens the nose of her daughter. An African beauty must have small eyes, thick lips and a large flat nose.

HAPPINESS NOT IN STATION ALONE.—There is one experience, gentlemen, to which the history of my various changes in life has peculiarly, and I will even say, has painfully exposed me—how little a man gains or rather, indeed, how much he loses in the happiness of natural and healthful enjoyment, in passing from a narrower to a wider, and what some may call a more elevated sphere. There is not room in the heart of man for more than a certain number of objects; and he is therefore placed far more favourably for the development of all that pleasure which lies in the kind and friendly affections of our nature, when the intimacy of his regards is permitted to rest on a few, than when bestowed through an interminable variety of persons and things, each individual can have but a slender hold upon the memory, and a hold as slender upon the emotions.—*Dr. Chalmers.*

THE EFFECT OF TEMPERANCE.—At a late anniversary of one of the literary societies of Yale College, Professor Silliman was called out by a complimentary toast. In the course of his remarks, the Professor proceeded, for the benefit of the younger brothers present, to say how it was that at his age (76 years,) he enjoyed such excellent health and spirits. He said that at thirty he was dyspeptic and feeble. He cut off determinedly all stimulants, and had used none since. He dieted one year, and then returned to his labor. He ate always plain, nutritious food, and drank nothing but plain, dilute drinks. He eschewed tobacco in every form. Every morning he used the sponge and cold water, and felt now no less powers of endurance than when he was a young man, and no abatement of intellectual power.—*Salem Gazette.*

A MONSTER RAILWAY along the whole course of the Mississippi river from New Orleans to the Falls of St. Anthony, is spoken of by the *Dubuque Tribune* as being in process of construction. From New Orleans to Memphis the road lies east of the river, and the distance is 390 miles. At Memphis it crossed to the Arkansas side of the river, and traverses that State seventy miles. From the Arkansas boundary to the city of St. Louis, it is called the St. Louis and Iron Mountain Railroad, and is in charge of a company which is making preparations to run an engine on it this year. From St. Louis to St. Charles, Mo., it is called the North Missouri Railroad. From thence to Keokuk, Iowa, it is called the Mississippi Valley Railroad North, and a company has been organized to build the line one hundred and forty miles.—From thence to St. Anthony, Minnesota, companies are already chartered to build the road. When finished, as all the various divisions will be at no distant day, the road will be the longest in the world.

**STEAM CARRIAGES FOR COMMON ROADS.**—Mr. J. K. Fisher, of New York City, sometime since constructed a steam carriage to be used on common roads, which we understood at the time was considered quite a successful experiment. Latterly he informs us, he has made a decided improvement in the springs thus perfecting what was before considered by many a very creditable contrivance for locomotion. We are not prepared to say that his method of transportation will ever become general yet we do not see why it may not to a certain extent be used on level hard roads. He is sanguine that it will meet with approbation from the public and supersede horse power.—*Veator*.

**ELECTRIC LIGHT.**—Prof. Callan has recently published an interesting paper, giving the results of a series of experiments made by him on the decomposition of water by the galvanic battery, with a view to obtain a constant and brilliant line light. He states that some of his experiments have led him to believe that, by means of the arrangement of the electrodes for a current of high intensity, the decomposing power of the battery may be considerably increased, but from other experiments he was somewhat disposed to infer that by such arrangement no increase of power can be gained. The Professor promises to relieve his doubts by further investigations.—*N. Y. Eve. Post*

**THE STEAM WHISTLE.**—Many persons who are constantly in the way of listening to the horrid howl of the steam whistle, are unacquainted with the mechanical means by which its effects are produced. The whistle is formed of two cups, placed one above the other, and opening towards one another. The lower cup is nearly filled by a ball or gland, so as to leave a narrow annular opening of 1-32 inch in width around the edge of the cup. The upper cup is hollow, and its lower edge is about one inch, or 1½ inches from the lower cup. By admitting steam through a valve to the lower cup, it escapes through an annular opening and impinges against the edge of the inverted cup. This produces the sound. The heaviest whistles for locomotives are six inches in diameter. The hollow upper cup is made of sheet brass or copper.

The Patent Office Reports show that 1,554,015 tons of guano have been imported into Great Britain since the commencement of the trade.

## Domestic Economy.

### PRESERVATION OF FRUIT.

Mr. Greely, in a recent letter to the New York Tribune, on the Paris Exhibition, speaking of an invention by M. Masson, for the preservation of all description of fruit and vegetables says:

The process consists mainly, I am informed, in the slow evaporation of the water contained in the esculents to be preserved, by means of a series of ovens, in which they are subjected first to a very gentle, afterward to a higher, but still moderate warmth, until the last article of moisture has exhaled. The dried residuum is now simply packed in papers, (not air tight cans) where it may remain for weeks under any skies, subjected to any alteration of temperature, and when opened requires only to be soaked in water to restore it to its original state. I see no reason why fruits should not in time be operated on with like success and thus peaches, grapes, strawberries, pine-ap-

ples, &c., be enjoyed not merely at all seasons but in all climates, and a whaler frozen up in Lancaster Sound made a Christmas dinner of turtle soup, roast (fresh) beef, green peas, cucumbers, apricots, bananas, muckmelous, and all the delicacies of New York or Paris of every season. This process, I learn, has now been several years in use, until its success on the largest scale is no longer a question. I presume it has ere this been transported to the United States; if not, it speedily should be. It is of far more consequence to mankind than the fate of Sebastopol.

### DOMESTIC RECIPES.

#### SELECTED FROM VARIOUS SOURCES.

**TO PRESERVE PLUMS.**—Make a syrup of clean brown sugar; clarify it: when perfectly clear and boiling hot, pour it over the plums, having picked out all unsound ones and stems; let them remain in the syrup two days, then drain it off; make it boiling hot, skim it, and pour it over again; let them remain another day or two, then put them in a preserving kettle over the fire, and simmer gently until the syrup is reduced, and thick or rich. One pound of sugar for each pound of plums. Small damsons are very fine, preserved as cherries or any other ripe fruit; clarify the syrup, and when boiling hot put in the plums; let them boil very gently until they are cooked, and the syrup rich. Put them in pots or jars; the next day secure as directed.

**DRIED PEACHES.**—Peaches, as usually dried, are a very good fruit; but can be made vastly better if treated in the right way. Last season the recipe which had quite a circulation in the papers of drying the fruit by a stove after halving it and sprinkling a little sugar into the cavity left by the extracted pits, was tried in our family. The fruit was found to be most excellent; better to the taste of nine out of ten persons than any peach preserves, by far. The peaches, however, were good ones before drying; for it is doubtful whether poor fruit can be made good by that process or any other.—*Prairie Farmer*.

**TOMATO SAUCE.**—Gather your tomatoes when fully ripe, and after washing, mash them in some suitable vessel. Then place them in a kettle over a moderate fire and when just warmed through, press a cullender down upon them—then dipping from the cullender all the watery juice possible. After boiling a short time, strain the mass through a wire sieve just fine enough to retain the rinds of the fruit—then return it to the kettle and boil it down to the desired consistency, (some prefer to thin, as it retains more of the flavor,) taking all care that it does not become scorched in the process. Heat the bottles you intend to use, in a steamer, to boiling heat, and while they retain this heat fill them with sauce in a boiling state. Then cork immediately with good corks, and place them where they will cook slowly.

Tomatoes thus prepared will keep good and retain all their original freshness and flavor until their season comes round again.

**CEMENT FOR BROKEN CHINA, GLASS, &c.**—The following recipe, from experience, we know to be a good one, and being nearly colorless, it possesses advantages which liquid glue and other cements do not. Dissolve half an ounce of gum acacia by a wine glass of boiling water; add plaster of Paris sufficient to form a thick paste, and apply it with a brush to the parts required to be cemented together. Several articles upon our toilet-table have been repaired most effectually by this receipt.—*English Paper*.

**TO DRY PLUMS.**—Split ripe plums, take the stones from them, and lay them on plates or sieves to dry in a warm oven or hot sun; take them in at sunset, and do not put them out again until the sun will be upon them; turn them that they may be done evenly; when perfectly dry, pack them in jars or boxes lined with paper, or keep them in bags; hang them in an airy place.

**TO PRESERVE PLUMS.**—Make a syrup of clean brown sugar, clarify as directed in the recipes; when perfectly clear and boiling hot, pour it over the plums, having picked out all un-sound ones and stems; let them remain in the syrup two days, then drain it off; make it boiling hot, skim it, and pour it over again; let them remain another day or two, then put them in a preserving kettle over the fire, and simmer gently until the syrup is reduced, and thick or rich. One pound of sugar for each pound of plums. Small damsons are very fine preserved as cherries or any other ripe fruit; clarify the syrup, and when boiling hot put in the plums; let them boil very gently until they are cooked, and the syrup rich. Put them in pots or jars; and secure as directed.

**FOR PRESERVING EGGS.**—A correspondent of the Southern Cultivator gives the following as a certain recipe:—Grease fresh eggs with lard, and pack them away in a keg with alternate layers of corn or wheat bran, small ends downwards, and so arranged as neither to touch each other or the sides of the keg. In this way they have been kept perfectly sound for twelve months.

**TO MAKE WATERMELON BUTTER.**—Split the melon open, with a spoon scrape out the pulp into a cullender, and strain the water into vessels; boil it down to a syrup; then put in apples or peaches, like making apple butter or any kind of preserves. Or the syrup may be boiled, without fruit, down to molasses which will be found to be as fine as the sugar house molasses.

**FLEAS BED-BUGS, &c.**—A writer in the Gardeners' Chronicle recommends the use of the oil of wormwood to keep off the insects above named. Put a few on a handkerchief or a piece of folded muslin, and put in the bed haunted by the enemy. Neither of these tribes can bear wormwood, and the hint is especially commended to travellers who are liable to fall among the toppers of blood.

**RECIPE FOR MAKING TATTLERS.** Take a handful of the vine called Runabout, the same quantity of root called Nimble-tongue, a sprig of the herb called Backbite, (at either before or after the dog days,) a tablespoonful of Don't-you-tell-it, six drachms of Malice, a few drops of Bary—which can be purchased in any quantity at the shops of Miss Nancy Night-walker. Stir them well together and simmer them for half an hour over the fire of Discontent, kindled with a little Jealousy—then strain it through the rag of Misconstruction, and cork it up in the bottle of Malevolence, hang it upon a skein of Streetyarn, shake it occasionally for a few days, and it will be fit for use. Let a few drops be taken just before walking out and the subject will be enabled to speak all manner of evil, and continually.

**COFFEE STAINS, MUD SPLASHES &c.** will mostly give way to the use of soap and water. Curd soap should be applied for this purpose. Obstinate stains which will not yield to these treatments must be submitted to the bleaching powers of the fumes of sulphur. This is conveniently applied by igniting some brimstone under a cone or funnel made of card board. The stains must be wetted, and then held over the top of the chimney until they disappear.

**CHEAP AND EXCELLENT CANDLES.**—The following receipt I have tried twice, and find it all that it is cracked up to be. I have no doubt that it would have been worth more than \$20 to me if I had known it twenty years ago. Most farmers have a surplus of stale fat and dirty grease, which can be made into good candles at a trifling expense.

I kept both tallow and lard candles through the last summer, the lard candles standing the heat best and burning quite as well, and giving as good a light as the tallow ones. Directions for making good candles from lard: For 12 lbs. of lard, take 1 lb. of saltpetre and 1 lb. of alum; mix them and pulverize them; dissolve the saltpetre and alum in a gill of boiling water; pour the compound into the lard before it is quite all melted, stir the whole until it boils, skim of what rises; let it simmer until the water is all boiled out, or till it ceases to throw off steam; pour off the lard as soon as it is done, and clean the boiler while it is hot. If the candles are to run, you may commence immediately; if to be dipped, let the lard cool first to a cake, and then treat it as you would tallow.—*Cor. N. Y. Farmer.*

**WHEAT MEAL PUDDING.**—*Fine Flavored.*—Beat five eggs, add to them four cups sweet milk, one of sweet cream, with salt. Into this stir a cup full of flour and wheat meal, sufficient to make a batter a little thicker than for griddle cakes. Boil one and a half hours. Serve in the same manner. The water should be boiling when the puddings are put in, and kept so till they are done. It is necessary to turn them occasionally, as they will rise to the top.

**SETTING TEA THINGS.**—Instead of the ever recurring clatter and the loss of time incidental to putting all that is wanted twice a day in most families entirely away, and getting it out again for breakfast and tea, I have learned to get the necessary articles ready for the next meal immediately after washing them up from the former. Of course, this necessitates the consecration of one tray to cups and saucers, &c., and will make it advisable to find or provide a shelf wide enough to hold it. But, as materially hastening to the operation of "bringing tea" fourteen times in every week, it would be worth some contrivance, for its comfortable accomplishment in all houses. It might be a curious test of the comparative prevalence of what is by courtesy termed "common sense," to ascertain how many individuals in the different classes of mistresses and servants, in their endeavors to carry out the above method, would naturally wash the tray first, and how many would begin with the cups and saucers.—*Godley's Ladies' Book.*

**ONE WAY TO COCK CHICKENS.**—The following is highly recommended:—"Cut the chicken up, put it in a pan and cover it over with water; let it stew as usual, and when done make a thickening of cream and flour, adding a piece of butter and pepper and salt; have made and baked a pair of short cakes, made as for pie-crust, but rolled thin and cut in small squares. This is much better than chicken pie and more simple to make. The crusts should be laid on a dish, and the chicken gravy put over it while both are hot."

**CHEAP CARPETING.**—Sew together strips of the cheapest cotton cloth, of the size of the room, and tack the edges to the floor. Then paper the cloth with any sort of room paper. After being well dried give it two coats of varnish, and your carpet is complete. It can be washed like carpets without injury, retains its gloss, and on chambers or sleeping rooms, where it will not meet with rough usage, it will last two years as good as new.

**TO MAKE GOOD APPLE JELLY.**—Take apples of the best quality and good flavor (not too sweet,) cut them in quarters or slices and stew them till soft; then strain out the juice being careful not to let any of the pulp go through the strainer. Boil it to the consistency of molasses, then weigh it and add as many pounds of crushed sugar, stirring it constantly till the sugar is dissolved. Add one ounce of extract of lemon to every twenty pounds of jelly, and when cold set it away in close jars. It will keep for years. Those who have not made in this way will do well to try it; they will find it superior to currant jelly. †

**FURNITURE**—As in dress, so in furniture—a little taste is better than much money without it. There are certain articles which, if good, cost much, such as carpets and mirrors. But couches, lounges, ottomans, and chairs may be had quite cheap, and also very tasteful, by the exercise of a little art and industry. A common chair which costs a dollar, stuffed and covered at the cost of another dollar, may be a better and more beautiful article than one you buy for ten; and five dollars and a few hours' labor will give you a couch really more elegant, as well as more comfortable, than a sofa that costs fifty. But a good piano-forte, like a good mirror, has the element of cost, and to save a hundred dollars in one, or twenty in the other, is poor economy. Plate glass keeps its value; and a good tone is worth more than all outside finish.

Don't make your rooms gloomy. Furnish them for light, and let them have it. Daylight is very cheap, and candle or gas light you need not use often. If your rooms are dark, all the effect of furniture, pictures, walls and carpet are lost.

Finally if you have beautiful things, make them useful. The fashion of having a nice parlor, and then shutting it up all but three or four days in a year, when you have company—spending your own life in a mean room, shabbily furnished, on an unhealthy basement, to save your things, is the meanest possible economy. Go a little further—shut up your house and live in a pig-pen. The use of nice and beautiful things is to act upon your spirit—to educate you and make you beautiful.—*Manners Book.*

## Editorial Notices.

### THE PROVINCIAL SHOW OF UPPER CANADA.

This great annual gathering of the people and productions of this Province, will, as all our readers are doubtless aware, come off at Cobourg, on the 9th, 10th, 11th, and 12th instant. All articles, except animals, intended for exhibition, should be on the ground *at the latest on Tuesday morning*, the 9th instant. Live Stock should not be later than *Wednesday Morning, eight o'clock*. There is every prospect of a large Exhibition.

We have been requested to correct a typographical error in the Prize List. The end of Chap 30, on page 15, the column of Shillings is made to answer for pounds. This error is so obvious one would think it would hardly lead to any practical mistake: but we notice it as a correspondent has drawn our attention to the subject.—*B.*

### DEATH OF PHILIP PUSEY, ESQ.

This celebrated agriculturist has recently been removed from an extensive field of useful and honorable labor by the hand of death. For several years Mr. Pusey occupied a foremost rank among British land owners and farmers; and his loss will be felt by those interested in the progress of agriculture in different parts of the world. He was, among the proprietors of the Royal English Agricultural Society, elected, we believe, twice to the high office of its Presidency: and enjoyed the universal respect and confidence of its numerous members. He represented in Parliament the County of Berkshire in which his estate was situated, for several years; and his efforts, as a legislator, particularly on behalf of tenant right, as a powerful means of improvement, were warmly and extensively appreciated. His reports of Agriculture generally, (remarks the *Agricultural Gazette*), and of local Agriculture in particular,—his own contributions to the improvement of its practice and to the discussion of its theory; and above all, the sober-minded judgment under which all the contributions to the *Journal* have been passed, so that under his editorship, it has become the most useful and most instructive periodical that agriculturists have ever read:—these are what most justly bind the gratitude of British agriculturists to the memory of their friend and benefactor—*PHILIP PUSEY.*—*B.*

### TESTIMONIAL TO MR. J. B. LAWES.

We learn from the English papers that a very appropriate and costly testimonial was recently presented to Mr. Lawes, of Rothhamsted Park, by the Agriculturists of England. Our readers are doubtless aware of the important services Mr. Lawes has rendered scientific and practical Agriculture by his numerous, extensive, and costly experiments. To him the farmer is indebted for much of his knowledge of the action and application of new substances as fertilizers, as well as for clearer and more enlarged views of the principles of vegetable and animal nutrition. The testimonial consists of a new Chemical Laboratory, constructed on the most approved modern principles, on Mr. Lawes's estate in Hertfordshire, at a cost of one thousand pounds. Also, an "heirloom," consisting of a handsome and massive silver Candelabrum, of characteristic design, bearing the following inscription:—"Presented to John Bennet Lawes, Esq., as an heirloom;—at the same time with a Laboratory at Rothhamsted, Herts, in acknowledgment of the eminent services he has rendered to the science and practice of Agriculture, July 19th, 1855."—*B.*

Through some unaccountable mistake a contribution to the Horticultural Department, from Geo. Leslie, Esq., of this city, got mislaid, and was not discovered until too late for this number.

#### TORONTO MARKETS.

Wheat has been coming in rapidly during the month, and the receipts foot up to 101,648 bushels since August 1st, of this 81,995 bushels have been shipped to the States. Prices for the last week of the month ruled between 9s to 9s 5d; and on Thursday, 27th, 9s 6d per bushel was paid for a good sample. Farmers Flour sells at \$8½ @ \$9 at retail; Oats 2s 6d @ 2s 9d; Potatoes 2s 3d. @ 3s.; Apples 7s 6d @ 8s 9d per brl.

#### SEED POTATOES.

**FOR SALE**—A quantity of potatoes grown on the Experimental Farm, the seed imported from England two years ago, of the following sorts:—"Goldfinders;" "Early Shaws;" "Kentish Kidneys;" and "York Regents."

The Potatoes will be put up in new two bushel bags; price, including bag, five shillings.—Applicants should be particular in naming the sorts, and the mode of transmission, enclosing the amount to Professor Buckland. As the potatoes are being taken up, immediate orders are requested.

Board of Agriculture.  
Toronto Sept. 28th. 1855.

#### UNIVERSITY COLLEGE, TORONTO.

**THE** Lectures on the History, Science, and Practice of Agriculture will commence early in November. Young men from the country, can attend during Winter, other classes, such as Chemistry, Geology, Natural History, &c, for a very small outlay. Particulars may be obtained of Professor Buckland, Board of Agriculture.

Toronto, Sept 25th, 1855.

#### TORONTO NURSERIES.

**THE** Subscriber respectfully invites Gentlemen and Farmers about to plant trees this Fall to visit the Nurseries and examine for themselves. The stock of Fruit and Ornamental Trees &c., &c., offered this Fall and next Spring is the largest and finest ever offered by one establishment in this country. The trees are large, healthy, and well rooted. Farmers would do well to order their trees DIRECT FROM THIS NURSERY, instead of buying from peddlars, or bring their teams to the Nursery, and choose their own trees. In this way they need not loose a tree in a hundred. Printed directions for planting will be given to purchasers along with their trees. Parties commencing the Nursery business, supplied with specimen Trees and Fruit-tree Stocks of all kinds and parties wishing to sell again supplied at wholesale prices. Wholesale and Retail Catalogues will be sent on application.

The Subscriber would like to appoint a respectable man as Local Agent in every Township in the Province, one who would be responsible to the people in getting a good article. Assessors and Collectors of Townships would be proper parties to undertake this business. Commission to them for their trouble will be very liberal. Packing done in the best manner, so as to ensure the safety of the Trees and Plants to the most distant parts of the Province.

All letters and business communications will be promptly attended to, address POST PAID to

GEO. LESLIE.

Toronto Nurseries.

Toronto, August, 1855.

9-2t

### IMPORTANT SALE OF HORSES, CATTLE, SHEEP, PIGS, FARMING IMPLEMENTS, &c.,

Will be Sold on THURSDAY, the 18th October next, on the Property of WM MILLER, Lot 24, 7th concession of Pickering, the following Stock:

**HORSES.**  
1 span of Clyde Mares, 1 ditto of Geldings,  
1 two year old Filly by George Buchanan,  
1 two year old imported entire Colt—This fine animal has already taken Three First Prizes,  
1 one year old Colt by Farmer's Glory.

**SHORT HORNED CATTLE.**  
1 three year old Bull, from the stock of L. F. Allen, New York.  
1 two year old Heifer, which gained the First Prize at the Provincial Exhibition of 1854, besides other three prizes. 4 one year old Heifers—Imported from the stock of Mr. Robert Syme, Redkirk, Dumfrireshire, Scotland.  
1 two year old Galloway Heifer—Imported.

**GRADE CATTLE**  
6 good Milch Cows, well crossed with imported Bulls.  
3 three year old Heifers, do.  
4 two year old Heifers, do.  
2 one year old Heifers, do.  
5 Heifer Calves.  
5 fat Steers.  
1 yoke of Working Oxen.  
4 two year old Steers.  
4 one year old do.

**LEICESTER SHEEP.**

7 two shear Rams, imported.  
15 one do do.  
25 Ram Lambs from imported stock.  
20 aged Ewes, imported.  
6 one shear do. from imported stock.  
20 Ewe Lambs, do.

The most of these Sheep are from the Stocks of Messrs Wilkin, Beattie, Burton and Carter, noted breeders in England and Scotland.

**COTSWOLD SHEEP.**

2 aged Rams—2 shearing Lambs.  
2 Ram Lambs—2 aged Ewes.  
2 Ewe Lambs.

**SWINE.**

1 Bear improved imported breed.  
1 Sow and Pigs.  
7 Store Pigs—7 small Pigs.  
A lot of Poultry, Dorking and Shanghai Breeds.

**FARMING IMPLEMENTS.**

1 Thrashing Machine, near y new,  
2 Lumber Waggons.  
A one horse Buggy with silver-mounted Harness.  
2 sets of Team Harness.  
2 Iron Ploughs, imported.  
1 Turnip-cutter, do.  
And a variety of other articles, all of which will be sold without reserve.

Terms of Sale—All sums under £2 10s, cash; over that sum 12 months credit on approved notes.

Sale to commence at 10 o'clock precisely.

The above Property containing 200 Acres, of which 160 is cleared, To be Let—Terms made known at time of Sale.

NOTE—THE PEDIGRES OF THE IMPORTED HEIFERS ARE IN THE HANDS OF THE OWNER.

Toronto, Sept 13, 1855

#### DURHAM BULL FOR SALE.

**THE** Subscriber will offer for Sale, at the Provincial Exhibition at Cobourg, the four-year-old Durham Bull, "ADAM," got by "Halton;" dam, "Lady Elgin." He took the first prize as a three-year-old Bull at the Provincial Show, London, C.W., in 1854.

Newmarket, September 27, 1855.

WM. H. BERESFORD.

#### TO BE SOLD,

The Property of the East Zorra Ag. Society,  
**A Fine Agricultural Stallion**

16 hands high, dark dappled bay with black mane, tail, and legs, by Old Clyde, out of a Cleveland mare. He is five years old this month, and has taken 6 first and 1 second prizes at different Shows. For particulars apply to the Secretary of the East Zorra Agricultural Society, Woodstock.

Woodstock, Ju y 18th, 1855.

8-3

#### SUFFOLK PIGS,

(Directly from Imported Stock.)

**THE** Subscriber offers for sale, a few of these incomparable Pigs, singly, or in properly selected pairs.

PATRICK R. WRIGHT.

CASTLETON FARM,  
Cobourg, C.W., July, 1855.

8-4f.



**ENGLISH CATTLE**  
IMPORTED ON COMMISSION,

BY  
**Messrs. THOMAS BETTS & BROTHERS,**  
OF LIVERPOOL AND HERTS, ENGLAND,

EMBRACING

Pure Blood Horses; Short Horned Cattle; North Devons, Herefords, Ayrshire and Alderney Cows; Pure Bred Southdown, Cotswold and Leicester Sheep; Suffolk, Essex and Berkshire Swine;

**HADHAM HALL,**

**BISHOPS STORTFORD, HERTS, ENGLAND,**  
Residence of Messrs. Betts & Brothers,

Two Miles from Bishops Stortford Station, on the Eastern Counties Railway, and 32 Miles from London.

MANY of the best breeders of Stock reside within a few miles of Messrs. BETTS' residence, such as the celebrated breeder of South Down Sheep, and the gentleman who has taken the first prize the last two seasons at the Royal Agricultural Society, for the best entire Farm Horse; also several noblemen and gentlemen who keep the pure bred Short Horns.

Gentlemen will agree with us, that it is better to employ a professional agent in the purchase of stock, they being likely to know where and how to select the best cattle at the lowest price.

Messrs. Betts will always deliver with the cattle an authenticated pedigree.

As soon as they are purchased, information by the first mail will be given, stating the price, and the time they will leave England for America: also the receipt from the owners of the Cattle.

To secure importers against losses that are liable to occur to cattle on seaboard, Messrs. Betts beg to inform gentlemen they can be insured when desired, against all accidents and disease, from the day of purchase in England till the day of delivery in America, on application to our agent.

*Commission Charged.*

|                                              |      |
|----------------------------------------------|------|
| Horse, each, - - - - -                       | \$80 |
| Bulls or Cows, " - - - - -                   | 60   |
| Ram or Ewe, " - - - - -                      | 30   |
| Three Sheep from the same owner, each, - - - | 2    |
| Ten do " - - - - -                           | 11   |
| Twenty Ewes, " - - - - -                     | 8    |
| Three Swine from the same owner, each, - - - | 22   |
| Ten " " " - - - - -                          | 11   |

*Expense of keep and attendance from the time of purchase up to the period of sailing from London or Liverpool, including Railway expenses, &c., as follows:*

|                             |      |
|-----------------------------|------|
| Horse, each, - - - - -      | \$40 |
| Bull or Cow, " - - - - -    | 25   |
| Sheep or Swine, " - - - - - | 15   |

*Expense by Sea on Board the Steamers.*

|                             |       |
|-----------------------------|-------|
| Horse, each, - - - - -      | \$125 |
| Bull or Cow, " - - - - -    | 105   |
| Sheep or Swine, " - - - - - | 25    |

*Keep and attendance across the Atlantic on board the Steamer provision for 30 days.*

|                             |      |
|-----------------------------|------|
| Horse, each, - - - - -      | \$35 |
| Bull or Cow, " - - - - -    | 25   |
| Sheep or Swine, " - - - - - | 8    |

*Expense by Sailing Vessels.*

|                             |       |
|-----------------------------|-------|
| Horse, each, - - - - -      | \$100 |
| Bull or Cow, " - - - - -    | 80    |
| Sheep or Swine, " - - - - - | 18    |

*Keep and attendance by Sailing Vessels, provision for 60 days*

|                             |      |
|-----------------------------|------|
| Horse, each, - - - - -      | \$70 |
| Bull or Cow, " - - - - -    | 50   |
| Sheep or Swine, " - - - - - | 15   |

We have been permitted to refer to two of the largest importers of cattle into America, Geo. Vail, Esq., of Troy, and Col. Lewis G. Morris of Mount Fordham, N.Y.: as regards our rate of charges, both gentlemen deem them very reasonable.

If gentlemen prefer, the stock will be selected and purchased by charging five per cent. and travelling expenses. All other bills, such as fitting up of the Ship, provender, passage and attendance, will be rendered on delivery of the stock in America.

A full and complete list of the best stock to be disposed of in England, will be kept with our Agent,

**JAMES M. MILLER,**  
81, Maiden Lane, New-York City.

Parties favouring Messrs. Betts with orders, will please make use of the following Table of Specification :

| BREED.                  | Horse. | No. of Bulls required. | No. of Cows required. | About the age required. | If to come by Steamer or Sailing Vessel. | If insured. |
|-------------------------|--------|------------------------|-----------------------|-------------------------|------------------------------------------|-------------|
| Horse, - - - - -        |        |                        |                       |                         |                                          |             |
| Short-Horned, - - - - - |        |                        |                       |                         |                                          |             |
| North Devons, - - - - - |        |                        |                       |                         |                                          |             |
| Herefords, - - - - -    |        |                        |                       |                         |                                          |             |
| Ayrshire, - - - - -     |        |                        |                       |                         |                                          |             |
| Alderney, - - - - -     |        |                        |                       |                         |                                          |             |
| South Down Sheep, -     | Rams.  | Ewes.                  |                       |                         |                                          |             |
| Cotswolds, - - - - -    |        |                        |                       |                         |                                          |             |
| Leicester, - - - - -    |        |                        |                       |                         |                                          |             |
| Suffolk Swine, - - - -  | Boars. | Sows.                  |                       |                         |                                          |             |
| Essex do. - - - - -     |        |                        |                       |                         |                                          |             |
| Berkshire, - - - - -    |        |                        |                       |                         |                                          |             |

Short Horns, Devons, Herefords, Ayrshire, Alderney Cow & South Down Sheep, Cotswold, Leicester, Hampshire South Down Sheep, selected and imported on commission to any part of America, by Messrs THOS. BETTS & Co., Liverpool and Herts, England. Circulars, containing the prices of all kinds of Stock, and the expenses to America, also giving the weight and quantity of wool of all kinds of Sheep, can be received by applying personally or by letter to our agent J. M. Miller, 81, Maiden Lane, New York City.

N.B.—A Model of a Patent which, for future will prevent all accidents occurring to Cattle, can be seen at 81, Maiden Lane, N.Y. and at Liverpool.

In answer to numerous enquiries respecting the prices of the best stock in England, such as should be imported to America, can be obtained at the following prices:

|                                            | \$.        | \$.         | \$.         |
|--------------------------------------------|------------|-------------|-------------|
| Thorough Bred Horses, from - 1000 to 20. 0 |            |             | 12.00*      |
| Short Horn or Durham Bull - 400 "          | 1500       |             | 7.00        |
| Do Cows - 200 "                            | 800        |             | 4.00        |
| Do yearling Bull - 2.00 "                  | 1.00       |             | 500         |
| Do do Heifer - 1.75 "                      | 400        |             | 250         |
| Herefords Bull - 3.00 "                    | 8.00       |             | 5.00        |
| Do Cows - 2.00 "                           | 6.00       |             | 2.50        |
| Devons Bull - 3.00 "                       | 8.00       |             | 4.00        |
| Do Cows - 2.00 "                           | 5.00       |             | 2.50        |
| Ayrshire Bull - 1.50 "                     | 3.00       |             | 3.00        |
| Do Cows - 1.50 "                           | 2.50       |             | 2.00        |
| Alderney Bull - 1.50 "                     | 2.25       |             | 1.75        |
| Do Cows - 1.00 "                           | 1.50       |             | 1.25        |
|                                            | Will weigh | Will shear  | Will shear  |
|                                            |            | when killed | and dressed |
|                                            |            | and         | wool        |
| Cotswold Sheep Ram - 160 to 3              | 0 13 lbs   | 125         | 12to15lbs   |
| Do Ewe - 25 "                              | 100        |             | 30          |
| Leicester Sheep Ram - 160 "                | 2.0 120lbs | 100         |             |
| Do Ewe - 21 "                              | 80         |             | 25          |
| South Down Sheep Ram - 160 "               | 3.0 112lbs | 125         | 6 to 9lbs   |
| Do Ewe - 25 "                              | 100        |             | 30          |
| Hampshire do Ram - 75 "                    | 125 120lbs | 100         | 6to16lbs    |
| Do Ewe - 15 "                              | 25         |             | 25          |
| Swine Boars - 25 "                         | 50         |             | 40          |
| Do Sows - 15 "                             | 40         |             | 25          |

Merino Sheep from Spain  
Mules from Spain. 5

**GALLOWAY BULLS FOR SALE.**

THE Subscriber will offer for sale at the Provincial Exhibition, to be held at Cobourg, 2 PURE BRED BULL CALVELS, from imported Cows; also, 4 IMPORTED CHEVIOT RAMS, to be seen at the premises of the subscriber, near Cobourg.

WILLIAM RODDICK.

Cobourg, June, 1855. 7.

**JUST PUBLISHED,**

THE Journal and transactions of the Board of Agriculture of Upper Canada, No. 2, Vol. 1st, pp 160 Toronto: printed and published by Thompson & Co., for the Board of Agriculture.

This work is issued in quarterly parts, four of which will form a volume. The first part embodies the transactions of this Provincial Association from its institution in 1846, down to the commencement of the year 1851. The next number contains an account of the further proceedings of the Association and the Board of Agriculture, Prize Essays, Abstract of county Reports, &c., down to 1843.

The work will be sent free by post for 5s per annum. All communications and remittances to be addressed to the Secretary of the Board of Agriculture, Toronto.

TORONTO, May 1, 1855. 5.



## UPPER CANADA STOCK REGISTRY.

To Owners and Breeders of Thorough Bred Horses and Cattle.

THE BOARD OF AGRICULTURE FOR UPPER CANADA, having determined to open a REGISTER, at their Office, in this City, for thorough Bred Horses and Cattle, Notice is hereby given, that any person desiring to avail himself of such register, can do so under the restrictions herein mentioned, furnishing duly certified particulars to this office; and can obtain a certificate of the same, which shall be held as officially correct in all future transactions relating to the stock so registered.

No Animal shall be registered, unless a clear and distinct connection be established, to the satisfaction of the Board, both on Sire and Dam, with the British or American Stud and Herd Books.

Where the Animal to be registered has been purchased by the person desiring to register, or has been imported for breeding purposes, a correct statement must be given of all particulars before a certificate can be issued.

It is desirable, in order to facilitate the taking of entries for the Provincial Exhibition at Cobourg in October next, that persons desiring to register stock should do so at an early date, as all animals for which Register certificates shall have been given will be entered without further inquiry. Owners of stock are recommended to keep Duplicates of Pedigrees.

G. BUCKLAND, Secretary.

Office of the Board of Agriculture }  
Toronto, March, 1855.

## DRAINAGE AND SEWERAGE PIPE MACHINE

CHARNOCK'S PATENT.

BY this Machine, Drainage and Sewerage Pipes of all descriptions, as well as perforated and other Brick, Flooring Tiles &c., are molded with the greatest facility and precision.

A man and three boys can turn out from 5, 00 to 10, 00 feet of pipes per day, according to sizes; and if worked by horse, steam or water power, a proportionate increase will be obtained.

This Machine is in extensive operation in England, where, in addition to the testimony of numerous Tile Makers, as well as that of the first Machinists of the day, the following Prizes have been awarded to it.

By the Yorkshire Agricultural Society, at its annual meeting, 1845, as the first Tile Machine with a continuous motion, ----- £5 0 0

By the same Society, the following year as the best Machine of the day, ----- 10 0 0

By the Lancashire Agricultural Society, at its annual meeting, 1845, ----- Silver Medal.

By the Highland Agricultural Society, at its annual meeting in 1846, as the best machine ----- 5 0 0

At the meeting of the New York State Agricultural Society, at Saratoga (1853), a working model of this Machine was awarded the Silver Medal and Diploma; and at the Fall Exhibition the same year of Lower and Upper Canada, held respectively at Montreal and Hamilton, the same Model was awarded a Diploma from each Society. It was awarded the First Prize and Diploma at the recent Exhibition in London, Canada West.

The price of the Machine is £50, (half cash and remainder at six months), with five Dies for Pipes. Brick and other Dies at a moderate charge.

The Patentee guarantees the effective working of the Machine.

All orders to be addressed to

JOHN H. CHARNOCK,

Drainage Engineer, Hamilton, W., the Patentee.

Hamilton, March, 1855.

## SPRING STOCK OF IMPLEMENTS.

THE Subscriber begs to inform Agriculturalists and Horticulturists, that they have received a large and varied assortment of FARM AND GARDEN IMPLEMENTS

And would solicit a call from parties about to purchase, at No. 77, corner of Yonge and Adelaide streets, Toronto. They have on hand a quantity of the most improved Lap Furrow Ploughs, which have of late been so much in demand. Reaping and Mowing Machines on the most improved principles, will be for sale in their season.

McINTOSH & WALTON.

Toronto, 1st May, 1855.

## TO BREEDERS.

THE Thorough Bred Short-horned Bull, "JOHN O'GAUNT," Second, Bred by John S. Tanqueray, Esq., Hendon, Middlesex, England, imported by Frederick Wm. Stone of Guelph, October last.

This very superior Young Bull will be kept at the Subscriber's Farm, Farmlam, Puslinch, five miles from Guelph.

Terms for Service—Thorough bred, Five Pounds; if grade, 5s. Parties wishing it, can have pasture at a reasonable rate. No risk by subscriber.

His sire, "John O'Gaunt" (1621 English Herd Book), was sold in 1833 for \$4,000.

FREDERICK WM. STONE.

Guelph, April 24, 1855.

## COMBINED REAPER AND MOWER.

Manny's Patent with Wood's Improvement.

THE Undersigned are now manufacturing the above Machinery which has been thoroughly tried through the United States, and have given entire satisfaction. In the frequent trials made with every machine that has any claim to reputation it has proved the best in the following points, viz.:

Its perfect adaptation to uneven surfaces—its means of adjustability to various heights of cutting—its lightness of draught—the ease and facility with which it can be removed from field to field upon its own wheels, and changed from a reaper to a mower, and vice versa—the construction, for strength and durability—and its capacity for doing business.

By means of suspending the frame to the axle of the wheels the joint and lever, the driver is enabled at his will to elevate or depress the cutters from one to fifteen inches from the ground; and with the oblique platform the raker is enabled to discharge the grain in gazels, at a sufficient distance from the standing grain to allow the team to pass, so that the whole field may be cut without removing any of the grain.

Price, with two sets knives, \$130. We are also manufacturing Barall's Reaper, price \$120; and Ketchum's Mower as improved, price, with two sets of knives, \$110, warranted.

These machines are capable of mowing or reaping from ten to fifteen acres per day on smooth land, as well as can be done with scythe or cradle.

H. A. MASSEY & Co.

Newcastle, May 6, 1855.

## THE CANADIAN AGRICULTURIST.

IS PUBLISHED MONTHLY, at Toronto, Upper Canada, and devoted to the improvement of Agriculture, Horticulture, Farm Mechanics, and to the advancement of the Farmers' interests generally. It commences its SEVENTH Volume this year, 1855. Each number contains 32 large octavo pages.

The *Agriculturist* is illustrated with Engravings of Cattle, Implements, Farm Houses, Farm Buildings, &c., and is the only Agricultural paper printed and published in Upper Canada. Receiving as exchanges the leading Agricultural Journals of the United States and Great Britain, the Editors are able to select and lay before their readers every thing of value that may appear in these papers.

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Professor BUCKLAND, of Toronto University, continues to assist as Editor.

Some of the most intelligent Practical Farmers in the Province are contributors to this journal.

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WM. McDOUGALL,

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PRINTED AT THE GLOBE OFFICE, 22, KING ST., TORONTO