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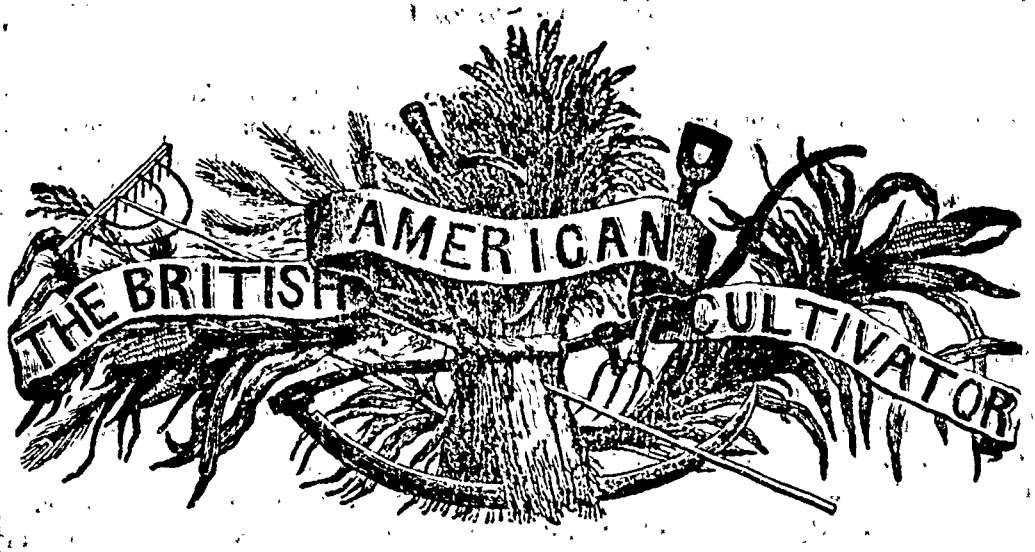


"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

New Series. TORONTO, SEPTEMBER, 1847. Vol. III. No. 9.

A FEW HINTS IN SEASON.

In giving directions that could be profitably carried into practice on a well-organized farm, at this particular season, it would be necessary that the peculiar properties of the soil, and the treatment which it had previously received, should be carefully studied, and without this knowledge the advice would be as likely to bring about unfavorable results as otherwise. Hence the necessity of a very large amount of caution being used by those who attempt to govern or mould public opinion, on matters connected with the practice of agriculture. The following hints may be found useful to some of our readers; and those to whom they apply, will do well to carefully examine their purport, and if possible, put the systems of management here laid down, in practice.

The usual season for sowing winter wheat is now nearly to a close, and it will therefore be unnecessary to enter into a lengthy discussion, showing the most judicious treatment of the soil for this crop, but it might not be amiss here to state, that in those parts of the province where the grub of the Hessian fly has committed serious ravages, that the sowing might with advantage be delayed until the first week in October. Unless late sowing be generally practised where the fly prevails, the good cannot be accomplished by late sowing, that the prudent farmer might imagine, for the obvious reason, that the insects deposited on the early sown fields, will produce flies the following spring in sufficient abundance to destroy the late as well as the early sown.—There is no means of obviating the difficulty but by a united determined effort on the part of every wheat-grower for a few years.

Great care should in all cases be observed in selecting pure seed, and of the best varieties. As much pains should be practised in purifying the seed from cockle, chess, rye, or other impurities, as a careful farmer would observe in selecting diseased animals from those that were in a healthy condition. No farmer should be satisfied with the wheat which he sows, so long as he can find a grain of chess, cockle, or other weeds, in a peck of seed. This is not carrying the matter too far; and the doctrine of *transmutation* of grain is only entertained by those who are so indolent and careless as to sow the very seeds with their wheat, which they afterwards foolishly suppose were produced from diseased plants of wheat. At this enlightened day it is scarcely necessary to give

directions for the preparation of seed wheat, with a view of preventing smut. Every man who has any pretensions or pride in the appellation of a FARMER, must be satisfied by this time that smut is a disease which may most easily be prevented. If the seed be entirely free from smut, then no preparation is requisite; but if there be only a few grains of smut in a bushel of seed, these few grains or balls, when broken, will impregnate the entire mass, and disease, as a matter of course, must follow. The safest plan is to carefully wash the seed in a strong solution of salt, and afterwards dry it with fresh lime. Other modes of preparation are equally efficacious, but in many of them, unless great care be used, the vitality of the seed frequently becomes destroyed, and thus the experimenter is afterwards deterred in employing any means for preventing smut. In every instance where the wheat-grower has for a series of years practised the plan of washing his seed-wheat in a very strong brine, and when taken out of the tubs had it dried with newly slacked lime, and sown as soon as possible, the smut balls have gradually grew scarce, until it would be difficult to find a single diseased grain in an entire field. If the Canadian farmers would be careful in selecting and preparing their seed grain, especially wheat, they would thus in a very few years, considerably raise the value of the article in the market, from the fact that the samples would be uniformly good, and thus our character as a wheat-growing country would be much improved.

INDIAN CORN.—In many portions of the province large quantities of this valuable grain have been grown the present year; and as the season for harvesting it has arrived, a little advice on that head might not be thought out of place. The old-fashioned method of cutting off the tops, when the grain is about leaving its milky state, is decidedly objectionable; and the better method both for the grain and fodder, is to cut up the stalks by the roots a short period before the grain is thoroughly ripe, and thus by standing them up in large stooks for a few weeks, the grain will become thoroughly hardened, and the straw will be nearly equal to hay for feeding horned cattle. Corn will bear cutting much earlier than most people suppose, and it may be harvested any time after the grain has left its milky state. The grain will *glaze* as the term is used, if the stalks be cut, as soon as the milk can no longer be pressed out of the grain with the thumb and finger, provided that the stalks be put into close and large stooks. By carefully preserving the corn-stalks when cut in that state, and by cutting them very fine with a straw-cutter, horses as well as horned cattle, will eat them with great avidity,—and it would prove stronger food for animals than the very best quality of hay. Corn-stalk fodder is not very highly appreciated in Canada, simply because it is allowed to ripen too much before the grain is harvested, and because they do not employ a straw-cutter in making it fit for animals to masticate.

PRESERVATION OF FODDER.—At this season of the year large quantities of grain are usually thrashed and marketed, and it not unfrequently happens that the straw is thrown into the barn-yard and trodden down with the horned cattle and other stock, without doing them much good, as an abundance of the best pasturage may be had for some weeks to come in the fields. In some instances there may be an excuse for this extravagance, especially where the produce in straw is very abundant, and the stock of horned cattle and sheep is limited in comparison to the size of the farm; but in a great majority of cases it would be wise to carefully preserve all the straw that is grown, if a large portion of it was used for no other purpose than for bedding the stock, and in keeping the barn-yard and sheep-folds liberally covered with fresh straw during the winter months. It often occurs that a large quantity of very valuable straw is wasted in the early part of autumn, when the owner of the article is obliged to buy before the close of the winter, or if not, he is under the necessity of feeding his stock very sparingly before the return of spring, all of which might have been avoided with a very trif-

ling effort and care, at the season when the business of thrashing was prosecuted with vigour. A farmer should carefully save his straw, mow his fence corners, and economize winter food for his stock, and thus, whether the winter be mild or severe, he will be prepared for the worst.

Autumn Ploughing.—This is one of the most important operations on the farm, at this season of the year, and upon strong clay soils it becomes an almost indispensable feature in good and profitable husbandry. If the soil be foul, with couch and other wild grasses, probably the best course to pursue, to thoroughly clean it and make it fit for a crop the following summer, is to plough it about the 20th of September, as lightly as possible,—say a four by nine inch furrow,—and as soon as convenient, harrow it with light harrows, and by the early part of November the grasses and weeds will become considerably decomposed and nearly ready for exposure to the sun and frosts by a cross furrow. The best system of cross-ploughing under such circumstances, is to give the land a strong and deep *rafter furrowing*, which simply consists in ploughing a very deep cross furrow in the same manner that turnip drills are formed. If the stubble land be ploughed very early, the earlier in September the better. The principal excellence in the plan consists in the thorough and complete exposure that the root weeds and noxious grasses get to the winter frosts, and the superior tilth in which the soil is brought by the action of the frosts and air. The process is not an expensive one; and it is one that approaches as nearly to the most improved system of garden culture as may be, without adding much additional expense or trouble to the ordinary system of ploughing land in the autumn. Where the land is in a clean state of cultivation, the plan of ploughing with a rafter furrow, without a previous ploughing, may be practised with great success, but it should be done late in the season, and with a good deal of care and exactness. Both the plans suggested have been tested by the writer, on land in various states of cultivation, alongside of thoroughly clean ploughing; and in the spring when the harrows were employed, previous to the spring ploughing, that which was rafter-furrowed or ribbed, was in a better condition, and produced much better crops than where the land was ploughed in the ordinary manner. A single experiment of this kind will satisfy the most sceptical of its utility and value, especially where it is made on those soils that are denominated strong clays.

Drainage of Lands.—Probably there is no expenditure made upon land, in the shape of improvements, that pays such a large a rate of interest as either open or under drainage. There are, however, some open porous lands, that do not require artificial drainage; but such soils are not very abundant. The drainage of land may be carried on to much greater advantage at this season of the year than any other, and all who have soils that would be improved by draining, would act wisely by prosecuting that department of improved husbandry with as much alacrity as possible. Draining with tyle is yet quite out of the question with the Canadian farmers, and cedar poles covered with slabs of the same wood, make a very excellent substitute. The drains should in all cases be at least *three* feet in depth, and when made by judicious hands, will pay the entire expense of making, with the first crop that is taken from the land. If borrowed capital be employed in draining land that requires that mode of treatment to improve it, in nine cases out of ten the increased production from the land would pay sufficient to give a return of 25 per cent on the capital invested in the improvement. Those who have means to drain their lands, would do well to do so, and at the same time ascertain the amount of benefit derived from the operation, and thus be better enabled to arrive at a correct data as to the profits that may be made to accrue from improvements effected in agriculture.

A Superb Mustard.—Take ground mustard 3 lbs.; common salt 1 lb.; mix with vinegar, grape-juice, or white wine.

The Royal Agricultural Society's Meeting at Northampton.

The late numbers of the *London Agricultural Gazette* have reached us, which give a very full and elaborate Report of the above Meeting. We gather from the Report, that in many particulars this Show was superior to any of the preceding ones, and this would apply particularly to that department of the Exhibition, denominated "The Implement Show-yard." For the information of our readers, we shall make a few extracts from that portion of the Report that refers to the implements, believing that there are now many independent and improving farmers in this Province who are anxious to improve the condition of their soil, and thus increase the products of their land, by employing more efficient machinery in the various operations on the farm.

Canada is boastedly an Agricultural Country, four-fifths of her inhabitants are directly engaged in that business as a sole source of obtaining a livelihood; her very large and increasing revenue is paid either directly or indirectly by the agriculturists, and as we stated on a former occasion, her commercial credit is principally sustained by the industry and enterprise of the farmers. It is therefore pretty certain, that the prosperity of all other classes, will depend in a very great degree upon the amount of skill and industry that is employed by the cultivators of the soil, in the performance of the various operations that should be carried into practice on their farms. It therefore appears rational, that neither capital nor exertion should be spared in placing the various improved appliances that are invented and employed in other countries for the benefit of the husbandmen, in the hands of the Canadian farmers, by which they might reasonably calculate to increase the products of their farms, and make their business more honorable and profitable. We have now a National Agricultural Association, which is governed upon exceedingly liberal and popular principles, and which thousands look up to as a means by which great improvements in agriculture will be brought about. If the Government and people of Canada would only show the disposition to bring about such a result, the Association might become the channel through which the Improved Agricultural Machinery of other countries might be introduced into the colony, and thus, in process of time, they would become manufactured here, and be scattered broadcast as it were, throughout the entire land. Before a movement like this can with much advantage be carried into practice, an experimental farm must first be established, in connection with an Agricultural Educational Institution, and then by acting upon the principles of the foregoing suggestions, in process of time, a standard of excellence would be established for all kinds of Agricultural Implements.

The following are the extracts from the Report previously adverted to:—

Of Barn Implements.—there was a great variety exhibited; threshing machines, winnowers, separators, &c. Of the first, we had them portable and fixed, with rakes, and shakers for separating the straw, and without them, for hand for horse or steam power, peg drum machines, and machines furnished with the ordinary beaters. The shakers attached to these machines were of two kinds: 1, the ordinary cylinder frames, handing the straw from one to another over a sparred frame-work through which the grain falls, and 2, those consisting of horizontal parallel bars, of which, if you count from one side to the other, the even numbers and the odd numbers alternately rise and fall, passing between one another, so that the straw resting on the one surface as it falls, is caught by the other as it rises, and thus by a series of jerks tossed from the one end of framework on which it is placed by the machine to the other, which is supposed to be at the side of the straw-room, the grain meanwhile falling through to the floor or into the hopper of a winnowing machine. Among the hand machines we may mention, more for its peculiarity, we suspect however, that for its merit, one invented by Lieut. Vibart, R. N., in which motion is given by cranks worked, not as usual, directed by the hand, but by the intervention of levers.

The prize for the best Threshing Machine was was awarded to Messrs. Garrett, of Saxmundham, for their 4-horse power implement which was victorious in the competition at Newcastle also. The straw is fed in *across* the feeding board; it is perfectly threshed, and the straw is uninjured. The competition lay chiefly between Mr. Hornsby, of Grantham, and Mr. Garret, in this, as also in the case of other implements. The machine exhibited by the former, of 6-horse power and costing 42*l*, in 2 minutes and 45 seconds thrashed 50 sheaves of wheat "quite," the grain being "very little broken;" that exhibited by the latter, a 4

rse power implement, costing 60*l.* 10s, thrashed e same quantity in 4 minutes, "clean," the ain being little broken.

It is right that we refer to the Peg-drum Ma-in-, in which the grain in ear being fed into e machine in the usual way, is seized by the gs on a revo'ving cylinder and dashes against e pegs in the cover of the cylinder, between ich they pass. The principle which one would ppose very faulty is, nevertheless, found in actice, we understand, to answer admirably, e straw being cleanly threshed without being uch broken.

We did not notice much novelty in the Win-wing Machines exhibited. Mr. Cooch, of arleston, near Northampton, carried off the ize. Clyburn's Corn-separator, consisting of Archimedian screw, surrounded by a cylinder wire-work of a fineness increasing from one end the other, was exhibited by Mr. Hornsby. e grain introduced at the one end, gradually sses, by the revolution of the machine, to the er, and is thus subjected to the action of an in-asingly-coarse sieve, and as it passes through is caught in different bags, the small, imperfect, d broken grains in that near the fine end of the olving sieve, and the larger and finer grains at other. Under this class of Barn implements, must also refer to Barley Hummellers. We ice two; both of them had been formerly exhi-d, one by Mr. Cooch, of Harleston, which pplies its own hopper with the grain, by means an elevator, an excellent contrivance, as we ow from experience that the efficiency of this d of machine depends greatly on the regular-with which it is supplied. Then grain raised this elevator falls into an upright cylinder, n which it is allowed an exit, at such a rate, p red with the supply, as to keep it always a ain height within the cylinder; and an up-t shaft, furnished with cross-bars, revolving hin it, grinds and breaks the awn, reducing it, uct, to powder, so that the grain escapes en-y denuded of it.

haff Cutters.—The prize was awarded, as il last year, to Mr. Comes, of Barbridge, near twich. It consists of three radiating curved es, fixed in the ordinary way on a wheel at angles to the feed-box, and the feed is con-ous, not intermittent. In other machines, as t's Guillotine Chaff-cutter, those manufac-by Messrs. Ransom, &c., the straw or hay in the feed-box is stationary while being cut; and this is necessary if the cuting *surface* be in a plane directly at right angles to the straw, because the knife would then be a hindrance to the forward motion of the material, but if the knives be inclined so that their *edges* only shall move in that plane, while their surface trends away from the straw in its forward motion, then there is no need of the somewhat cumbrous and expensive apparatus for producing the intermittence to which we allude. Mr. Comes' machine is thus described in the catalogue:—"A Chaff-cutter machine, with three knives; invented and manufactured by the exhibitor; to be worked either by two men or machinery: breadth of cut 12 inches, depth 2¼ inches; and makes five different lengths of chaff—two for horses, two for cattle, and one length of 4 inches for litter. It is also fitted up with an additional pair of feeding-rollers, which regulate the materials before entering the front ones next the cut, whereby the danger of the feeders getting their hands entangled in the hay or straw is entirely avoided, when the machine is driven by steam or other power at a great velocity. Price, delivered at Barbridge, 14*l.*" Mr. Gillet's machine, already alluded to, is thus described:—"The knife is actuated by a crank, moving it up and down; it has two edges, and cuts both ways, passing through a groove, whereby the feed gets a bearing on both sides whilst it is cut, the perpendicular motion preventing the roller from becoming clogged. There is also a delay motion in the working of the machine, by which the feed is at rest during the ascent and decent of the knife. Price at the factory, 5*l.* 5s." It is certainly the prettiest, and, taking its construction into account, we should consider it one of the cheapest machines of the kind we have seen. It appeared, too, to be very efficient. We must not omit reference to a very simple attachment to a chaff-cutter, exhibited by Mr. S. Smith, of Northampton, by which the knives can be instantly put out of work in the event of accident. This contrivance is worked by the foot, and the pedal which works is placed so that the first instinctive kick of the person feeding, whose hand he may feel is being drawn between the rollers, shall suffice, in the first place, instantaneously to stop the rollers, and in the next place, by means of a break, rapidly to stop the knives.

Clod-Crusher.—Mr. Crosskill's well-known

implement was exhibited, of many different sizes. We extract the following description.—"The patent roller consists of a series of cast metal rings or roller parts placed loosely upon a round axle, revolving thereon independently of each other, thereby producing a self-cleaning action, and by which the machine is turned round about on fields of growing corn, without tearing up the soil or destroying the plants, or half burying itself in a hole formed whilst turning. The surfaces of the roller parts are pointed with serrated edges and a series of inner teeth, projecting sideways, fixed at a particular angle to the centre of the roller axle, so as to act most effectually in penetrating clods perpendicularly, and in consolidating the young plants in the soil. The eyes in the centre of each alternate roller part are now made larger in the hold so that when revolving separately upon the round axle they cause an irregular velocity to the rims perpetually varying, and effecting an eccentric or up and down action along the whole of the roller parts, thereby increasing its power, and the best means for self-cleaning itself in working. When the roller is taken into a field, a hole is dug under each travelling wheel until the roller parts rest upon the ground, then take off the road wheels; use the same method to get them on when required."

Cultivators and Grubbers.—A great many forms of this implement were exhibited; and the prize was carried off by Biddell's Scarifier, manufactured by the Messrs. Ransome. A great many methods of lifting the machines out of the ground or setting them in it at any required depth, were also to be seen. Among the most successful was that exhibited in an implement by Mr. Ellis, of Melfod village, Welshoop, Montgomeryshire, which is thus described:—"It is made of wrought-iron, and therefore not liable to break. The frame is 48 inches wide, much shorter than the one exhibited at Shrewsbury, and constructed to receive seven tines, cutting at eight inches apart, or nine tines, cutting at six inches apart, according to the nature and state of the land. The tines are of a self-cleaning form, provided with moveable grubbing points and paring shares; the front wheels on a T axle, going through a bush in the frame, and the back wheels on a crank axle. To these axles chains are attached, which are wound upon segments of pulleys fastened on a lever. This lever serves to raise and lower the frame, so as to set the tines at any required depth in the ground, as well as to raise them instantaneously out of the ground. The figures on the guide bar of the lever indicate the depth the tines are in the ground, by inches and half inches.—Price £12."

Dairy Implements.—The usual variety of Churns, Cheese presses, &c., were exhibited.—Mr. Robinson of Lisburn, whose machine has often been recommended here, carried off the prize, as it did last year at Newcastle too. This churn is of an oblong or oval form, divided into two unequal parts, lengthways, by a partition. In the largest division the blades or flyers are placed less than one-half immersed in the milk or cream, and covered over similar to the paddle and box of a steamboat. By turning the handle, or fly-wheel, the blades or flyers are put in motion, which acting on the cream sends it round the churn in a continuous and rapid stream, the partition before mentioned being so contrived that it admits the cream to pass round in a current, so that every particle is successively and repeatedly beaten or churned by the flyers. In much less time than is required by other machines the cream is broken and butter formed; and by a very simple and effective contrivance the butter is prevented from passing again under the flyers, by means of the sluice, which being pushed half way or so into the fluid, the butter, as it floats, is stopped, and easily collected; by this arrangement the milk is completely gleaned of every particle of butter, and the produce is thereby increased at least at the rate of half a pound to 24 gallons of milk—a quantity sufficient, in a short time, to pay the expense of the machine, independent of the superior quality and saving of labor. On the latter point this object is fully attained by the construction of the blades, and their position with respect to the fluid, being less than half immersed in it, so that when the cream is once in motion it is easily kept up. Another advantage arising from this arrangement is, that the spindle being above the level of the fluid, a tight joint is not necessary; the friction is, therefore, greatly lessened. As to the superior quality of the butter obtained, it arises partly from the low temperature at which the operation can be performed; for while in other close machines the temperature rises during the operation, in this, the fluid being exposed to the current of air created, the temperature is found to be lower at the latter end than

at the beginning of the process; besides, the butter is not so much beaten and toughened, by repeatedly passing under the blades, as in other machines; it is found, therefore from all these causes united, that the quality and quantity of the butter are improved, and the labour decidedly lessened In using a thermometer, this machine possesses convenience for making a true observation of the temperature, for, in other machines the process must be stopped to try the heat, in this, the thermometer may be suspended constantly in the smaller division of the churn, and the temperature accurately observed at any time while the process of churning is going on—Price £4.

Among the *Cheese Presses* that were shown, we may refer especially to that by Mr. Buckshaw, of Longstow, near Market Drayton, Salop. This press is so fitted that it will press different weights, from 5 cwt. to 30 cwt., with the same ball, merely by shifting a small roller which acts as a fulcrum, into the different resesses made for that purpose in the lever.—Price £ 3.

Flax Rippling Machine.—An efficient implement, invented and exhibited by Mr. J. Dickson, of 29, Broad-street-buildings, London. This machine is constructed entirely from cast and wrought iron, on a frame about 3½ feet in height, the rippling teeth being set at right angles with each other, and bevelled from top to cottom, so as to cut off the seed balls as the Flak-stalks are pulled down and through them, the tearing off of the seed being thereby effected without damage to or shortening the fibre, whereby the full value of the crop is preserved for the spinner's use.—Price £3.

Harrows—The prize was carried off by Messrs. Saunders and Williams, of Bedford, for their Set of Patent Four-Beam Diagonal Roll Harrows. The form is diagonal, and the set consits of three, and are drawn by two horses; the teeth are so constructed that each cuts a separate track. The draft being from the centre, gives them an advantage, so that if one horse moves more forward than the other, the Harrow is not put out of its working lines by it.—Price £4 15. The Norwegian Harrow is exhibited by many implement makers, thus proving the general opinion of its excellence. Messrs. Stratton, of Bristol, the original makers, give the following statement about it:—"In its imperfect state it obtained a prize of £10. at Shrewsbury, 1845, and a prize of £5 at Newcastle, 1846. It has since been improved in construction; first, by increasing the number of the spikes on the second and third spindles; secondly, by placing the front spindle higher than the others, so that the Harrow may surmount clods and rough land more easily; and thirdly, by the addition of travelling shafts. This implement is now so well known, having been used in almost every county in England, that it need only be said of it, that it produces a deeper, finer, and cleaner tillage than any other field implement, leaving the land in a state resembling a garden-bed worked by hand. It is intended to follow the plough; and after using the harrow, once going over the land with a fine seed harrow is sufficient to produce the finest tilth. It is made of various widths. The Judges at Newcastle recommend the 5 feet harrow as the most generally useful.—Price £16."

It consists, as most of our readers are aware, of three sets of horizontal parallel axles, carrying a number of rowels or rimless wheels, presenting pointed spokes, each on each axle being placed opposite, and, in fact, *in* the interval between two on the adjacent axle. The whole framework, with all these spikes, resting on the ground, is drawn along, and the revolution of each rowel keeps its neighbors from becoming clogged. Messrs. Crosskill have attached one of these spiked frameworks to the frame of a Uley Cultivator or Ducie's Drag. By removing the harrow and affixing the tines, it formes a complete ducie's drag harrow; the cost of both the implements is thus very considerably reduced. The revolving rollers are placed upon round axles, and each acts separately; the same principle as adopted in Crosskill's patent Clod Crusher Roller.—Price, delivered in Hull, £17.

Mr. Smith, of Northampton, has one for hoeing turnips or corn of any interval between the rows capable of being guided, very easily and accurately, by the driver, who is also enabled to compensate a very considerable lateral deviation or fault in the motion of the horse which draws it. Garrett's well-known drill-hoe for corn was exhibited. This implement is for the purpose of hoeing between the rows of wheat, barley, beans, peas, turnips, carrots, and mangold wurzel, or any other crops not drilled less than 7 or 8 inches apart It is suited to almost all descriptions of of soil, and from its extreme simplisity may easily be managed by any agricultural workman. Price £18.

Proceedings or Transactions of Canadian Agricultural Societies.

It has for a long time been the wish of the conductor of this magazine, to engage the pens of its numerous readers, in rendering its pages more original, and practically useful. There is an abundance of material in the British American Provinces to afford an ample field for those who have a talent and a will to write on agriculture, and its collateral sciences. There is no sufficient excuse, if the friends of Canadian agriculture would cheerfully contribute what they have acquired by experiment, for a periodical publication, professedly devoted to their interests, going forth to the world in a great measure, made up of extracted matter It is true that information is not the less valuable because it has been copied from other publications; and if good sound practical information cannot be obtained from the pens of able and experienced correspondents, it would unquestionably be better to give copious extracts from those who have the experience and ability to give sound instruction. in the great principles of agriculture, although they shou d happen to reside in foreign countries. But we maintain, that it would be more creditable to the Canadian farmers if they would write for their own publication, and thus place within the reach of the Editor, a large fund of correct and practical information, from which he could compile an original work on Canadian agriculture, which would in fact, be an embodiment of the best systems of farm practice in the various townships of the Province, as well as a correct report of the different experiments which are annually made by our most enterprising cultivators We see no good reason why the Canadian people should evince less spirit and zeal in the cause of advancing their country's welfare, than do their neighbors, the Americans. The people of Canada a e more dependent upon their agriculture, than perhaps any other nation in the world, and why, we ask, should there be so comparatively little zeal shewn in improving the fertility, and bringing out the immense latent capabilities of the soil? The District, County and Township Agricultural Societies will this year receive from Government, the very liberal sum of £9,000, and in our opinion, the period has at length arrived, when it should no longer be said, that this large appropriation does not fully accomplish its truly important objects, the scattering broadcast among our farmers the most recent and valuable improvements of the age. The question now to be determined, is the proper course to be pursued to bring about the improvement in our agriculture, that will secure the largest possible return from our land, affording the largest profit on the lowest expenditure. Those who have traversed the various Townships of Canada, must have observed with much satisfaction, that there are scattered through every settlement, a few intelligent and enterprising agriculturists, who are from their superior examples, perform ng an important office in the amelioration and improvemen., both social and physical of their country. Those individuals aided by the influence of agricultural societies, are unquestionably conferring a great benefit upon the community at large. Nevertheless, something now is required to secure fully to the agriculture of this colony, the benefits that are laid in store, for those who have been instrumental in transforming a wild wilderness within the short period of half a century, into flourishing cities, towns and villages, with a wide spread country, dotted over with fertile farms, having comfortable homesteads, fruitful orchards and gardens, with all the really necessary comforts and conveniences of civilized life. Although the inhabitants of Canada are in an improving condition, and in possession of all the enjoyments and comforts of life that could have been expected in so short a time—still we maintain that most of our substantial improvements do not keep pace with the onward progress of this extraordinary age. The country is now pretty well supplied with agricultural periodicals, the editors and contributors of which have before them a wide field of improvement; and it is obvious that the spirit of the age in which we live is such, that unless more mind and original thought be thrown into their publications, thereby elevating the character and enlarging the sphere of their usefulness, others better adapted to the wants of the age will be ushered into the field, that will prove formidable rivals. A laudable spirit of emulation of this kind can do no harm, and doubtless would be productive of good. It would quicken men's minds, and elevate the character of our agricultural literature. These, however, must be viewed strictly in the light of private enterprises; and whether they prove losing or lucrative operations is yet a matter that will require a long period of time to determine. The improvements and ha

py influences effected through well conducted agricultural publications, are becoming every day better acknowledged and appreciated, by men of superior and refined minds. And it is an unerring index of a country's prosperity and advancement, to see its agricultural literature of a high order, sustained, cherished, and liberally supported by all classes of the community. We have good grounds for believing that the period in the history of Canadian agriculture has arrived, when it becomes no longer necessary, that a conductor of an agricultural magazine should be obliged to appeal to the sympathies of the public for patronage, inasmuch as the public mind has now become so well informed, regarding the benefits that such publications confer upon society, that every individual possessing a spark of intelligence and patriotism, would not withhold his support when solicited in a becoming manner. When we contrast the spirit and enterprise of a large and respectable portion of our fellow countrymen of the present day, with the actual state and condition of parties 12 or 15 years ago, we are led to stretch the mind forward to the same given time in the future, with a view of measuring the improvements that will be brought about in the intellectual and physical condition of our people and country. It is only reasonable to expect that the changes which will be produced for the better, will be many times greater than those effected in the before mentioned period. The country has arrived at that stage of civilization and greatness, that her inhabitants will not be satisfied with a retrograde or stationary condition. Nothing will do now-a-days but *progression;* and progression too, at a ratio proportionate to the advancing spirit of the age. We hope, and believe, that Canadians will not much longer suffer themselves to drag behind their neighbors, the Americans, in the pursuits of agriculture and the industrial arts.

Carrying out this spirit then in an agricultural point of view, let us for a moment examine the good offices that our various Agricultural Societies in the province can perform, in moving forward the gigantic car of agricultural improvement. These Institutions are already doing much good, but it is expected from them that they should extend their operations, and thus render more essential service to the country, for the very liberal patronage they receive from the Government and people of this colony. It would not be expedient to impose too heavy duties upon these societies; nor for them to undertake any thing more than they can creditably and efficiently perform. But the public expect from them, at least, that in future they will make known to the world, the *results* of their operations. It would be of immense advantage, if these societies were to issue an annual report, embracing the changes that have been wrought in the agriculture of their respective districts, counties, and townships, together with the best practical and scientific experiments that have been made by their several members. The results of these deliberations, reports and experiments, as well as the other transactions of the Canadian Agricultural Societies should be published in a neat and cheap volume for general circulation. The machinery for collecting and publishing such a book could, we think, be brought into requisition by the Provincial Agricultural Association of Upper Canada. The transactions of the New York State Agricultural Society would form a pretty good model for the transactions of our Canadian Societies. In our judgment, an original work of equal dimensions and combining as large an amount of real talent could be compiled, provided that the various Societies of the province would evince a desire to further such a movement. The three great Societies of Great Britain,—The Royal Agricultural Society of England, the Highland Society of Scotland, and the Royal Agricultural Improvement Society of Ireland, each publishes its periodical report, which is also the case with many of the local societies, a course of proceedings which keeps alive a spirit of enterprise in their respective members, and by placing on permanent record whatever is new and useful, the whole community is made to feel interested in the progress of the most ancient, as it is indisputably the most important of all arts.

The foregoing hints have been submitted to the readers of the *Cultivator* at this time, for the sole purpose of preparing the public mind for such a movement as the one under contemplation. One of the Vice-Presidents of the Provincial Association suggested to us the importance of such a work, and he likewise said, that the proper time to move in the matter, would be at the Society's meeting at Hamilton. Doubtless some action will be taken in the matter very soon,—and in our opinion it would be well for our leading agri-

culturalists who take a share of the management of the various local Societies in the Province, to come prepared at the Hamilton meeting with their views as to the best mode of publishing the proceedings of Canadian Agricultural Societies.

Provincial Agricultural Exhibition.

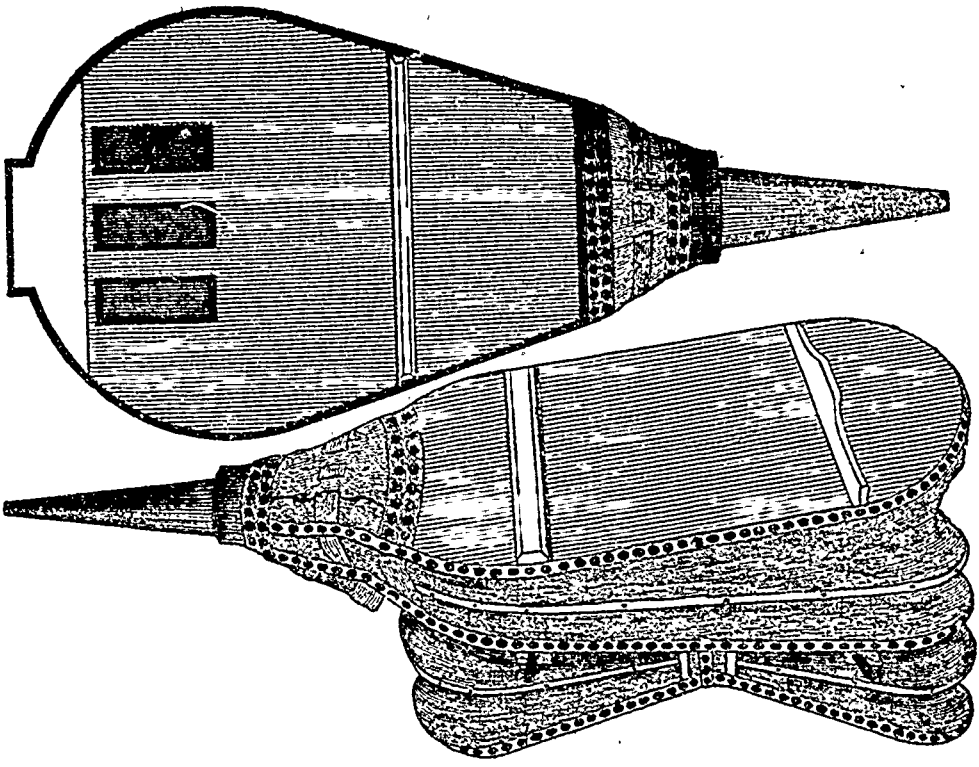
We again beg to remind our friends that the Second Provincial Agricultural Exhibition will be held in the City of Hamilton on the 6th and 7th of next month. The committee of arrangements have been very active in getting the buildings and grounds put in order—and in fact, the good citizens of Hamilton, as well as the inhabitants of the surrounding country, have been vieing with each other for some weeks past, in making suitable preparations for the approaching Grand National Exhibition of the natural and artificial products of Western Canada. This is the first national movement that has been made in this colony, which was calculated to develope its various resources, and at the same time arouse to action the latent energies and talents of all classes of our mixed population; it is therefore to be hoped, that every true friend of their country will unite in placing the Association upon such a broad basis, that the various awarding committees will feel warranted in granting liberal premiums for every article of merit, although not included in the published list of premiums. The premiums are much more liberal than those that were awarded by the New York State Agricultural Society, and the Association have adopted this liberal policy, with the full confidence that all classes would contribute a portion of their means in furthering the very laudable movement under consideration.

In Western Canada there are 400 Townships, in each of which there are many persons who should feel an interest in promoting the agricultural and manufacturing interests of this fine Province, and to give a stimulus to improvement, the National Agricultural Association should be looked upon by all parties as the medium through which very much good must be conferred upon the industrial interest of the country. It therefore seems rational to suppose, that in each township a few may be found who will evince a lively interest in furthering this great interest, and if only *one* in each township enrol their names on the subscription list as Life Members, and *five* as Annual Members, thus the very handsome sum of *fifteen hundred pounds* would be raised in aid of the funds of the Association. The proper mode of viewing this matter, is for every person to suppose that the *wants* of his country at this important crisis demand that his individual aid should be extended in behalf of the funds of the Association in order that it should be soundly established. It is to be hoped that hundreds of Canadians will come forward and contribute their *two pounds ten shillings* each, as life members, and thus show to the world that the Canadians as a people, have a sufficient amount of patriotism to unite in a cordial and energetic manner, in developing the vast resources of the province. Those who do not feel able to subscribe so large a sum, will, we trust, contribute the annual subscription of five shillings, and if a large number of the friends of the cause, even grant this small sum, the financial condition of the Association will be such, that the awarding committees may be warranted in granting liberal discretionary premiums.

ARRANGEMENTS, RULES AND REGULATIONS OF THE APPROACHING PROVINCIAL FAIR.—We have very recently paid a visit to the Eastern Townships of the Home District, and whilst there had occasion to call upon some of the principal farmers in that section, who objected in the strongest possible terms to the plan adopted by the Committee in Hamilton, in not allowing the public to be admitted within the Show Grounds on the 6th. The plan adopted by the Committee, is practiced in all countries where Exhibitions of this kind are held, and it was adopted with much success at the late Agricultural Fair at Saratoga, although on eight previous occasions the public were admitted. Judges cannot be expected to perform their duties with credit, when surrounded by thousands of strange faces; nor is it pleasant for the thousands to be standing at the gates. The course we shall suggest, and which we hope to see adopted, is to admit the public after the hour of three o'clock, at which time the judges will be nearly through their difficult duties.

To Cure Warts or Corns.—Take the yolk of an egg, thicken it with fine salt, which apply as a poultice at night, leaving it off in the morning. Thus continue for two or three nights, until the part affected bears a whitish appearance, then leave it off entirely, and the wart or corn, it is said, will come out, *root and branch.*

WESTMAN'S IMPROVED CANADIAN PATENT BELLOWS.



The above cut represents an improved Bellows which is manufactured in this city by Mr. Westman. These Bellows have given very general satisfaction, and are in use in *twenty five* blacksmiths' shops in the City of Toronto. They are also used pretty generally by the smiths in this neighborhood, and are held in higher favor with practical blacksmiths than the most improved patterns of English and American Bellows. Indeed, they have become so generally approved of, that imported Bellows no longer find a ready sale in those parts of the Province where their merits are known. There are blacksmiths in Toronto who have used these Bellows during the past two years, who are of opinion, that by their use, the saving of fuel alone will repay the cost of a Bellows in a single year. They are made of the very best material, and are sold at prices ranging from £5 10s. to £11, and are kept for sale at the Provincial Agricultural Warehouse.

Fish Ponds.—The pond should, if possible, be near a spring, and thence derive its supply of water; those upon larger streams are liable to be swept away by freshets. The lot in which the pond is situated should be kept permanently in grass; otherwise the water at every rain is liable to become muddy, and the pond to fill up from the washing of the soil. To construct the dam, commence by sinking a ditch (until you reach the solid subsoil) four feet wide, and in the centre of the place to be occupied with the dam; the earth thrown out to be laid on each side. This ditch is to be gradually filled with clay, a little at a time, and that to be kept moist and well pounded. This wall (as it were) of clay to be carried quite to the top of the dam, and will form what is called the key. The dam should always be three times as wide at the base as it is high, and its width at top should equal its height. The more gentle the slope from the top of the dam each way, the greater its strength. Trees and shrubs should never be planted upon it, as the decay of their roots is liable to let the water through. The stream running from the pond might, in many locations, be turned to good account either as water power for the minor domestic purposes, such as forcing water, churning, &c., or for irrigation.

Burdock leaves will cure a horse of the slavers in five minutes; let him eat about two leaves. I have tried it many times. My horses will always eat them when the slavers are bad.—*Ploughman.*

The Dignity of Labor and its Reward.

In no country more than Canada, is honest industry and diligent attention to business better and more liberally rewarded. Every man should feel a large degree of pride in being able to superintend his own business, and in fact work with his own hands. Man was sent upon the earth to beautify and adorn it, and to multiply the substantial and ornamental comforts of his species. He has also an intellectual work to perform, the most important part of which is that of endeavoring to exalt the character and condition of the human family. There are very many who entertain contracted ideas of what duties they owe themselves, their fellow-man, and their Creator. This may in part be attributed to the want of a proper social and religious training and education—which they did not receive in their youth—but in many it arises purely from a sordid and selfish disposition.

Unfortunately for the good of our country, the condition of society is such, that there appears a positive necessity that mankind should be divided into castes. The influences that produced this state of things, are purely artificial, and may by degrees be removed. What is now termed the middle classes, occupy higher posts of favor and distinction, and are performing more important offices for the good of the State, and the general cause of civilization and amelioration of the lower ranks of mankind, than the highest or aristocratic classes. There are thousands of cases of this kind the present day, where men have risen from the very lowest ranks of life, to the highest posts of honor within the gift of the Crown or people. These great achievements are only brought about by indomitable perseverance and industry, and tend in a powerful degree to give a character to to the dignity of labor. An aspiring youth in Canada may, with great propriety, look forward to the day, when, if his life be spared, his talents and acquirements, both mental and physical, will be called into requisition; and though he may not be in possession of ten pounds' worth of property at the age of twenty-one, he may so shape his course, that in the lapse of fifteen or twenty years, he may acquire an independency, and retire from the bustle and cares of life.

The true dignity of labor consists not in merely vegetating upon a small patch of badly cultivated ground, or in simply dragging out a mere existence in any of the various industrious pursuits of life; but in our judgment, it consists in a straight forward honesty of purpose to excel, and in combining science with practice, in the pursuit of life in which the aspirant after knowledge, honor, or riches, may engage in, as a means of developing his powers of mind, and in securing the objects of his laudable ambition. Within the past half century, Western Canada has been transformed from a perfect wilderness to the state and condition in which we now see it. In passing through its various settlements, there may be found scores of instances in which persons in very indigent circumstances commenced life upon a bush farm, and have within thirty years added farm to farm, and house to house, and have reared and liberally educated a large family of sons and daughters, whom they have settled in the world in comfort and plenty, and who are at this day living witnesses of the dignity of labor, and its legitimate reward.

How proud should every true-hearted Canadian be, when he reflects that he lives in a land in which labor is respected and richly and liberally rewarded. Notwithstanding, much has been already accomplished in improving the country, still there is much yet remains to be done, and the work will have to be performed principally by the youth of our land, who should, in every instance, be taught to honor and respect labor, for by it has our country been brought to its present state of improvement.

Manner of Applying Manure to the Soil.

There is much difference of opinion in regard to the best mode of applying manure. Some hold they should always be plowed in, and give reason that "manure never goes down, but if lost at all it is by evaporation." Others go counter to this rule in all respects, and contend that "surface manuring" is far preferable—that the valuable principles of manure cannot be carried off by the air, but are only in danger of being lost by "leaching." The advocates of the two systems may be regarded as in a situation similar to the two knights who fought over the white and black shield—both in part right, and part wrong.

As regards the position that manure is never lost by going downward, every man's observation may have taught him that it is an error. Whoever has examined the earth under his manure heaps, or in his barn-yard, must have found palpable evidence that the fertilizing elements of

manure may penetrate to a greater depth than is commonly reached by the plow. In one instance within the writer's observation, the surface of the ground where a barn had stood was carried off to the depth of eighteen inches to two feet, and yet for several years afterwards the spot, though in the midst of a field, was plainly discoverable in the increased luxuriance of the crops it produced. The cases cited may be said to be extreme ones, but they show that the theory to which we refer is false.

The idea that nothing can be lost from manure by exhalation, does not seem to be any better supported by facts than the opposite theory previously considered. Carbon and nitrogen, which constitute the chief elements of manure, are both capable of assuming an aeriform state. The nitrogen, which exists in manure for the most part in the form of ammonia, readily becomes volatile, and escapes into the air. The escape of this substance from manure heaps and fermenting urine, is readily perceived by the strong smell emitted. The dung dropped on pastures by cattle and horses, does comparatively but little good. It mostly dries up, and loses its value. If all the strength of it soaked into the soil, should we not see a greater effect from it? The urine dropped by animals is immediately absorbed, and the effect is sooner or later strikingly seen in the rankness of the grass.

The true point to be observed in the application of manures, is to place them where none of their value shall be wasted, and at the same time in a situation to be acted on by the agents of decomposition. Heat is required because in its absence substances are without change; air is required, because oxygen, a kind of air and a part of the atmosphere, is the greatest decomposing element in nature; and moisture is required, because its absorption by objects admits the entrance and action of oxygen. Light, also, (and perhaps electricity,) exercises some agency in decomposition. The medicines of the doctor and apothecary are sometimes decomposed by the influence of light, even when contained in vessels which are perfectly impervious to the air. It is on account of this influence that wines and other fermented liquors are kept in the dark. Every one may have noticed the effect of light in making vinegar, and may have seen how the souring process is hastened by setting the barrel where the sun will shine on it and by turning the rays on the liquor by putting a bottle in the bung-hole.

The influences essential to the germination of seeds, are nearly the same as those which promote decomposition. The seeds of some plants will remain inert, when buried deep in the soil, for an indefinite period, and on being brought near the surface, or within the influence of heat, air, and light, will germinate and produce perfectly healthy plants. Instances of this kind are within the observation of every farmer. When a furrow-slice of seven or eight inches in thickness is turned over in a rich soil, though that soil may not have been plowed for years before, the newly exposed surface soon teems with a growth of plants, produced from seeds which could not vegetate under the deep covering where they had been placed.

Now it follows from our previous reasoning, that the circumstances which would prevent the germination of seeds would prevent or retard the action of manures. We conclude, therefore, that manure lying at the bottom of a furrow eight inches deep, would be of much less benefit to growing plants than if it was only from two to three inches below the surface.

From the principles above laid down, the following rule is deduced in regard to the application of manures. That it is best to keep them near the surface, well mixed with earth in which situation they are most readily brought into a soluble condition and rendered available to the support of plants—their valuable qualities being neither liable to be dissipated by the atmosphere or washed too deeply into the soil.

An exception to this rule is made in regard to soils which it is wished to render more loose and friable by strawy manure or fibrous vegetable matter.—*Albany Cult.*

The Plum.—Downing says the plum is naturally a marine tree, and it is surprising how much salt it will assimilate and thrive upon. We have, ourselves, given a single large tree a half bushel of salt in a season, applied to the surface of the ground in the spring, over an area as wide as the extent of the branches. The tree was in a sickly and enfeebled state, and it had the effect of restoring it to a healthy and luxuriant condition. But we consider this an extreme case, and should not recommend the abundant use of salt every year.—*Gar. Gaz.*

General Agents for the B. A. Cultivator, and Provincial Agricultural Warehouse.

We supposed that the readers of the *Cultivator* had become acquainted by this time with the fact, that in future, the system of getting the publication at the reduced scale of prices, would no longer be practiced, but that in all cases, the subscription price will be one dollar per annum. The plan of getting support through Clubs and Societies has been fairly tested, and we regret to acknowledge, that it has proved inadequate to the wants of the country, and it has likewise been a means of completely crippling our energies in the work which we have for the past six years been so ardently and devotedly engaged. We have given the subject a very close investigation, and have satisfied ourselves that, by employing competent agents to canvass for subscribers, the subscription list may not only be doubled, but that the literary character of the work will be very much improved—indeed, we intend that our agents shall not only call upon every inhabitant, for the purpose of soliciting his patronage to the publication, but shall likewise expect that they shall become regular correspondents, and communicate to us the various facts and experiments relating to the interests discussed in our publication, that may come under their notice. Our agents will also have to perform the very important office of soliciting orders for the various improved machinery that we may be instrumental in introducing into the Canadian market, besides the transaction of other important duties, all of which will be calculated to advance the industrial interests of the colony. Under the old system there was no possible chance of progression, but under the new one, we shall be able to improve the character and style of our work, and in fact make it equal in matter and appearance to any publication of a similar description extant. For these and other reasons equally weighty, we have been induced to change the whole style of conducting our enterprise, both as it regards the manner in which we shall obtain support, as well as the mode in which it shall be conducted. Instead of *one* Editor as formerly, we intend that there shall be *four*, each of whom will take a distinct departments. Independent of this extra aid, we shall have at least *twenty* agents, whose business it will be to contribute useful facts that fall under their observation as they pass through the various portions of the province, for the transaction of the several branches of business connected with our establishment, all of which will doubtless have a powerful tendency in moving forward the gigantic car of agricultural improvement.

It has been said by an agricultural cotemporary, that our publication, owing to the mode in which it received support through the societies, has driven *useful* publications out of the field, and thus great damage has been done to the cause of agricultural improvement. In future, this evil will be remedied, because only those who consider it worth to them the trifling consideration of *five shillings* per annum, will be in the receipt of it, and in no instance will it be sold to societies and clubs at a less price than what is demanded for it from others—in fact we do not expect support from societies in any instance, because the plan we shall adopt of sending out agents will not admit of such an arrangement. Our agents will be instructed to call upon every family, for the purpose of soliciting patronage, and consequently, those who are members of agricultural societies, as well as those who are not, will be solicited to become patrons of the publication. We have thus entered into a full explanation of what we propose to do, so that the various societies of the province may at once understand, that under the new arrangement we do not expect any patronage from societies and clubs.

Although we do not expect that the support hitherto given to our enterprise by Societies and Clubs will be continued, still we hope that we have many warm friends throughout the Province, who will not only support us in our arduous enterprise, but also render every assistance in their power to our Agents; and thus lighten the burdens and difficulties they must necessarily encounter in a new country like Canada.

AGENTS FOR THE CULTIVATOR AND PROVINCIAL AGRICULTURAL WAREHOUSE.—We hope in a very short time to be able to publish a full list of General Agents for the various Districts of Canada. In the meantime we beg to state, that Mr. N. M. Harris has consented to become our General Agent for the Niagara, Talbot, Wellington, and Gore Districts. The duties that Mr. Harris will have to perform, will be such, that he will find it necessary to employ assistants to aid him in canvassing those four Districts. He is fully empowered to employ those assistants, and to transact any business connected with our Publications and Agricultural Warehouse, so far as is consistent with the position he holds as our General Agent.

Munificent Donation.

Hon. Abbott Lawrence, of Boston, has given *Fifty Thousand Dollars* to Harward College, to be devoted to education in relation to the practical sciences. Mr. Lawrence's object as stated in a letter to the Treasurer of the University, appears to be to secure the establishment of three permanent Professorships, viz; "one of Chemistry, one of Engineering in its various branches, and one of Geology." By the appointment of Mr. Horsford as Rumford Professor, the department of chemistry is provided for, and it is Mr. L's design, by this generous donation, to place the three Professorships on an equal pecuniary footing. We are much pleased to learn that the corporation has taken measures to carry into immediate effect the object of the donor, whose name, by this splendid act, will be held by posterity in grateful remembrance.

Did space permit, we should be glad to copy the whole of Mr. Lawrence's very interesting and instructive letter; but at present we can only give place to the following extract, in which some of the defects of our present system of education are strikingly shown:

"For an early classical education we have our school and colleges. From thence the special schools of Theology, Law, Medicine, and Surgery, receive the young men destined to those professions; and those who look to commerce as their employement, pass to the counting-house or the ocean. But where can we send those who intend to devote themselves to the practical application of science? How educate our engineers, our miners, machinists and mechanics? Our country abounds in men of action. Hard hands are ready to work upon our hard materials; and where shall sagacious heads be taught to direct those hands?

"Inventive men laboriously re-invent what has been produced before. Ignorant men fight against the laws of nature with a vain energy, and purchase their experience at a great cost. Why should not all these start where their predecessors ended, and not where they began? Education can enable them to do so. The application of science to the useful arts has changed, in the last half century, the condition and relations of the world. It seems to me that we have been somewhat neglectful in the cultivat on and encouragement of the scientific portion of our national economy."—*Alb. Cult.*

Pertaining to Hemp.

The cultivation of Hemp is a simple farming Operation, as easily understood as the culture of Oats—a rich *loamy, friable* soil is the best, the average produce of Kentucky is one ton from three acres, but it is not uncommon to produce ten to twelve cwt. to the acre.

The great obstacle encountered in getting the crop to market, is the cost of Breaking, which is estimated at $15 to $20 the ton, requiring the labor of stout, able bodied men. Boys, otherwise uselul on a farm, make but poor headway in breaking Hemp.

The inventive genious of man has been taxed for five years on the subject of producing a machine, or implement, to lessen the cost of breaking Hemp, which the records of the Patent Office abundantly show. Mr. James Anderson, a highly respectable citizen of Louisville, Ky., has, for a number of years, given his attention exclusively to this subject, he being well acquainted and familiar with all the brakers and machinery heretofore offered for the purpose of breaking and preparing Hemp, and after repeated experimental trials on various plans of his own conception, spending a large sum of money in making these experiments, he at length has hit, he thinks, upon the true principle of constructing a Hemp and Flax Brake, and has made a regular application for a patent for the same.

This Brake is quite simple, not expensive in construction, is easily made, and is driven by horses, water or steam power. A model of this Brake is left at the American Institute in the City of N. Y., for the inspection of persons taking an interest in such things, where it will remain a few days. The model will be exhibited at the State Agricultural Fair, to be held in this month at Saratoga.

Mr. Anderson has also invented a new method of preparing Hemp or Flax expeditiously for the brakers, differing in principle from any of the old processes of dew or water-roting. He uses an *anti ceptic*, in which the hemp or flax is steeped a short time, (less than one day,) and as soon as it is dry, it is ready for the brake. The antiseptic he has heretofore used, is the Sulphate of Iron, in solution very weak—the cost not exceeding fifty cents the ton (of Hemp.) The combination of the sulphate with the albumen or other properties in hemp produces a most beneficial effect on the lint, *strengthening* and *preserving* it.—*Tribune.*

CHEESE DAIRIES OF NEW YORK STATE.

There is an excellent paper in the volume of Transactions of the N. Y. State Agricultural Society for 1846, on cheese dairies, from the pen of E. P. Johnson, Esq, the President of that Institution, together with the answers called forth by the dairymen, who took the premiums of $50, and $30 offered by the society.

The whole number of cows it appears in the State, is 999,400, of which 333,163 are employed in making cheese. The average quantity of cheese made from a cow in Herkimer County, is 226 lbs, and in some dairies in that county, the average is as high as 680 lbs. per cow The annual average in Mr. Alonzo L. Fish's dairy for three successive years, was 680 lbs. per cow, and in one of these years 714 lbs. per cow was obtained.

Some of our readers may be disposed to question the above statements, but we would remind such, that the product in cheese is not greater in comparison, than for a wheat grower to produce 50 bushels per acre, which result has been achieved in many instances the present summer in Western Canada. It is certainly farming to a profit, to make a herd of 40 cows average each 700 lbs. of new milk cheese in a single season. A superior article of cheese is worth in the Canadian market, from eight to ten dollars per 100 lbs, which, at the lowest calculation would give a money value for the product of each cow, of £14; or, £560 for the entire product of the dairy It would be quite as reasonable for a Canadian wheat grower to calculate upon growing in an average of years, 40 bushels per acre, as for a dairyman to suppose he could without much difficulty, bring his business up to that state of productiveness, that it would average 700 lbs. of first quality of cheese per cow. Both results are practicable, and when produced, are not brought about by the mere operation of chance. With a liberal expenditure of capital, and by a pretty large amount of skill, and close attention to business, a farmer may reasonably hope to nearly double the product of his farm, and agricultural operations under such management, and in such hands, will certainly yield liberal dividends to the spirited and enterprising individual who makes the investment. By carefully selecting the cows, and by giving them an abundance of good wholesome and nutritious food both winter and summer, a dairy in Canada may without much difficulty, be made to average at least 400 lbs. of cheese per annum, from each cow. As good cheese can be made here, and at as cheap a rate as in New York State, and if the price of the article should considerably fall in the markets, it would still be a profitable business, even more so than growing wheat at the average price that that article brings in our market.

Park's Niagara Patent Reversed Bee-Hive.

The writer has been in the business of bee-keeping for many years, and has taken many bees from the forest, and like many others has suffered much loss by using hives upon the customary but erroneous principle of having the bees enter at the *bottom* of the hive; and has, at times, almost abandoned the idea of surmounting the many difficulties in bee-keeping. But by taking honey from trees in the forest, and finding the bees in almost every situation, the writer has discovered one important and never failing principle, which overcomes the many evils in bee keeping. This is, in part, to reverse the old practice of the bees entering the bottom, and let them enter at the extreme top of the hive, and no other place. The bee-hunter may discover, by close observation, that the greatest quantity and best honey, and the bees in the best condition, is in every case found upon this principle. It is evident that the body of bees will always live in their dry or brood combs, near the place of entrance; and if this be at the bottom, as all other hives, the breath of the bees will be continually arising and congealing among their combs, and cannot be carried off by ventilating with wire gauze or by any other means as long as the bees live below their honey, and frequently destroys whole colonies and gives it a loathsome taste,—and soon moulds their combs so as to leave some part unoccupied by the bees, until the moth has full possession—and diminishes the size of the bees more than brooding in old and sound combs.

The writer has invented a hive upon a different principle from any other now in public use. The hive is built of boards, with a tight, square bottom, and slanting roof. The bees enter at the top; the passage is well secured from the weather, robbing bees, &c., by a slide and blinds. The hive is divided into two apartments, by placing the honey boxes near the centre, leaving a

passage in front from upper to lower apartments of 2 by 12 inches. The bees enter the boxes from this passage; a door is hung in the rear that opens to the boxes, and to the two apartments. The body of the bees in this hive is always found above the honey; their inroads through their their combs will all be directed to the place of entrance, and the hive completely freed from the damps that arise from the bees. The robbing bees, the bee moth, or any other destroying insect, can never pass the bees to injure the contents of the hive. Their brood combs are never filled with honey as long as they have room to deposit below. Their brood is never destroyed in May, or in the famine that comes annually between the blossoms of the fields. It is believed by some that the moth is never found in trees of the forest; the fact is they are found in the highest trees.—*Gen. Fur.*

On Turnip Husbandry.

The *Albany Gazette* quotes the following from the introduction to a new work by D. F. Jones:

"The increased cultivation of turnips materially tends to an increased supply of corn. A large supply of food for cattle tends to produce a large supply of food for man. I hope to be able to point out that, where the land is made to produce large crops of Turnips, it will be enabled also to produce large crops of corn and other food required, which is the grand object aimed at in all good farming. All other crops raised are subservient to this grand object, and are raised as means to produce an increased supply.

"The injurious effects on land of a succession of corn crops are well known. Even though the land be well supplied with manure, it will not be able to withstand the great demand made on its inherent fertility for any length of time This is fully proved and admitted, through necessity, in the worst farmed districts of Ireland, where a succession of corn crops is taken, till the exhausted land is incapable of producing more; it is then allowed to remain uncultivated, 'to rest,' or recover its fertility; which could be not only restored to it, but greatly added to yearly, by the proper and judicious alternation of crops. No crops are more aptly suited for this than those biennial crops, such as Turnips, Mangold Wurzel, Carrots, and Parsnips, which are consumed before they can exhaust the land, by the formation and perfection of their seeds According to Stephens, 'The Book of the Farm,' 'though yielding large and heavy crops, they do not exhaust much of the manure in the soil; because, besides having expanded and large leaves, which elaborate much nourishment from the atmosphere, they are biennial, and are consumed in the first year, while the leaves and bulbs only are developed.' To no crops can manure be applied with greater safety. The largest dose that can be economically applied can do them no harm, while to apply large quantities of manure direct to the corn crops has been found to produce injurious effects—causing them to grow with too much luxuriance of stem, at the expense of the quantity and quality of the grain; or by too rapid a growth, rendering the crops liable to be beaten down by a heavy fall of rain.

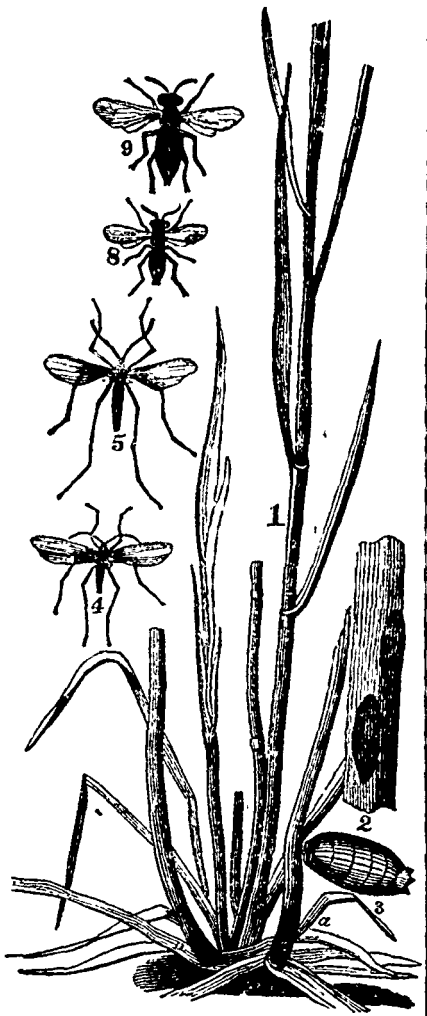
"By the increased growth of Turnips, &c., a greater number of cattle can be fed, consequently a greater quantity of manure produced, and of a better quality. This manure being added to the land, must necessarily enable it to produce a larger quantity of grain. On very light soils, which are well adapted for Turnips, great mechanical benefit is derived by folding sheep on them; the treading of the animals, together with their manure and urine, renders the land more firm, and better suited to support the plants of the succeeding crop of Barley. To the dairy farmer the Turnip crop is of the utmost importance, as tending to keep up the milk both in quantity and quality, on this failure of the supply of the natural food of the cow in winter.

"How can it be expected that an unfortunate cow can give a fair quantity of milk when fed during the cold winter on poor bare pasture, occasionally receiving a small allowance of coarse, ill-made, innutritious hay? It is contrary to common-sense and experience, and contrary to all scientific principles. In the winter time, the herbage being scanty in the fields, the animals is obliged to take more exercise to procure sufficient food; this very exercise renders an increased supply of food necessary, as, according to Professor Johnston, 'the more it is exercised, the more frequently it breathes, the more carbon it throws off from its lungs, the more starch or sugar, consequently, its food must contain. If more is not given to it, the fat or other parts of the body will be drawn upon, and the animal will become leaner.' From this it is evident that the animal will draw larger on the supply of food it receives to supply the waste it thus naturally undergoes; consequently, less will be left to form milk. But the disadvantage of keeping cows in fields in the winter is not confined alone to the exercise the animals is obliged to take. Professor Johnston further observes, that 'the degree of warmth in which the animal is kept, or the temperature of the atmosphere in which it lives, affects also the quantity of food which the animal requires to eat.'

Medicine for Hogs.—The American Farmer furnishes the following: When your hogs get sick, you know not of what, give them ears of corn, first dipped in tar and then rolled in sulphur. It is ten to one that it arrests the disease and restores the pig to perfect health.

To Take Mildew out of Linen. Rub it well with soap, then scrape some fine chalk rub that also in the linen, lay it on the grass, and as it dries, wet it a little, and the mildew will come out in thrice doing.—*Ohio Cultivator.*

THE HESSIAN FLY.



EXPLANATION.

1—*Wheat stalk with the larvæ of the Hessian fly deposited—three of the stalks punctured by the Ichneumon, Ceraphron—natural size, 3-20ths of an inch—a, a, larvæ and pupa.*

2—*Section of the Wheat stalk with the larvæ magnified.*

3—*Larvæ advanced to the pupa state, magnified.*

4, 5- *Male and female Hessian fly, Cecidomyia destructor, magnified.*

8, 9—*Male and female Ichneumon, Ceraphron destructor, magnified.*

The Hessian Fly, (Cecidomyia destructor.)—This fly has been known in this country for the last sixty years, and is probably the cause of more injury to the farmer, taking the whole country together, than any other insect. The parent fly resembles the *C. tritici, just described*, though their habits are widely different—the one depositing its eggs in the head of the grain, and the other near the root of the young plant. The infected plants may be readily known when small, by their dull lead color. Soon after the wheat appears above the ground, the Hessian fly deposits its eggs on the upper or inner side of the leaf near the stem, usually above the first or second joint. The eggs are very small, and can scarcely be discerned by the naked eye. In the course of four or five days, if the weather is favorable, the larvæ, which are of a reddish white color, make their appearance, and work their way into the sheath formed by the leaf round the stem. They remain in the larvæ state a longer or shorter time, according to the state of the weather. They do not change their habitation to pass into the pupa state, but go through their transformation in the place where the larvæ has been nourished. The pupa is enveloped in a dark brown case, and from a little resemblance to a flax-seed, this stage of the insect has been called the "flax-seed state." As soon as the fly comes out, it prepares for another generation and dies.

In the more southern portions of the country the fly often attacks the early sown wheat in the fall, and a generation is sometimes produced before winter. The larvæ produced in the fall, are supposed to be uninjured by frost, and that they are brought forward to maturity by the warmth of spring. In the fly state, it is said a very slight degree of frost will destroy the insect.

Thus far, the best remedy against the Hessian fly, has been late sowing. By this means, the farmer avoids raising a crop of insects in the fall to be ready to go on with their work of destruction in the spring. The injury occasioned by the fly, is most severe on poor and indifferent land. On rich soils, the injury is much less; the vigor of the roots continuing to push up new stalks, after the fly has stopped its work. When the fly is known to prevail, it is advisable to sow wheat only on good land, and by no means to sow the same land twice in succession. A top dressing of ashes, or any substance calculated to give a quick growth, would be a great advantage

to wheat attacked by the fly. Burning the stubble has been recommended. Some kinds of wheat are more exempt from injury by this insect than others, The Mediterranean wheat has been considered "fly-proof," and has on this account been considerably cultivated in some parts of Pennsylvania, Maryland, Ohio, &c. Its security against the fly is said to be owing to the lower part of the leaf, or the sheath, adhering so closely to the stem that the larvæ cannot work its way in. In some cases it may be an object to sow this variety of wheat, though from its thick skin and dark color, it is not considered so valuable for flour as some other kinds.

Many years ago there was much controversy in regard to the economy of the Hessian fly, but the matter seemed to have been pretty well settled until the publication of Miss Margaretta H. Morris' communication on this subject in 1840. She contended that the egg from which the fly is produced, is deposited in the kernel, and as a security against the ravages of the insect, recommended procuring seed wheat from uninfected districts. This has been tried in repeated instances, but did not prevent the crop from being destroyed by the fly. Miss Morris is undoubtedly mistaken in her notions of the habits of the fly. The larvæ of which she speaks, as having been seen in the kernels of wheat, must have been that of some other insect.

The Hessian fly is assailed by several parasitic insects, the chief of which is the *Eurytoma destructor*, (*Ceraphron destructor* of Say.) "This," says Dr. Harris, "has often been mistaken for the Hessian fly, from being seen in the wheat fields, in vast numbers, and from its being found to come out of the dried larvæ skin of that fly. In the month of June, when the maggot of the Hessian fly has taken the form of a flax-seed, the *Eurytoma* pierces it, through the sheath of the leaf, and lays an egg in the minute hole thus made. From this egg is hatched a little maggot which devours the pupa of the Hessian fly, and then changes to a chrysalis within the shell of the lattter, through which it finally eats its way, after being transformed to a fly. This last change takes place both in the autumn and in the following spring. Some of the females of this, or of a closely allied species of *Eurytoma*, come forth from the shells of the Hessian fly, without wings, or with only very short and imperfect wings, in which form they somewhat resemble minute ants. Two more parasites, which Mr. Herrick has not yet described, also destroy the Hessian fly, while the latter is in the pupa or flax-seed state. Mr. Herrick says, that the egg-parasite of the Hessian fly is a species of *Platygaster*, that it is very abundant in the autumn, when it lays its own eggs, four or five together, in a single egg of the Hessian fly. This, it appears, does not prevent the latter from hatching, but the maggot of the Hessian fly is unable to go through its transformation, and dies after taking the flax-seed form. Meanwhile its intestine foes are hatched, come to their growth, spin themselves little brownish cocoons within the skin of their victim, and in due time are changed to winged insects, and eat their way out. Such are some of the natural means, provided by a benevolent Providence, to check the ravages of the destructive Hessian fly. If we are humbled by the reflection that the Author of the Universe should have made even small and feeble insects the instruments of His power, and that He should occasionally permit them to become the scourge of our race, ought we not to admire His wisdom in the formation of the still more humble agents that are appointed to arrest the work of destruction."—*Alb. Cult.*

On Inverting Posts.—It is firmly believed by many that posts when set in the earth, should be inverted. The reason assigned in support of this belief, is that the will thereby be much more durable. If it be really true that the same posts simply by being set with the top *downwards*, will last considerably longer, it is certainly of great moment that the fact becomes well and general known. In order to convince the public mind that such is the case, accounts of several experiments, all of which so far as I have seen or heard, concur in the support of this conviction. Notwithstanding the number seems to me sufficiently large to compel all reasonable doubts to give way under their accumulating weight, still I will venture to give publicity to an additional experiment, tried by a gentleman who is now a resident of this township. In a conversation with him a few days since, he informed me that some twenty years ago, when residing in the town of Ashfield, Mass., he set a couple of gate posts, both of which were taken from the but of a chestnut tree, which was perfectly sound. One of them was, and the other was not inverted. At the expiration of twelve years, both were taken up, when he found that of the one inverted, only the alburnum or sappy part was decayed, while the other had nearly rotted off.—*Mich. Farmer.*

Analysis of Soils.

BY J. A. ROUSSEAU.

Messrs. Editors. In looking over the different volumes of the Prairie Farmer I frequently see reference made to the analysis of soils. Now in the present state of agricultural science it strikes me that nothing could conduce more to the benefit of the farmer than to be put in possession of the means of determining the nature of different soils, and consequently their degree of adaptation to any particular use to which he may wish to apply them.

There should be some plan laid down, simple in its nature and easy of application, so that every farmer could use it, and yet sufficiently exact to enable him to ascertain, within a mere trifle, the composition of any soil which he might wish to examine. The benefits thereby derived would be incalculable. They being able to supply any deficiency, or counteract any excess, would be among the least of its values. If it were easy and intelligible it would soon become common; and then the correspondents to your paper would invariably give the constituents of the soil upon which their various experiments were tried. It would thence in a short time be the case that every farmer deserving the name would be enabled by a short experiment to ascertain the nature and qualities of any desired soil; and the uncertain and hap-hazard method of trial at present used, with its delays, losses, vexations and uncertainties, would be exchanged for one whose characteristic would be certainty, and the practice of which would afford pleasant pastime and recreation. Beside the advantages resulting to youth, in establishing habits of exactness and certainty in their operations.

Let every farmer, I say, try a series of experiments on all the different kinds of soil which he is cultivating, and let him also, after having tried the adaptedness of each, by a number of experiments, to the different articles of production in which he is engaged, then give his experience, in a short article, to his brethren, through the columns of the Prairie Farmer; first giving the components of the soil and then the kind and amount of produce yielding by each, together with his methods of amelioration, if any have been used, and also his method of cultivation, time of sowing, time or harvesting, favorableness of season or the contrary, together with every circumstance which in his estimation has operated an influence over the product. and sir, what would be the consequence? Why in a few years we should have such an accumulation of facts, and these all thoroughly ascertained, that agriculture would claim its place among the exact sciences, and would be as much entitled to be so considered as that of mathematics itself. But how shall the farmer, who is unaccustomed to chemical manipulation, be enabled to carry on this method of investigation? and how shall a matter of so much difficulty be so simplified as to be intelligible to the great mass of farmers? I think quite readily, and shall therefore proceed to give directions such as any person of ordinary capacity can easily understand and as easily adopt.

The soil is usually composed of alumina, silica, lime, and geine, or humus, together with a variable proportion of water, and not unfrequently a sensible amount of iron. Now in an analysis such is at present contemplated, and which will be as minute as most farmers will be able to pursue, as well a sufficient approxmation to the truth for all practical purposes, nothing more will be necessary than to ascertain the amount of each of the above constituents in a given portion of soil. It may be necessary to explain at the outset that alumina is clay; silica, flint, quartzeous sand, &c. and humus is decomposed animal and vegetable matter. Hence soils are distinguished as aluminous, silicious, calcareous, &c. according as clay, sand, lime, &c. is found to predominate.

In the analysis of soils the first step will be to ascertain the amount of water which is contained. First, then, procure a portion of soil, as free as possible undecomposed vegetable and animal matter. Work it carefully with the hands, and form it into a torerably thin cake or layer, then carefully weigh and take a hundred parts, say of 5 or 10 grains each, so that the specimen will weigh 500 or 1000 grains, and let this portion to be operated upon, be placed on a stove or in a vessel over the fire, where the heat should be so regulated as to be just sufficient to expel the moisture; place some straws in the vessel with the specimen, and so soon as these begin to get brown, the process of drying has been carried far enough, about 15 minutes should be occupied in this part of the process. Now take it out and carefully weigh it again. The loss will indicate the amount of free moisture which it had contained, the remaining portion being chemically united with some of the earths composing the specimen and forming a hydrate. Next place it in a mortar and rub it into a fine powder, after which sift it through a fine sieve. This will divide it into two portions—a fine powder and a coarser portion, consisting of sand, gravel, &c. You now take these coarser particles to be operated upon by themselves. Put them into a glass vessel and pour upon them some muriatic acid which has been diluted by the addition of three or four times its own weight of water. Should effervescence ensue, there is lime present; and you continue to add dilute acid until effervescence ceases. Having closed the vessel tightly to prevent the admixture of dust. &c it should be let ramain a few days, in order to insure the complete solution of all the calcareous particles. Then add a little more of the acid, and if it do not produce effervescence, the solution is complete. Then pour off the supernatant liquid into another glass vessel, and having freed the residue of acid, you next proceed to examine this portion which is usually composed of alumina and silica. If this residue consist of sand, no effect will have produced upon it by the action of water or the acid; and if it be a mixture of silica and alumina it may be readily known by mixing it in wat

when upon being well stirred, the silicous portion quickly subsides to the bottom, and the turbid water containing the alumina may be poured off into another vessel. The silica is also known by its roughness to the touch, and its property of scratching glass; while alumina is smooth and unctuous to the feel.

You now have separated the specimen into five parts, viz: the water evaporated; the fine powder sifted out; the lime solution; the silica, which only requires to be washed and dried; and the alumina suspended in the water. Dry the silica exactly as the specimen was dried in the first part of the process; weigh it very carefully and put down the amount. Then proceed to the alumina; after it all settles to the bottom and the water in which it was suspended becomes clear, decant as much of the water as you can without loss of any of the sediment at the bottom; lastly dry the alumina as you did the silica, carefully weigh it, and set down its weight. We have now reduced the parcels to be examined to two, viz: the fine Powder and the calcareous solution Of these the powder is the first to be examined. It contains the earths, salts, and humus in a pulverulent state. First weigh this powder; then put it into a clean vessel, with four times its weight of water, and boil for fifteen minutes, but not too rapidly, or some of its constituents may be dissipated along with the aqueous vapor, and lost. Stir it well and suffer it to stand a short time for the heaviest particles to subside; then pour off the turbid liquid into another vessel. The portion which settled is usually composed of silicious sand; add a little water to it, stir it well again, let it stand a few moments to settle, and then add this water to the former turbid portion. The silica is now sufficiently isolated for all practical purposes; dry it and weigh it, adding the amount to that of the silica obtained from the coarser particles. Next prepare a filter of some unsized paper, place it in a funnel over a vessel suitable for receiving the liquid, and having stirred it well, let it be thrown upon the filter. The clear liquid which passes through the filter contains all the salts and humus, which are soluble in boiling water, while the earths and less soluble salts remain upon the filter. The latter must be dried and accurately weighed, preparatory to its further examination. Let this be reduced to powder, then add muriatic acid, diluted as before, until effervescence ceases, in order to dissolve the carbonates of lime and magnesia, as well as any oxide of iron which may be present Filter the solution, and all the substances still undissolved will remain on the filter. Pour successive portions of water upon the substances on the filter until it passes through tasteless. What is still found on the filter must be dried and weighed; it consists of alumina, with probably some portions of animal nd vegetable substances. By heating it a little higher after having dried and weighed it, these latter may be measurably dissipated, then, having weighed it again, add the amount to the weight of the alumina obtained from the coarser particles, in the former part of the analysis. We now only have three clear liquids to contend with. One consists of the calcareous solution obtained in the first part of process, and we have the two filtered solutions obtained from the fine powder, the one aquous and the other acid. The two acid solutions may now be mixed, as they are alike in composition, being muriates of lime, magnesia, and iron, and then we have only two liquids to examine, viz: the muriates just named. (provided the carbonates of the same substances and the oxide of iron were present,) and the aqueous solution of the salts and humus obtained by boiling water. To ascertain if there be iron present in the solution, stir it with a small piece of oak bark, and should that metal be present a black or brown color will be communicated to the bark. Should iron be present in the solution, add to the liquid small successive portions of prussiate of potash, as long as a blue precipated is formed; let it settle, collect it and bring it to a red heat; what remains is oxide of iron. Let it be weighed and the amount placed in your table of products, along with the alumina and silica. Having freed the solution of the iron which it contained, the chief ingredient now remaining in it is lime, (with perhaps a small amount of magnesia,) to obtain which in the form of a carbonate, as it originally exists, you must add to the acid solution, a solution of the carbonate of soda so long as a precipitate is formed; the carbonic acid leaving, the soda unites with the lime while the muriatic acid leaves the lime to unite with the soda. The precipitate then is (chiefly) carbonate of lime, while the liquid consists of muriate of soda in solution. This liquid, containing nothing now with which we set out, may be thrown away as of no further use, and the precipitate washed and dried; then its weight will give the amount of carbonate of lime contained in the specimen being analyzed. Should there be a brown color present in the carbonate thus obtained, let it be placed upon an iron which must be held over the fire until of a white heat. If the smoke arising from it has the smell of wood smoke the color is owing to the presence of vegetable matter, but animal substance if it has the smell of burning feathers, hair, leather, &c. The quantity may be ascertained by weighing before and after heating.

Now we come to the last solution, which perhaps contains some salt or salts and humus. The separation of these may be obtained by evaporation, when, if the experiment is carefully conducted, the salts may be obtained in the form of crystals; and the humus in that of an extract. The salt must be judged of by its appearance, taste, qualities, and properties. Nitre has peculiary cool taste and its combustion is attended with a curious succession of scintillations. Common salt is known by its taste and a peculiar decrepitation when thrown upon heated iron. Sulphate of soda, during combustion, swells up and gives out a vapory smoke, leaving a white residue.

I am now done with the analysis of a given portion of soil, giving most of the soluble and insoluble products. There however remain a few insoluble salts, such as sulphate of lime. These though usually found in very small quantities, are yet of so much influence over the productiveness of soils, that I believe I cannot do better than to close this communication by giving directions for ascertaining their presence and quantity.

To judge if phosphate of lime be present, let the earth be digested in an excess of muriatic acid, evaporate the liquid to dryness, wash what remains thoroughly with water, and dry it; this will be the insoluble phosphate.

To know if phosphate of lime is present, (plaster of Paris) take a certain quantity of soil by weight, mix it with one third of its own weight of powdered charcoal, place it in a crucible, and expose it to a red heat for half an hour; afterwards boil it for 15 minutes in a small quantity of water, filter the liquor, and let it be exposed in an open vessel for several days: If a white precipitate is formed, it will be sulphate of lime, which may be dried and weighed to ascertain its quantity. Its presence may also be inferred from the character of the spring and well water in the vicinity of the soil experimented on, for it is this salt which gives to water the property called hardness; while to the carbonate of lime is attributable the crust which forms on vessels which are used for boiling water in limestone districts.

Elm Grove, Iowa, May, 1847.

Summer Diseases of Sheep.

As the weather is now drawing on, in which sheep are subject to most of their troublesome complaints, we wish to say a few words in regard to some of them. There is one more frequently noticed in the Northern States than here, but which prevails to some extent among us. The gad-fly attacks their nostrils and there lays its eggs When these are hatched the grubs crawl up into the head The sheep then droops, and a discharge of watery, bloody matter from the nose will be observed. We see half an ounce of snuff, with half an ounce of asafœtida in two quarts of boiling water, recommended as a remedy. This is to be injected at intervals up the nostrils with a syringe in quantities of about a table-spoonful. "The effect on the sheep, is immediate prostration and apparent death, but they will soon recover." A decoction of tobacco leaves, of course, answers all the purposes of the snuff Another remedy is to light a tobacco pipe or cigar, make some one hold the sheep, and filling the mouth with a whiff, blow it up the nostrils.

An ounce of prevention is better than a pound of cure, and a method of keeping off the gad-fly is to annoint the sheep's noses with tar The gad-fly "can't abide it" any more than ancient Pistol could the leek. In the Northern States they sometimes keep several fresh furrows always turned up in the sheep pasture. When tormented with this fly, they will run and bury their noses in the fresh earth.

But tar is not good for all external diseases of sheep, as some people suppose. It is frequently put upon those places where the flesh has been eaten by flies or maggots, when it only increases the original complaint, corroding it the more. The right remedy for this is to wash the sore in soft warm water and castile soap, and apply to it some white lead mixed with linseed oil. Tar, it is true, will keep off the flies, but spirits of turpentine placed around or upon it will do so much more effectually. The effluvia is stronger and more volatile. In the *Genesee Farmer*, we are recommended to smear with a composition of two pounds of lard or soft grease, one pound sulphur, half pint of oil of tar, or tar alone, to keep off flies, and we think it may be of use Mr. Morrell advises us to hold spirits of turpentine for a moment or two on the sore, if the maggots have penetrated far into the flesh They will crawl out and be instantly destroyed by the liquid.

Ticks and lice infest some flocks at this season. They are seldom very troublesome, however, to the flocks of good farmers, as they are seldom found in great numbers, except upon sheep which are poor and ill fed. The sheep tick not only destroys the strength of the animal, but as is well known, they stain the wool in a manner which is very difficult to cleanse. They torment the poor animals almost out of their existence; and it is inhuman in any sheep master to permit them to ravage his flock, when so easily destroyed. If the lambs are kept clear of them, the rest of the sheep are seldom meddled with. The common remedy is to immerse them in a decoction of tobacco. For this purpose a half hogshead should be filled with the liquid, and about a week after shearing, when the ticks will have left the ewes to fasten on the lambs, they should be lifted up and dipped in it.—While doing this, care must be taken to hold up their heads with both hands, and that none of the liquor pass the mouth or get in the eyes. It is said not only to destroy all such insects as these, but to be beneficial to any slight wounds of the skin. The following is the recipe for the decoction.

"For one hundred lambs take five pounds of bad plug tobacco, or ten pounds of stems; if the former, it should be chopped into small pieces, that the strength may be perfectly extracted by boiling This will require some hours to do, and the most effectual way will be to apply at first two pails of water, which may boil for half an hour, and then take one pail of liquor from the kettle, and at the same time add another of water, and so on until thirty gallons of the decoction are made, for which the quantity of tobacco above named will be adequate."

This decoction is a cure for a much more dangerous and troublesome disease which generally prevails among sheep during spring and summer We mean that loathsome complaint, "the Scab" This, too, is produced by a minute insect, a species of thick, (*Acarus.*) It is first manifested by the disposition of the animal attacked to scratch himself. They will do this sometimes for an hour without intermission, and in the most furious manner — They will also rub against every projection, such as corners of fences, stumps of trees, &c., and the

wool will come off in considerable flakes. Sometimes a good deal will come off one spot; and if the place will be examined with the hand, a hard, dry tumor will be found. The skin will appear red and broken, and covered with minute pustules. These at last break and run together, thus forming a patch or scab. It is from this symptom that the disease takes its name. These gradually spread, till the whole body is incrusted with the scab, and the wool is all lost, if the animal lives so long. The shoulders and back are the parts where these patches generally first show themselves. But it sometimes does not so soon show itself in this way. The sheep may be attacked with it, may be strangely restless, violently rubbing and scratching itself, and tearing off its wool, and yet when caught and sheared close, show a clear skin, and it may be a considerable time before the cutaneus symptoms appear.

The scab is of spontaneous origin, as well as contagious. Bad keeping, exposure to wet and cold, any thing which will bring on a suppression of perspiration will sometimes produce it. But it is more generally the product of contagion, as it is one of the most contagious of diseases. Unless the sheep infected are speedily removed from the pasture the whole flock will be infected in a very short time. Yet the insect which causes the scab does not seem to pass from one sheep to another so much by their mere contact as from being left upon the usual rubbing places of the flock. Cases have been known of farmers getting rid of their infected flocks, and entirely re-stocking their pasture, and still the scab prevailed in the sheep the same as the old. All the places upon which an infected sheep has been known to rub himself should, therefore, be carefully painted over before the clean sheep should be allowed to enter the pasture. So soon as one of these little insects is placed upon a fibre of wool, it speedily travels to the roots and buries itself in the skin, where a small red point will designate the spot where it entered. About sixteen days after this a pimple or pustule will make its appearance. This will shortly burst, and the insect will leave it and enter in a fresh place, close by. If it is a female it will come out of the pustule with myriads of young, which will enter all around, and form pustules. These in time open, and run together forming the scab. This will continue to spread. But such is not the case when the male insect is placed upon the sheep. The *Albany Cultivator* has detailed the experiments of M. Walz, who has traced the acarus through all its stages When the male acarus was placed upon the wool it burrowed, the pustule was formed, but then the thing ceased. The itching and scab quickly disappear of itself. M. Walz, also found that the acarus when young would quickly crumble to dust if kept in a dry place, but when old, it will keep alive all winter, and this fact shows the futility of the hope which some entertain that the approach of cold weather will rid their flocks of this plague. Active means must be made use of for their destruction.

The general health of the animal is effected in proportion to the extent and virulence of this disease. Long before the scab has covered the body, it generally pines away and dies from long continued irritation and suffering

So soon as the symptoms are observed the sheep should be caught and housed. The wool should be shorn if possible, and the skin carefully washed with strong soap-suds. The scab should be taken off with the knife or currycomb. The sheep should then be immersed in the decoction of tobacco, above mentioned. Some spirits of turpentine and lime water added are said to to improve it.

Another remedy is, after the shearing and washing, to smear with mercurial ointment. Another recipe is a decoction of hellebore mixed with vinegar, sulphur and spirits of turpentine. A third is the following:

"Corrosive sublimate..... 8 ounces.
White hellebore, in powder,.... 12 ounces.
Whale or other oil,..... 6 gallons.
Rosin,..... 2 pounds.
Tallow,..... 2 pounds."

"The sublimate is reduced to a fine powder, and mixed with a portion of the oil, as also the hellebore. The rosin, tallow and remainder of the oil are to be melted together, and the other ingredients then added and well mixed. Should the ointment appear too thin, the proportion of oil may be reduced and that of the tallow increased." An anointing with this compound would be sufficient we conceive to destroy any vermin whatever.

The spanish shepherds dissolve a little salt in their mouths and drop it upon the infected place so soon as they see a flake of wool torn off. We think the common remedy of the tobacco decoction, perhaps, the best which we have given in this list. But, as Mr. Morrel remarks, a much better *recipe* is in the shape of a *preventive*. It is to take good care of your sheep. Those in bad condition will always be first attacked with this disease. Give them good wholesome food and good shelter in cold and wet weather, and see that their wants are provided for throughout the winter, when the pasturage is small, and you will have little trouble from the scab.

We will conclude with a repetition of our advice to be careful about cleansing the rubbing places of the pasture. Every thing which the infected sheep could possibly have used in this way should be painted over.—*Southern Planter.*

A Good Paste for Books, Muslin, &c.—When made in the ordinary manner, paste soon becomes mouldy, and by fermenting in warm weather, loses its sticking power. To make some to keep, make it thus. Dissolve about an ounce of alum in a quart of warm water, when cold, add as much flour as will make it the consistence of cream; then strew in it as much powdered rosin as will stand on a shilling, and two or three cloves; boil it to a consistency, stirring all the time. It will keep for 12 months, and when dry, may be softened with water.—*Scien. Amer.*

The Keeping of Eggs.

The papers annually contain a variety of recipes for keeping eggs safely through the summer—some recommending lime, some salt, and some different mixtures, for this purpose. None of these mixtures should be depended on, unless certain preliminaries are attended to. The nature of the egg itself, and of the shell in which it is enclosed, must be understood. An egg is an animal substance, and all such substances corrupt, on being exposed to the air, in a shorter or longer time, according to its heat, moisture, and electrical condition. To prevent the putrefaction of the egg, it must be kept from the free ingress of air, and surrounded with some antiseptic substance. The shell is not a tight, but a porous matter allowing the transmission of water and air with some degree of rapidity. Hence when the egg is exposed to the atmosphere, its juices are gradually evaporated through the shell, and their place supplied with atmospeeric air; and decomposition gradually takes place. If to prevent this it is packed in salt, so much of the latter will be absorbed as to render it uneatable.

Eggs that are to be packed should be of good quality. There is as much difference in the richness and flavor of eggs as there is in those of beef or mutton. A fat, full egg is more likely to keep well than a poor one. Then they should be packed when fresh. If they are kept till half spoiled before being packed, it will be a miracle, if they are preserved well, however well put down. Then they should be packed with the small end down. The yolk is inclined to settle on the shell, and when this is the case, it is apt to spoil. The better way is to turn the cask occasionally from one end to the other. The cask, too, should be a tight one.

The editor of the *Boston Cultivator* recommends from trial the following. Put into the cask a layer of plaster of Paris—first covering the bottom of the cask with plaster—and then alternate layers of each in such a manner, that one shell shall not touch another. He states that he has kept them in this manner a year perfectly good.

The following mode of keeping has been patented in England, and extensively used in this country:

One bushel quick lime,
2 lbs. salt,
½ lb. cream of Tartar,

mix the same together with as much water as will reduce the composition to a consistency that an egg when put into it will swim. It is said that eggs have been kept it this way for two years.—*Prarie Farmer.*

Eggs and Poultry.

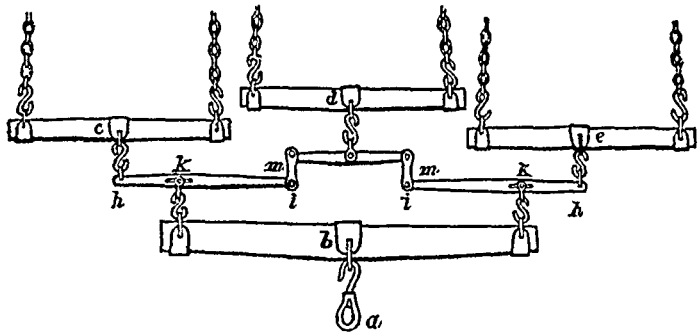
Among all nations, and throughout all grades of society eggs have been considered a favourite food. But in our cities, and particularly in winter, they are sold at such prices that few families could afford to use them at all, and even those in easy circumstances consider them two expensive for common use. There is no need of this. Every family, or nearly every family, can, with very little trouble, have eggs plenty during the year, and of all the animals domesticated for the use of man, the common dunghill fow is capable of yielding the greatest profit to the owner. In the month of November, I put apart eleven hens and a cock, gave them a small chamber in the woodhouse, defended from storm, with an opening to the south. Then food, water and lime were placed on shelves convenient for them, with nests and chalk nest-eggs in plenty. These hens continued to lay eggs throughout the winter. From these eleven hens I received an average of six eggs daily during the winter; and whenever any one of them was disposed to sit, namely, as soon as she began to chuck, she was separate from the others by a greated partition and her apartment darkened. These chucklers were well attended to and well fed. They could see and partly associate through the grates with the other fowls, and as soon as any of these prisoners began to sing, she was liberated, and would very soon lay eggs. It is a pleasant thing to feed and tend a bevy of laying hens. They may be tamed so as to follow the children, and will lay in a box. Egg-shells contain lime, and when in winter the earth is covered with frost and snow, if lime be not provided for them, they will not lay; or if they do, the eggs of necessity must be without shells. Old rubbish lime from chimneys and old buildings is proper for them and need only to be broken. They will often attempt to swallow pieces of lime and plaster as large as walnuts The singing hen will certainly lay eggs if she finds all things agreeable to her, but the hen is so much a prude—as watchful as a weazel and fastidious as a hypocrite—she must, she will have secrecy and mystery about her nest. All eyes but her own

must be averted. Follow or watch her, and she will forsake her nest and stop laying. She is best pleased with a box covered at the top, with a back side aperture for light, and a side door by which she can escape unseen. A farmer may keep one hundred fowls in the barn, may suffer them to trample on and destroy his mows of grain, and have fewer eggs than the cottager who keeps a dozen, provides secret nests, chalk eggs, pounded bricks, plenty of corn or other grain, water and gravel for them, and takes care that his hens be not disturbed about their nest. Three chalk eggs in a nest are better than one, and large eggs please them most. I have smiled to see them fondle round and lay in a nest of geese eggs. Pullets will begin to lay early in life, when nests and eggs are plenty, and when others are chuckling around them. A dozen dunghill fowls shut up from the means of obtaining food, will require something more than a quart of corn a day. I think fifteen bushels a year a fair allowance for them; but more or less, let them always have enough by them; and after they have become habituated to find at all times a plenty in their little manger, they take but a few kernels at a time, except just before going to roost, when they will take nearly a spoonful in their crops. But just so sure as their provisions come to them scanted or irregularly, so sure will they raven up a whole cropful at a time and stop laying. A dozen hens well attended, will furnish a family with more than two thousand eggs a year; and one hundred full-grown chickens for the fall and winter stores. The expense of feeding a dozen fowls will not amount to more than eighteen bushels of grain. They may be kept in cities as well as in the country, will do as well shut up the year round, as to run at large. A grated room well lighted, ten feet by five, partitioned from a stable or other outhouse, is sufficient for a dozen fowls with their roosting, nests, and feeding troughs. In the spring of the year, five or six hens will hatch at a time, and the fifty or sixty chickens may be given to one hen. Two hens will take care of one hundred chickens well enough until they begin to climb their little stick roosts. They then should be separate from the hens entirely. I have often kept the chickens when young in my garden. They keep the May bugs and other insects from the vines. In case of confining fowls in summer, it should be remembered that a ground floor should be chosen; or it would be just as well to set in their pens, boxes of well dried pulverized earth, for them to wallow in during warm weather. Their pens should be kept clean.—*Scottish Reformer's Gazette.*

Hints to Farmers.—The farmer's life is shunned by many because it seems one of mindless drudgery. It ought not to be so. If our farmers would study and reflect more, they might do less hard labor, and yet, accomplish more in the course of a year. Ten hours' work in summer, and eight in winter, ought, with good management, to give any man a good living. He who works so hard that he cannot read or reflect after the labors of the day are over, because of fatigue, does not plan wisely. Let no man shun work when work should be done; but delve, delve forever, is not the end of man's life. The farmer's evening's should be devoted to mental acquisition and rational enjoyment. To sip and tumble into bed is a hog's fashion, and highly injurious to health. But let a farmer have about him the choicest works of his own auxiliary avocations; let these form the subject of study and conversation at least two evenings in a week, while, the newest and oldest volume, and each have their allotted season. Two or three dollars contributed by each family in a neighborhood or school district, would go a great way in the purchase of standard books at modern prices. These are but hints which each reader will modify as his judgement will suggest, I plead only for the essential thing of making home pleasant, and its hours of relaxation hours of instruction also.—*H Greeley.*

Hints to Men of Business.—Be punctual and attentive. Let your word be sacred, and your engagements inviolable. Keep your accounts straight. Many a man has lost a fortune by carelessness. The little time and trouble it takes day by day, to keep debit and credit, and file away bills that have been paid, is nothing to be compared to the future benefits. No man is perfect, and the most honest may forget that you have adjusted your account, and present his bill again. If you feel sure you have cancelled the debt, you may not convince your creditor, of the fact. But if you have preserved his bill, receipted, there can be no mistake or further trouble about it.—*Exchange Paper.*

SWING-TREES FOR PLOWING WITH THREE HORSES.



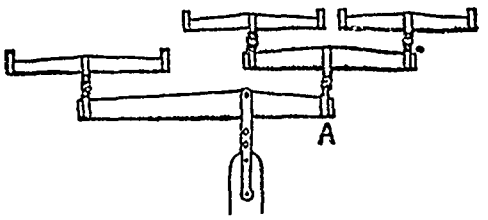
The common method of constructing swing-trees for working three horses abreast, was exhibited in our vol. 1, p. 73. But in "Stevens' Book of the Farm," (republished in Skinner's Farmers' Library,) we find a description of a much more perfect plan, a representation of which is given above, and the explanation follows:

Perhaps the most perfect method of yoking a 3-horse team, is that by the compensation levers, (fig. above)—a statistical combination, which is at once correct in its equalization, scientific in its principles, and elegant in its arrangement; and I have to regret my inability to single out the person who first applied it. *b* is a main swing-tree, 5 feet in length, and of strength proportioned to the draught of three horses; *c d e* are three small common trees, one for each horse. Between the main swing-tree and the three small ones the compensating apparatus is placed, as in the figure, consisting of three levers, usually constructed of iron. Two of these, *h i* and *h i*, are levers of the first order, but with unequal arms, the fulcrum *k* being fixed at ⅓ of the entire length from the outward end of each; the arms of these levers are therefore in the proportion of 2 to 1, and the entire length of each between the points of attachment is 27 inches. A connection lever *l*, of equal arms, and 20 inches in length, is jointed to the arms *i i* of the former, by means of the double short links *m*, *m*. The two levers *h i*, *h i*, are hooked by means of their shackles at *k* to the main swing-tree *b*; and the three small swing-trees *c*, *d*, *e*, are hooked to the compensation lever at *h*, *h*, and *l*. From the mechanical arrangement of these levers, if the whole resistance at *a* be taken at 600 lbs, *k* and *k* will each require an exertion of 200 lbs. to overcome the resistance. But these two forces fail to be subdivided in the proportion of the arms of the levers *h i*, 2-3 of each, or 200 lbs., being allotted to the arms *h*, and remaining ⅓, 100 pounds., to the arms *i*, which brings the system to an equilibrium. The two forces *i*, *i*, being conjoined by means of the connecting levers *m*, *m*, their union produces a force of 200 lbs., thus equalizing the three ultimate forces *h l h* to 200 lbs., each, and these three combined are equal to the whole resistance *a*; and the three horses that are yoked to the swing-tree *c*, *d*, *e*, are subjected to equal exertion, whatever may be the amount of resistance at *a* which has to be overcome.

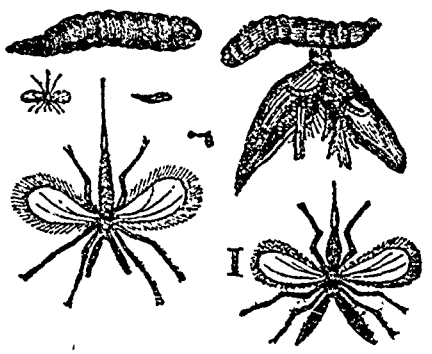
The judicious farmer will frequently see the propriety of lightening the labor of some individual horse; and this is easily accomplished by the compensation apparatus. For this purpose, one or more holes are perforated in the levers *h i*, on each side of the true fulcrum *k*, to receive the bolt of the small shackles *k*. By shifting the shackle and bolt, the relation of the forces *h* and *i*, are changed, and that in any proportion they may be desired; but it is necessary to observe that the *distance* of the additional holes, on either side of the central hole or fulcrum of equilibrium in the system, should be in the same proportion as the length of the arms in which the holes are perforated. Thus, if the distance between those in the short arm is half an inch, those in the longer arm should be an inch. By such arrangement, every increase to the exertion of the power, whether on the long or the short arm, would be equal.

Common Swing-tree for Three Horses.—The following cut will exhibit the difference of the two plans, and the great superiority of the former. It should be observed, however, that neither arrangement is designed to obviate the difficulty complained of by Marion, in our former

volume; namely, the position of the centre of the drain. That can only be remedied by the construction of the plow, or by placing the clevice considerably to one side.



Insects in Wheat.



Some fields of wheat in this neighborhood have been much injured the present season by the yellow maggot, the larvæ of the wheat midge, (*Ceidomya tritici,*) sometimes improperly called the weevil. The parent of this maggot is a small fly, less in size than the common musketoe, which deposits eggs between the scales of the chaff about the time the wheat is in blossom. The eggs are generally but not always, deposited next the kernel, and the larvæ subsists on the juices which would otherwise nourish the grain. The consequence is, the kernel is more or less shirvelled, according to the number of insects which infest the head. We have seen as many as half a dozen maggots around a single kernel, and the whole number in the head could not have been less than fifty, leaving not sound, plump grain. It is sometimes said that this insect eats into the kernel; but we think this is a mistake—we have seen no instance of the kind—the worm is a simple maggot, not at all calculated for gnawing or boring.

This insect was first noticed in this country about the year 1831 or '32, though it had been known in Europe many years before. In those parts of this country where it was at first most abundant, we believe it has been for a few years past diminishing. We are informed that this is the case in Vermont, New Hampshire and Maine. It seems to have been, in its apperance, most destructive to spring wheat, but lately has attacked the winter wheat. No successful remedy has yet been suggested against its attacks. Some have advised the suspension of the wheat culture for a few years in the infected districts. Perhaps this would be the best course, as the enemy would thus be starved out and annihilated. It has been remarked that in spring wheat, the early sown is generally affected, from the circumstance of its coming into bloom about the time the fly is ready to deposit its eggs. Hence where spring wheat is grown, the plan of sowing *late* has been followed with advantage. That sown the latter part of May or first of June, has generally escaped this fly, but it is very liable to rust when sown so late.

In regard to winter wheat, the *earliest* sown is generally most exempt from attack—it gets past and out of the way before the fly is ready to deposit its eggs. Mr. Thomas Hillhouse, an extensive farmer of this neighborhood, informs us that the portion of his wheat which was sown the first week in September is saved, while all which was after the 25th of that month, is nearly lost. Mr. Hillhouse thinks that in a season like the present, the wheat must be sufficiently early to pass out of the "milk" before the 20th of June, to be safe from this insect.

Some of the worms pass into the pupa or chrysalis state, in the head of the wheat, and are winnowed out with the chaff, but it is probable the greater number undergo transformation in the ground; for this reason it would be bad policy to sow wheat on the same ground two years in succession. Kollar says there is a parasitic insect allied to the family of Icheumons, which preys on the midge, and seem designed by nature to keep it within proper bounds. We have not seen this parasitic, and do not know that it has been found in this country.

This cut at the head of this article, copied from Kollar, shows the wheat midge in different stages, both of the natural size and magnified. One section of the cut shows several of the larvæ within the chaff which encloses the wheat kernel. —*Alb. Cult.*

To Pickle Onions.—Peel, and boil in milk and water ten minutes, drain of the milk and water, and pour scalding spiced vinegar onto them.

Good and Bad Farming.

Look at the contrast between a good farmer and a bad farmer—between a neat thrifty cultivator of the soil, and a slack and slovenish aggravagator of it The buildings of the one whether large or small, are all in good repair. The premises about them are clean, and unincumbered by piles of rubbish and brush. His wood is cut and placed under cover in proper season. His tillage and mowing fields are clean of weeds, bushes, and stones. His walls and fences have no unsightly gaps. His fruit trees are well trimmed and well cultivated, and are kept free from cattle and catterpillars. His barnyard or barn cellar evinces the high value he places on manure, by the care he bestows in making and saving it, and his lands from year to year, show that they experience the full benefit of a right application of it. He is at work, boys and all, before the sun. While he finds time for the discharge of his political and other public duties, he spends little or none of it by the way-side, in discussing the affairs of the nation or the gossip of the village. He takes a newspaper to tell him how the government and the world jog on, and an agricultural paper to give him an idea of the improvements to be made in his own occupation.

The buildings and premises of the other exhibit many a symptom of neglect and premature decay A barn door, perhaps, for loss of hinges, is propped up by rails or stakes. The frame-work of a shed is all that remains of what was once a shelter for his stock. Brush-wood and trunks of trees lie in fantastic confusion about his doors, whilst the skeletons of departed carts, and wheels, and sleds, and plows, line the road-side for a considerable distance, as you approach his dwelling. Walls and fences are so enveloped in bushes, as to be almost imperceptible. His barn-yard is washed and drained by a convenient declivity leading either to the road side, or a neighboring stream. His tillage land is impoverished by repeated croppings and a stinted allowance of food. Thistles, johnswort and mullein, or some similar specimens of vegetation, hold title to his mowing fields by right of uninterrupted occupation. He rises not before the sun tells him it is day. He is generally behind hand in his work. His crops suffer for want of due care and harvesting. He carries to market an inferior article, gets an inferior price, and then complains to everybody he meets of hard times and the hard life a farmer has to lead. Of course, he is quite ready to lay the blame upon any shoulders but his own, and the government, either state or national, has very often to bear no small share of it.

By a process recently invented, the rays of the sun, striking upon a person's countenance, portray, in an instant of time, an exact miniature of his features. The same art has also been applied to give a faithful birdseye view of groups of objects and men Every attitude, every lineament is struck off, in a twinkling, with all its beauties or blemishes, just as they are in the originals Suppose the Daguerrotype were employed to seize the the striking points of each farm in this country, and that the pictures, thus produced, were suspended on these walls for inspection. Would there be no contrast exhibited in the panorama? No features which would willingly be erased? No whole pictures which would gladly be turned face to the wall?

No farmer who has any pretensions to the name, when he looks upon the two extremes to which his noble art may be elevated or degraded, would hesitate which to choose for the object of his endeavors. If he elects the good farmer as the model of his imitation, he will need something more than mere wishes and resolutions,—than sudden starts and occasional exertions, to realize in his character the enviable distinction of a skilful cultivator of the soil. It is not the work of a day or of a year, but of many years, truly to earn and deserve this title. It is laborious, patient, persevering and intelligent working, that is to do it. He must take an honest pride in his profession; never to be ashamed of his hard hands, home-spun frock, or toilsome occupation. His motto should be, "Whatever is honest is honorable," and farm-labor is pre-eminently so His heart and his head, as well as his muscles and sinews, must be in his work. He must endeavor not only to make his farm profitable, to gain from it the most he can at the least expense, but to keep it in a constantly progressive state of improvement. He will have his attention awake at all times, to the means of effecting this. He will not lay out for cultivation more ground than he can manure well, cultivate well, and leave in better tilth than he found it. He will remember another axiom of the good farmer, "that whatever is worth doing at all, is worth doing well." He will ever bear in mind, too, that his own farming, however excellent and successful, may still be made better and more profitable.—(*Address of A. W. Dodge, Esq., before Barnstable Agricultural Society.*

Lost Appetite of Horses.—Horses lose their appetite from different causes, viz: Excessive fatigue, want of change in food, dirty fodder, mouldy corn, or a dirty manger &c. but most frequently by the approach of some disease. So soon as you discover a horse has lost his appetite, observe the following treatment.

Take from the neck vein half a gallon of blood. Take of asefœtida, a quarter of an ounce; salt. one table spoonful, sassafras tea, one quart; mix and give them as a drench.

On the second day, take glauber salts, one pound; warm water, one quart; after dissolving the salts, give it a drench, and in two or three days the appetite will be restored unless the animal is laboring under some disease, which may be ascertained by the symptoms.—*Nason's Far.*

To Young Men.—There is no moral object so beautiful to me as a conscientious young man! I watch him as I do a star in the heavens; clouds may be before him, but we know that his light is behind them, and will beam again; the blaze of other's prosperity may outshine him, but we know that though unseen, he illuminates his own sphere.

LADIES' DEPARTMENT.

POPULAR NOTIONS OF EDUCATION.

Well really, that's all very fine soliloquised rmer Haques, as he threw aside a copy of our e circular, and proceeded to replenish a re- tly exhausted pipe, which had for a few mo- nts' lain dormant on the chimney piece. Now uppose, if Susan sees that fine description of e new Academy, with its accomplished teach- s and talented pupils, we'll not have a moment's ace for a year to come. She is always coaxing d teazing about books and education. It's no to tell her there is a good farm, with a fine ck of cattle in store for her. O no! her mind elevated above such trifles! Only give me d education and I'll not ask anything more, is incessant demand. I've seen the day when d earned property was not so lightly esteemed; young folks now-a-days have got strange no- s in their heads. It would be better for the rld, if there was more work and less talk. I h these people that raise such a hubbub about cation, would just attend to their own affairs, d let other folks' business alone. What good, like to know, would it do my daughter to nd a year or two in poring over studies that fit only for lawyers and philosophers? What country girls want to know about chemistry hilosophy? But let me see—laying aside his , and resuming his spectacles—what else have in the catalogue:—as I'm alive, if there t astronomy and physiology! Now in the e of sense, what does a farmer's daughter t to study physiology for? I'm sure its enough doctors to understand that; and as for astron- , no body has any thing to do with that, ex- Almanac-makers. Such trash is fit to ruin he girls in Canada! Why there's neighbour es told me the other day, that his Lucy was freezing herself to death last winter, tracing the constellations, or some such nonsense; now, she can't even go out to milk the cows, out stopping to analyze every little insignifi- flower that happens to grow in her path. is always philosophising on something. It only last week that she tried to make me ve, that the "Will o' the Wisp" that we all go over Sam. Morton's house the night be- he died, was nothing more than a vapour from the marsh at the bottom of the lane. such impudence as that, is enough to vex any one. It always sets me mad to hear old opinions derided by upstarts. But there is a query in the matter. Farmer Lythes was always considered a sensible, thrifty man; and yet he says he is not sorry for all the expense he has been at for Lucy's education, for she is a much better house keeper than before she went to school. Her knowledge of botany has given the flower plot a much neater appearance; and the vegetable garden yields double its usual quantity. And then he went on to tell how studying chemistry had improved her in the art of cooking; now, said he, Lucy knows just how to manage the Dutch Oven, to make it bake the pastry nicely; she can tell me what kind of stove will warm the house best in the winter, and consume the least quantity of fuel; and yet, with all this, she is never idle, but seems to be always employed in endeavoring to make us all happy. It is true that she spends more time in reading, but that is atoned for by not making so many useless visits. Now I confess, there is something in the matter that puzzles me. I've always heard say that education spoils girls—that they are never fit for anything after coming home from boarding schools. Lucy must be an exception to a general rule—I would'nt like to risk my daughters.

Now, kind reader, do not laugh at the farmer's soliloquy; for it is not a solitary example of the ignorance and prejudice which prevail among the illiterate portion of our agricultural community. Although the Canadian farmer occupies a station of usefulness and respectability in our country, yet his views of female education are in many cases strangely erroneous. One who is conversant with the scenes of country life, cannot fail to mark the manifestations of this error in the daily occurrences of life. The labours of the field being ended, the farmer and his sons regale themselves with the news of the day, or the contents of some interesting book. Not so with the wife and daughters. Evening comes, but to them it brings no reprieve. Though the broom and frying-pan are laid aside, yet the spinning-wheel or knitting-needles supply their place. Thus occupied, the parties spend the long hours of evening, with scarcely an interchange of thought. Perhaps a jovial member of the literary band, discovering some amusing incident, which he imagines would call forth a smile from his laboring sisters, unwarily begins to make it known to them, but, in so doing,

risks a severe reprimand for interrupting the meditations of his sire.

Not unfrequently do we find the farmers' sons enjoying all the advantages of a collegiate education, while the facilities of a district school are considered quite adequate to the wants of his daughters. But a brighter day seems to be dawning on this hitherto neglected portion of our country's population. In the Burlington Academy, and other schools established by individual enterprise, the daughters of Canada may enjoy those facilities for obtaining a sound, practical education, which are afforded to her sons, at the public expense, in our Universities and Academies.

A FARMER'S DAUGHTER.

Burlington Ladies' Academy,
Aug. 17, 1847.

Clover—its Value to the Farmer—Mode of Cultivation, &c.

BY J. F. C.

Although the value of clover is in some measure appreciated, and its cultivation somewhat extensive, yet they are far less so than its importance demands. It is valuable to the farmer for three important purposes—to feed his stock, fertilize his land, and to fill his purse. His cattle thrive upon it when green, as a pasture in the summer, and in the stall, when fed with the hay in the winter; his wheat and corn thrives upon it when buried and decomposing in the soil, and his purse increases with the increase of his cattle and his crops. It is the very basis of good farming on lands susceptible of alternate husbandry. A good clover lay, as estimated by experienced agriculturists, is said to be worth as much as five tons of barn-yard manure to the acre. Why, then, it is not more generally cultivated especially on our sand and gravelly openings, (which of all lands are best adapted to, and most need its use,) is to me a wonder, unless it is because its value is not properly appreciated, or known,

Botanists enumerate a great variety of kinds, but those most common in use are usually denominated as three kinds—the large, middle and small, or early June red clover. Of these kinds, I prefer the middle kind, for the following reasons. that it affords a better quality of hay, the stems not being so large, with more leaves to the same bulk, yet with sufficient growth to afford a good burthen to the acre; being an earlier variety, it admits of taking a crop of hay and a crop of seed the same season, which is not a small item in its favor—the crop of seed at present prices, varying in value from $15 to $30 per acre.

There are three errors in the management of clover, which I design briefly to notice.

1st. *In seeding, too little seed is used.* The object is, to procure cheap food for animals and plants. No crop surpasses it in the quantity which it affords of these, with the same exhaustion of the fertility of the soil. One farmer sows four or six pounds of seed to the acre, and gets in returns, a thin and coarse crop of grass while the vacancies are to be filled up with sorrel or other noxious weeds. Another sows ten or fifteen pounds, and obtains double the crop of the other, at a trifling additional expense of not to exceed a dollar per acre for seed, while his land is doubly benefitted. From ten to fifteen pounds of seed to the acre should be sown, whether the object be for hay or pasture, or to be turned in for the benefit of the soil. The produce will in some measure be in ratio to the amount of seed sown, and the advantage of heavy stocking both in the hay and to the soil, will far exceed the cost of the extra seed, of which every farmer ought to raise a supply at least for his own use.

The best time to seed with crops of small grain is in the spring. The seed on light, dry, warm land should be sown before the second time harrowed, and cross harrowed after being sown with a light harrow, and then rolled down with a roller. This method, in some measure, obviates the danger of the young and tender plant being scorched to death by our hot summer suns, which is the chief difficulty of obtaining a good stand with clover, on light sandy soils. The practice of some is, to sow with wheat in the fall; but by this method, there is danger of its being winter killed. Others sow it in the spring, on the wheat but this method on the kind of soil above mentioned, is an uncertain way, or rather *it is a certain way* of losing the seed, as it will not obtain depth of root sufficient to stand the hot suns and drouth of June and July, in ordinary seasons. Another way which I have never tried, but which of late is highly recommended by some, is to sow with corn after the last time of dressing, the system of level culture being adopted, (the only right way,) and covering by the cultivator or the harrow. This method, I am inclined to think perhaps the surest mode of stocking, as the

affords a protection from the sun, and usually the driest and hottest weather of the season is past before the clover is advanced enough to be injured by it; while at the same time, it will obtain hardness enough to withstand the winter frost. To succeed well with clover, gypsum should be sown each year, from one to two bushels per acre.

2nd. *Clover lays are permitted to remain too long before they are brought under the plow.* The clover, as I think, is a triennial plant, and if allowed to remain four or five years before plowing, the advantage to the soil as a green crop, are nearly lost. 'Tis true, if some portion of it is suffered to ripen each year, new plants will spring up to succeed those going to decay; but I should recommend taking it up at least as soon as the third year. The action of clover in improving the soil is not only in supplying a large amount of vegetable matter, but it acts mechanically. Its tap roots penetrate the soil, and as they decay render it friable and permeable to heat and moisture.

3rd. *The common way of curing clover hay is bad.* The common pratice of spreading and letting it lie until entirely dry, causes most of the leaves and blossoms to crumble off before the stalk is sufficiently dry, and where lying thick, it must remain over night in the dew, and no kind of grass is injured so easily by wet and drying as clover. The plan I would recommend is, to cut and spread it, and as soon as thoroughly wilted, to rake and put it in cocks, and if the weather is favourable, by the second day it will by its sweating and handling over, in drawing, be sufficiently cured, and at the same time, retain the leaves and blossoms, together with its bright green color and flavour. For hay, clover should be cut as soon as about half the blossoms have turned down. When an after-crop of seed is intended, it should, in this latitude, be cut from the 10th to the 25th of June.

One great objection of the former to sowing more clover, and more frequently turning it in, is the cost of seed. This as I before observed, after the first season of sowing, every farmer ought to raise his own. If a hulling machine is not at hand to clean it, it is even better in the chaff, when intended for his own use, (as I have proved by experience,) for the chaff or hull is a sort of protection to the young and tender roots at its first start. It is a piece of folly for the farmers of Michighan to pay such a tribute to the State of Ohio for clover seed, when we have every facility that they have, for raising our own, and even for exportation. I should *not*, however, recommend taking more than one crop in succession, from the same land, as I think it would be running the land rather hard, especially if the first crop in the season is cut for hay. Lastly, though not *leastly*, by the use of clover, and by it alone, and a proper rotation of crops, the farmer is enabled to dispense with the naked summer fallow, and at the same time keep up the fertility of his soil, thus enabling him to nearly double his profits, without increasing his expenses in cultivation.

Kent county, March 12, 1847.
—*Mich. Farmer.*

Composition for Roofs.—The following Recipe which we copy from the Maine Farmer, "for the information of an incombustible wash, to be applied to the roofs of dwellings and out-houses, is published for the benefit of those who, although they may have hitherto neglected a most important duty, are yet sufficiently wise to profit by a gentle hint.

Slack stone lime in a large tub or barrel, with boiling water, covering the tub or barrel, to keep in the steam. When thus slacked pass six quarts of it through a fine sieve. It will then be in a state of fine flour. Now to six quarts of this lime add one quart of rock or Turk's Island salt, and one gallon of water, then boil the mixture and skim it clean.—To every five gallons of this skimmed mixture, add one pound of alum, half pound of copperas, by slow degrees add three fourths of a pound of potash, and four quarts of fine sand or hickory ashes sifted.—We suppose any kind of hard wood ashes will answer as well as hickory. This mixture will now admit of any coloring matter you please, and may be applied with a brush. It looks better than paint, and is as durable as slate. It will stop small leaks in the roof, prevent the moss from growing on and rotting the wood, and render it incombustible from sparks falling upon it. When laid upon brick work it renders the brick impervious to rain or wet.—*N. Y. Far. & Mech.*

Apple Jam.—Equal weight of fine flavored sour apples pared and quartered, and of white sugar with the addition of one quince.

Orleans Plum Jam.—Equal weight of fruit and sugar; improved by the addition of a few ripe raspberries or gooseberries.

Song of the Soil.

BY J. H. R. BAYLEY.

I start the bulb of the beautiful flower,
And feed the bloom of the wild wood bower.
I rear the blade of the tender herb,
And the trunk of the stalwart oak I curb
I force the sap of the mountain pine,
And curb the tendrils of the vine;
I robe the forest, and clothe the plain
With the ripest of fruits and the richest of grain

The cheek of the peasant I clothe with health,
And yield the sturdy yeoman wealth;
I give spirit of commerce wings,
And prop the tottering throne of kings—
The gorgeous palace and the humble cot
Owe every atom to me they've got—
And the prince at the banquet, and the hind at his board,
Alike must depend on the fare I afford.

Man may boast of his creaturely might—
His talents in peace, and prowess in fight;
And lord it over the beast and bird,
By the charm of his touch and the spell of his word;
But I am the sole and mighty source
Whence flows the tide of his boasted force—
Whatever his right, and whoever he be,
His pomp and dominion must come from ME!
I am the giver of all that's good,
And have been since the world has stood;
Where's there wealth on ocean, or beauty on land,
But sprung from the warmth of my fostering hand?
Or where's the object fair and free,
That claims a being, but's traced to me?
Cherish, then cherish, ye sons of toil,
The wonderful might of the fruitful soil!

And whence, says the Christian, dost thou obtain
This power so mighty, of which thou art vain?
Thou boastest of that, which is furnished to thee,
By Him who is Lord, both of land and of sea,
For know that the treasures which come from thy sod,
Are only thine own, as the gift of thy God.

—*N. Y. Far. & Mech.*

Potash Wash for Fruit Trees.—It being about time to attend to that work, I shall describe my method of using the potash. I usually dissolve ten pounds in two pails of hot water, and for young trees I put a quart of that to a pail of cold water, and when well mixed apply it to the trunks and limbs of the trees, either with a whitewash brush or a broom, and for old trees I put two quarts to a pail of cold water, and put it on as far as I can reach. If any moss or other vegetable substance adheres to the limbs, I take a ladder, by which means I can reach and wash the branches wherever the moss is; or if any lice or scales get on my trees, I wash to the extreme ends of the branches, for no tree can be healthy if it have lice. If the tree is well washed it will remove moss, lice, scales, and all of the thick bark that often adheres to large trees, which are a harbor or a hiding-place for insects to deposit their eggs, and for the borer to escape from birds

I wash all kinds of trees, and think myself well paid for it. Last year I did so, and was not troubled with the fruit falling off, nor having it ruined by worms. My neighbors, Emerson and Thayer, washed their trees, and were equally successful I usually do it in February and March, but it may be done in December and January if the weather is warm, or in April, if is not convenient to do it before. The potash that runs down the trunk is not lost; it nourishes the trees, and keeps off borers. I deem it almost indispensable to the raising of good fruit to wash the trees well.—*New-Eng. Far.*

Improved Ox Yoke.—The *Massachusetts Ploughman*, thus describes the first *improved* Ox Yoke heard of during the last hundred years. It is in use in Seabrook, and found to be of great advantage to the farmer:

The bows go through a slide which is fitted to a mortice in the Yoke which is made 3 or 4 inches longer than the slide, making it changeable 6 or 8 inches, which makes the difference between a long and a short Yoke. The mortice is made an inch wider at the bottom than at the top, with a groove in the centre, half an inch each side for the slide to rest upon, an iron bolt at each end of the mortice and one in the centre, which goes through a mortice in the slide and preserves the requisite strength. The slide is regulated by an iron hasp attached to it and enters holes in the Yoke half an inch apart, which makes it easily fitted to any yoke of cattle from a long to a short, and to give the advantage to either or from an half, to 6 or 8 inches.

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