

FARMER'S ADVOCATE

AND HOME MAGAZINE.

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The Farmer's Advocate

—AND—
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THE EXHIBITION NUMBER

OF

THE FARMER'S ADVOCATE

AND

Home Magazine

Will be issued as usual on or about the 15th of September next.

From the liberal support given to our issue of 1877, and the great benefits which accrued to advertisers from the mammoth issue, our promise is simply a more careful, more extensive, and more useful circulation, and a better number in every respect. Space can now be reserved. Further particulars in other issues.

On the Wing.

ARKANSAS.

(Continued from June No.)

The road from Little Rock to Fort Smith is perhaps the most pleasing line for a northern agriculturist to travel, as wheat is to be seen growing in many places along the line, and grass more abundantly at the terminus of the road. There were a few pieces of wheat that looked very well, but the greater portion appeared inferior, the season not being a favorable one for that cereal. Numerous new villages were springing up along the line, some of which looked very pretty, and in some future day may become towns and cities. Black walnut logs and lumber were being loaded on the cars at some of the stations. This road rises some 600 feet above Little Rock. There is much hilly and broken land along the line. A rough life has been led by the pioneers of this country. Many of the old settlers were opposed to the railway being run through their hunting grounds; in fact, they dislike the advancing state of improvements and seek

the retirement of the hills in the interior. A neat little clearing and small house lying along the railroad was pointed out to us, being owned by one of the old settlers. He wished to sell and go back, not liking the railroad, and would take \$5 per acre for his farm. This appeared very cheap to us; if the same land was in Canada, within a hundred miles of our office, it would be worth \$50 or \$100 per acre. A Canadian has purchased about 1,000 acres near Van Buren, and taken a car load of Durham cattle up there.

Some of the scenery was so pleasing that we instructed our artist to make the accompanying illustration, drawn from our remembrance of some of the scenery near Van Buren, which will be found on page 153 of this issue. Grape vines were hanging in some places, drooping from the topmost branches of the trees and running from one tree to another, forming festoons so grand and pleasing that pen or artist cannot but fail to describe or depict the scene. Large dining tents were erected in one or two places for picnics. The railway excavation is made at the spur of a mountain at one place, where large rocks are almost overhanging the road. The Arkansas River flowing near the foot of the hills gives a pleasing effect. Our attempt to illustrate this is rather difficult; we must leave you to imagine its beauty. The largest grape-vine stem we have ever seen is in the office of the Iron Mountain R. R. Co.; it is 11 inches in diameter and 33 inches in circumference, and had grown three feet high nearly as large as at the butt of the log. This we presume is the largest grape-vine stem in the world.

Fort Smith is on the borders of the Indian Territory. The old Government fort and barracks are mouldering away, but the graves of the slain are kept green and in fine order. The Government has erected a large and substantial wall around a large space, and has assembled some 10,000 of the slain soldiers therein, erecting marble tablets for each and keeping the ground in good order, at an expense of some \$10,000 per annum. This is perhaps the most imposing feature at Fort Smith, although there is a brisk trade done there. As we were taking an early morning walk we saw a young man lying out on the open prairie fast asleep. We spoke; he awoke and informed us he had no money to pay for a bed, and was looking for work. The day we were at Fort Smith an alligator was caught six feet in length; this is an animal like a crocodile, but has no legs; its principal food is fish, and some say that small boys are not despised by these gentlemen, but we did not hear of any that had been swallowed by them. These animals are ugly looking creatures.

Fruits, vegetables and grass were growing luxuriantly here. The emigrants' wagons were seen, some going west, some north and some south. These emigrant wagons are a great institution in this vast country; they are seen almost hourly, sometimes in numbers, sometimes singly. When

at St. Louis we had the curiosity to observe one unloading, in order to hoist it on the top deck of a steambot. Its contents were composed of a man, woman, four children, an old stove, bundle of bed clothes, pair of old boots—toes out, a rusty saw, old axe, rusty gun, bag of corn meal, barrel of pork, tea kettle, wash tub, two pine boxes, pot, pail, two old gourds for water, a rusty, plain old ox-yolk, a bit of a chain and an old rasp. We think the whole lot would not have brought ten dollars, without the wagon and team, if sold in our market; yet the owner had worked for years to get his team and outfit, and was moving from Indiana to Texas. It appeared pretty hard, but such are many of the movers. The moving, roving population in the vast Western and Southern States is immense.

When traveling through Illinois on the Chicago, Alton & St. Louis R. R., we were much pleased with the great change made in the appearance of that vast level prairie. Buckthorn and Osage orange hedges now cut up the vast plain, and give it the appearance of comfort and prosperity. Thousands of miles of live fences, wind-breaks and shelters are now to be seen where all appeared devastation and waste. When we first traveled over this line, about fifteen years ago, in one place we saw a very fine block of maples, perhaps twenty acres thick and in row, forming a very handsome grove; they were now about twenty five feet high, and had grown on the prairie since we were there.

There was a vast difference in the appearance of the hedges; some were well kept, and made good, substantial fences; others were neglected and were useless as fences.

As many of our readers are now wishing to know what is to be done, as rail timber is becoming scarce and dear and the old fences are decaying, we have had a few cuts engraved to show the different appearances of the hedge when well kept and when neglected, and give you information about their proper management.

Harvesting.

The advantages of cutting wheat and other cereals before becoming what is generally considered matured, cannot be too strongly impressed on farmers. It is true, many are fully aware of this very important fact. They know that both grain and straw are of better quality if cut some days before it would be fully ripe. Men of science tell us that it has been repeatedly proved by most accurate experiments that there are obtained by early cutting a greater number of bushels of wheat to the acre, a greater weight of flour to the bushel, and the flour of better quality when the wheat is harvested before being dead ripe. And they but confirm that which was known to many observant practical farmers whose only science was their own experience. And the same observations are correct regarding oats and other grain crops, barley excepted.

But many of our readers have not yet learned from the best of all teachers—experience; and to all a word in season, an additional testimony to the policy of doing everything just at the most fitting time, will not be amiss. The impression is not wholly done away with that it cannot be wrong to allow grain crops to attain full maturity; the practice has been very general, and old habits may be pleaded in its favor, though good farmers, even in olden times, knew and practised better.

Harvesting is often deferred too long. Professor Johnson says that about "a fortnight before full ripening is the proper time" of cutting the grain crop, "as the skin is then thinner, the grain fuller, the bushel heavier, and the yield of flour greater." As a general rule, this may be correct, if we can limit the ripening and cutting by a certain number of days, but we must be guided, partly at least, by the temperature. A fortnight of a hot July makes a greater difference than if mild and cloudy. Much must depend on our own close observation. We have always cut our wheat and oats when the heads were bowed down, and the joints of the straw still retained somewhat of the sap and greenish hue. When the joints have become dry and fibrous, the grain and straw have been injured by standing too long.

By harvesting wheat and oats before fully ripe we always commanded higher prices for our grain; the sample was brighter, heavier and better saved; it was worth more to the miller, as it yielded more flour or meal. The Secretary of an English Agricultural Society having made most careful and elaborate experiments, came to the conclusion that wheat early cut gives a better quality of flour, containing more gluten and making a greater quantity of bread under equal circumstances, and the bread more palatable and nutritious. In the maturing, as the sugar in the green plant becomes changed into the starch of the wheat, so if permitted to remain till fully ripe, another change will take place, the starch being gradually converted into woody fibre; for sugar, starch and fibre are composed of the same constituent elements. It has also been ascertained that wheat fully ripened contains much more pollard than wheat which is cut earlier.

In our last month's issue we referred to the advantage of mowing grass before the seed is fully ripe. The same remarks are applicable to straw. The earlier it is cut when fully grown the more tons there are to the acre, and the more nourishing it is. It begins to diminish in weight when within a fortnight of being fully ripe, and every day afterwards that it remains uncut it becomes lighter and less valuable as fodder. When cut early and well saved, it is little inferior for feeding to hay. Store cattle will thrive well if properly cared for, and during the longest and hardest winter, on hay, with a small allowance of turnips or mangolds given regularly.

Flowers on Grass.

The frequent enquiries we have as to the best method of laying down lawns with grass seed indicate the increasing desire throughout the country of making the ground around the house more pleasing to the eye and home more attractive to all its inmates. A writer in an English agricultural paper well says that the chief charm of English gardens, both great and small, consists in the greenness and smoothness of their grass plot; and as a means of still increasing their beauty and adding thereto another and totally distinct charm, he suggests the distribution of well posted masses of flowers of graceful color. This idea is not an entirely new one. We have seen and practiced it in the Old Country, and here this means of lending a new charm to grounds beautiful in themselves, is not unknown. Geraniums of the many different

varieties are almost exclusively planted in masses in the grass ground, when transplanted from their winter conservatory. Much more, however, might be done in this direction. Other flowers than the geranium might be more liberally used for this purpose, reserving the grass as the principal feature in the landscape. No flower contrasts more strikingly with grass than fuchsia, and at the same time they harmonize with it completely. The failure in growing them sometimes experienced is owing to the want of sufficient labor in the preparation of the ground. A little plot is dug in the grass, not more perhaps than eight or ten inches deep. This is not enough. The flower bed in grass should be thoroughly tilled, subsoiled and enriched with compost. The plants must have food, and to supply it the plot should not be less than three feet across and tilled at least two feet deep. Such preparations are needed also for geraniums, if we desire luxuriant foliage and blooming. This tillage is also a means of affording the requisite moisture to fuchsias, their roots requiring abundance of moisture. In Britain the plants are cut down to the ground in the early winter, and some evergreen branches and hay thrown over them, to protect them from the frost. In the south of England and Ireland fuchsias, as well as many half-hardy flowers, survive the winter without any protection. But they are not hardy enough for our winter. This, however, forms no greater obstacle to our planting them in grass ground than it does to the transplanting of geraniums in the open air. We are so well accustomed to preserving tender plants in the house in our severest winters, that we easily overcome any seeming difficulty with fuchsias.

In laying out plots in the grass, a good opportunity will be offered for the display of tasteful ingenuity in their various fanciful forms. We know more than one ground with plots for flowers of very handsome designs, but they have all the great fault of a want of deep tillage and sufficient area.

Watering Plants in Summer.

Moisture and heat are both of prime necessity for the growth of plants—warmth in the soil and moisture for the leaves and roots, especially for the latter. Plants can only feed on the food that is in the soil, in a soluble state, and for this moisture cannot be dispensed with. Happily the earth is a great reservoir of moisture, and especially available for this purpose when deeply and thoroughly cultivated. The roots of all plants imbibe their liquid food from a depth and extent of area that a superficial observer can have no idea of. They have a power of suction that draws moisture from a distance greater than their own extent. Hence the continued growth of plants in land well tilled as deep as the quality of the soil will permit; when in badly tilled and shallow ground vegetation has wholly ceased.

It may be necessary under occasional circumstances to water plants during excessive drought of summer. If it be necessary to water, do so with no stinted measure; let the watering be so copious that it shall settle down to the bottom of the roots of the plant. Anything less is worse than useless. It is not wise to water plants if it can be avoided. When they are watered they throw out near the surface little rootlets to drink the moisture that has gone down no further; and if the watering be not frequently repeated, they perish for want of moisture, and the plants consequently suffer injury. When not watered, these roots go down into the soil, where they may find a little moisture still awaiting them in deep, well cultivated soil.

The surface sometimes becomes compact and hard from the watering. If it be so, loosen it lightly with the hoe; but to prevent it, we fre-

quently draw the earth with the hoe from the neck of the place, and replace it immediately after watering. This prevents the wetted earth from being baked and hardened by the heat. Another method of preventing the hardening of the surface in watering is to pour the water on a light mulch, previously placed around the stem. But one of the benefits from mulching is that it serves to keep the soil moist.

Permanent Improvement of Land.

A temporary improvement of land is easily effected and brings a quicker return for the expenses incurred than improvements that are more lasting, and eventually much more profitable. For instance, a field that is liable to have its crops injured by standing water may have the water drawn off, sufficiently for the season, by open surface drains, at little expense, the work being for the greater part done by the plow. The improvement is only temporary, but it is cheaply performed, and the cost is covered by the first crop. Were the same field thoroughly drained, the expense would be heavy, and it might perhaps take years to pay for the improvement the soil has undergone. And so it is with many other improvements as well as thorough draining.

However, there is no improvement so profitable eventually as thorough draining, when necessary, notwithstanding the heavy expense, and there is none on which any other improvement so much depends. Fertilizers can effect little good on land that needs draining. Lime applied to such a soil is wasted—nay, it is worse than thrown away. It serves to bind the soil when wet, whereas, were it dry, it would serve to make it more friable. To attempt subsoiling wet soil would be labor in vain.

Our Canadian farmers have inducements to undertake permanent improvements that tenant farmers have not. The farms they occupy and cultivate are their own in perpetuity. If they expend in judicious improvement a sum equal to the value of the farm at the time, they are increasing two-fold the value of their estate.

Land contains within itself the means of great and lasting improvement, and additional means, if needed, can be readily obtained. Science has long proved, and experiments have confirmed the fact, that plants are fed and plant life nourished by certain elements which the roots find in the soil. These elements may not be available as plant food in their present state. They may be in the subsoil beyond the reach of the roots, or they may be locked up in the tillable soil, and requiring the chemical action of lime, superphosphate or some other agent to bring them into such condition as to supply the plants with food. Fertilizers are used to supply any deficiencies of particular elements of plant-food, but the most important matters are in the soil itself, in some land in a greater abundance than in others. If confined in the subsoil, deep plowing or subsoiling will be found an effectual means of rendering them available. Subsoiling does not imply the bringing the substratum to the surface, but in making it friable and yielding up the plant food it contains, and still remaining in its place, a subsoil. Or the plant food may be in the surface soil. In such instances, beside being continually acted on by moisture and heat, it is necessary to add extraneous matters to act upon the inert elements. For this purpose none is so generally useful as lime, not as a fertilizer, but to call into action elements embodied in the soil.

We have referred to drainage and subsoiling, both justly considered permanent improvements of the land. To lime or any substance used as a fertilizer the term permanent is not so applied. Fertilizers produce the desired effect. The soil is temporarily enriched, the produce is increased, and the manure that has been applied is taken away

with the crop, or, at the utmost, with a few crops. The effects of lime do not pass away so rapidly. Of this there is a difference of opinion; but we know from our own experience that its beneficial results are continued for several years. At the expiration of a period of seven years we regularly gave a renewed application of lime. Then, and not till then, after a previous liming, the land stood in need of lime.

Viewing the effects of lime and other mineral fertilizers from another standpoint, we are inclined to place the application of lime to land in the class of permanent improvements. Land that would not previous to being limed grow particular crops, clover, for instance, has been so changed by it that they have since grown luxuriantly on it, and other plants, the products of a sour soil (such as sorrel) have disappeared since the application of lime, thereby proving that the quality of the soil had undergone a great and permanent change from the action of the lime.

Modern Improvement in Agriculture.

We read so much now in the newspapers, as well as in agricultural periodicals, of the great modern improvements in farming, that some are apt to regard the study of agriculture as a science and the experimenting with soils, seeds and implements as entirely unknown till within the last few years. Let us give to all due credit, and not take to ourselves the credit due to a former generation. Grain crops for feeding were well known in the last century, and the growing of turnips, ruta bagas, cabbage and other green crops was more practiced in England then than in North America now. It is true new varieties have been introduced and the investigations of modern scientific men and practical agriculturists have done good service in agriculture and horticulture. But the great difference between the past century and the present in this matter is this: The connection of agriculture with science was in the former known to comparatively few, whereas now this knowledge is more generally diffused—thanks to the agricultural press! In the latter part of the eighteenth century, when George the Farmer King was on the throne now worthily occupied by his grand-daughter, there were great improvements in this as well as in other sciences, and to them, more perhaps than even to the great workers and writers of the present days, we as farmers owe the greatest debt of gratitude. They sowed the seed and we reap the harvest. The writer of this bears yet in mind much of the invaluable agricultural knowledge he acquired from reading the works of Sir John Sinclair.

The writer of the *Agricultural Economist* says:—"If we have distanced the agriculturists of the last century in green cropping, the fact is more to be attributed to the introduction and utilization of artificial manures than to the discovery of new plants and better kinds of produce." Cabbage-growing for stock feeding is not a novelty in farming; it was long and extensively practiced long before Swede turnips had been adopted into ordinary farming. Arthur Young recommended it highly in his "Annals of Agriculture," "Farmer's Chronicle," and other works that are now little known, and yet may be not unjustly called text books of agriculture. He says: "Having on former occasions mentioned the great importance of this crop (cabbage), the less it is necessary at present; still I must urge our young farmers to determine to have as many cabbages as they can want for sheep, cattle and swine from the first of October till the last of December. Their use is so great, so exceedingly valuable for autumn feeding of oxen, cows, fattening wethers, hogget lambs, and supporting the whole herd of swine, that one may without hazard say that the farmer who does not

make a provision of them is negligent in a very material point of his business."

Kohl Rabi was familiarly known to enlightened agriculturists in England as valuable for feeding purposes very early in the last century. It was known by the name of the cabbage turnip. It was highly esteemed before the introduction of the Swedish turnip.

We have, however, somewhat in our favor that our fathers had not. For instance, they were not able to raise turnips so rapidly and cheaply as we can by the use of the manure drill, and we can, by the use of stimulants, such as superphosphate, force our turnips to a more rapid growth, out of the danger of the flea.

Treatment of Fruit Trees.

We have had a very trying season in our fruit gardens. An early and open spring induced early vegetation. Trees were in leaf weeks earlier than in some other years, but our insect foes were on the alert fully as early. Tent caterpillars and measuring worms were on every tree. Our gooseberry and current bushes swarmed with the hideous pests. We thought we had exterminated them, and that all was well, when a sharp frost paid us a visit. What the insects had spared, the frost made a most clean sweep of. Black currants that had withstood the ravages of the insect hosts lay in heaps under the bushes—frost-killed—though well shaded by the abundant foliage. Red and white currants resisted the frost better, but the yield will be far short of that of other years, having suffered so much from the loss of foliage by the insects. Currants will, as a whole, be a very light crop.

The first fruits of the strawberry beds were killed by the frost; the second fruit has escaped, but the first is always best.

The yield of other fruit has also been lessened by the frost as well as by insects.

Cherries are a very light crop.

Apples vary in the different localities. The crop will average light.

Plums and peaches, though also affected by the frost, have some fruit. The plums are heaviest laden, but—that horrid curculio!

The grape crop has been greatly injured. The young shoots were out eight or ten inches long, and the tendrils with the fruit germs fully exposed. The result has been, as might be expected, they were frost killed, and young leaves blackened and fell off. Other leaves now clothe the vines, and young clusters of grapes, later and smaller, are growing on other tendrils; but the year's crop, that early in the season gave such fair promise, will be very light. Other localities may have come off safer than this, but in our own garden, and in others here, the picture we have given is too true.

Fruit growing is a very precarious business, but we would not give it up. It has its pleasures, and notwithstanding its occasional reverses it is on the whole not without a fair profit. Fruit growers are generally prosperous. But the work must not be done in an easy, haphazard way. It is the hand of the diligent that, in fruit growing, as well as in other business, makes the worker successful.

The first and chief thing required in order to ensure success is to prepare the ground thoroughly for orchard or fruit garden. If the ground be properly cultivated to a good depth, having been thoroughly drained, if necessary, and if it be enriched, a good growth of the trees, and a good crop of fruit will be procured; if not, failure and disappointment are certain. And every precaution must be used in the fruiting season to prevent the destructive ravages of insects. We have the means of success in our own hands.

The Crop Prospects.

The continued dry weather has been favorable to the luxuriant growth of fall wheat. It had attained such a growth by the end of May that fears were entertained that, if the wet weather continued, the heavier and ranker fields would ere this be lodged and rot before harvest. The two weeks of cool, dry weather, however, has been highly favorable to the development of the wheat coming in head. A finer outlook has never been seen in Canada than at present for fall wheat. Should spring wheat be a total failure, there will be far above a total average in the aggregate number of bushels of wheat in Canada.

Peas look well, and are far advanced for this time of the year; they are fully one month ahead of any previous year, and will be one of the earliest spring grains harvested. There is over an average acreage sown. The low price of oats and barley last year has induced farmers, in the coarser grains, to go more extensively into peas.

There has been a great quantity of American corn sown broadcast for a fodder crop. The regular crop was considerably damaged by the frost in the early part of June, but it has rapidly recovered from the effects. The hay crops, especially timothy, were badly damaged by the frosts in the middle of May. They have never recovered, and the crop is going to be short. The old meadows particularly look bad, and will not be fit to cut until after the wheat harvest. There will not be much over half a crop in the old meadows. In consequence of this, our farmers are wisely supplying the deficiency by sowing Hungarian grass and millet. Extensive preparations have been made for turnips, but as yet not many have been sown, at the time of writing this, June 21st. And part of the early sown seed has not come up yet, owing to the dry weather, and what did vegetate has been eaten by the fly so bad that a second sowing will be necessary. Early sown carrots and mangolds have attained a good size, and the late rain has flushed their growth, so that the plants are now strong and healthy. The frost of the 6th of June cut down the greater portion of the potatoes above ground; they, however, soon recovered, and no damage is perceptible now. The bug, however, promises to be more destructive than ever. The young vines are already covered with the old bugs and their larvæ. Unless farmers make a united effort to exterminate them, we may expect to see bugs here as long as potatoes are grown. A few neglected fields will foster enough of these pests to cover a whole country side.

CANADA THISTLES

Have attained a large growth and are spreading at an alarming extent. Whichever railroad you travel this noxious weed meets your gaze. Farms and public highways alike are lined with them. The law with regard to them appears to be altogether inoperative. A few cases of neglect have been brought before magistrates in different localities and fines imposed, but it has only engendered hard feelings amongst neighbors, and resulted in no permanent good. Farmers are loth to embroil themselves in quarrels with their neighbors on this account, and hence the neglect in putting the Thistle Act into force. In some of our municipalities, however, the Council has appointed a commissioner, at a small salary, whose duty it is to see that all the thistles under his jurisdiction are promptly cut. In case of neglect of either the individual or body corporate, the commissioner is empowered to employ help and cut the weeds, and charge the labor against the land in the shape of taxes. The Township Council of London has enforced this, and already good results are seen in the number of thistles that have been cut this month. It is to be hoped that all our municipali-

ties will follow this plan, and thus throw the onus of prosecuting upon a disinterested party.

FRUIT

Has been badly blighted by the frost, and all around it will be only half a crop, as the different fruit now developed shows. The fair prospects of the middle of May, when the trees were in bloom, promised more than an average crop of apples, pears and cherries, but only in shaded places, where the direct action of the sun's rays did not come in contact with the newly-formed fruit, will there be any fruit at all. In the counties bordering on our lakes, where the atmosphere is tempered by lake breezes, the damage has not been so great, and a fair crop may be expected. On Lake Erie there will be a full crop of peaches, as they have appeared to have escaped the frost entirely.

CATERPILLARS

Are making fearful havoc with the orchards in some districts. Take from London to Guelph, a number of the apple trees are completely denuded. The common wild cherry also has been stripped of its foliage, and this occurring two years in succession, has killed a great number of these trees. A number of the apple trees in the older orchards that were eaten off last year and leaved a second time, have succumbed to the exhaustion and died. There is no doubt, from the ravages at present committed, our orchards will suffer materially this year. Only by unceasing vigilance can the ravages of this insect be arrested. We hope our farmers will use every means within their reach to check their ravages, or most assuredly they will become a scourge to our orchards, gardens and forests.

High versus Profitable Farming.

The *Advocate*, of New York, under this heading, draws a line between the working farmer, whose care is that everything grown on his farm shall receive his practical attention, and the "gentleman farmer," who tills his fields and feeds his stock for amusement, or rather for the very great pleasure that exists in this most interesting of all occupations, and the good he knows he is doing. We select the *Advocate's* article on the subject, as it must commend itself to our readers, though we cannot see the difference between high and profitable farming. We know from experience that high farming is profitable when judiciously carried on. High farming implies the employment of labor when needed, the selection of the best farm seeds and implements, the thorough cultivation of the soil, the preparation and application of a sufficiency of fertilizers, including not only farm-yard manure, but also composts, lime, phosphates and others. It also implies the feeding the best live stock. This is an outline of high farming, and this farming can be profitable. This is not mere theory—it has been repeatedly proved in practice. The *Advocate* says:—

The "gentleman" farmer, who tills the ground for amusement, and produces fine crops at enormous cost, has long been the laughing stock of practical agriculturists. We confess that we do not quite sympathize with the laugh, for such men, having plenty of means at their command, are often enabled to carry out experiments which are beyond the reach of those who depend upon agriculture for a living. A subject which is worth the attention of every farmer, however, is the extent to which what may be called high farming may be carried with profit and secure good results.

In every case our course must be determined by the profits that may be secured, and not by the absolute expense involved. Thus butter may be produced of such a quality as to command a dollar a pound in the market; but if it costs a dollar and a quarter, it is a poor business to make it.

On the other hand, butter which costs forty cents and sells for seventy-five, yields a profit greater than the gross amount for which ordinary country butter usually sells.

Careful attention to the improvement of the

quality of his products is one of the chief means by which the farmer may secure certainty in his business. Fruit growers know this well. Every year or two we have a glut of peaches, when even a tolerably fair article hardly commands enough to pay for gathering and boxing. Some far-sighted growers, however, always provide against such a condition of things by carefully thinning their fruit and thus securing the very finest samples. First-class fruit always sells at a high price, no matter how much the market may be glutted with an article of common quality.

The same rule applies to almost all the products of the farm. A scrub cow which is worth perhaps twenty-five dollars costs as much as a fine animal that will readily bring three times that amount, and the same is true in regard to poultry and butter.

It will be found, however, that in order to produce articles of a good quality the farmer must have capital as well as skill. If the amount of capital is very limited, the only way to do is to concentrate it upon a small extent of business and the proportion of the extent of business which he carries on, as regards his capital, is the point which demands the greatest amount of thought and good judgment from the farmer. Unfortunately upon this point general rules are of little use. Each man must think out his own problem for himself, and adapt his course to the special circumstances in which he is placed.

Wool—Sheep-Farming.

American agriculturists are becoming aware of the great benefit to the farmer of sheep feeding. The *Western Stock Journal* impresses on its readers the policy of following the example of English farmers in this respect. Referring to the Dorset lambs in the London market about the first of March, the *Journal* says: "Of course you have got to get the sheep to breed the lambs, and the lambs must be bred early so as to mature and be suitable for winter feeding, and suitable shelter for protection provided; but a lamb will stand as much cold as an old sheep. * * We suggest this because we know it is a branch of farming that can be made profitable."

Sheep feeding has long been urged upon our readers, not merely for the immediate direct profit, but also as a means of promoting and maintaining the fertility of their farms. There is no other branch of farming that brings certain profit. The increase of the numbers in the flock, the steady demand at remunerative prices for well-fed mutton and lamb, and the return from the fleeces make sheep feeding a profitable business.

Wool, it is true, is selling at a low figure; the price has fallen to 20 cents, which is now the highest price in Montreal from responsible buyers. In New York the wools held at 46 cents in February last will not bring 36 cents now. The woolen mills are shutting down. This movement, it is said, is designed to regulate the amount of goods that will be thrown upon the market during the coming season, and will not necessarily have an important effect upon all wool interests.

The dull and unsettled state of the Canadian market is attributed to the fact that, judging from recent advices, it is feared the American market will not want much Canadian wool this year, and that it will have to be shipped to England. The fact is, we have been too much dependent upon the American market. We have looked to our neighbors to purchase from us the raw produce of our country, and afforded them a good market for them when manufactured. The effect of the American tariff in lowering the price of our wool is pointed out by the *Globe* in the following extract:

"There was nothing done on the wool market to-day. The parcels which remained over from Saturday's offerings were taken at 23 cents. As is usual at the commencement of the season, prices have not become settled, and dealers are not well advised what to pay. Based on sales in Boston, it would appear that 23 cents is rather high. Sales of Canadian combing are reported from that market at 38 cents per pound through a commission

house. To get at the value here it is necessary to subtract from this sum the duty of ten cents, the difference in currency one cent, the ad valorem of about two and a half cents, and freight and insurance one cent—or say fourteen cents in all. This would regulate the price here to a shade under 24 cents, but it should be remembered that one cent of profit on this market and two cents of charges on the American are to be reasonably expected, and thus we find that the price which might safely be paid in Toronto is not over 21 cents a pound."

Here it is clearly shown that the Canadian producer pays the tariff and all other charges, and reduces the price from 38 cents to 22 cents per pound. While we admit wool free of duty, the Americans charge a duty of from 25 to 50 per cent.

Does Farming Pay?

The best reply to this question is a statement of facts. Mr. John Cochrane, Duncieff, Lobo, has a farm of 100 acres. He fed on it during last winter 35 sheep, 25 of them ewes with lamb, and 10 hoggets. Their fleece this season was 286 lbs.; he sold it at 23 cents per pound to Lambeth & Sons, Siddleville Mills, Lobo. He has sold some of his sheep fat at \$9 each. The sheep are Leicesters. In his farming operations his system is to raise heavy crops in preference to sowing a great many acres. He manures heavily and tills thoroughly. The produce of his lightest crop of wheat for ten years was twenty-eight bushels. It made a very luxuriant growth in the fall. Then there was a heavy fall of snow, without frost; this seemed to smother the wheat almost wholly; patches of it were quite bare. As soon as the land was in condition to bear the horses' hoofs, he harrowed it once lengthways and once across. A soft rainfall that night. The wheat plants tilled well and covered the ground, and he had his twenty-eight bushels per acre from the crop that seemed killed. Last fall his winter wheat was too luxuriant; he turned his thirty-five sheep on it; they ate it down; they thrive on it, and there is a promise of an excellent crop. Good farming, he has proved, does pay well, but bad farming pays never. An idler on a farm cannot prosper. A clear head and strong arms are necessary for a farmer. They have made him what he is now—the independent proprietor of a farm inferior to none in Ontario.

International Agricultural Exhibition.

The Royal Agricultural Society of England, well supported by the civic authorities of the city of London, intend holding a specially grand exhibition of an international character, near the metropolis, during the summer of 1879. The Prince of Wales has consented to accept the presidency of the Society for next year, which in itself will go far toward insuring the success of the undertaking. Liberal subscriptions are beginning to come in, toward meeting the very heavy expenditures that will be required, and a tract of about 100 acres of land has been secured for the purpose at Brondesbury, just out of London.

Should sufficient notice be given in this country of the requisities for exhibition, time of closing entries, &c., we should hope that the stock breeders, as well as implement manufacturers of Canada might be well represented. Among the former there would certainly be much greater inducement to effort than has ever before existed on a similar occasion, now that the English market may be regarded as fairly open both for our horses, and for our cattle, sheep and swine, fattened for the butcher.

The Centennial and Australian Exhibitions have done Canada an immense deal of service, in promoting immigration, in displaying our native wealth, besides attracting our manufactures, especially of agriculture to all parts of the world.

Much more can be done in our stock and dairy

interests than has heretofore been attempted, and a much more united and powerful effort should be made to place the Dominion at the International Exhibition of 1879 as first in every class of her exhibits. Already one of our implement manufacturers has received an order from Paris as a result of his exhibit. Let us move at once.

The Hessian Fly.

Clawson, of all white wheats, is said to be the Hessian fly's favorite in some localities. Our correspondents throughout the Dominion will confer a favor upon all by noting on which wheat the Hessian fly seems to be most destructive, whether Clawson, Silver Chaff, Diehl, or Treadwell, and report their observations as usual.

A GOOD EXAMPLE.—Professor Brown and the second year's students at the Agricultural College have given to the South Wellington Agricultural Society a gold medal, to be offered for the best kept farm in the County of Wellington—the farm to be at least 100 acres, certain conditions as to the condition of the land, mode of farming, &c. to be considered. The judges to be the President of the Society, Prof. Brown, and one of the students to be selected. In a former number of the *ADVOCATE* such a measure was suggested by us and strongly pressed upon the friends of agriculture. We hope others will follow the suggestion, and the example now set. The Royal Agricultural Society gives the sum of £300 sterling we believe to such a purpose.

The Apiary.

How I Raise White Clover Honey.

As soon as white clover commences to bloom, divide the strongest swarm. I use the Langstroth hive. It should be done before queen cells are started. Take a new hive, painted like the one you wish to divide, and from the old one remove 5 frames, ($\frac{1}{2}$) containing brood of all ages with the adhering bees, into the new one, leaving the queen in the old hive. Put a division board in the new hive, set boxes on the frames, close up $\frac{1}{2}$ the entrance and leave it on the old stand. Remove the old hive 10 or 30 feet away, fill it out with empty frames and the job is done.

In a few hours a large proportion of the old worker bees will return to the old stand, enter the new hive, thus crowding it. They will commence building queen cells in the brood chamber at once, while the surplus bees will be forced up into the boxes, and begin work. By the time a queen is matured the boxes will be filled with nice, white honey. Enough bees will remain in the old hive to keep it prosperous, as it has a laying queen. — *W. C. T., in the American Bee Journal.*

Box vs. Extracated Honey.

We are glad of the interest taken through the North in favor of box honey: it gives better opportunities for our extracted here, as it does not seem practicable to raise box honey. In giving accounts of those large yields of box honey, there seems something always left out; and when those who raise large crops of box honey, and give their mode of the same, there is always something not brought out—one important item left out—not mentioned, perhaps it is best. — *Bee Journal.*

Italians vs. Blacks.

The superiority of the Italians is so visible that it does not seem it would long have been settled. I have had them side by side for 7 years, pure Italians, pure blacks and hybrids. There are three points in which to compare them. First, the Italian hives contain double the number of bees, and often *three times* as many. They travel farther for forage and are *never* troubled by moths. Last, but not least, in a poor season they will average 10 lbs. to 1 for the blacks, of surplus honey. Now, I don't need to compare them in any other respect, yet the Italian has claims of being superior in other respects. Colonies all in like condition at beginning of harvest—same hive, same locality, and tried in 5 different locations, side by side. — *Es.*

Veterinary.

Summer Eruptions in Horses.

BY JAMES LAW, F.R.C.V.S., OF CORNELL COLLEGE, ITHACA, N. Y.

It is a common impression that the eruptions on horses' skins are the results of over-heating, and the precautions against such diseases are usually circumscribed by the avoidance of excessive perspiration and of heating articles of diet, such as Indian corn. But skin eruptions are far more varied in their origin, and their prevention demands a much more extended series of precautions. At present we would draw attention to one or two that prevail especially in the summer season.

Over-heating may certainly produce a general eruption, just as it causes chafing between the thighs or under the collar. The excessive flow of blood in the skin and the profuse secretion from its glandular tissues may merge into centres of congestion, and the formation of pimples, with scabbing and detachment of hair. These may become a source of much suffering when occurring under the collar at the root of the mane, where they may eventuate in a painful transverse crack, or a succession of small boils. But these are always worst when the skin is imperfectly cleansed, and may be largely obviated by avoiding working to profuse perspiration, and by thoroughly removing all traces of the dried sweat alike from skin and harness before returning to work.

Corn feeding, too, is stimulating and is best avoided in horses with tender skins or with a great propensity to eruption. But apart from these, *whatever deranges digestion* is liable to cause skin disease, and thus a sudden change of food will often produce a crop of pimples or nodules. Nor is this peculiar to changes to grain and other stimulating feeders; but a change from hay to grass, or from one species of green food to another, from old to new hay, or from old to new oats, will often cause an extensive eruption. The obvious precaution is to make all such changes gradually, and it is often very beneficial to give one or two ounces of Glauber salts daily during such transition to help to clear away the accumulated products of the former dietary. Closely connected with these is the effect of a *full drink of ice-cold water*, and especially when warm or fatigued. The contact of the lining membrane of the stomach or bowels with an excess of cold water tends to cause congestion or an excessive flow of blood to the part, together with active muscular contractions of the organs. This works evil in two ways; first, in disordering the secretions and impairing the digestion of the food, and second, in carrying on from the stomach into the bowels undigested materials that should have been dissolved in the stomach, but that irritate the intestines, and decomposing, evolve noxious products which prove inimical alike to the digestive organs, to the circulating blood and to the skin. Now this may occur from the free drinking of ice-cold water when extremely thirsty, as well as from a too liberal supply when perspiring and fatigued. The necessary precaution is very obvious to avoid an excess of very cold water in all of these conditions. Where water is drawn from wells at an almost icy temperature, it is usually better, at least in thirsty summer weather, to let it stand for a short time in the warmer air, so as to render it less dangerous before it is offered to the animals.

Still another common cause of skin eruptions is imperfect elimination of waste matters through the kidneys. In cases of indigestion from the above mentioned and other causes, the kidneys often suffer in the attempt to throw out of the blood matters that are foreign to that liquid. Again,

when the skin is sweating freely the blood is thus robbed of its liquid parts to such an extent as to greatly restrict the void for secretion by the kidneys. Hence much less urine is always passed in summer than in winter. In these circumstances it is not the liquid parts only that are deficient, but even the solids of the urine to some extent fail to leave the body by their natural channel, and tend to escape with the free secretion from the skin. In doing so they irritate the skin and give rise to chafing, to pimples, to lumps, to pustules and other eruptions. Hence the great importance of securing as perfect a digestion as possible, and of seeing that the kidneys are not too inactive, as well as in attending to the perfect cleanliness of the skin. As a cooling diuretic, a daily dose of one drachm bicarbonate of soda will often prove beneficial when the kidneys appear to be torpid. It may be continued for a week at a time.

Other summer eruptions are directly dependant on torpid or deranged liver, but as this condition is usually connected with disordered digestion, we can refer to the remarks made under that head as equally applicable to this. Another important element in the prevention of hepatic disorder is the avoidance of absolute idleness in the stall for days in succession.

REMEDY FOR BLOATING IN A COW.—When a cow has become gorged with green, succulent food, putrefactive decomposition occurs in the rumen, with disengagement of large quantities of gas, by which the stomach is distended and bloated. This accident is always the result of neglect or carelessness, and should never be permitted to occur. When it has taken place, however, the usual remedies are to put a round stick about two inches thick between the jaws, and tie it by both ends to the horns, so that the mouth is kept open. In the efforts to get rid of this the cow will generally be able to eructate the gas, and relieve herself; or, one ounce of carbonate of ammonia is dissolved in water and given to the cow, by which the gas is neutralized and absorbed. When neither of these is successful, an outlet is made for the gas by pushing a small bladed penknife through the skin into the stomach, just behind the last rib, on the left side of the animal, and sufficiently below the loins to escape wounding the kidney. A quill is then inserted in the opening, and the gas escapes. A dose of 12 ounces of salts should be given afterward.

It is asserted that the draught horse is worried and injured more by the check-rein than by all the ordinary work he is required to perform. If you are doubtful about the truth of this—reasonable as it seems—it would be humane to give the noble animal the benefit of the doubt. "Put yourself in his place." Fancy yourself buckled back to an unnatural perpendicular and then compelled to pull or push a load. Two disadvantages are mentioned by the *American Cultivator*:—one is the practice results in "spring-knees" and "cockled-joints," the horse having to use legs and feet as hooks or grapples, instead of in the natural way as levers and braces. The second is he cannot fight flies, or shield his face from beating storm or burning sun.

Of the correspondents of the *Boston Journal* is one who, asked how to put up cucumber pickles for market, advises that if green color be wanted, copper should be added to the vinegar, "but don't do it for those you mean to eat your self." The *Journal* owes a paragraph to its readers to repair as far as possible the mischief done by such dangerous advice.

The total exports of barley from the Province of Ontario into the United States in 1877 were 6,825,082 bushels, as against 7,521,382 bushels in 1876. The exports to Oswego from Canada in 1877 were 8,812,154 bushels, an increase over the previous year.

More grass and less grain, more condensing of food on the farm, should be the motto now. The plan of putting more of our idle acres into grass, and of raising more live stock of a better quality, will be a step in the right direction.

Garden, Orchard and Forest.

Seasonable Hints—July.

BY HORTUS.

Very little will require doing in the orchard this month beyond an occasional inspection for insects and the pruning of suckers from roots, superfluous branches in the tree and cutting off dead limbs. Promptly remove any signs of blight and black-knot by cutting off affected parts, this is the only remedy. Watering the mulch around newly planted trees and removing of grass or weeds growing around them will assist their growth. Straighten crooked trees by bending in opposite directions to crooks—it is surprising what may be

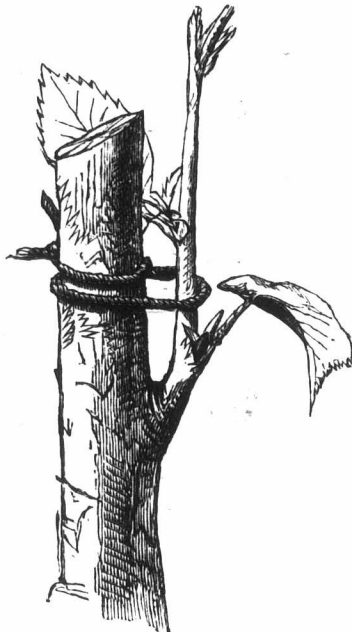


FIG. 1.

accomplished by doing this frequently—there is no excuse for crooked trees if treated at this time of the year. Trees, shrubs, &c., transplanted this season and making an effort to grow should be assisted by watering with clear water, but do not use liquid manure. The injudicious use of this kills more than enough—people are so anxious to make things grow that the evil of too much kindness is as great as that of neglect. Remove suckers and branches on limbs that have been grafted,

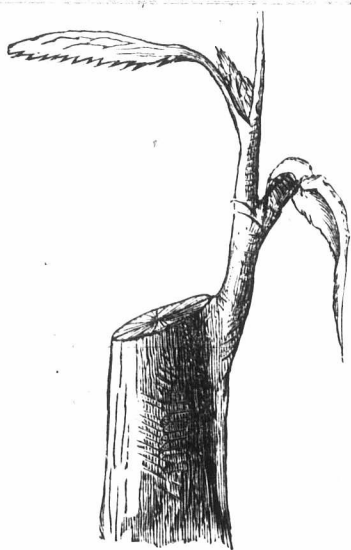


FIG. 2.

that is, provided grafts are growing—so as to force growth into the grafts. Budded stocks that have been sprouted and bud tied up as shown in Fig. 1 will have made growth sufficient and be strong enough to take care of themselves; the buds therefore should be heeled early this month to allow

stock to heal over. To avoid cutting the bud the operator must handle knife, which should be very sharp, with confidence and a quick deft movement leaving the stock and bud as in Fig. 2. The latter part of this month is the proper time for budding, that simple method of propagating all kinds of fruit and ornamental trees, described and illustrated in back Nos. of *ADVOCATE*. It is a necessary accomplishment to the enthusiastic orchardist who can at will multiply his varieties by budding several kinds on the one tree and thus enjoy what limited ground may not allow to have single trees of. Very little art or skill is required in trimming and training grapevines, many persons are deterred from the cultivation of this luscious fruit by the thought that great skill is necessary to manage them—grow the vine as much like nature as possible so long as it is kept within reasonable bounds. Tie up to stakes or trellises. Remove suckers except two or three you might wish to layer or for new canes to bear next season's fruit. The main object of attention is to throw the strength of the vine into the fruit and the next year's bearing cauls, these you must determine upon and henceforth pinch off superfluous lateral shoots and unnecessary growth. The gathering and marketing of fruits will be pleasing and profitable occupations during July. Make notes in your diary of such kinds as have best withstood the severe spring frosts and record your experience in the columns of the *ADVOCATE* for the benefit of your neighbors. To secure best prices at market great care should be taken in picking the fruit clean and not bruising it, keep out leaves and decaying fruit, have your fruit cases neat and clean. Have a well ventilated room, cool and airy for storing the fruit till ready for shipping. Such attention will be found to add materially to the disposal of fruit to good advantage. Herbaceous plants, such as Peonies, Phloxes, &c. may be divided and replanted after flowering. Layering, a method of propagation to which attention was drawn last month may still be done. Amongst the flowers and vegetables the hoe and rake should be kept going, especially after rains. Stirring the soil frequently renovates and fertilizes it—the earth being kept in a light and permeable condition the roots of the plants can extend freely through it in search of food. Plants with tap roots like beets and carrots require deep culture, till such time as their foliage covers and shades the ground, then a slight hoeing on an occasional hand pulling of stray weeds will be all the attention required. Fill up any gap in your turnip rows by sowing white turnips or corn which will come in for green fodder for stock in the fall. Nothing looks worse than long gaps in rows which may result from several causes, bad seed, clogging in the drill or the fly. Cabbage could be planted in these vacancies with profit. Where early potatoes have been taken off sow white stone turnips, it is better than having the ground idle, the leaves boiled make the best of greens for table or left will furnish good food for stock. Celery may be planted at any time during this month, and may be grown as a second crop after early beans, onions &c. have been disposed of. The common method is to plant in prepared trenches 3 feet apart and six inches in row—a moist cool situation is just the place for celery. When earthing up be careful not to cover the heart of the plant which otherwise would rot.

People are pretty certain to attend to potato bugs without being reminded of them, the best remedies yet are to hand pick the beetles, and Paris Green mixed with land plaster sufficient to give the plaster a greenish gray tinge for the larva. Hot water is recommended to destroy the worms on cabbages, it is surprising how hot the plants can stand the water without being injured.

Treating Orchard Ground.

The raising of fruit is the raising of a farm crop. Now, to do justice to grain, corn, grass and other crops, care has to be taken. We plow, harrow and get the land in good tilth; we manure it; we drain it, if necessary. If these things are neglected, there will be no crop; if negligently done, there will be a poor crop.

Fruit trees are a farm crop. If the land is properly cultivated and enriched, and if it is well drained, there will be a good growth; if not, there will not be so good a growth. As we treat our orchard, so it will be. Hence, the effect of our neglected orchards which we so much see. Make the orchard a specialty; that is, devote it to fruit; cultivate the ground for that purpose.

And here an explanation is necessary: If your ground is deeply rich, porous and drained, surface cultivation has little effect. The roots plunging down get out of its reach. Manure applied is retained at the surface, if the soil is retentive—as a good, well balanced soil is. Then grass may be grown and grass removed. We have seen this in numerous cases, and with the most gratifying results. And here we have found the best success in fruit growing. The best orchard (apple) that we ever knew was in such soil. The roots piercing down many feet, plowing was permitted up to the tree. This orchard was kept constantly in grass, is in grass to-day, and has been uniformly good for the many years that we have known it.

Such land, then, is an exception to the general culture of the farm. It does not affect the culture of the grain and grass crops, but it is an exception to the treatment of fruit trees. The advantage here is the depth of the soil. The underground strength is made use of, which cannot be reached by the grain and grass crops, though clover does it to some extent; and clover grows excellently in such soil, producing two heavy crops, from five to six tons per acre. But trees revel most in such soil. It is the soil that should be devoted to them.

Where there is a shallow soil the thing is entirely changed. You now have the roots where you have to feed them. They soon absorb the strength of the scant soil. If in addition, grass or grain is sown, the matter is still worse, unless the crops grown are given to the land. Then there will be an advantage, because an addition of manure may be applied in the regular way. The land may be cultivated, but enrichment must go with it, either in leaving the crop or adding manure. If not, the orchard will suffer and finally decay.

The Jerusalem Artichoke.

Our American agricultural exchanges have for some time been occupied with treatises on the Jerusalem Artichoke, as a farm crop especially profitable for hog feeding. An article on this plant from an English agricultural paper shows the estimation in which it is held in that country, where it has been so long known. The *Agricultural Economist* on this subject writes as follows:—

This, which on good soils runs up to a height of six or more feet, is one of the most useful plants for a screen. It grows thick and massive, as well as tall, and if the rows—which should be at least three feet apart—are planted quincunx fashion, the plants form a dense impenetrable mass of stems and leaves, through which the strongest weeds can hardly penetrate. The stems have been recommended by some as a fodder plant. They are coarse food at the best, though hungry bullocks will at least pick the strong wood-like stems pretty bare of leaves, and the stems chopped up and thrown into yards adds to the bulk of the manure heap. They are also, where fuel is scarce, not bad stuff for heating the oven; but the roots, or semi-tubers, are the most valuable portion of the crop. They are, perhaps, the very best substitute we have for potatoes. By planting the smoothest sets and scorching out all the eyes with a hot iron, excepting about three of the finest, the produce is much finer and more even in quality. This mode of treatment is far preferable to cutting the sets, which does not answer very well for the artichoke. It should be planted nine inches deep, eighteen inches to two feet between the sets, and a yard or four feet between the rows.

As to soil, situation, preparation, &c., what suits potatoes will suit artichokes better. The chief reason why artichokes are not more generally grown arises from the careless and indifferent treatment they have as a rule received. Any

ground unfit for anything else has too often been thought good enough for Jerusalem artichokes. Under such treatment it is little wonder if the produce has turned out small, warty and worthless. The crop on a good soil is the reverse of this. The tubers become larger, and far more smooth and regular in shape. This last quality is a great gain. When very rough and irregular full half the tubers are necessarily removed in the peeling. All the attention the crop requires is hoeing between the rows during the earlier stages. As soon as it gets fairly up it smothered with weeds by the shade of its tall stems and massive foliage. The tops may be cut down in the autumn and the crop lifted and stored in the earth, with plenty of earth among them, like potatoes. They are better still, however, left in the ground and lifted when wanted. A good way of managing this, and also cultivating the ground and preserving the crop from frost—which injures its flavor—is to roughly dig out the interspaces between the rows, and lay the soil in a ridge a foot or so high over the crowns of the artichokes. As the latter are lifted for use reverse the ridge and furrow, and before spring the ground will be in the best possible condition for carrots, peas, beans, or any other crop.

The crop may be planted any time from February to May. The tubers are rather hardier than the potato, but the eyes are in no hurry to start in the soil, so that little or nothing is gained by early planting.

A good deal turns on cooking the artichoke. It should be cooked the moment it is peeled, or the flesh is apt to become black. It is also a good plan to use two waters. Boil for a quarter of an hour quickly in a large quantity of water; pour it away and boil for nearly half an hour more in water with a little salt. Treated thus they will be white and tender, and may either be served whole, with or without melted butter. A good many prefer them mashed, and they may be treated exactly as turnips and served either with or without butter.

Artichoke soup is also first-rate. Boil the artichokes as for table, rub them through a sieve to remove any hard or stringy parts, add stock or gravy, or meat, and boil a quarter or half an hour. This soup has a sweetness and mellowness which no other vegetable soup can equal.

Roast or baked artichokes are rather rank and strong, and are not to be recommended. These roots are nutritious as well as pleasant, the artichoke being almost on a level with the potato for its feeding properties.

Our Hawthorn.

The flowering Hawthorns are the attractive feature of the lawn after the early blooming shrubs have doffed their gay attire, and settled down to the more quiet hues that they will keep through the Summer. They are attractive indeed, arresting the attention of every passer-by, and drawing from all expressions of admiration and delight; not only because of their beauty, but on account also of the delicious fragrance which fills the air, and is carried for some distance by the winds.

The Single Scarlet variety is exceedingly showy and very fragrant, producing its flowers in great profusion, so that they quite hide the foliage. Early in the morning, and again just at evening, when the rays of the sun fall aslant, the trees of this variety are lit up with a peculiar glow that must be seen to be appreciated, words have no power to express the exceeding charm of their beauty.

In striking contrast, and yet blending harmoniously, heightening the beauty of the scene, is the Single White Thorn, the thorn of the English hedge-rows. Those who have been familiar with it in the days of their early home will need no description of it, the mere mention will bring visions of beauty and loveliness, and tender memories. The fragrant blossoms, wreathing the graceful branches as for a bridal, fill the air with sweet odors, and add new charms to the deepening hues of the other sisters.

With yet another beauty, not the free, fresh, unrestrained gracefulness of the single varieties, but in more stately style and with matronly air, the Double Flowering Thorns add their charm to the lovely group. These are of several shades, white, rich rose color, deep crimson, and bright carmine, each flower like a tiny rosette, and then grouped in clusters, set with a bordering of glossy emerald. These double flowers continue longer on the trees than the singles, so that they retain their attractiveness for some time after the others have dropped their petals.

After many years' trial of the Hawthorns the

writer can only say that each returning year has left a deeper impression of the beauty and value of these large shrubs or small trees as ornaments for the lawn. They will certainly thrive well in a large part of Western Ontario, and deserve to be planted around every home in the land. What a charm they would give to our country in Spring-time, filling the air with fragrance, and the landscape with indescribable beauty.

Strawberries in a Drouth.

Being absent from home the first few days of June, 1876, when strawberries began to ripen, I found on my return a violent, hot, dry wind prevailing, which was rapidly parching both fruit and leaf, and if not immediately obviated would destroy the whole crop. As I had not the means of irrigating, the only thing I could think of left to preserve the berries from the excessive drouth was to cover them from the scorching wind and sun. For this purpose I resorted to a stack of coarse water-meadow hay, and proceeded to cover the entire beds three to four inches thick with it. This I thought probably would smother the strawberries, but then they might as well die so as to be scorched to death, and although I had never heard of any one endeavoring to save their fruit in this manner, I resolved on making the experiment.

After being covered three days and nights, the hay was raked off from one bed, and to my delight, I found the ground quite moist there, the vines of a deep green, as if they had just been rained on, and the berries well filling out, and rapidly reddening. Exposed to the sun a single day, the most forward sweetened, and we picked them.

Then another bed lying alongside was uncovered by raking the hay from it upon the one from which the fruit had just been gathered, and that allowed to ripen in the sun and picked. Next, the hay on the first bed was raked back on the second one, and thus it was changed as often as necessary, keeping up a good supply of large, luscious fruit during the whole drouth.

The hay used for this purpose had been well cured, and was sweet, thus preventing its giving and unpleasant flavor to the berries. It is also quite coarse, which was another advantage in its favor. I presume wheat or rye straw would have answered the same good purpose.

The soil being sandy, it required a thicker covering of hay to preserve the fruit than if it had been a loam, and especially a heavy clay. With such soils I would not recommend a covering to exceed two or three inches thick. Perhaps on the latter soil a single inch would be sufficient, and the covering need not lie over a couple of days on the fruit.—A. B. Allen, in Country Gentleman.

Budding Fruit Trees.

P. T. Quinn, in Scribner's, gives these directions for budding orchard trees:—

The proper time for budding extends from the middle of July until the first of September. Whenever the bark separates easily from the wood, the buds may be set, with a fair chance of success. The outfit for budding consists of some narrow strips of bass matting, such as comes on the inside of coffee bags, and a pocket-knife with a single blade, with a small piece of ivory fastened to the end of the handle. When the incision is made, the ivory is used to raise the bark up on either side, so the bud may be pressed into place. The buds to be inserted should be cut from young, healthy trees, and always of the present year's growth, those that are most matured being selected. The leaves may then be clipped off the branch of buds, leaving, say half an inch of the leaf stalk attached to the bud. Then, with a keen-edged knife, cut off each bud separately, from a half to three-quarters of an inch in length, leaving a thin slice of wood back of the eye or bud. These should be kept moist and protected from the sun or air until set; exposure, even for a short time, may prove fatal.

When the whole top, or any part of it, is to be budded over, select the spot for each bud in a smooth part of the branch, not too large, say from one to two inches in diameter. On this part make an incision through the bark in the form of the capital letter T, and raise or separate the bark from the wood with the ivory on the handle of the knife. The bud may then be pressed into place. Cut off square the portion that goes above the cross incision. Then, with a strip of the bass matting, wrap firmly around the branch, above and below the eye, fastening the end of the strip by a slip-knot.

Grape Culture.

It is surprising that so many families in the country are willing to live year after year without cultivating a single grape vine about their dwellings. They are compelled to purchase this delicious fruit for the table or not taste it during the season. There is a common impression that to cultivate grapes perfectly a vast amount of knowledge and tact is required. To many the simple trimming of a vine is a mystery. This is an erroneous view, and ought not to prevail. Any person of common intelligence can learn in an hour how to trim and nourish vines; and if instruction cannot be obtained from some experienced cultivator, there are books filled with cuts and illustrations which make everything plain. Three vines of as many different varieties, planted in some sunny nook or by the side of some building, so as to obtain shelter, will, if properly cared for, furnish many a bushel of delicious grapes every year. Select a Concord and two or three other varieties. Make the ground mellow and rich by the use of a spade, and by employing old manures, finely ground bones and ashes, and set out the plants. In three years the rich clusters will appear, and in four years the product will be abundant. It is well to have vines planted so that the waste liquids from the dwellings can be used in fertilization. If there is any food the vine especially loves, it is the soapy liquids which accumulate on washing days in families. Vines drenched every week with these liquids will flourish astonishingly, and extend themselves so as to cover large buildings, every branch bearing fruit. We say to our readers—plant vines.—N. E. Homestead.

European Larch on Poor Land.

Professor C. S. Sargent, of Brookline, a gentleman of much enthusiasm and intelligence in the matter of forest culture, contributes to the *Massachusetts Ploughman* some notes on the subject which the founder of the *Tribune* would have read with pleasure, and probably quoted with some vigorous words of endorsement. They relate to the experience of Mr. Richard S. Fay, who, some thirty years ago, planted a portion of his estate, near Lynn, in Essex County, with European larch and other forest trees. Up to a year ago the thinnings of this plantation had yielded about 700 cords of fire-wood, besides a very large quantity of fencing material. The thinning was continued during the past winter, and has produced:

175 cords fire-wood, \$5.50.....	\$962 50
500 larch posts, 25 cents.....	125 00
51 larch telegraph poles, \$1.....	51 00
100 larch railroad sleepers, 50 cents.....	50 00
Total.....	\$1,188 50

These figures represent the thinning of a single season, which will be continued for many years to an equal or greater extent; they seem to make very clear Mr. Fay's wisdom in employing agriculturally worthless land in the only way in which it could possibly have been made to yield any return whatever. For planting on much of the waste places of Massachusetts, no tree, Professor Sargent says, can be more safely employed than the European larch, as Mr. Fay's plantations of this tree show us. The larch, however, must be transplanted very early in the spring, or it will not survive the operation.—N. Y. Tribune.

Diseased Fruit Trees.

Mr. Hopes, President of the Pennsylvania Fruit Growers' Association, boldly asserts that the diseased fruit trees are, in nine cases out of ten, the results of causes which have their origin in carelessness or ignorance. Deep planting is one error; to plant a tree rather shallower than it formerly stood is really the right way, whilst many plant a tree as they would a post. Roots are of two kinds—the young and tender rootlets, composed entirely of cells, the feeders of the tree, always found near the surface getting air and moisture; and roots of over one year old, which serve only as supporters to the tree and as conductors of its food. Hence the injury that ensues when the delicate rootlets are so deeply buried in earth. Placing fresh or green manure in contact with the young root is, he tells us, another error. The place to put manure is on the surface, where the elements disintegrate, dissolve and carry downwards. Numerous forms of fungi are generated and reproduced by the application of such manures directly to the roots, and they immediately attack the tree. It is very well to enrich the soil at transplanting the tree, but the manure, if it be in contact with, or very near the roots, should be thoroughly decomposed.

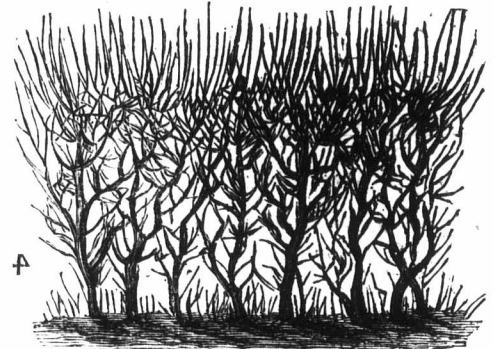
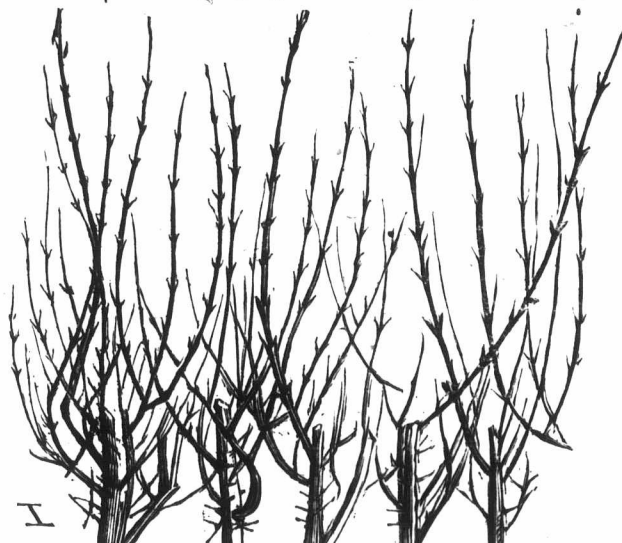
Buckthorn for Hedges.

BY HORTUS.

Buckthorn (*Rhamnus Catharticus*) is grown so easily, and requires so little care, that its a matter of surprise that its not more generally planted. For Hedge purposes it stands unrivalled—abundantly supplied with fibrous roots, it flourishes on all soils, from stiff clay to sandy loam. Young plants are procured by sowing the seed in the fall. The berries when gathered are bruised and washed clear of the pulp and skins, after drying a little by exposure to the sun, sand is mixed through it to facilitate sowing, making the seed part easily from each other. It is then sown in like manner to turnip seeds covering with earth to about the same

plants in bundles along the trench convenient to planters hand, who can pick them up and set them against the straight bank of trench, about six inches apart, as fast as an assistant can put in the soil, tread the plants firm as soil is filled in so as to leave them snug and firm. The hedge or the beginning of one will have the appearance of Fig. 2. Place a good mulching of rotted manure on each side of the plants, this will retain the moisture, prevent upheaval by frost and stimulate their growth. The first season's cultivation will lay in giving the hedge an occasional hoeing, keeping the ground clean of weeds and stirring the soil, the growth in the fall will be similar to Fig. 3. For ornamental purposes the hedge may be run up in a

lessness and neglect than a tall spindly hedge with heavy growth at top with gaps and openings along the bottom, where the growth has been checked by allowing weeds or grass to grow or letting the overhanging growth at the top to smother the bottom, such a hedge will appear as Fig. 4, and to remedy a case of this description the only treatment is to cut it clear back to the ground early in spring, clear away any weeds or rubbish and fork into borders by hedge a liberal coat of manure, now there will be an entire new growth and the cultivator, learning experience from the past, will be more successful in the future. What a satisfaction to the grower, and a valuable improvement on the farm, is the possession of a hedge that has been grown with a little care. One properly grown we represent in Fig. 5 which has been drawn from one actual specimen, anyone can have



depth, select some loamy piece of soil to sow the seeds in, otherwise, if soil is of a clayey nature it will be better to delay sowing till spring. A partially shaded spot will be the best, as the young seedlings thrive better than when exposed to the direct rays of the sun. The seed is possessed of great vitality, and will stand the extremes of climate with impunity. As nurserymen sell the plants at very low rates per 1,000, it will be found to be the cheapest and best plan for intending planters to purchase from them, than by taking the trouble of cultivating and waiting the several years that would necessarily transpire before the plants would be strong enough for setting out in hedgerows.

Soil that will raise fair crops of grain or roots

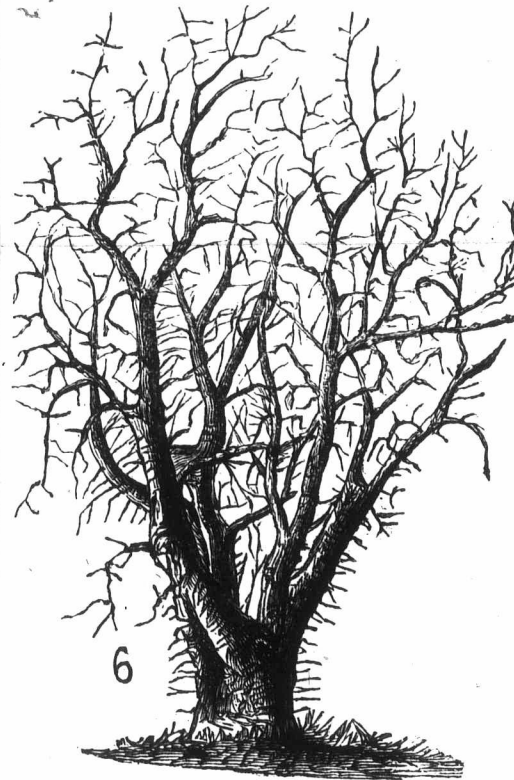


will be in good enough condition wherein to plant Buckthorn, but, as the hedges intended to remain an indefinite period, its better success will be ensured by thoroughly cultivating and manuring the strip of land, say six feet wide, the year previous.

By having the ground as level as possible when hedge is planted an even top to the hedge will be the easier secured.

In Fig. 1 we have a cut showing a rooted plant at 3 years growth, and about 2½ to 3 feet high; we advise securing two-year-old plants—medium sized plants answer the purpose fully as well as if stronger and older, and cost less in freight charges. Cut them back when received, if not already done, with an axe and block, to about six inches. Set the line where hedge is to stand—dig out a trench about 10 inches deep and spade wide—place the

year or two to the required height, six inches would be enough to add to height annually; successive clipping would keep it to its true form. If hedge is growing very vigorously clipping twice a season will be required, the first clipping should be done late in October or early in April, the second clipping about the middle of June. In growing a hedge for defence where form is not so

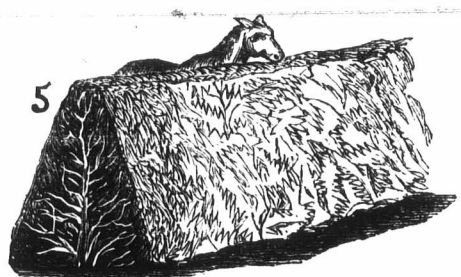


much an object as strength, we advise keeping the centre growth well checked for a season or two by cutting twice a season. Encourage the side growth by clipping but once late in fall or early in spring, the whole key to having a good durable hedge is to grow it wide at the bottom thus laying a good foundation.

Nothing looks more unsightly or bespeaks care-

the same in a few years by observing foregoing directions.

And now about having a hedge, its not so much a question of time, or, as in making a start. "Where there's a will there's a way" applies, with as much force, to hedge planting as to any other undertaking. Hedges have everything to recommend them, they are both ornamental and defensive, they are cheap and durable and serve for windbreaks. They are objects of admiration both winter and summer, and any person seeing a good hedge on a farm will feel satisfied that that farm is well drained and carefully worked. The uninitiated express surprise at their even appearance, and wonder how it has been secured, no great skill or trouble about it either. Any man who can sight a post or plough a half-decent furrow will clip a hedge without any trouble—to clip the top even, a line stretched on stakes set to required height will be a guide and of great service. On ordinary farm hedges such



care will not be necessary. In the prairie States where they have miles of hedges, they make use of a machine drawn by horses for clipping them. As hedge planting becomes more generally practised we may expect to see all kinds of machines at our exhibitions for cutting them, there's a field open to inventors. Take time by the forelock—make enquiries early in summer as to where you can purchase hedge plants, at what age and price. The fall is the best time for planting for many reasons, you can have from middle of October till the ground freezes for planting time. Your soil will be dry and will work easier—the plants will become set and start to grow in spring without any check and you can buy cheaper in fall than spring. The Buckthorn is a natural hedge plant perfectly hardy, never known to winter-kill, and will stand

hacking and cutting better than a willow. Its shoots terminate in a bluntlike thorn, sufficiently formidable to keep anything at a respectable distance. The leaf is smooth and glossy and of an oval shape, and, with the bark, has an acid bitter taste. Insects do not trouble, and what little cattle or sheep may pick off it will have a medicinal effect on them that will be beneficial. The syrup of Buckthorn is used for killing worms in dogs who have such a fondness for the medicine as to lick it off the spoon. In Fig. 6 the Buckthorn is shown as a single specimen grown into a tree about 25 feet high, its crooked, roughbarked and thorny branches and tortuous shoots give it quite a picturesque appearance and pleasing by contrast with other trees, and worthy of being planted on a lawn.

Profitable Cherry Orchard.

About ten years ago I set out an orchard of one hundred Early Richmond cherry trees, and it has proved profitable. The trees were headed within

Wash for Trees.

Charles Downing recommends soft soap as a wash for the trunks and large branches of trees, put on thick as it can be used. Potash is equally good, a pound being dissolved in six quarts of water, and put on with a stiff brush—the brush being kept in water when not in use. Care is necessary to prevent the potash from coming in contact with the hands or clothes. Mr. Downing objects to the use of lime wash, as giving the trees an unnatural color and forming a hard, stiff coating on the bark. This objection may be obviated by using fresh or sharp lime, and making the wash so thin that it will scarcely color the bark at all; it will then do as well as potash. It should also be borne in mind that a stronger wash may be used in early spring or autumn, while the trees are dormant, than during the vigorous growth, and that the soft, thin bark of young trees will not bear so strong or caustic a wash as that on older trees.

THE GLADIOLUS.—A summer flowering bulb which throws up tall spikes of flowers, all shades of color. The bulb should be planted in the spring and until June, and are of the easiest culture; no garden, however small, should be without them.

medium of the press, as it would be of immense benefit to the fruit growers of the country. Certainly this is important if true.

DISEASES OF THE PEACH TREE.—A Grimsby correspondent says: The present appearance of the peach orchards in this district excites much comment. The leaves, which are curled up and much thickened, have great hollows on the under side, and on the upper a tinge of beautiful red and yellow. Gradually they are dropping off, so that altogether the trees present a bare and sickly appearance. Many growers fear that the yellows may be upon us, that dread disease, which has proved so destructive to the peach trees in the East and South. The malady described has no connection with the yellows, but is known as the curl. It has frequently visited us before, only never to such a remarkable extent. New leaves will replace the old, and neither the tree nor the fruit will receive any permanent injury. The yellows is far more deadly, and results in the total destruction of the tree. It is scarcely known in this district, but prevails to a considerable extent in the States.



SCENERY IN ARKANSAS.

a foot of the ground, and planted sixteen feet apart each way, the entire orchard occupying but a half acre. We have had several very heavy crops, and although we have sold them low, it has been one of the most profitable spots on the farm. Most of the fruit has been sold to farmers at five cents a quart, on the tree, and although the trees have grown so that the branches meet between the rows, nearly all the fruit can be gathered from the ground or standing on a chair. We have used this orchard for some years for an enclosure for our sows and pigs, and although my neighbors have predicted that it would kill the trees, they are as thrifty as I could wish. We never interfere with the birds, but let them have all the cherries they want, and think that they pay for them both in music and in the war they wage against insects.—*W. P., in Practical Farmer.*

Two years ago last fall a New Hampshire man applied coal-tar to seventy-five fruit trees as protection against mice; the result so far as recorded is thirty dead, and nearly every tree now living marred and stunted.

THE CODLING MOTH.—Perhaps no insect has given the apple orchardist so much trouble as the codling moth, and any tactics that will give victories over this long triumphant enemy will be hailed with shouts all along the line. Hear what Mr. A. G. Tuttle, for many years president of the Wisconsin State Horticultural Society, and a leading nurseryman of that State, says. Mr. Tuttle is testing over 100 varieties of Russian apples; and what he says is, that he has discovered a remedy—or rather a trap—for the moth, that has proved to be a complete success. This is the trap:—Take shallow pans or saucers and place some strong apple vinegar in them, and hang among the branches of the trees. The smell of the vinegar attracts the moths, and they are caught and drowned in the same. Mr. Tuttle says he has caught over forty codling moths in one of the pans in a single night. He counts it a great success. He says he notified C. Downing, the leading authority on fruit in this country, of this matter, and of this success; and that Mr. Downing advised him to disseminate the information through the

Cottagers in England have long used wheat grown thickly in pots or pans, for ornamental purposes, and a correspondent speaks of it as one of the prettiest decorative plants imaginable, on account of its beautiful green color and graceful habit. By successive sowings it may be had in perfection all the year round.

Frequently we see grape trellises made wholly of wooden bars, which the vine tendrils cannot clasp or climb on. Vertical wires eight inches apart are neatest, and carry the weight of shoots loaded with fruit without yielding, but light rods or neat twiggy brush answer well for the vine to climb by, and some such support is essential for free and perfect growth.

An English exchange says that the merits of the tall section of the pea family are beginning to be generally recognized. Short stalks and a brief period of bearing are, it says, synonymous, and it is only by means of varieties that develop a continuous supply of fresh blooms on elongated haulm that one can hope to prolong the period of gathering.

Agriculture.

Construction of Tile Drains—No. 2.

BY PROF. MANLY MILES, LANSING MICHIGAN.

In excavating the first twelve or eighteen inches of the trench in which the tiles are to be laid, a deep furrow may be made with a common plow, and a subsoil plow may follow to loosen the earth and save the use of the pick. Care must however be taken to make the trench straight, so that it can be finished as narrow as possible, leaving the bed for the tile in a direct line. This is necessary to secure close joints in laying the tile.

A common spade is the best tool for digging, all but the last sixteen to eighteen inches of the trench in ordinary soils. If the soil is too hard to work readily with the spade, the pick may be used after getting below the reach of the subsoil plow. To economize labor the trench at the top should be only wide enough for a man to work in, say from twelve to fourteen inches wide, and the last cutting with the common spade should be still narrower.

Before the last foot of the excavation is made, the line should be adjusted as directed on p. 129, by means of the "shears" and "gauge stakes," and directly over the middle of the ditch, about seven feet above the grade on which the tiles are to be laid. The line must be high enough to be out of the way of a man working in the ditch.

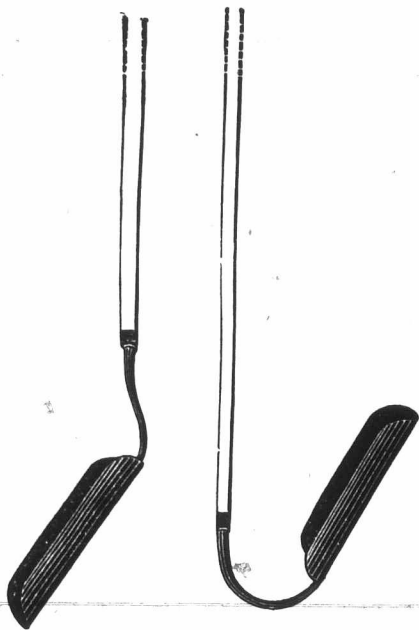


Fig. 4.

Fig. 5.

My practice has been to place the line seven feet above the desired grade when laying tiles three feet deep, using a seven foot rod to gauge the depth of the grade below the line; but when the tiles have been laid four feet deep, an eight foot gauge rod has been found convenient, the line being adjusted accordingly.

After putting the line in place, a narrow, round-pointed, ditching spade is used, the width being determined by the size of tile to be laid; for 2 in. tiles the point of the spade may be 3½ in. wide; for 4 in. tile it may be 5½ in. wide, &c., thus making the bottom of the ditch but a trifle wider than the outside diameter of the tiles. Persons not accustomed to these narrow spades will find them awkward tools at first, but with a little practice this last foot of the ditch can be made more rapidly, and consequently cheaper, than it can be made with a common spade, which necessitates a wider ditch, and the lifting of a larger amount of earth.

As these ditching spades are tapering, a large proportion of the earth cut out by them will fall off into the trench. This can be thrown out with a scoop made for that purpose. The best scoop

for throwing out the "chips" cut by the spade, that I have used, has been made from a common long-handled, pointed shovel, by cutting off a strip from each side and rolling up the sides to form a half round scoop three or four inches wide.

The depth of the cutting must be frequently gauged by measuring with the rod from the line. Never cut deeper than the tiles are to be laid, or they will settle or sag where new earth has been filled in to level up too deep a cut. This is of the greatest importance in all yielding soils, and particularly in "muck" or peat.

The last inch of the excavation should be made with a scoop that will cut a rounded bed in which the tiles will exactly fit. All of the tile scoops that I have seen for sale have proved worthless, and I am not surprised that they are thrown aside by the workmen as useless.

The common forms are shown in figs. 4 and 5, the former being called the "push scoop," and the latter the "pull scoop," from the manner in which they are used. The long blade at the end of a slender shank makes them tremble when used with considerable force; they are heavy on the point when loaded, and they are easily broken from the leverage upon the shank.

An improved form of the scoop, invented by myself, is shown in fig. 6. This scoop combines the advantages of both the "pull" and the "push" scoops, without their objectionable features.

Every one who has used this improved scoop is pleased with it, as it is found to be the best and most convenient tool for finishing the ditch and making an even bed for the tile.

The old forms, figs. 4 and 5, may be readily changed to the improved form, fig. 6, by removing the shank and riveting it to the middle of the blade.

An old shovel blade or a piece of saw plate may be used for the blade of this scoop, and any blacksmith can give it the proper form and fasten it to the shank. A good scoop can thus be made at one-half the cost of the old forms, which are useless. As there is no patent on this improvement, everybody is at liberty to make and use it.

Canada as Seen by a North British Agriculturist.

We have before now referred to the letters of Mr. Macdonald, Commissioner of the *Scotsman* newspaper, to inquire to what extent Britain was likely to be supplied with fresh meat from America. He was favorably impressed with the state of agriculture in Canada on his visit here.

"The external features," he says, "of Canada farming, as far as seen, resemble more closely those of British farming than what are seen in the United States. The farms are laid out more in accordance with home customs, and are better provided with houses and fences, and probably also rather better cultivated than the farms of the States. Nature seems to have done rather less for man in Canada, and, as a consequence, he has done more for himself."

Mr. Macdonald says that the farming in Ontario is more advanced than any he saw on any part of the continent, and he is of opinion if farmers would get quit of their American fences, their farms would exhibit few eyesores to even the most fastidious visitor from Great Britain. Harvesting is conducted with more care than in the States, and the system is very much what prevails at home. The amount of Swedish turnips grown throughout our Province is mentioned as another

encouraging feature, while he holds that if turnip cultivation were still more gone into, it would be so much the better both for the land and the stock.

In noticing Canadian cattle, Mr. Macdonald says that many are "scranky" skin and bone creatures, while a large number are very fair beef cattle, with any number not much removed above mediocrity. Our "common cattle" are, he says, superior upon the whole to the same class in the States, with finer bone and better quality. The great drawback in Canada, as in the States, is, according to Mr. Macdonald, the indifference and carelessness of the farmers in the selection of bulls for breeding from. This evil, he says, is not nearly so great as it was, but still it is very prevalent. If Canadians are to profit by the British meat market, Mr. Macdonald, like every sensible man, believes that a great change must take place. To send inferior beef to Britain would be simply to kill the enterprise at its very inception. The expenses are all the same, and only a small percentage of the British people will take hard, inferior beef so long as they can get better. In Canada, as in Britain, if good farming will not succeed, bad farming need not be tried.

Manuring—Chess—Moon Signs.

Abridged from observations of the well-known agriculturist, John Johnson, from the *Utica Herald*—

I am upwards of eighty-seven years old; I have just given up my farm, on which I have lived since 1821. I purchased it soon after reaching this country from Scotland. The country was new, and the farm I bought was not thought to be valuable. The crops which it grew were light, and people said I never could pay for it. But I did. It was fortunate for me that I had learned in the old country the value of manure and how to apply it. It was fortunate, also, that I understood the advantage of draining, for I soon found that was the first great want of my farm. I sent to Scotland for samples of tiles, and had them made here. My improvements through draining attracted much attention.

I drained my farm as rapidly as I could meet the expense, and applied all the manure I could make. I grew some splendid crops. There is too little manure made in this country. Our farmers must learn to use more manure. Draining, manure and clean culture are what will make good farms and produce profitable crops.

Wheat has been my main dependence, but I have grown good crops of corn. It is a very profitable crop. The stalks make excellent feed for any kind of stock. My wife always thought she could make better butter from cows fed on stalks than from those kept on hay. My farm was a grain farm, and I have wintered a good deal of stock, feeding up my stalks, hay and grain, and working my large product of straw into manure.

Excepting two seasons, when my crops were destroyed by hail, my wheat has averaged about 30 bushels to the acre. The best crop I ever raised was 42½ bushels to the acre from 64 acres. I have several times raised an average of 40 bushels. I wanted my land clean and rich, and pure seed. I found there was much chess on my farm when I took it, and in those days many good farmers really believed that wheat turned to chess. I frequently had spirited arguments with those who strongly maintained the ridiculous theory that wheat will become chess. I remember meeting one farmer who firmly believed that oats even would turn to chess. So much was this question discussed that our State Agricultural Society appointed a committee to make a thorough investigation and experiment. This impartial committee gave its verdict, and in our section of the State the question was pretty thoroughly settled.

I remember when I was ready to plant my first piece of potatoes, I went to purchase seed of a good farmer near by. He said:

"When are you going to plant?"

"Right away," I replied; "my ground is ready and it is plenty late enough."

"You plant now and you will get no potatoes."

"Why so?" for I did not know but he wanted to refuse to sell me potatoes for some reason.

"Why, you must not plant now. The moon is not right. You should wait until the full moon in June," he argued.

I remarked that I had nothing to do with the moon. The weather was dry. He lost the best weeks of growth, and the result was that I had an excellent crop, while his amounted to but little. I have in my life met much of this nonsense about

chess and the moon. You might as well expect a mare to bring forth a calf, or to hatch a goose from a hen's egg, as to think of getting chess from wheat.

I always apply manure several months before I plow the land. Immense quantities are wasted every year by plowing it in just before putting in the crops. On this point my friend, Joseph Harris, could not agree with me. He believes in applying manure immediately before the crops. I pile my manure in the spring, and in the fall put it on the land which I intend to plow for corn the following spring. One great object I have had in piling my manure was to destroy all weed seeds. If the manure is handled enough all seeds will be destroyed.

Barnyard manure is the standby—the sure reliance—but it would be a grand thing for our farming interests if we could apply chemical fertilizers with profit. I hope we shall find what we need. I applied some on my wheat last fall, leaving a strip without any. When I left the farm, April 1st, I could see no difference. But that land is very rich. I have some of the fertilizer left, which I shall apply next fall on land which is not so rich.

I paid for my farm largely by summer fallowing. That enabled me to raise good crops.

Larger Crops at Less Cost.

The farmer who realizes \$23.91 per acre for the year's use of his wheat land—all expenses paid—will hardly complain that farming does not pay. Will any of our subscribers give us an account of the expenses and receipts from his wheat or other crops? The following article on this subject is abridged from the *Factory and Farm*:

The want of our country is greater knowledge and better practice in agriculture; a knowledge that will enable us to produce two bushels of grain or two pounds of meat at the present cost of one; and this, no intelligent farmer will doubt, is attainable. The average return of wheat in our country is below ten bushels per acre, and as the cost of growing the crop cannot but exceed \$10, it follows that the product costs fully market value, and in a large portion of our country it does not pay for labor expended.

Now, if we can increase the yield to twenty-five bushels per acre with but little added expense, we see how great would be the increased profit. But many will say such return cannot be realized. I believe it can, under all ordinary circumstances. It is true that there is a difference in the adaptation of soils to crops, but on all natural wheat lands, such as prevail in Western New York, such yield is not extraordinary, and for a succession of years, under good cultivation. My own crop has for several years averaged fully up to that figure, except the crop of 1875, when the yield was but about seventeen bushels, owing to the extreme frost of winter. I will give the return for fifty acres in wheat, and the cost of the same last season on my farm. My practice is to follow a rotation of crops, wheat following barley. This land had grown a full crop of barley in the season of 1876, and the stubble turned under early in August, the furrow about eight inches deep. The cost of the crop of wheat harvested in 1877 was as follows:—

Plowing 50 acres at \$2 per acre.....	\$100 00
Harrowing four times, 25 cents per acre each time.....	50 00
Surface plowing twice with gang plows....	62 50
Rolling once, 25 cents per acre.....	12 50
Seed, 1 1/2 bush. at \$1.50 per bush. per acre.....	112 50
Drilling, 50 cents per acre.....	25 00
Superphosphate, 150 lbs per acre, at \$30 a ton.....	112 50
Harvesting and drawing to barn.....	150 00
Threshing and marketing, \$35 per acre....	175 00
Picking loose stone, etc., 25c. per acre....	12 50
Total.....	\$812 50
CONTRA.	
Yield, 30 bush. per acre, 1,500 bush., sold at \$1.16 per bush.....	\$1890 00
Value of straw per acre \$2.....	100 00
Total.....	\$1990 00
Use of land, \$23.91 per acre.....	\$1177 50

These figures are not given here as being an extraordinary crop, for many have produced larger ones. The season was unusually favorable for grain, and we do not expect like crops every year, but we may approximate to it. Certainly this gives a good return, and shows that wheat growing may be made profitable under good cultivation; but

had the yield been only an average of the State—some ten or twelve bushels per acre—it would not have paid cost of cultivation, and nothing for the use of land. It is seldom that our seasons are so bad that wheat growing does not afford reasonable encouragement to the farmer when wisely conducted. Land must be clean and fertile to make grain growing a paying business in any of the older States, which the virgin soils of the West are producing so abundantly, and at so little cost. That is we must be better farmers in the older States to enable us to compete with the many bad farmers of the West. A new country is never well farmed for when nature produces abundantly for negligent culture, we need not expect thorough cultivation, but when necessity demands a better and more thorough system we need not expect success unless we comply.

Roots in Tile Drains.

On this subject W. Chamberlain writes to the *Country Gentleman* as follows:—

Several statements and inquiries have recently come to me, or to my notice, in regard to the stoppage of tile drains by growing roots. For example, Mr. Geo. Green, of Ashtabula county, Ohio, in the *N. Y. Tribune* of April 3rd, warns against raising red clover on underdrained land. He says that he drained his land several years ago 2 1/2 feet deep, and has since raised clover on it; that the roots entered the drains, spread out into a fine, fibrous mass, furnished lodgment for the sediment (there should be none), and gradually choked the drains, so that he had to take them up entirely, clean them out, and relay them. Now, this seems incredible, both *a priori* and in view of abundant facts to the contrary, and I certainly think Mr. Green must be mistaken—not in the fact, but in the cause of the stoppage—or that he must have a strangely mellow and rich subsoil; for in our hard clay subsoil, clover roots run down not more than 12 to 18 inches—certainly not 30. Since writing the above sentence I have carefully dug up several thrifty old roots in deep, mellow soil, and found none longer than 15 inches. They may be longer in the fall, or in a very mellow subsoil, but 30 inches seems beyond the possible maximum. Again, the fibrous roots seem near the surface, and the long tap-root seems to have few of them at its extremity. Also, except in springy soil, or during and immediately after each rain, the drains are dry, empty holes, having neither moisture nor sediment (if properly laid) to invite the entrance of roots, or to encourage them to throw out fibrous roots, in case they should chance to force an entrance.

Moreover, the tiles, if properly laid, fit as closely on the upper side as two smooth, squarely-cut surfaces can fit, the cracks (if any are caused by slight crooks in the tiles) being always left at the bottom. The water wells up from beneath in wet weather, and enters at these seams or through the pores. It would be very hard then for the roots to find an entrance from above. They would rather glance off in their growth, as from a stone. But if the tiles are loosely joined, or the ditch dug unevenly, so that dips or low spots are left here and there, then the earth might wash through from above with the water, and the sediment gather in and gradually fill these dips, and invite the access and spreading of roots. In that case the drain would be stopped, even without the help of roots; and that, I presume, and not the clover, was the cause of Mr. Green's failure. Where the fall is very slight, it is difficult to cut the bottom groove for the tile so true that there shall be no dips. If there is moisture enough to form a small stream of water as fast as the groove is cut, that will be a perfect guide; otherwise a spirit level or a plumb line must be constantly and carefully used. The best simple apparatus for using the plumb line readily is made as follows:—Take three equal strips of one by two-inch battens, each eight feet long, and nail or screw them firmly together at the ends, so as to form an equilateral triangle; mark the middle of the base, and from the opposite angle suspend a plumb line, and the machine is done. Then, after the groove is cut for the tiles, test every doubtful portion of it by placing the base of the triangle along the groove or gutter. If the point of the plumb swings even a quarter of an inch towards the outlet, the water will of course flow that way, and there will be no dip. Now, if the tiles are properly fitted, and the subsoil tamped or packed hard, clear up to the soil, and the soil filled in so that there shall be a ridge, rather than a surface ditch, directly above the tiles, there will be no sediment, but the water will enter the tiles from beneath, and flow from the outlet as clear as spring water.

I know hundreds of acres of underdrained land, both here and in New York State, on which clover is raised whenever desired. My own house stands in a sixteen-acre field, nearly all of it drained 2 1/2 feet deep. A part of it has been done eleven years, and clover and timothy have been raised on it most of the time. Within a stone's throw is another field of eight acres, drained three feet deep thirteen years ago, and clover and timothy have been raised on it at least eight of the thirteen years. Four acres, too, are covered with apple trees fifty years old. Three weeks ago I took up one tile of one of the four inch main drains, to form a junction for a new lateral, and found it as clean as the day it was put down, and a small stream of clear water running through it. It must keep clean, for after every heavy rain it discharges full of clear water, and I see no reason why it should not continue to do so for a hundred years.

John Johnston is sometimes called "the father of American underdraining." Last September I saw his splendid farm at Geneva, N. Y. Most of it has been drained, if I remember, more than twenty years. It has every crop on it at pleasure—clover, grain, nursery trees and orchards—and the drains do not suffer. Also the fine farm of his son-in-law, Robt. J. Swan, adjoining it, and containing about three hundred acres, all drained two and a half feet deep, except a few acres of woodland. It is clay land, like mine—the subsoil, however, being somewhat more mellow. But he raises clover at pleasure. Last September, when I was there, his farmer was cutting about seventy-five acres for seed (his usual annual crop) of as fine second-crop clover as ever need be seen. And so I might multiply examples to show that clover roots do not damage tile drains properly laid two and a half feet deep. But if in any soil or subsoil they really do, then the drains must always be laid deeper in such soil, or the joints covered with hydraulic cement or short caps like the tiles; for clovering (in rotation) must go hand in hand with tile-draining to make our clay land what it should be.

I have seen complaint that the roots of apple trees will stop the drains in about fifteen years from setting. I think they would not in hard clay subsoil, at a distance of sixteen to twenty feet; for the drains should always be half way between the rows of trees. Two years ago this fall I drained a thrifty orchard that had been planted twelve years. The trees were thirty-three feet apart, and already the roots had met and passed one another, so that we cut many of them in digging the drains. But in no case, I think, did we find roots more than twelve or fifteen inches deep, and I do not believe that they will ever go much deeper at that distance from the trees. They seemed to have got enough of the subsoil business, and to be spreading only laterally. But if facts, carefully examined and authenticated, show that tree roots actually do stop the drains a rod off to any great extent, then we must, as I said before, cement or cap the joints, or lay the drains deeper, or both. Tile-makers will, if required, furnish caps or rings for the joints, or joint the tiles like sewer pipes. We do not intend to be beaten by an apple root. We must and will drain at least our clay land for young orchards. My own experience on both sides of the question thoroughly convinces me of this. And we do not want our drains to fail in fifteen years, when they ought to last a hundred, or for that matter, a thousand. For if there is absolutely no approach towards stoppage or crumbling, in twenty or fifty years, why should there be in twenty times fifty?

A correspondent of the *Rural Home*, speaking of the benefit which birds render the farmer, says Recently while at work near a wheat field my attention was called to the fact that some of the wheat had been picked from the heads in certain parts of the field. As my neighbors seemed to think that the mischief was done by yellow birds, I obtained a gun and killed one of the supposed offenders. Although interrupted while taking his breakfast, we found in his stomach only three grains of wheat, and, by actual count three hundred and fifty weevils.

Wood ashes have long been used with very beneficial results on almost all kinds of land, and the benefit thus derived has been largely due to the potash, which in ashes is mostly in the form of the readily available carbonate, easily dissolved out by water.

Good practical farming involves a greater amount of thought than any other vocation. The conditions of success are more complex than in any other. It is least of all a business for listless, lazy men, who dread the drudgery of thinking.



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ½ ounce.

How to Convert a Swamp into a Meadow.

"Farmer" writes to know how to make a good meadow of a swamp lately drained, the soil a deep muck or peat. He says: "I saw in a former number of the FARMER'S ADVOCATE directions for reclaiming muck soil that has been under water till lately and has been drained. Would it not make a good meadow if treated right? If so, what variety of grass would be most suitable?" A reclaimed swamp, when laid down in good condition, is the productive meadow on the farm. We have known such meadows to produce five imperial tons of hay to the acre. Such lowland, or bottom meadows, as they are generally called, are very rich in plant food, that only needs proper cultivation to yield abundantly any crops suited to the soil. Their chief constituents are decayed vegetable matter. As this has become too sour to be of much benefit in its present state, it needs, more than any other soil, exposure to the atmosphere; this can be best effected by a year's fallowing. Any matter different from itself will, if applied, improve it. We have applied clay, gravel, sand, anything most readily available. After the acidity has been removed by the process of fallowing, draining and manuring, there are some crops that it is especially adapted to, as potatoes, Belgian carrots, turnips—red or white, and rye. There is no other soil in which the benefits of a slight application of lime are so immediately apparent. The lime counteracts the acidity of the long immersed vegetable matter, and hastens its thorough decomposition. Timothy is a very good grass for such soils. The quality of its hay is well known to feeders, and highly appreciated. If the soil has been brought into good tilth and is rich enough for orchard grass, we would sow it in preference to timothy or any other grass we know. It is the grass for such a soil and in such a condition, if it be rich enough, and it will make ample returns for the expenses incurred.

Hay Making.

SIR,—As the hay season is fast approaching, I would like to bring to the notice of our Ontario farmers a simple mode of saving hay which was formerly practiced by a person of my acquaintance in the Province of Quebec. He used first to spread a layer of straw on the barn floor, and then a layer of hay of equal thickness, sprinkling both layers with salt pickle; so he proceeded with alternate layers of hay and straw until the bay was filled. In winter the hay and straw were cut down with a hay knife and passed through a straw cutter, and he assured me the cattle thus fed thrived as well as if they had been fed on hay alone. One great advantage of this mode of saving hay is that very little time is required to save it, as hay cut and thrown into winrows in the forenoon may be carried to the barn in the afternoon, if the weather is fine, as any moisture in the hay is absorbed by the straw. Of course this mode will not answer when hay is intended for the market, but for home use I know of no better mode, when good, well-saved straw is at hand. A very common mistake in hay making is in drying the hay too much. I have, when farming in the Province of Quebec, thrown hay cut by hand into winrows close after the scythe, then turned the winrows the first thing in the afternoon, and brought it into the barn the same day, sprinkling salt over every load as it was brought in at the rate of from four to six quarts per ton. The hay was timothy and clover. Some of my neighbors thought the hay was too green, and predicted that it would be spoiled, but no one could say that who saw it the winter following. I do not mean to say that I could do this every day, as the hay dries faster some days than others, according to the weather and the stage of maturity

at which it is cut. When the hay is in full bloom is the best time to cut, but when the scythe is used it is not always easy to get the whole crop cut just in the right time. Both timothy and clover having been injured by the May frost, the crop is likely to be rather late and not very heavy in this part of the country. SARAWAK.

Destroying Burdocks.

SIR,—Would you be kind enough to let me know what is the best method to adopt for destroying the Burdocks. By so doing you will oblige very much. A. A. L., New Carlisle, P. Q.

[The Burdock is one of that class of weeds that is generally an indication of a strong, rich soil. Pull or dig it out before seeding. It is an annual, and we never found any trouble in keeping our land free from it. Were there many of them in the land, they would, by plowing them under before the seeding, serve as a fertilizer.]

Sheep Raising.

SIR,—I would like to ask you a few questions about sheep raising and the best kind of sheep for me to keep. There are very few sheep kept by the farmers of this Province yet; you will hardly find one that keeps more than from two or three up to twenty, and nine-tenths of them not any at all. Feeling certain this is the best part of Canada for raising sheep, I got together a flock of twenty-five last year, and they have done splendidly; the ewes before lambing this spring were fat enough for the market, and not a tick to be found on them. We have no end of splendid pasture on the prairies for any number of sheep, and also hay for the cutting. A man can keep five thousand sheep here if he can only get the stock. The kind I can get to buy is a miserable breed, which is brought in from the State of Minnesota; they will weigh about ninety pounds, live weight. What I would like to know is—What would be the best kind of a ram to cross them with? I want large sheep for mutton, as it brings a high price in the Winnipeg market; also a kind that is hardy. If you will give me the desired information, with the probable cost of a first-class ram, and who to buy from, you will greatly oblige.

I will try and send you a few notes on farming out here, or answer any questions you may desire. Is the Southdown sheep hardier than the larger size? If they are they would be a better kind. Crops are looking splendid, but we are afraid to raise too much grain for want of a market. We are in great need of a railroad. The old farmers could double their crops, and not be at any additional expense for machinery. S. H. C., Ossowa, Manitoba.

[We have not practical knowledge of the suitability of any particular breed of sheep to the prairie, but from our knowledge of the Southdown, we would advise our esteemed correspondent to try it in preference to others.—It is hardy, and a superior breed in every respect.]

Cinerarias.

SIR,—I have a fine collection of these, or rather have had. The seeds were bought from a good firm, and the plants were carefully grown, all winter watered with manure water until they showed flower, so that they were really fine plants, with leaves like cabbages, almost hiding the pots. The blooms were good, though a little coarse; but during the bright days about the middle of April the plants suddenly gave way. The fine leaves became withered up and fell over the sides of the pots, and several of the younger ones had large spaces scorched or scalded out of them. Will you oblige me by stating the probable cause or causes of this break down of my finest plants, and oblige, yours truly, A FARMER'S DAUGHTER, York, near Toronto.

[The probable cause was the heat and strength of the sun coming on to the plants that were more than usually succulent and full of sap through your liberal treatment. Cinerarias do not like direct and strong sunshine on their leaves. Possibly, too, you may have done what many amateur cultivators are apt to do under the circumstances, sprinkle the fine leaves overhead while the sun is shining upon them. This would lead to the upper leaves being scalded as described. In the future shade your Cinerarias a few hours on either side of noon after the middle of March. The sun up to that period has not strength enough to injure them much.]

Vegetable Marrows.

SIR,—When should I plant these, where, and what sorts? H. W., Saltfleet, Ont.

[Our fair correspondent was born a wit, if brevity is the soul of it. Her questions are model ones for general imitation; lucid and brief. It is impossible to go astray over them. Plant vegetable marrows at the end of May. They are tender and are not safe sooner. Place them in the richest, warmest part of your garden—the top of a compost heap or a dunghill is about the most suitable place. The Long, the Long Green, Custard & Moore's Vegetable Cream, are as good varieties as any others. No vegetable is more useful, rich and pleasant than delicate vegetable marrows about the size of ostrich eggs, nicely cooked and properly served.]

Radishes and Lettuces in Succession.

SIR,—How often should I sow the former and plant the latter to have a supply of both crops, and tender throughout the summer months? C. C., Askin, Ont.

[Sow radishes every week, and plant out or sow lettuces every fortnight. Few and often must be the rule in regard to both crops, if either are to be enjoyed in perfection.]

Celery.

SIR,—When should the first crop be planted out so as to be fit for cheese by the end of August; and is there any early variety that would come in sooner? ENQUIRER, Truro, N. S.

[There is not a moment to lose in planting out of celery, if it is to be fit for cheese in August. There is no early variety. Earliness is a matter of culture, not sort. It is hardly safe to try to force celery to come in before August. It is very apt to bolt into seed-bearing if forced too sharply; but if well watered and otherwise liberally treated, it may be had in great perfection in August. September, however, is considered time enough by most celery growers and eaters.]

Pathmasters' Duties.

SIR,—Please inform me in your July issue if a Pathmaster can be compelled by law to do statute labor, notwithstanding the by-laws of the municipal council of the township to the effect that it is his duty to do so. E. Y. A., Chatham.

[It is the duty of Pathmasters to see that all liable to perform statute labor do so, and to superintend the work and see that it is properly done. In this instance, as well as others, one head is worth more than many hands.]

Crop Prospects in Bruce County.

SIR,—Crops look good. Early sown spring grain appears to be a good crop at the present time; fall wheat is the heaviest looking crop I have seen in this part of Ontario, taking it as a whole, since I came here. The Silver Chaff I got from the Agricultural Emporium, and the Seneca, are the best looking crops I ever had on my farm. Frosty mornings here are keeping pasture down, but I do not think the grain has been injured as yet. Potatoes are kept back. Hay will be a light crop here if the frost keeps on. G. L., Grenock.

Potomac Fruit Growers — June Meeting.

Thanks to Mr. Newman, Secretary of the Potomac Fruit Growers' Association, for the following communication:

On the tables were several varieties of strawberries—President Wilder, Fillmore, &c.; but the Highland Beauty took the palm for (among its other qualities) its perfect shape, even at this late period of the season.

THE SUBJECT OF GRAPES

was under consideration. Prof. Taylor, Microscopist of the Department of Agriculture (who, by the way, is a *scandal*) was asked to lead in the discussion, and give his views upon grape blight.

"This is a very important topic. The cause is excessive moisture about the time of the coloring of the fruit. The superabundance of rain causes a new growth of the wood, and thus, as the fruit is deprived of its proper nourishment, it rots. To this theory it is objected, because all varieties do not suffer alike. The reason that some escape is

because of the hardness of the wood, which prevents the absorption.

The Professor illustrated the principles of absorption and evaporation by a pine floor. If even a thin shaving be taken off the flooring will shrink, which the crust before prevented.

"If just enough rain falls you will have a fine crop of fruit. On the other hand, if the season be excessively dry, your vines will be injured by the thrips, although the exception to this is the Concord, which is not effected by them.

"While in New Jersey last summer I saw a vineyard where, by the application of large quantities of sulphur, the vines had been badly burnt and quite destroyed; another, which by a judicious application of plaster and sulphur mixed, had caused a strong growth and plenty of fruit.

"I also learned how some vine culturists manure their grape vines (on their sandy soil). They dig down, say this year, on one side, and fill the hole with stable manure; the next year on another side, and so on. The roots luxuriate in this fertilizer."

Speaking of Vineland and the seeming failure of the grape crop there, he said:

"The reason is, there they build castles and expect the grapes to pay for them; while at Egg Harbor the German is satisfied with a shanty, and his effort with grape growing is a success."

The Professor also spoke of the necessity of sowing seeds deeper than ordinary on such soils as that of New Jersey, and mentioned that peas sown deep will not mildew.

Mr. Pierson raised the question of summer pruning, saying "a gentleman who pretended to know said that the vine should be pinched off at the second joint beyond the last bunch of grapes, and all laterals should be removed; but he found that his unpruned vines bore the best fruit."

Mr. Pitt said: "Some years since the vitiiculturists along the shores of Lake Erie practiced summer pruning, but were obliged to abandon it, as they lost their fruit. Grape disease comes not only from summer pruning, but also from want of food and by over-bearing." G. F. N.
Washington, June, 1878.

Tall Rye.

J. D. Servos, of Niagara, has our thanks for his express parcel of tall rye, but unfortunately it was nowhere when it got here compared to rye in Middlesex South, however much it surpassed McQueen's, of the county of Wellington.

Daisies.

SIR,—I read a great many good things in the ADVOCATE, but have not yet seen any remedy for the daisy. I have a field which is full of these pests. Last year I plowed the land and cut them off as soon as they came up, and raised no crop on the field; but this spring they have come up as thick as ever. Could you tell me what to do with the land in order to destroy them this season? By so doing you will confer a favor not only on myself, but on many others.

A FARMER, Melbourn, P. Q.

[There are frequent complaints in America of the prevalence of the ox-eyed daisy (as it is here called), and the great difficulty of exterminating it. We have found a summer fallow an effectual means of completely getting rid of weeds of every variety, even the most tenacious of life. The daisy is a perennial, and propagates itself by the seed also as well as by the root; hence the difficulty of exterminating them.]

SIR,—Will a horse rake injure grass roots? Please answer in the next issue.

A. R., East Bolton, P. Q.

[A horse rake does not injure the grass roots. If the roots are disturbed, which can only be in very loose soil, a light top-dressing of any compost would more than make amends for any apparent injury. We have harrowed and top-dressed grass lands with great benefit.]

Cucumbers for Exhibition.

SIR,—I am anxious to take prizes for Cucumbers at an horticultural show. What sorts had I better grow for this purpose. The show is not till the middle of August, so I hope I am yet in good time. I have a hot pit and also a hot house, so could grow the Cucumbers well.

A WOULD-BE PRIZE-TAKER.
[Try Stockwoods Ridge and Long Green.]

SIR,—You would much oblige me, and I think many of your readers, if you would publish a list of the legal weights and measures in the ADVOCATE, as appointed by the Dominion authorities, as we seem to have no statute here. And if not too much, I would be glad if the addresses of some reliable firms were published, where we might obtain some of the grain and seeds which are so much recommended in your valuable journal, as I believe there would be a great improvement in this locality.
W. D., Margate, P. E. I.

[All articles of produce are, by Act of Parliament, obliged to be weighed and sold by the cental (100 lbs.), and a penalty is attached to the use of any other weight. We do not know if this Act has been introduced into your Province; but it contracts for the sale of articles hereafter mentioned, the weight per bushel being as follows: Wheat, sixty pounds; Indian corn, fifty-six; rye, fifty-six; peas, sixty; barley, forty-eight; oats, thirty-four; beans, sixty; clover seed, sixty; timothy seed, forty-eight; buckwheat, forty-eight; flax seed, fifty; hemp seed, forty-four; blue grass seed, fourteen; castor beans, forty; potatoes, carrots, turnips, parsnips, beets and onions, sixty; salt, fifty-six; dried apples, twenty-two; dried peaches, thirty-three; malt, thirty-six pounds.]

Soaking Seeds in Paraffin Oil.

SIR,—I have been in the habit of soaking seeds in Paraffin oil, and mixing it with whitewash, and with good results, but I do not know how to apply it in the manner recommended by Major Crofts; for oil will not mix with water, and by itself Paraffin oil is injurious to vegetation. Please answer in your next to N. B.

[There is less force in N. B.'s objection than might at first sight appear. These mineral oils mix with water much more readily than other oils, either vegetable or animal, as they partake partly of the character of a spirit. It is not, however, needful to soak the seeds so long as Major Crofts recommends, and, indeed, such long steepings are dangerous not only to Broad Beans, as Major Crofts found out, but all seeds. Peas are often injured by soaking in paraffin oil. Moreover this oil varies much in quality and strength, so that its effects are likely also to be different in different cases. Major Crofts' distinctions between the difference in the mode of germination of Peas and Beans is more fanciful than real. Both fall to pieces as they grow, and the Bean, instead of growing from and end grows from its centre or germ. Watering the ground with a mixture of paraffin and water would be likely to clear it of wire and other worms and snails; but it is a rather dangerous thing to apply to the tops of plants for any purpose whatever, and must be used on leaves and young stems, if at all, with the utmost caution. Major Crofts also reasons as if the application of paraffin to the seeds of plants, protected the tops from the ravages of birds, &c. This is simply impossible, as none of the paraffin is absorbed by the plant, and if it were, it would no longer be paraffin but changed into the natural juices or food peculiar to the species. The Major, however, deserves the sincere thanks of our readers for directing attention in an interesting way to one of the most potent seed preservers of the day.]

SIR,—I would like to know something more about cheese-making. We have been working a factory since 1870, but have not made any money, because it has taken so much milk to make a pound of cheese. Last year it took nearly eleven and a half pounds of milk to make a pound of cheese. Our milk is very rich in butter, and we make a good article of cheese; if we could get the quantity we would make a good thing; as it is, the venture has been very unsatisfactory. You are in communication with some of our best cheese-makers, and if you could give us any information in relation to working very rich milk, or getting all the curd out of milk, you would confer a favor.

H. T., Point de Bute, N. B.

[We would thank some of our Ontario cheese manufacturers to let us have a reply to our New Brunswick correspondent's enquiries, in time for next issue.]

P. E. Island Crops.

SIR,—Spring dry, but cool till the past week; rain yesterday and last night; to-day cold with north wind. Appearance of good crops, and plenty fruit. Grass a month in advance of last spring.
J. B. S., Southport, June 7th

An esteemed correspondent in Nova Scotia asks for the address of any manufacturer of patent strand wire fencing fit for heavy cattle pastures. Any manufacturer of above wire will oblige by sending his circular to this office.

SIR,—If practicable give the best mode of making a cistern for catching and holding rain water, with a filter attached to it?

G. R. W., Windsor, Ont.

[The simplest and cheapest form is to make a double brick cistern having the division wall built up of soft brick, and the bottom and outer walls of harder brick laid in water-lime mortar. Let the water run into the smaller cistern and filter through the dividing brick wall into the larger one. Many farmers having cisterns already built and without filterers, manufacture one by placing a pan or box of charcoal with perforated bottom between the cistern and the water-spout, so that the water must pass through the charcoal on its way to the former. Such arrangements need re-filling at least once a year.]

SIR,—Does it pay to give pigs any grain feed during summer?
R. W., Salem, N. B.

[Yes, especially during the latter part of summer when they are running in pasture. The grain given at this season with green feed induces a rapid growth and development and gets the young porkers in good condition for the season when they are "put up" to be fattened and are given grain for their chief food.]

Dairy.

Low Prices of Dairy Products.

Undoubtedly the low price of dairy products is, to considerable extent, the result of the general stagnation and depression of business felt throughout the civilized world. But other causes have come in to depress the market—causes which the dairymen, if they had been wise, could have avoided.—The main cause, aside from the general one referred to, has been the great increase of product at the expense of quality. The skimmer has been as disastrous as a scourge. It has increased the supply of butter, and also increased the supply of the lower grades of cheese, which have come in to flood the market and drag down the prices of fine goods. Furthermore, the loss of quality, because of the use of the skimmer, has discouraged consumption and cast suspicion over American cheese generally. We are selling for less to-day, in foreign markets, because of this suspicion, as well as because our markets are glutted with piles of poor cheese. We are consuming less cheese to-day than we were five years ago, when the consumption was small enough, in all conscience, whereas we ought to have doubled our consumption in that time. The reason is that the consumer has been cloyed with poor cheese. Whenever he has gone to the grocery to buy, he has been served with skimmed cheese, or else with the sour or tainted stuff of the whole milk factory which the buyers for a foreign market will not take. The consequence is that a single small purchase for family consumption goes a long way. Cheese ceases to be relishable, and gets the go-by as a regular article of food. Had we never made a pound of skimmed cheese, we should not only be throwing a less amount of butter and cheese on the market, but be furnishing a better article of cheese, if not of butter, and our home markets would be taking ten pounds of cheese where they take one. The way out of our difficulty is to return to the paths of virtue and honesty—to stop skimming, for cheesemaking, and from making skimmed-milk cheese at all—and turn our attention to improving the quality of our goods and reducing the cost of production. It is a grand thing that every sin brings its own punishment. Otherwise, none would ever turn from their evil ways, and all would be lost.

Many instances are given of cattle diseases being carried from farm to farm by rats. After devouring any possible remains of the diseased cattle after the slaughter, they are known to desert the stricken farm in a body for another, where there is at the time an abundance of food. Is it not reasonable to suppose they would carry the contagion with them, and thus introduce it into perfectly healthy sheds?

Feeding and Milking Cows.

At a meeting of the Vermont State Board of Agriculture, Mr. E. R. Skinner, an experienced dairyman, produced an excellent paper for dairymen. On the above subject Mr. Skinner said: "Good cows are essential to the production of good butter, and good feed and care are essential. A first class article of butter cannot be made from cows that are thin in flesh or poorly fed. The basis of feed for cows is early cut hay or cut grass. I cut my hay in 1876 from the 19th to the 20th of June inclusive; in 1877 from the 18th to the 23rd inclusive, cutting the second crop about the middle of August. In addition to this I feed meal and bran, as I think the circumstances and condition of the cow require. I feed bran the year round, varying from two to four quarts per day, according to conditions. A short time before a cow drops her calf and a short time after, I feed no corn meal. I then commence adding a little meal with the bran, and increase as she will bear it, so as to hold her flesh as much as possible. I have no stated amount; this must be left to the judgment and sagacity of the person taking care. I have varied from one quart of meal to four quarts of bran, always adding a little fine salt twice per day. In feeding of cows we should be as liberal as we would be with a friend at our table, and be careful not to overdo. No food makes better butter than corn meal. At a regular hour in the morning I feed hay, and feed until the cows have eaten enough; they clean their mangers clean, water them in the barn, so that each may quietly have what she wants at the proper time, then give them their meal and bran, with a little salt; I then card and brush thoroughly. This they enjoy, and will call for it with unmistakable signs. They then enjoy perfect quiet until about half past three p. m., when they are again watered, fed meal and bran, then hay, until they have enough. Their mangers are then cleaned for the night. I feed them but twice per day. If the weather is pleasant and warm I turn the cows into the yard a short time in the middle of the day; but if cold and stormy I keep them in. The more you add to the quiet and comfort of the cow, the better the result at the pail and the churn. The nervous condition of the cow affects the quantity and quality of the butter.

Milking.—We again come to a fundamental principle, viz., pure milk. This is as essential as anything heretofore named. Without this, good and pure butter cannot be obtained. I make it a rule to milk at five o'clock during the summer, and but little later than that during winter. I first clean the stable, then brush the cows with a short-handled broom kept in the stable on purpose, so as to remove all dust that might otherwise find its way into the milk pail. The milk is then carried to the dairy room and strained, first through a fine wire cloth, then through a knit cloth prepared for the purpose. A knit cloth will catch all dust more readily, and at the same time let through the milk quite as freely as cloth that is woven. Those who wish may discuss the necessity of escape of animal odor from such milk (I am satisfied with it just as it is) as a basis for butter making. This milk is now placed exclusively and entirely in the hands of the dairy-woman, and on her care and intelligence depends very much the character of the production. The milk is skimmed before changing to sour. I use tin cans for cream, with tin cream sticks for stirring. Churn twice a week. Temperature sixty-two to sixty-five degrees. Wash until water runs clear. Work and salt on butter worker. Use three-fourths of an ounce of salt to each pound of butter. Churn and work slowly and carefully. After working the butter, it is prepared in the manner desired for market. The butter is sent to market every week during the year. I would advise all who sell butter to do the same.

Soiling Cows—A Seasonable Record.

Having had quite a number of letters making inquiries with reference to my system of soiling, I thought it best to wait till such time as I could report as I advanced in feeding. To-day (May 22) I have finished feeding winter rye from a half acre of land. I began on the 4th of May, when it had just begun to head out; when I finished it was not in blossom, though four feet high. This I fed to eight cows; they have had the range of a hillside, an old river terrace; a little grass grows on it, which I find increases every year as it is fertilized by the droppings from the cows the few hours they occupied it each day. I do not think it well to keep my cows too closely stabled, but turn them out six or eight hours daily. My rye I feed three times a day, and generally fresh-cut every time; in

addition to this they have had about half a bushel brewer's grain daily. My spring rye is not ready to feed yet; I do not feed it till it heads out; but I always keep a reserve force, and this is orchard grass, which has just begun to head. I fed it to-day for the first time this year. For assisting in soiling it is an excellent grass, and as my land is rather light, it comes early and makes a good growth before dry weather arrives. Last spring I seeded down a small piece of land with orchard grass, perennial rye grass, and tall meadow oat grass, with some clover; these all blossom together, and I expect by the middle of June to have them in the barn, made into hay. I shall put in about three acres of Hungarian, but this I shall make into hay. I have put in three lots of corn to feed green—the first on the 4th of May, another on the 12th, and another on the 18th. I shall continue to plant corn about in this order till the middle of June, if not later; but as I propose to report my progress from time to time, I shall make my articles short, and probably some questions may be asked which I shall answer as I go along.—*T. W., in N. Y. Tribune.*

Fertility of Dairy Farms.

In refuting the often expressed opinion that the soil of dairy farms becomes poorer by the abstraction of phosphates sold in the milk the American Agriculturist gives the following figures:—"One thousand pounds of milk contain about three to four pounds of phosphates, of which nearly the whole is phosphate of lime. Of this less than half is phosphoric acid; five thousand pounds of milk, therefore, contain but seven and one-half pounds of phosphoric acid, which may be taken as the yearly consumption, in this way, of each cow. As wheat bran contains 2.9 per centum of phosphoric acid, it needs only that about two hundred and fifty pounds of bran to be fed to each cow yearly, to replace the draft upon the soil. There are few dairy cows that are fed less than this quantity of either bran, or some food equivalent to it, and it is pretty certain that very little, if any, phosphoric acid is really taken from the soil of dairy farms. On the contrary, to say nothing of the natural supply in the soil, which slowly becomes soluble, there is good reason to believe that every well-kept dairy farm becomes gradually richer in phosphates every year.

White-Oak Cheese.

The American Dairyman in depreciating the practice of skimming milk which is to be made into cheese, says:—"But what can be done to stay the tide of speculation which is preying upon the ignorance of the community, and, for a temporary individual gain, is destroying both the butter and cheese manufacturing business? It is a moral fever, and we suppose it must run its course. So long as water in cheese, in place of butter, will sell so nearly at the same price, skimming milk and watering cheese will go on. It is gradually forcing the manufacturers of full cream cheese into skimming to save themselves from financial ruin. But as surely as sawdust cannot take the place of meal in fattening animals, and asses do not grow fat by snuffing the east wind, the time will come when the scarcity of cream cheese will put up the price and make it profitable to manufacture it, while the glut of poor cheese and butter will make that class of goods so worthless as to drive out of the business altogether those who first resorted to the skimmer, because not satisfied with moderate profits in the manufacture of honest full-cream cheese. We believe another season will give some evidences of the truth of this assertion."

Whatever philosophy may be involved, we know it is not good to set milk in a foul atmosphere. The odors will get into the milk, and cling to the cream and butter—if not by condensation, by absorption they creep in. It may be that only the gases are taken up, or condensed. They may find their way in through condensation, or through chemical affinity, or by mechanical absorption, as the sponge takes up water. We are inclined to the opinion that there is some condensation from a warm moist atmosphere by a cold liquid surface.

Mr. Horsfall, the celebrated English dairy authority, feeds his herds as follows:—Each cow receives nine pounds of hay, six pounds of rape-cake, one pound each of malt comings and bran, with twenty-eight pounds of roots or cabbage. The food (except roots and hay) is given in a mixed, cooked state and whilst warm. In addition to this food, a cow in full milk receives two pounds of bean meal daily, and cows not in full milking order smaller quantities of this article.

The Horse.

Balky Horses.

Every balky horse, unless it inherits the habit, is a living witness against some owner or driver. The difficulty is not a physical, but a moral one, and in most cases is acquired by the animal's being overloaded. A horse generally has a pretty definite idea of how much it ought to draw, and if this amount is exceeded, balking is the very natural result. We once knew an uncommonly intelligent pony which was employed in drawing bark in a cart up an inclined plane into a tannery. The little brute would be patient and apparently unconcerned while the load was going into the cart, until it had reached a certain amount. Then if the loading continued, it would turn its head and watch with evident interest and anxiety every piece that was added to the load, until, finally, without waiting for the word of command, it would start off at a brisk pace, showing by the position of its ears and in other ways its irritation and displeasure at what it seemed to consider an attempted imposition.

It is far more easy to prevent than to cure the habit of balking; when once acquired no harsh treatment will ever break it. Firmness and kindness alone will avail anything. Never apply a whip to a horse when it is balking, nor after it starts. Success in training and governing animals lies in one's ability to make them uncomfortable when disobedient and comfortable when they obey. And yet how often do we see foolish drivers, when a horse has staked and refused to start for a while, when it does start make him uncomfortable by putting on the whip while it is doing what they want it to. It is whipped when it stands and whipped when it goes. This foolish practice has grown from the foolish idea that punishment must be given for what has been done, and the horse has no opportunity to learn that it is better for it to obey than not to obey, consequently it cannot learn to obey.

Brood Mares and Foals.

Perhaps no animals upon our farms receive so large an amount of attention, and create a greater degree of interest, than the brood mares and foals; and yet, about nursing one or both through an illness, our knowledge is of the most limited description.

The mare far advanced in pregnancy sometimes continues tied up in her stall in a crowded stable, instead of enjoying the room, quiet and comfort of a good box; and thus are increased the risks of accidents from other horses, and from getting cast in the stall, whilst the unwieldy mare, finding it difficult to lie down and get up in a narrow stall, is apt to stand persistently, to the detriment of her legs and her strength. Most mares during the last month of pregnancy are unfit for anything like work; but if not worked gently, they require regular exercise in a yard or paddock, or by being led about. The feeding is very important. It must not be too bulky to swell out the digestive organs, and thus diminish the amount of room needed by the foal; it must be sufficiently nutritive to sustain properly both mother and offspring; it must be rather laxative, so as to counteract the tendency to constipation, which is a serious matter when parturition arrives and then is apt to cause straining and eversion of the uterus and other mischief. From causes not always explicable, the foal sometimes comes in a wrong position; the head is occasionally thrown backwards, turned to the side, or down below the brim of the pelvis. Such misadventures are sometimes traceable to the mare having been knocked about, frightened, cast in her stall, or foaling having been brought on prematurely, and are more difficult to rectify in the mare than in the cow, for the mare strains violently, so that the requisite turning and proper placing of the foal for delivery is sometimes almost impossible, and, even with the administration of chloroform, the mare's life has often in such cases to be preserved at the sacrifice of the fetus. As to the ailments from which mares suffer after foaling, inflammation and internal hemorrhage are fortunately rare. Exhaustion, the result of a very hard parturition, or of previous overwork or insufficient feeding, is combated by digestible, easily assimilated food, and a pint of good ale repeated twice daily. A good many, both of draught and lighter bred foals, are lost from their not taking to the teat.

The mares are sometimes troublesome or vicious, their udders are tender, their teats painful, and

they strike out whenever the foal's nose touches the flank. A fidgety mare and awkward or weakly foal will often seriously try a man's patience for many hours, until the foal is got to suck; and to save the foal it must be rised and thus fed at least four times a day. Such help may continue to be requisite for a week; the mare's bag the meanwhile, if tender, must be rubbed with oil, and the teats damped with some mild astringent lotion. As to the examination of the milk, its physical, and even its chemical characters, do not always tell whether it will agree with the young foal, whose thriving will, however, soon indicate the condition of the milk. If faulty on one side, it will be so on the other. Foals sometimes scour and die from the milk of mares in high condition, being too rich for the young animals, and in such cases it is wisdom for a week after parturition to withhold the corn or other such concentrated food, or greatly reduce its amount, and feed the mare mainly on mashes, hay or grass. Occasionally the milk of beautiful mothers disagrees from its being secreted in larger amount than the young foal can take it; it gets stale, and if the udder is not emptied several times a day the foal scours. When the mother's milk disagrees, the first thing to be done is to change her food; if on dry fare, give her grass; if she has had mainly grass, give her dry food. A pint of barley supplied to the mare sometimes arrests scouring of the foal. If change of feeding, and removing night and morning any milk remaining in the udder, does not mend matters, and the foal does not thrive, or continues to purge, it must be tried with other food. Fresh cow's milk, diluted with about one-fourth part of water, and sweetened with an ounce of sugar to the quart, is a safe substitute for the mother's milk. Where the patient gets weak, a little wine and water, brandy and water, egg flip or beef tea, is requisite. Whilst the foal is thus nurtured artificially for a week or ten days, endeavor should be made to keep up the secretion of the mare's milk by milking her at least twice daily, or getting the bag emptied by another foal with which the milk may not disagree. The natural food, after an interval of ten days, may be found not to injure the foal, especially if return to it is made gradual.—*North British Agriculturist.*

Stock.

Oxfordshire Down Sheep.

No breed of sheep has grown more into public favor in Great Britain, or has more rapidly extended in numbers, within the last fifteen or twenty years, than the Oxfordshire Down. It is now about fifty years since a few enterprising English breeders undertook the construction of a new breed of sheep, that should, in great measure, possess the weight of the Longwool with the quality of the Down. It is the opinion of the best authorities in such matters that the Cotswold gray-faced ram and the Hampshire Down ewe were the chief, if not the only, materials which by judicious blending and careful selection have resulted in a class of sheep which, under suitable conditions, are probably as profitable as any that can be mentioned, where size, weight of wool, aptitude to fatten, hardy character and valuable meat are desired.

The success of the early promoters of the project led many others into the field. It was not until 1850 that they were styled the Oxfordshire Downs, the county of Oxford in England being their stronghold. Previous to that date they were properly regarded as cross-breeds, and known as Down Cotswolds, under which designation they achieved successes at the Smithfield shows. As soon as the breed became established, some of the most successful breeders began to exhibit their sheep at the Royal Agricultural Society's show, and though at first they had no special class and were shown with short-wooled sheep and cross-breeds, their great merit soon secured them a class to themselves. The Royal Society decided on a separate class, and the Oxfordshire Downs made their first appearance as a recognized breed in the exhibition year of 1862 at Battersea. At the Smithfield Club show in 1872 the Duke of Marlborough took the champion prize with his splendid wethers of this breed, as the best pen of sheep in any of the classes.

Among the characteristics of a good type of the Oxfordshire Downs should be a nice dark color, the poll well covered with wool, adorned with a top-knot on the forehead; a good fleece of wool, thick on the skin, not too curly; a well-formed barrel on short, dark legs (not gray or spotted); with good,

firm mutton. The weight of wool for a whole flock will average about seven pounds per sheep; rams have been known to cut as much as twenty pounds when shearing. Great numbers of shearings and ram lambs are now sold in England by public as well as private sale. Most satisfactory prices have been realized recently, rams having changed owners at from \$200 to \$300 each. The cross with the Hampshire ewe for early fat lambs for the London market is much in favor. In this breed the weight of the fleece and of the carcass, generally the characteristics of the Cotswold breed, are, combined with the quality of the mutton and the wool, the characteristics of the Downs.

The Oxfordshire sheep are adapted more particularly for mixed soils, and stand close stocking and confinement: that is, they can be kept entirely in hurdles, and will probably do better so than if allowed a range. Different sorts of food are commonly grown on the mixed soils, as kohlrabi, swedes, turnips, mangel wurzel, winter oats, rye and trefoil, vetches, cabbage and clover, so as to keep the sheep as much as possible on the arable land. The stock ewes are generally divided in August, and rams selected to suit each lot. They run over the stubbles, and are penned on rape or cabbage at night; in some instances a few beans are given. They then clean up the pastures till Christmas, having bean or pea straw at night. It is considered unwise to give them many turnips before yearning. They are then brought into the fold yard for lambing, and are fed on hay, cotton cake and a few roots.

They are found to be very good mothers, being strong and prolific, producing a considerable proportion of twins. The lambs, when taken into the turnip field, have a fold in front of their mothers, where they are supplied with hay, grain, and, as the case may be, cut swedes, or crop off the grass. The ewes with twins are also supplied with corn. The lambs are usually weaned when about twenty-two weeks old. They are a healthy class of sheep, and cases of giddiness are seldom known in any of the flocks. Great attention is bestowed by the best flock masters during the young stage, and an early acquaintance with suitable artificial food, and a frequent change of the natural produce, are esteemed as points of great importance. A check to the young system is often bad to recover from, and it is a great argument for the folding system, especially in a country where land is dear and good mutton commands great prices, that the sheep are so frequently under the eye that any marked change may be noticed at once.—*American Cultivator.*

We Must Breed and Feed for Quality.

Mere constitutional vigor and growth, and even fat, from this time onward, will not fill the requirements of the times. Our foreign market so suddenly and unexpectedly opened up to us, also opens up a new class of customers—English and Scotch—who have devoted as much attention to the quality of the food inside of the bullock's hide as the most exacting fruit culturist and epicure in our own country has to the quality of the flesh under the skin of the apple, pear or peach. They cannot be put off with dry unsavory meat when they know so thoroughly that breeding from carefully selected animals—that have come of stock known by frequent trials upon the butcher's block to have fine grained flesh, with a minute mingling of the tissues, this latter condition constituting what is known as marbled flesh—will uniformly produce the character of meat they seek, and are willing to pay a round price for.

When our organizations for the advancement of the live stock interests shall devote as much critical care to the discussion of the modes for improving the quality of our meats, as the fruit and dairy-men do, looking to the more general cultivation of the finer fleshed apples, and the making of the higher classes of cheese and butter, then will we have made an important step forward, and one now needed more than any other. Heretofore it has made but little difference what quality of flesh a bullock showed, when cut up and put in the pot or on the spit. But henceforth prices are to be governed largely by our success in pleasing the British palate. We must look well to the distinction which they make between marbled, savory flesh and that which is lean, with patches of fat here and there in the carcass, not mingled with the muscles as it should be to make it pass as high class meat.

The Texan and Cherokee, in their habits, temper and flesh, partake in no small degree of the nature of the wild vegetable eaters of the moun-

tains and plains, in that the muscles are dark colored, with closely knit fibres, and are noticeable for the absence of adipose matter—fat—from the muscles, this, when present, generally being accumulated where it will least impede locomotion, and is merely stored in convenient places for future use, to be taken up by the absorbents, to again pass into the circulation if by accident or the coming of winter the beast be cut off from food.

So far as our common cattle are concerned, and the same holds true of the Texans, no thought has been given or effort made to improve the quality of flesh or hair. We speak of the latter because it is in no small degree an index to quality of flesh, and in the case of the Texan—which are none other than the old Spanish cattle, descendants from the importations made at various times by the Moore—the hair is proverbially coarse, as the form is also ungainly and the meat cannot by any known rule be expected to be better than these accompanying conditions. These cattle are noted for the long journeys they can make in search of food, and this very ability to travel comes of undue use of a frame and muscles rendered coarse, harsh and rigid in every part, from excessive travel and exposure, and by being fed upon a coarse herbage in its season, the muscles being shrunk down upon the bones from lack of succulent food during the winter.

So it is not all of improvement to make the outer surface shapely and attractive. An excessively coarse apple or potato may be the same, yet it will be despised of men. When we go into the fruit, vegetable or butter market, we say "less is it we care for the cost; we do not want poor quality at any price." This is what our English friends say to us now. If you expect the better class of English buyers to use your American grown meats—generally bred and fed so differently from what they breed and feed—you must improve. Get rid, by a different system of breeding and feeding, of your coarse unsavory product. Throw in a little oil cake and roots with your inevitable, ever-present corn. This latter gives feverishness and dry flesh.

The cost of transporting low-priced beef is the same as for the better kinds, and so also are the commissions the same, and the cost for care and feed not any less. Hence all these expenses combined eat up the sum total obtained, or so nearly as to leave no profit to the one to whom the profit should mainly accrue. As an intelligent Englishman has said, the beef which grows upon the bones of a Texan, or upon the frame of our common American cattle, is not of such quality as will command buyers among the Britons, and the farmers of this country will have made a long stride when they so reorganize their herds as to uniformly produce the better qualities of meat, both for export and for home use. When they become as studious about these things as they are in seeking new-fangled and oft-times trivial improvements in farm machinery, they will quickly learn how to grow and feed steers that buyers will want at six cents a pound, where formerly only the local butchers wanted their stock at three cents.

And in this connection we see much to regret in the onslaughts recently made upon certain strains of blood. These have not been in the interests of the higher classes of cattle, properly interpreted, for while little attention has heretofore been paid to quality, other than to mere mellowness of skin, it will now devolve upon us to breed quality that will be recognized as such in all the parts beneath the skin. This is the kind of quality our English customers seek, and the only kind that is worth a whit anywhere when the hide is off. Some of the slandered cattle, notably the Louans, have come from a base possessing the highest finish known among horned cattle beasts, when we estimate the body through and through, for high quality of marbled flesh was an early distinguishing feature, and still remains, where not bred out by coarse admixtures. Some other off-shoots from the same base have proved equally meritorious. Of course this fine grade of flesh is not confined to any particular family, but for the reasons given, when found, it should be propagated with as much care as we perpetuate any other thing which has merit within it, and has the power to reproduce its like.

Western Farm Journal.

Dorset sheep are kept in the vicinity of several English towns for the purpose of raising lambs for the market. They will raise two lambs each season, the flesh of which is held in high esteem. The sheep have long horns and are very hardy.

Breeding Stock on the Farm.

In view of the market for choice stock lately thrown open to our farmers by the exportation of cattle and meat to Europe, it behooves them to pay increased attention to the raising of superior animals on the farm. A late report on the American meat trade, by Professor Sheldon, of the Cirencester Agricultural College, England, after furnishing a mass of information on the subject, comes to the conclusion that, despite some fluctuations, the dead meat trade will rapidly increase, and that appliances for its successful management will be multiplied here and in Europe. The profits of the traffic will be in a great measure proportionate to the excellence of the product, and the limit to the quantity shipped will be the stowage capacity of vessels crossing the Atlantic; for, owing to the falling off in our imports, the number of ships engaged in the transatlantic trade will be too small to afford room for a large export of meat together with other merchandise, without advancing the freight to a figure that will prohibit further exportation.

The experience of many thriving farmers all over the country proves that a better run of animals is obtained by breeding them on the farm than by purchasing them. More care is bestowed in selecting the likely offsprings of tried animals, they will go on fattening more rapidly and uniformly than strangers picked up here and there, for it takes some time before these get acquainted and become content enough to lay on flesh kindly in their new home; and moreover, the tendency of prices for young stock is upwards, and the probability is very strong that ere long it will not pay farmers to go into the market for young animals. In any case, it is, as a rule, more profitable to breed the stock one handles than to purchase it.—*Mass. Ploughman.*

Kerry Cattle.

In relation to this very reputable breed of Irish dairy cattle, the *London Live Stock Journal* says:

It is the hardy constitution of the Kerry that most enhances its value; for dairy purposes especially a remunerative yield is obtained on what would be to other animals "starvation fare." In the depth of the winter season I have not only known the animals to live jumping from rock to rock, and from cliff to cliff, picking a coarse, scanty bite from amidst the snow-clad mountains, but with very small additional keep at the farm steading, whither they come to be milked morning and evening, to actually thrive under the circumstances. Few persons think of housing the Kerry either night or day at any period of the year. When not giving any milk they remain for months away concealed in the ravines of the mountain passes, seeking the best shelter they can from the excessive rain and snow storms with which their abodes are periodically visited. The hair is thick, but fine and long—provision of nature typical of cold latitudes.

What, however, is far more singular in the constitution of the breed is the readiness with which it successfully adapts itself to circumstances of a wholly reverse character. In acclimatizing breeds of cattle, sheep, or pigs, the transition must be gradual; but with the Kerry we have had it suddenly and indiscriminately transferred from its home in the mountains to the richest grazing valleys which our island can boast of, without experiencing the slightest change as regards health. Not alone this, but we have seen the beasts ushered at once into the dairy sheds, and there confined for years in the closest bondage without any apparent effect on the constitution. They further enjoyed the full benefit of the change as well as if the new abode was their native habitation. In the suburbs of large Irish towns an occasional Kerry is to be met with tethered on the grass plot attached to the dwelling. The animal is soon rendered so docile as to be fondled by the children of the house, and the grass is supplemented with waste from the kitchen. We have seen the most extraordinary results from beasts treated in this manner. Where no pasture is available, the Kerry is fed in the stall, or in its absence a stable or hand feeding exclusively. In this latter case the expense is not more than 10d per day. A half stone of bran, two pounds of oilcake, two of cotton cake, and seven or eight pounds of hay is, in addition to water, the usual daily allowance. The bran and cake are converted into a muckage by being subjected to the action of boiling water with which a portion of the hay chopped is incorporated. The animals receive exercise for about half an hour daily, and their cleanliness is carefully attended to.

Large versus Small Breeds.

A writer in the *Rural New Yorker* has the following very sensible remarks on the effect of large breeds in deteriorating a farm:

Few farmers take into consideration the weight of bones, when deciding whether to raise large or small breeds of swine. Yet there is no element of a virgin soil so completely exhausted from what we can call worn-out lands, as is the bone-forming material, neither is there an element so difficult to restore. In the face of the fact that the continual drain of bone material from the soil, is slowly but steadily telling upon its productiveness, we must, first, make the demands upon the soil for bone material as small as possible; second, restore all the fertilizers of this nature that are available. In order to lighten the demands upon the soil, I would advise breeding with two points constantly in view: First, small bone of fine texture, such as that found in Berkshire, Essex, Jersey Red, and some other breeds; second, early maturity. These points must of course be in addition to those all good breeders endeavor to obtain. Small breeds have the reputation among some breeders and shippers of breaking down and becoming helpless when fat. This is because the small breeds put on flesh more rapidly when young, and carry much more flesh in proportion to the weight of bone than larger, slower-maturing breeds. Every farmer knows that when following the sow with slops and grass, pigs can be made to weigh from one hundred and fifty to two hundred pounds, with but little corn, by good management. My experience is, that the limit of profitable feeding is reached at about two hundred pounds weight with early-maturing breeds. It costs the feeder at least ten times as much to grow one pound of bone as it does to grow the same weight of meat. The growing prejudice against the use of swine's flesh for food would soon be removed by using the small, early-maturing breeds for family use, as with proper variety of other meats and well-fattened pig pork there would be no argument for a Christian to base prejudice on. My plan is to raise as much meat and as little bone as I can, hurry my pigs into market at as early an age as possible, and winter no hogs except my breeding sows.

ASHES FOR CATTLE.—The *Maine Farmer* says: "One of our substantial subscribers, in a recent conversation, gave his experience in treating neat stock affected with the habit of eating wood, chewing bones, etc. His cattle were one spring affected in this way; they became thin in flesh, refused to eat hay, and presented a sickly appearance. He put about four bushels of leached ashes in his barnyard, and threw out to them about a shovelful each day. They all ate it with evident relish. After turning them out to pasture, he put one peck of dry ashes per week on the ground in the pasture. They ate it all up, and gnawed off the grass where it had been lying. The cattle began to improve, gaining flesh and looking better than they had for several years. He now gives one quart of ashes, mixed with the same quantity of salt, to twelve head of cattle, about once a week, and finds it to agree with them wonderfully."

Indiana farmers say that either the dogs must be killed off, or they will stop raising sheep. So much mischief has been done to flocks of fine sheep by worthless curs recently that the raisers are completely discouraged.

Fifty of the farming tenants of the Duke of Newcastle have sought a termination of their leases; the competition of meats from the American shippers being regarded by them as an insuperable obstacle to their future profitable labors as producers for English markets.

Concerning Alsike Clover.

A correspondent states that a traveling agent beguiled certain Pennsylvania farmers into buying "Swedish Clover Seed" at 75 cents a pound, representing that it grows equally well in either wet or dry seasons or soil, is hardy as timothy, gives more hay than red clover, and is better than the latter as a renovator of land. I have given this Swedish or Alsike clover (*Trifolium hybridum*) a fair trial, and it has been grown extensively in this country. It was first, I believe, imported by the Agricultural Department, but has not sustained itself as being equal to our native sorts. The straw is finer and the blossoms smaller, so that bees

can feed upon them as they do upon those of white clover. The honey in them, however, is not so freely developed as it is with the latter. The growth of the plant is not so rank and free as that of the common red, either of the large or medium kinds. The flowers are a bright scarlet, and are very handsome. The seed is smaller, and of course, on this account, a less quantity is required to sow an acre; but, on account of their smallness, better preparation of the soil is necessary to insure germination and successful growth, as is the case with all fine seeds. On account of their fineness, four quarts of seed would be ample for an acre, provided the land was perfectly clean and in a fine condition, so as to insure the growth of all of the seed, but as this is not generally the case, from five to six quarts of seed are required to seed an acre. Our common seed clover is biennial, but often, especially on rich ground, will last for several years; but the Alsike or Swedish is strictly biennial, and dies after the second year. The seed is sold in New York by the pound for 35 cents, and by the bushel at a much less rate. Except for bees to feed upon, and as an ornament or a curiosity, it has no value above the medium and large red, which may be had for 13 cents a pound, or for about \$7 a bushel of 60 pounds. The Alsike will perhaps do better on wet land than the other varieties, but it will not stand the heaving of the ground by the frost like timothy. It is not so valuable for enriching the land, as the roots do not penetrate so deeply nor grow so large, hence there is not so much brought up from the substratum to be added to the surface soil.—*F. D. C., in N. Y. Tribune.*

Poultry Yard.

Dry Feed for Young Chicks.

It is absolutely indispensable that the cooked mash given to any young chickens should be mixed *dry*. By this we mean to convey the suggestion that the meal mixture should be of a *crumbly* consistency, rather than that of the swash, soggy kind of muck that nine of ten careless or inexperienced persons give to the young broods in their infancy. The complaints we continually receive about the loss of early spring chicks has induced us to write privately to numerous correspondents directly, who have appealed to us to tell them why it is that their little birds drop off at ten to twenty days old so frequently when they "feed them with plenty of soft meal properly scalded," and give them "all they can eat four or five times a day."

The cause of a large share of the mortality among the young broods is attributed to this very kind of feeding. Wet, sloppy dough or meal soups in their crops before beginning to digest, and they are destroyed by this means. We again insist that their early food must be *dry*—for the first three or four weeks especially. Whenever they need drink, if shallow pans of milk or fresh water be left within their reach, they will avail themselves of the opportunity to take all they need.

But for their meal feed, there is no good in the too common practice of drowning digestion, by offering your birds three-quarters water to one-fourth of grain! Give the natural solvents, the gastric juices, a chance, and don't dilute them till they are "too thin" to act on the food.—*Poultry World.*

A Duck Farm.

A correspondent of the *London Agricultural Gazette* gives an interesting account of a duck farm kept by Mr. George Monk somewhere in England. "At the time of the visit," he says, "there were twelve hundred ducks, kept in nine or ten different pens, each pen containing all the ducks hatched in one week; numbering from one hundred and twenty to one hundred and fifty. The hens are allowed with the young ducklings for two or three weeks. They are tied by the leg with a cord two feet long, in a warm, well-ventilated pen littered with straw. The young ducks can run out and into an open pen for food and sunshine. The food consists of boiled dog's meat, beef livers, mixed with shorts and barley meal and a little boiled rice. This is all made fine and thoroughly mixed with the hands. It is fed dry, crumbling into little bits as it leaves the hand. Mr. Monk finds ready sale for his young fat ducks in the London market, but we imagine the customers would not relish the savory meat so well did they know it was formed partly of dog's meat."



The Family Circle.

"Home, Sweet Home."

The Country Cousin.

CHAPTER I.

"Now, girls, stitch away; there's lots to do yet, and none too much time to do it in. Here's the trimming to put on my dress, and the lace on Fanny's skirt, besides that white wreath to alter. Oh dear, how I do wish I could afford a new one!" said Sophy Harrison, with an impatient jerk at the flimsy fabric on her lap.

"Could I do anything?" asked a plainly dressed, quiet-looking young girl, who had been for some time surveying the scene in silence.

"Of course you can," replied Sophy; "but it is a shame to set you on to work so soon. Besides, perhaps you have something to do for yourself."

"Oh, no, my dress is all ready. Shall I tack that lace on?" and without waiting for an answer Maggie Cameron was soon working away as busily as the rest.

"What are you going to wear, Maggie?" inquired Sophy, after a pause, during which needles and thread had been swiftly flying to and fro.

"I have but two evening dresses with me," replied Maggie; "a white muslin and a blue grenadine. I will wear whichever you like."

"Oh not blue, I beseech you," said Sophy; "it would quite spoil the effect of my peach blossom. White will suit you admirably, and a red rose will look delicious in your dark hair."

"Frank Wilford is to be at the party to-night," said Fanny.

"You don't say so!" exclaimed Sophy, dropping her work with a sudden start; "I wish I had known that before, and I would have had a new wreath!"

"Ah, but Kitty Ansell is going, too," said Fanny. "So there's not much chance for you or anybody else."

"I don't know that," said Sophy. "At any rate it's no harm to try; and who knows what may happen. *Nihil desperandum* is my motto. Are there any nice young men about your place, Maggie?"

"I don't know, indeed," said Maggie, laughing. "I go out so very little as home."

"Oh I forgot," said Sophy. "My aunt is very strict, isn't she, and makes a little nun of you? I should hate that. It is so charming to go to balls, and plays, and concerts; only one's obliged to cut and contrive one's dress so, and that's horrid!"

"You should have white muslin," said Maggie, innocently; "that always washes and looks new again."

"Yes, but that's as old as the hills, child," replied Sophy. "Nobody wears anything but grenadine and tulle, unless, indeed, one could afford lace. Now, the dearest wish of my whole heart is to wear a black lace—real lace, mind you—over pink satin. Oh, wouldn't it be heavenly! Lotty Stephens has one over amber silk—such a beauty!—but then she's going to be married, and can have anything. Heigho! I wish I was."

"There, that's done!" exclaimed Fanny, jumping up and throwing down her thimble; "make haste, girls, it only wants ten minutes to five, and we must be ready soon after eight. How long do you take to dress, Maggie?"

"Oh, about half an hour, I dare say," was the reply.

"Half an hour!" screamed Sophy; "hear her! Why I am going up now, and I shall be ready one bit before the time. I shall be an hour, at least, doing my hair. What a little rustic you are, Maggie!"

Maggie's color rose; but she only said, quietly, "Mamma does not like me to spend so much time over my dress, cousin; so I shall be ready to help you, if you like."

"That's a darling!" said Sophy; "so you shall for I want to look killing to-night, I can tell you."

The Harrisons were a large family, three girls and as many boys; and Mrs. Harrison and her daughters being excessively fond of show and company, it was almost as much as they could do to make both ends meet at the year's end, particularly now when the girls were all "out," and doing their best to get off. Their cousin, Maggie Cameron, who had been brought up in a very different way, had come to spend the winter with her aunt and uncle in the large, bustling town of Winterbury, where there was always plenty of gaiety in some shape or other the year round. The eldest Miss Harrison, Sophy, was nearly three-and-twenty, and her settlement in life was becoming a matter of very serious consideration, for visiting and late hours are not favorable either to eyes or complexion, and a fair beauty soon fades.

By eight o'clock on this particular evening Maggie was dressed, and down stairs long before the others, who, as is usual with young ladies on such occasions, were fully half an hour behind the time. At length, however, they all sallied in, dressed in the extreme of fashion, with their heads an elaborate mixture of frizzles, puffs and flowers, and their skirts so voluminous, that how they ever got into them must have been a nuzzle to the uninitiated.

Maggie's costume was a decided contrast, a plain white muslin, tastefully yet simply trimmed, and made, too, without that sacrifice of modesty in which young ladies delight at the present day, for it actually did cover the fair smooth shoulders, and really had sleeves, and not shoulder-strings. A single flower of deep velvety crimson nestled in the glossy brown hair, and a handsome pearl locket, suspended by a piece of black velvet round the throat, completed the simple costume.

Maggie had never looked so well. Her cousins surveyed her in silence, and only Sophia exclaimed, "My gracious, child, you've no bracelets, or bouquet, or fan, or anything! But it's too late now; make haste,—the carriage is waiting."

Maggie had never been at so large a party before; and the sudden plunge into so much brilliancy and fashion fairly dazzled her at first. But this feeling soon wore off, and the music was so exhilarating that she felt almost ready to dash off and join the dancers there and then.

"Does not your cousin dance?" inquired young Wilford, whom Sophy had successfully maneuvered to get for the first round dance.

"Oh yes, I suppose so,—I wonder mamma has not found her a partner," answered Sophy, not quite pleased at the inquiry.

"Perhaps you will introduce me," he continued, as the music ceased, and they found themselves nearly opposite Maggie, who was half hidden by Mrs. Harrison's satin skirts. Sophy complied, rather ungraciously, and then seated herself by her mamma, exclaiming that she was tired to death, and should like an ice of all things. Of course there was nothing to be done but to comply with her request, and offer his services to escort her to the refreshment-room, which afforded a delightful opportunity for a little flirtation. Before they returned, Maggie had another chance of dancing; and, after that, she found no lack of partners for the rest of the evening, which passed away much too quickly for the fresh young girl, whose early bloom had not been sullied by any of those scenes of childish dissipation known as "children's parties."

"And how did you like the ball, Maggie?" said Fanny, as she yawned over a new novel the following morning.

"Oh, so very much!" exclaimed Maggie, enthusiastically; "and the music was perfectly delicious; it almost makes me dance now to think of it."

"You queer child," said Sophy, who sat resting her feet upon the fender; "I did not think it nice a bit, and the music was simply horrid!"

"Oh, but it was my first ball, you know, and it all seemed delightful to me," said Maggie. "I dare say you felt exactly the same at first."

"Oh, I don't know," replied Sophy; "it is so long since my first ball that I forget all about it. I've gone to balls regularly these ten years, and really one gets tired of everything in time."

"Ten years!" exclaimed Maggie, in astonishment; "why you must have been quite a child."

"Of course I was," replied Sophy; "twelve or thirteen, perhaps, not more. To be sure they were only children's parties, but we used to go on pretty much as we do now, flirting and all, in a small way."

"Oh, Sophy, how ridiculous!" exclaimed Maggie.

"Ridiculous!" said Sophy; "not at all. I'm sure I enjoyed myself then much more than I do now. It was so very delightful. But how do you like Frank Wilford, Maggie?"

"Oh, pretty well," said Maggie, slowly, for she had not been very favorably impressed with the gentleman in question, who dropped his r's, parted his hair down the middle, and said, "no, thanks," all of which were capital sins and offences in Maggie's eyes.

"Only 'pretty well'?" repeated Sophy; "why, he's the richest fellow in the place, besides being the best dancer."

"Well you need think nothing about him, Sophy," said Fanny; "Kitty Ansell will take care of him, depend upon it."

"I don't believe a word of it," returned Sophy, pettishly; "but if he prefers her to me, why I hope he'll take her, that's all. There's as good fish in the sea as ever came out of it."

"Now that's a very vulgar saying," put in Harriet, who was the fine lady of the family; and you only use it when you're vexed."

"I vexed, indeed!" said Sophy; "I'm not vexed. But if it comes to that, I think Maggie has almost as good a chance as Kitty Ansell. I'm sure he admired her, and he asked for an introduction; which looks suspicious, to say the very least of it."

"Do set your cap at him, Maggie," laughed Fanny; and cut out these other two girls. What fun it would be."

Maggie looked from one to the other in silent astonishment, for she had never heard young ladies "chaff" before.

"Look at her, how grave she looks!" said Sophy. "Oh, Maggie, what a little rustic you are."

"Well, but seriously, Maggie, I should advise you to think about it. How nice to be the wife of Frank Wilford, Esq., of Temple Lawn, with carriages, and horses, and servants, and an opera box, and go to no end of balls, and be presented at Court. Only think of it!"

"Besides making all these other girls, who have tried and could not get him, mad with rage and envy," chimed in Sophy.

"Kitty Ansell would be ready to bite her fingers' ends off with jealousy. But dear me how late it is! Do come and dress, girls. I declare I had almost forgotten the chrysanthemum show, and some of them are sure to be there."

Maggie felt half inclined to refuse; but her uncle, who had taken quite a fancy to the quiet little country girl, would not hear of her staying at home; so she put on her "Sunday dress," a pretty gray merino, and went down stairs to wait for the others. As usual she was ready fully half an hour before her cousins, who came in radiant with the newest fashions.

"Why, Maggie," exclaimed Sophy, "you are surely not going in that plain French merino and felt hat? Why, you look like an Arcadian shepherdess."

Maggie colored slightly at this rude attack on her dress; but she only said, "Don't you think it will do, cousin? I have only got two light silks besides, and I thought those would be too dressy for morning."

"Too dressy, child! What nonsense!" exclaimed Sophy. "There's nothing too dressy in these days; but you don't understand such things. Never mind; nobody will notice you, I dare say."

But Sophy was mistaken; for somebody did notice her; and more than that, admired the fair, modest-looking flower; and all the more for the contrast she exhibited to the gorgeous blossoms beside her.

"Who is that young girl with the Harrisons?" asked young Hamilton, the most impassive and fastidious of all the Winterbury set.

"Haven't the faintest idea," answered his friend. "Wilford, do you know?"

"Yes, she's a sort of cousin, or something," he replied. "I danced with her at the ball the other night. She's a nice little thing enough, and rather refreshing after the usual run of girls; a sort of daisy, you know, amongst a cluster of

exotics," and evidently thinking he had said something witty, Mr. Frank Wilford pulled up his shirt collar, and deliberately lounged away.

In a few minutes the Harrisons, whose acquaintance had previously been of the slightest, had the supreme delight of receiving a very cordial greeting from Mr. Claude Hamilton, who by a dexterous movement contrived to place himself next to Maggie, and gradually drew her into the conversation. She had too much good sense to be bashful, but spoke with a quiet modesty, which contrasted very favorably with the sparkling chatter of her fashionable cousins; so that when Mr. Hamilton lifted his hat, and said "good morning," it was with a determination to make a further acquaintance with the Harrison's country cousin.

"Mamma," said Sophy the next morning, "do let us give a party. We must have one before Maggie leaves; and we had much better have it early, so that she may come in for the return invitations."

"I don't think Maggie cares for parties," observed Mr. Harrison, looking kindly at her over his newspaper; "besides, it is full early yet for quadrille parties."

"Oh, but if we have it at once it will be done with," said Sophy; and as for Maggie's not caring for parties, you are quite mistaken, for she is as fond of dancing as any one of us."

"Yes, dancing, perhaps. Well, as you like," said Mr. Harrison. "But what does mamma say?"

"Oh, I've no objection in the world," replied Mrs. Harrison, who was as fond of gaily as her daughters; "so get your desk, Sophy, and make out a list of names."

Sophy was soon hard at work, while Mr. Harrison, to escape the discussions as to who should and who should not be invited, took up his hat and walked off to his counting house.

"Mamma," said Sophy, as she reached the end of a tolerably long list, "let us invite young Hamilton; I thought he seemed particularly anxious to improve our acquaintance yesterday."

"So I thought, Sophy," answered Mrs. Harrison, sagely nodding her head; "if we can only manage it; but your papa has such odd notions. However, we must see what can be done." But there was no need for Mrs. Harrison's diplomacy, as Mr. Hamilton found an excuse for calling the next day, and made himself so agreeable to the master of the house that he readily acquiesced in the proposed invitation.

CHAPTER II.

During the time that intervened before the ball little else was talked about, and Maggie grew thoroughly tired of the subject; but she had yet to learn how much there is of practical discomfort in a large party at the house of pretentious people. The preceding day was a scene of the wildest confusion. Beds were taken down and carpets taken up, that supper might be laid in one room, and quadrille dances in another. The study was turned into a coffee-room, and the dining-room into a card-room; so that poor Harrison fairly took flight, and was seen no more till evening, while the boys revelled in the commotion, and took their meals when and how they could, securing divers forbidden dainties in the scuffle. Maggie sought refuge in her own chamber, but she put on her hat, and went for a long country walk, in which she contrived to lose herself, and only reached home in time for a cold, comfortless late dinner.

In the morning matters grew worse, and the racket only subsided as the hour approached for the arrival of the visitors. By nine o'clock the rooms were full—that is, about fifty people were crammed into a space scarcely large enough for half that number, so that flirting was carried on upon the stairs, and love-speeches whispered on the landing. However, the evening passed off well, and was what Harriet called, "a decided success." But the aspect of the house the next morning was so utterly forlorn and desolate, such a chaos of rout seats and drooping garlands, such a litter of torn fiery and champagne corks, such a medley of chicken bones and dirty platters, that Mr. Harrison, who was a sworn friend to order and regularity, might well be heard to exclaim that he was glad it was over.

"And you really like all this gaily and dissipation, Miss Cameron?" said Claude Hamilton one evening.

"I liked it very much indeed at first," replied Maggie; "but I am beginning to get rather tired of it now, I must confess, and we live so very quietly at home."

"And pray how do you employ your time at home, Miss Cameron, if I may be allowed to ask the question?"

"Oh, I am never at a loss," she replied. "Mamma likes me to keep up my accomplishments; so I practice every day and draw a good deal; then we have always plenty of books, and generally we play at chess in the winter evenings; so that, with plain sewing and fancy work, the days often pass too quickly."

"In my day," said Mr. Harrison, "girls learnt housekeeping; and I have heard my mother say that she could make a pudding and knit a stocking before she was sixteen."

"And I can make a pudding too, uncle," laughed Maggie, "and do, often, when Martha is busy."

"What's that about puddings?" asked Sophy, sailing into the room in full evening costume. "Oh, Mr. Hamilton, I did not know you were here. Are you going to the Stephens' to-night?"

"No, I really could not manage it," he replied. "Three invitations for one evening fairly scared me, so I declined them all, and just called in here on my way home." It was astonishing how often Mr. Hamilton had lately called on his way home.

"Oh, how very shabby of you!" exclaimed Sophy, with her sweetest smile. "I shall tell Mrs. Stephens how very badly you behave." But the young lady's rally only elicited an exaggerated expression of despair at his inability to join her party, and an offer to escort her to the cab, in which the others were already seated.

"Mamma," exclaimed Sophy, eagerly, as the cab drove off, "did you know Mr. Hamilton was in the drawing-room?"

"I did," said Fanny; "but as I knew he did not come to see me, I forgot all about it."

"It was very provoking, I must say, and you might have told me, Fanny," said Sophy, very much put out.

"I did not know he was there," said Mrs. Hamilton; "but, after all, it does not matter. Maggie is only a child, and you need not fear, Sophy, dear." But Sophy was not so easily consoled, and a cloud obscured her fair brow, which was easily removed by two waltzes and a gallopade, aided by the fervent devotion of a gallant captain of Dragons.

(To be continued.)

Winnie May's Department.

MY DEAR NIECES,—As the season is here for our city friends to visit their country friends, a few hints concerning it will not be out of place.

Some country people put themselves to a great deal of trouble to give their city guests the style to which they have been accustomed at home, and the effort to do so only makes all parties ill at ease and can never be quite successful.

The luxuries of city life are by no means to be despised—soft couches, bath rooms, gas light, early fruits in the markets, attendance of servants, etc. But city people are often glad to turn their backs upon all their home luxuries as the warm weather approaches, and go in search of simple comfort. Let country people who take such tenants into their families for a time remember that comfort is only required, and not every luxury. Some people will allow and receive any amount of trouble, with little or no appreciation, and it is no easy matter to please them; but when you have done all that it is reasonable for you to do, be as deaf and blind as possible to any unreasonable discontent on the part of your guests. People who must have luxurious carpets and furniture, and several courses at meals, should go to the fashionable places of resort where these things can be had and roundly paid for. The comfort which sensible people are in search of is pure air, coolness, natural scenery, good milk for the little ones, and quietness. Those who go into the country for comfort should wear plain, strong clothing, so that they may ramble about the hills and bushes without constant fear of spoiling them.

The hearty food that suits working farmers will not always satisfy city boarders. But there is the nice sweet bread and butter, sweet cream and rich milk, which are always a treat to them.

City people who put on airs of superiority when among country people show their own inferiority, and persons of good sense can only pity them. But generally the daily intercourse between country hosts and city guests is very pleasant and socially profitable to both parties. MINNIE MAY.

RECIPES.

ONIONS AND CAPER SAUCE.

Boil a dozen large onions in milk; do not press them, but simply drain them; put them immediately into a vegetable dish, and pour over them a good caper sauce made quite hot. This is the proper way of serving onions with a dish of boiled mutton.

ESSENCE OF CELERY.

This is prepared by soaking for a fortnight a half ounce of the seeds of celery in a quarter of a pint of brandy. A few drops will flavor a pint of soup or broth equal to a head of celery.

TO BOIL PEAS.

They should be young and of a good sort. Must not be overdone, nor in much water. Boil some mint with them and chop it to garnish them, and stir a piece of butter in with them. If either too young or too old, a little sugar boiled with them is an improvement. HOUSEWIFE.

SALAD DRESSING WITHOUT OIL.

Take the yolks of two fresh eggs, boiled hard, mash them in a plate with a silver fork; add a saltspoonful of salt and two spoonfuls of mustard; rub the whole well together. Add by degrees three spoonfuls of fresh cream and two of good vinegar, stirring all the time until quite smooth.

AMBER PUDDING.

A quarter of a pound of suet finely chopped, a quarter of a pound of fine bread-crumbs (or two ounces of bread-crumbs and two ounces of flour), two eggs, two tablespoonfuls of marmalade, the finest possible rind of a lemon chopped very small; boil or steam in a mould for three hours; serve with marmalade sauce—viz., take half a pot of marmalade, add to it a wineglass of water, warm it on the fire, add a wineglass of white wine, strain and pour round the pudding.

SALAD.

Look over carefully the tender, half-blanching leaves of head-lettuce, and cut them slightly. Make a dressing of the yolks of hard boiled eggs, mixed mustard, black pepper, butter and vinegar. Slice three hard boiled eggs, lay them upon the lettuce and pour the sauce over the whole.

SPINACH—FRENCH FASHION.

Boil as usual; when tender, drain in a colander, and let cold water run over it for a moment—this makes the flavour very delicate. When well drained, put it into an enamelled saucepan; stir it until it is pretty dry; beat it up with two or three spoonfuls of cream, or, failing that, some fresh butter and a pinch of salt—it must be very dry when finished; heap it on a hot plate; toast a slice of bread a delicate brown, cut in little slips, and insert at regular distances. To be eaten by itself. Keep it hot till served.

ALMOND PASTE FOR BRIDE-CAKE.

Half a pound of bitter almonds, half a wine-glass of gin, a little orange-flower water, a little white of one egg. When all these ingredients are pounded add as much honey as may be deemed necessary.

HOW TO MAKE A HAGGIS.

A lady sends us the following quaint piece of housewifery, saying: "In looking over some old papers, that belonged to my grandmother, I found this receipt, with its accompanying 'remarks,' and thinking some enterprising housekeeper might like to try a dish that has called forth such enthusiasm, as well as excited the poetic inspiration of Burns, I copy it for the benefit of your readers." Parboil a sheep's pluck and a piece of good lean beef. Grate the half of the liver, and mince the beef, the lights, and the remaining half of the liver. Take of good beef suet half the weight of this mixture and mince it with half a dozen small firm onions. Toast some oatmeal before the fire for hours, till it is of a light brown color and perfectly dry. Less than two teacupfuls will not do for this meat. Spread the mince on a board, and strew the meal lightly over it with a little seasoning of pepper, salt, and a little cayenne well mixed. Have a haggis-bag, perfectly clean, and see that there be no thin part in it, else your labor may be lost by its bursting. Put in the meat with as much good beef gravy or strong broth as will make it a thick stew. Be careful not to fill the bag too full, but allow the meat room to swell; add the juice of a lemon, or a little vinegar, press out the air, and sew up the bag; prick it with a large needle when it first swells in the pot, to prevent it from bursting; let it boil, but not violently, for three hours.

Answers to Inquiries.

Mrs. W. N. Merritt.—Wash your ceilings and walls with clean cold water, with the brush, before white-washing.

If "Mary Mayflower" wishes her geraniums to bloom in the summer, she must not allow them to bloom in the winter or early spring. To make geranium slips grow, put them in light sandy soil and plant close to the edge of the pot, keeping in a shady place and always taking the young shoots.

My Husband.

Who in my youth said, "Dearest, come,
Forsake your precious childhood's home,
And with me o'er the wide world roam?"—
My husband.

Who gently led me in the way,
And caused my heart to bless the day
That took me from my home away?—
My husband.

Who at first sounding of alarm
Would fold around me his loving arm,
To shield me from impending harm?—
My husband.

Who at first token of distress,
Exhibited by restlessness,
Oft soothes me by his fond caress?—
My husband.

Who, if long, watchful nights there be,
When sleep—sweet sleep—won't come to me,
Will keep awake for company?—
My husband.

Who, when I, with each nerve unstrung,
Next morn move round my cares among,
If I should fret, would "hold his tongue?"—
My husband.

When, in haste, to mar our bliss
One word is thoughtless said amiss,
Who asks forgiveness with a kiss?—
My husband.

Who through all changing scenes of life,
The bright, the dark, the peace, the strife,
Would call me naught but "precious wife?"—
My husband.

When on the couch of suffering laid,
With throbbing pulse and aching head,
Who anxious watches round my bed?—
My husband.

Who, when of kindred dear bereft,
And my sad heart in twain is cleft,
Proves that my dearest friend is left?—
My husband.

When overwhelmed with grief and fears,
And through the gloom no star appears,
Who cheers my heart and wipes my tears?—
My husband.

Who, when I've done with all below,
And death's dark waters round me flow,
Would fain with me o'er Jordan go?—
My husband.

My Wife.

IN RESPONSE TO HER STANZAS, "MY HUSBAND."

What maiden, in the days of yore,
Snote me with most tremendous power,
Inflicting pangs unknown before?—
My wife.

Who pitied me in my distress,
And, by one simple little "Yes,"
Changed all my woe to blessedness?—
My wife.

Who did, with look almost divine,
My soul in cords of love entwine,
And gave her priceless heart for mine?—
My wife.

Who to the altar went with me,
Our hearts aglow with ecstasy,
And my good angel vowed to be?—
My wife.

Who, since I to the altar led
My blushing bride, and vows were said,
Has naught but blessings round me shed?—
My wife.

Who in our pilgrimage below
Has cheered with smiles the passage through,
And ever faithful proved and true?—
My wife.

When pressed with sorrow, toil, and cares,
Who all my grief and trouble shares,
And half at least my burden bears?—
My wife.

When tempests rage and billows roll,
And human passions spurn control,
Who calms the tumult of my soul?—
My wife.

When storms are hushed and skies are bright,
And shadows dark are changed to light,
Who joys with me in sweet delight?—
My wife.

Who was in youth th' admired of men;
But now, at threescore years and ten,
Is far more beautiful than then?—
My wife.

As down life's rugged steep I go,
With careful, trembling steps and slow,
Who clings to me and helps me through?—
My wife.

Who, when my toilsome days are o'er,
Will meet me on blest Canaan's shore,
And sing with me for evermore?—
My wife.

—Harper's Magazine.

No Mark of Gentility.

There is a sentiment among a certain class that to seem regardless in the matter of expenses is quite a mark of high breeding. The reverse is rather the fact; and such a motive shows much ignorance of the higher walks of social life. Large incomes, when the expenditure is on a magnificent scale, are often disbursed with a system as exact and economic, in its way, as that which is found in a most methodical, humble household. This system reaches even to the most minute details of the larder and kitchen. Wastefulness is usually regarded among well-bred people as a distinctive mark of vulgarity and "newness" in the upper social plane.

A woman who a dozen years or more ago did her own work for her family, washing included, in a room or two in Harlem, after a sudden "rise," could find nothing sufficiently good at Stewart's to suit her fastidious taste, so she ordered, through them, an entire suit from Paris. The wheel of fortune gave another turn, and the auctioneer's hammer made short work of her finery. An indifference to expenses, even in small things, is one of the surest ways in which to swamp a fortune. It is in the details of the table that a wide sphere is opened to a cultivated woman to economize expenses, while she still sets a most elegant, generous table. When cooking is accounted one of the fine arts in which our daughters are duly trained, with the diligence we expect them to bestow on their music, we shall have a better order of things in the household.

With close attention to minutiae, one can prepare a dainty tea, or a wholesome, abundant dinner whose savory odors will gratify more than the sense of taste, on a very small sum. Enough good food is wasted in many a thriftless home to provide, if properly used, for another family.

Let the little girls be early trained to take an interest in the domestic economy of the household. This can only be done by giving them a part in its workings. "Begin small," and take the rule of "one thing at a time." Be very patient with mistakes, and when you are tempted to fret at the child's awkwardness, just sit down and write a page with your left hand. Then remember that a child is all "left hand." ETHEL.

Conserve of Roses.

Cut the roses when in full bloom, and pull out the petals. This can be done for several days, until your fragrant roses are done blooming. Spread the leaves or stir them up, that they may not mildew. When done gathering them put the rose leaves into a preserving kettle with a little water, cover them and boil until they are soft and tender; then add sugar and boil till you have a nice syrup; put away in your fruit cans or jelly glasses. Taking a tablespoonful of this on rising in the morning, before eating anything, is regarded by the Syrians as one of the best remedies for indigestion.

This delicious preserve or conserve of roses is also passed around on a little silver tray to guests to taste of, and talk about, and praise, etc. Ladies, you will find it a delightful flavoring for puddings, cakes and pies, as it retains the rose flavor and fragrance for any length of time. A little of the syrup in pudding sauce is very nice. A little of the leaves, as well, in your mince pies is a great addition.—*Christian Witness.*

Cheap Table Plants for Farmers.

Table decoration is one of those innocent fancies which may be indulged in by all classes. Many farmers' wives and daughters are also gifted with excellent taste and wonderfully acute inventive powers. Not a few of them, however, who have no green-house despair of having table plants for their dinner parties. These, however, are quite within their reach. Nothing can be easier than to grow a few of the finer hardy plants or annuals in pots, or, simpler still, take up a nice batch from the garden when wanted, place it in a pot, vase, basket, or china basin, set one, three or more, such on the table, and remove back to the garden next morning or as soon as they begin to fade. Polyanthus, Primroses, Auriculas, Aubretias, Arabis, Forget-me-nots, Stocks, Wallflowers, and nearly all bulbs may be treated in this way, and have a fine effect. A few common Fern fronds, cut from the hedge-rows, add much to the beauty of some of these. But nothing can equal the natural foliage of most of them, especially the leaves of Auriculas.—*Agricultural Economist.*

The Superannuated O. G.

"I have been called a superannuated old goose," remarked a woman about fifty years of age, as she entered the central station yesterday.

She sat down and looked at the captain for half a minute, and then continued:—

"I have been called an ignorant old dodo, a centennial parchment, a relicous old lying pyramid, and several other hard names, and I want a certain woman arrested right off."

"It was a woman, eh?" queried the captain.

"It was a woman, sir, and when I shut my eyes her image comes before me as plain as a photograph. You can find her on the market."

"You had a fuss, did you?" he asked.

"We had a dispute," she replied, as she unrolled a white handkerchief and held up a banana. "She had some of these bandanas for sale, and when I asked her how she sold bandanas, she laughed in a mean way, and said she hadn't a bandana on her stand. There they was right before my eyes, and yet she said she hadn't any."

"You called them bandanas, while you meant bananas," said the captain.

"There you go, too!" she exclaimed, as she rose up. "Don't you s'pose I know what a bandana is?"

"Yes, ma'am, but that—"

"This is a bandana!" she shrieked, as she waved it round.

"That is a banana, ma'am!"

"It's a bandana, or I'm a fool!"

"It's a banana, or I'm a villain!"

She stepped back as if she meant to throw it at his eye, but after a little reflection she calmly remarked:—

"There's two of you against me, and some of us are fools. I'm old enough to be your mother, and I've called these things bandanas for over fifty years. Now, I want to find out if I'm a living Egyptian pyramid, or if you sit up behind that desk to make fun of me. Where's the city directory?"

"The directory wont settle this dispute," he replied, as he stepped down. "Come to the door, and we'll see what others say."

She followed him out, and in half a minute along came a boy.

"Bub, what's that?" said the captain, pointing to the fruit.

"She's a banana," answered the boy.

Thirty feet behind was another boy, and he said it was a banana. In the course of five minutes three or four men had passed by, and each one had called it a banana.

"There—are you satisfied now?" asked the captain, as he turned to go in.

"I hate to give in, but I've got to," she sighed. "I've been called a superannuated old goose, a relicous pyramid, and a centennial parchment, and I guess I am. I've read of folks eating bandanas and tying up bundles in bananas, and fifty years of my life has been lived for nothing. The woman was right, you are right, and the next time I'll inquire for lemons and find out that everybody else calls 'em string beans. Good-by, squire."

Van Dyck and the Bishop.

There is a tale that Van Dyck, just before his departure, was sent for by a bishop (whose name being Anthony, has been wrongly supposed to be the Bishop of Trieste, a firm friend of the artist) to paint his portrait. With the insolence of his rank, the prelate, regarding the artist as he did one of his lackeys, when he came in did not rise to receive him, nor make any acknowledgment of his presence. Van Dyck had seen in the anteroom his case and implements, which he had sent before, and vexed at his reception, without waiting for an invitation, seated himself and gazed steadily at the bishop without saying a word. As that worthy in this silent strife found he was matched by the artist, after some minutes he said, abruptly:

"Have not you come to paint my portrait?"

"I am at your Eminence's disposal," replied Van Dyck.

The bishop waited; the painter sat immovable.

"Why," cried the prelate, "don't you get your tools? do you expect me to seek for them?"

"As you did not order your servants to bring them to me, I thought it possible that you intended to do me that service," answered Van Dyck coolly.

Reddening with rage, the bishop rose, and, in a wrathful tone, cried:

"Anthony, you are but a little asp, but you have great venom."

Van Dyck moved toward the door, and when on the threshold, at a safe distance from the burly priest, bowed mockingly, as he retorted:

"Anthony, you are large enough, but, like the cinnamon-tree, the skin is the best part of you."—*Harper's Magazine.*

Facts About Colors.

There are many little arts which may be used about colored clothes when washing them which tend to a look of newness as long as they are worn. These are some of them: A spoonful of oxgall to a gallon of water will set the colors of almost any goods soaked in it previously to washing. A tea cup of lye in a pail of water will improve the color of black goods. Nankin should lay in lye before being washed; it sets the color. A strong, clean tea of common hay will preserve the color of French linens. Vinegar in the rinsing water, for pink or green calicoes, will brighten them. Soda answers the same end for both purple and blue.

PRACTICAL SYMPATHY.—Nothing is so certain to bring genuine happy smiles to our own faces as to watch such smiles grow in those of others as the result of our sympathy, our gentle words or helpful deeds. Who ever did a real kindness for another without feeling a warm glow of satisfaction creep into some shady corner of the heart and fill it with sweetness and peace? It is like fastening a knot of violets and mignonette in the button-hole, just where their perfume may rise deliciously to our sense all day. And what a pleasure it will be, when the present trouble is over, to remember that even in darkest days we found time and inclination to give to others some portion of that tenderness or practical helpfulness which was the overflow of that generous spirit which finally bore us through it all to a happy and peaceful ending! "Rejoice with them that do rejoice, and weep with them that weep."

CARELESS WIVES.—It is very common to hear the remark made of a young man that he is so industrious and so economical that he is sure to be thrifty and prosperous. And this may be very true of him so long as he remains single. But what will his habitual prudence avail him against the careless waste and extravagance of an uncalculating, unthinking wife? He might as well be doomed to spend his strength and life in an attempt to catch water in a sieve. The effort would be hardly less certainly in vain. Habits of economy, the ways to turn everything in household affairs to the best account—these are among the things which every mother should teach her daughters. Without such instruction, those who are poor will never become rich, while those who are now rich may become poor.

ABOUT EYEBROWS.—While the Danes profess to know a man who is a wehrwolf by his eyebrows meeting, the current saying in the South of England is: "It is good to have meeting eyebrows; you will never have trouble." In China, according to Dr. Denny's, the people say that "people whose eyebrows meet can never expect to attain the dignity of a minister of state"; that "ladies with too much down or hair are born to be poor all their lives," but that "bearded men will never become beggars."

There is a beautiful precept which he who has received an injury, or who thinks that he has, would for his own sake do well to follow—"Excuse half, and forgive the rest."

Give a helping hand when you may, and, if in need of assistance yourself, gratefully take it if it is freely offered; but never wait for it. Independence is always honoured; therefore be independent, and by self-reliance show that at least you are deserving of success.

Springs are little things, but they are sources of large streams; a helm is a little, but it governs the course of a ship; a bridle-bit is a little thing, but see its use and power; nails and pegs are little things, but they hold buildings together; a word, a look, a frown—all are little things, but powerful for good or evil. Think of this, and mind the little things.

On being asked why he went into bankruptcy, he replied: "Well, my liabilities were large, my liabilities numerous, and my probabilities unpromising; and so I thought I'd do as my neighbors do."

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—The bright holiday time is just here, and every one of you will be looking out for the fine treats in store for you. Oh! such running and jumping, bounding and hopping, frequent tumbles and merry shouts as emanate from all happy children—when your little duties are done for father and mother, and you are at liberty to gather for rambles, ball playing or croquet, archery or botanical expeditions, or work among the flowers; and from each of these amusements you should have strengthened muscles, ruddy cheeks and robust health, as well as great enjoyment. My wish for you all is that you may have a good time, and help some other body to have a good time, too.

Some of my little friends have again misunderstood us in regard to the prizes offered last month, which were but two, one to the one who answered the most puzzles correctly, and one for the best selection of puzzles. So, dear nephews and nieces, do not feel slighted or unjustly treated, but try again.

UNCLE TOM.

Puzzles.

55—CROSS-WORD ENIGMA.

1. In sell, not in buy;
 2. In wheat, not in rye;
 3. In vine, not in tree;
 4. In blind, not in see;
 5. In mutton, not in sheep;
 6. In look, not in peep;
 7. In coat, not in vest;
 8. In slumber, not in rest;
 9. In pencil, not in chalk;
 10. In stand, not in walk.
- If you can't answer, 'tis a pity,
For it is the name of a city.

56—NUMERICAL ENIGMA.

The whole, composed of eight letters, is what we are all fond of:
The 2, 3, 4, 1, 6 is a relative,
The 1, 6, 7, 8 is a boy's name,
The 5, 7, 8, 6 is a whetstone.

57—ENIGMA.

I am a vegetable substance of scarce six inches long,
And sometimes come from distant parts—not Pekin or Hongkong;
If so I am British, if good, of foreign birth,
But until you have destroyed me you can never know my worth;
I am used by high and low, rich and poor, youth and age,
Prince, artisan and peasant, philosopher and sage;
I am no favorite with the ladies, 'tis really very sad;
They can't endure my presence—call me everything that's bad.

JAMES H. CROSS.

58—CHARADES.

1. My first gives warmth to man and beast; my second is a period of time; my whole we ought to rest upon.
2. My first often bears the weight of my second; my whole is generally found at a meeting.
3. Valor may defend my first,
Death alone prevents my next;
And life itself, though aptly called
The fleeting journey of a day,
Or voyage through a stormy sea,
Is but my figurative whole.
4. My first is what we ought to be
To friend and foe, 'tis true;
My next a lake in Scotland is,
And may be found by you.
My whole doth wondrous power possess—
The answer please proceed to guess.

MARY J. BOWMAN.

59—ANAGRAM.

O, eterh rea kolos dan netso htta tard
Na tatnis hunsenis of hte threa,
Sa fi het losu ttha nmntoo gaueth
Meso resatru ti utrohlg file adh gthosu.

60—WORD-SQUARE.

1. Fermentation. 2. An island. 3. A man's name. 4. Information.

JOHN THOMAS.

61—WORD SYNCOPATIONS.

Remove one word from another, and leave a complete word.

1. Take a crime from a clergyman's house, and leave an attendant. 2. Take a summer luxury from worthy of observation, and leave remarkable. 3. Take savage from to puzzle, and leave a drink. 4. Take suffrage from a bigot, and leave a river in Great Britain.

CYRIL DEANE.

62—Make a word by adding the absent vowels:
N g s t n b l. G. AMOS HAWKINS.

62—ENIGMA.

I am composed of 50 letters:
My 10, 22, 30, 5, 33 is dreaded by all.
My 8, 12, 11, 6 will wait for no one.
My 2, 1, 7, 14, 46, 48 is what conversation should be.

My 3, 50, 35, 43 is a kind of grain.
My 19, 38, 4, 40, 36, 27 is needed for farming.
My 7, 34, 8, 28, 25, 37 is a disagreeable shrub.
My 13, 42, 6, 10, 25, 9 is used in sewing.
My 29, 20, 26, 31, 14, 16 are employed by sportsmen.

My 21, 49, 44, 32 is a tumultuous brawl.
My 14, 15, 24, 11, 17, 4, 14 is a precious stone.
My 41, 17, 23, 27, 36 is a common name for a dog.

My 39, 50, 18, 45, 36, 3, 13 is a color.
My whole is a maxim that the discontented should remember.

LAURA.

63—ILLUSTRATED REBUS.



64—DROP-LETTER PUZZLE.

Every other letter is omitted:
H- d-t m-c w-o -o-h -e-l -h-t e -a-h -o -o.
C. D.

65—CROSS-WORD ENIGMA.

- My first is in faith, but not in sight;
- My second is in air, but not in fire;
- My third is in sunshine, but not in light;
- My fourth is in harp, but not in lyre;
- My fifth is in silk, but not in flax;
- My sixth is in gold, but not in tin;
- My seventh is in nails, but not in tacks;
- My whole is too often the cause of sin.

Names of Those Who Sent Correct Answers to June Puzzles.

James H. Cross, Elizabeth Simpson, Amelia Straubel, M. A. Andrews, Effie Jackson, Maggie Blair, Mrs. Hopworth, James M. Jackson, W. J. Fennell, Minnie Fraser, Edward James, John Strauss, Alex. Henderson, Frank Plumber, Jennie McArthur, Henry West, Joshua Barker, Mary Bailey, Sarah J. Symonds, Ellen Farmer, John McKenzie, Edward Cooper, Amelia Chambers, Geo. W. Tilley, Hugh Scott, Octavius Crafton, Andrew Chisholme, Alice Payne, Lottie Cross, Mrs. James Kirby, Frank Jell, Jane A. Johnson, Abraham Labatt, Nellie C. Graham, Lillie Stone, M. W. Collet, Austin D. Mabie, Emmie V. Johnson, H. Wilkinson, Sallie Emerson, S. N. Knapp, Emily Morrison, J. H. Tousley, Mary Bradley, Amos Hawkins.

We have to congratulate Effie Jackson upon her success in answering the greatest number of puzzles last month.

Answers to June Puzzles.

- 41—Garden, Orchard and Forest.
- 42—Dear Mister White.
We wish you good-night,
We are sorry we cannot stay longer;

We have taken twenty-one geese
At a penny a-piece,
And left the amount with the gander.

- 43—Spine.
- 44—Winnipeg.
- 45—Pictou.
- 46—A mole.
- 47—Assassination.
- 48—Coal.
- 49—Plumber, lumber, umber, plumb, plum.
- 50—Arkansas.

51—

1	15	14	4
12	6	7	9
8	10	11	5
13	3	2	16

52—THE FARMER'S ADVOCATE AND HOME MAGAZINE.

53—W A A L
A N N A
A N O N
L A N D
S
A C E
A B H O R S
54 S C H O O L S
I R O U T
I L L
S

HUMOROUS.

A Miss Joy was present at a party recently, and in the course of the evening some one used the quotation, "A thing of beauty is a joy for ever," when she exclaimed, "I'm glad I'm not a beauty, for I should not like to be a Joy for ever."

A French paper points out how the passion for gambling is shown in England, so that even in wedding notices it is necessary to state that there were "no cards."

A well-known dramatist can say rude things. Some one said to him last week, "You want a new hat." "Yes, that's quite true," he replied; "but why say it? I never told you you wanted a new head."

"Here's a neat toast," said an old gentleman as he read from a volume in his hand—"In ascending the hill of prosperity my we never meet a friend." "What is there neat about that?" asked his wife. "I don't see any point to it." "Don't see any point!" exclaimed the husband. "Why, if you're going up the hill of prosperity and meet a friend, he must be going down, mustn't he—must be on the downhill path, unprosperous—must, in short—" "I see, I see!" interrupted the old lady.

Eureka as an art centre, according to *The Republican*: After strolling about for some little time, she was suddenly rooted before a pretty landscape. She stood and gazed with parted lips and quickened breath, and when one of the attendants, all smiles, minced up, the lady heaved a deep sigh and exclaimed: "My, what a lovely frame!" A prominent citizen also made a tour of the gallery, rapping every frame within reach and throwing his head on one side to examine them critically, and finally bawled across the hall to an attendant: "I say, mister, are all these here frames solid."

A bright little fellow of four years, whose correctness the father questioned, asking: "If Mary should tell you anything that was not exactly so, what would you say?" "I'd say she told a lie." "If brother should say anything that was not so, would you think it right?" "No, I'd think he told a lie." "Well, supposing you should say something that was not exactly so; what then?" "I'd say I's mistaken."

POLITE FICTIONS.—Mrs. Brown: "Dear me, Mrs. Jones, are those tall young ladies really yours? I had no idea that you had daughters grown up!" Mrs. Jones (who is still possessed of considerable personal attractions): "Oh, yes! I was married at fifteen, you know! And is that young gentleman really your son?" Mrs. Brown (who is also possessed of ditto, ditto, ditto): "Yes—a—I was married at twelve."

William L. Dayton while at college could not pronounce his R's. One day he told his professor that the students on the campus were having a wov. "A what?" asked the professor. "A wiot," said Dayton. "A what?" said the professor. "Oh, a wumpus," exclaimed Dayton, as he stalked away.

A clergyman, having been inducted into a living in Kent, took occasion during his first sermon to introduce the word "optics." At the conclusion of the service a farmer who was present thanked him for his discourse, but intimated that he had made a mistake in one word, softening down the severity of his criticism by saying, "We all know very well, sir, what you meant." On the clergyman making further inquiries about the word, the farmer replied: "What you call hopsticks, in this part of the country we call hop-poles."

"Mr. Dickson are you a member of the African church?" "Not dis year, sir. I jined that church in good faith. I give ten dollars to de preaching of the gospel the first year, and de church people all call me 'Brudder Dickson.' De second year my business was not so good, and I only give five dollars. Dat, year de people call me 'Mr. Dickson.' Well, sah, de third year, I feel very poor, sickness in de family and I didn't gib nuffin for de preachin.' Well, sah, arter that they call me 'ole nigger Dickson,' an' I left 'em."

"A CERTAIN SOMETHING."—Anxious mamma: "This will be your first ball my child. Endeavour to make a good impression." Ingenious darling: "Mamma, I heard uncle Ned say that when you were a young girl, although you were not in the least good-looking or brilliant, you had a certain something about you that fascinated everybody. Won't you lend me that certain something for to-night, please, mamma?"

BOSTONITE OR BOASTONITE?—An English gentleman in Boston who had been quoting Shakspeare was asked by a Bostonite for the loan of his plays. After some time the book was returned to him. "Well," he asked, "and what do you think of it?" "I thought it simply splendid," answered the American, adding, "why, I don't believe there are half a dozen men in Boston who could have written it!"

LEGAL AND ILLEGAL.—A well-known judge not long since interested himself actively on behalf of a member of his former circuit who happened also, a contemporary tells us, to be the son of a peer, and succeeded in obtaining for him an important lucrative appointment. The noble parent, full of gratitude called upon the judge to thank him for his exertions, and said that he felt all the more obliged because his son had never done much at the Bar, adding, with unconscious and unintentional sarcasm, "I suppose he was too much of a gentleman."

Small boy (entering shop.) "I want a penny-worth o' canary-seed." Shopkeeper (who knows the boy): "Is it for your mother?" Small boy (contemptuously): "No! It's for the bird."

Mr. Musclejohn, hearing that a neighbor was reporting that he was a man of violent temper, excitedly said: "He ought to know better than to spread such a slander, for I knocked him down only yesterday for merely hinting it in my presence."

Instinct in Birds.

No subject connected with the history of birds furnishes more interesting material for study than that of instinct. Young birds of different species show that they have very different degrees of instinctive knowledge. Some are able to take the entire care of themselves, and do not need a mother to watch over them; others, on the contrary, are perfectly helpless, and need teaching before they can do anything for themselves, except breathe, and swallow what is put into their mouths. The young chicken, a short time after it leaves the egg, knows how to take care of itself nearly as well as does the year-old bird. It can run after its mother, use its eyes, pick up food, and answer the call of the old hen; and it does all this without instruction. How different it is in all these respects from the young barn-swallow! This is blind, and unable to run, or even to stand, knowing only enough to open its mouth when it hears the old bird return to the nest, and to swallow the food placed in its open bill. Far from knowing by instinct how to use its wings, as the young chick does its legs, it does not learn this until it is well grown, and has had several lessons in flying; and even then it flies badly, and improves only after long practice. After it has learned to fly, it is still very helpless and baby-like, and very different from the active, bright-eyed, independent little chick of the barn-yard—and, indeed, the young of all the *Rasbors*, or scratching birds, such as the hen, the quail, the partridge, the pheasant and the turkey.

The scratching birds are not the only ones which can take care of themselves at an early age. This is true of the running birds, such as the ostrich; and the same is the case with many of the wading birds, such as the woodcock; and among the swimming birds there are several kinds that take full care of themselves soon after leaving the shell.

Far from standing in any need of instruction, young ducks take to the water by instinct, even when they have been brought up by a hen; and they know that they are perfectly safe upon it, although the anxious hen tries in every way to restrain them and to call them back.

There are many ways in which some of our young birds show their really wonderful instincts, but there is nothing more curious in this respect than the habits of the little chickens, which most of us have opportunities of noticing—if we choose to take the trouble. These little creatures, almost as soon as they are born, understand what their mother "clucks" to them; they know that they must hide when a hawk is about; they often scratch the ground for food before they see their mother or any other chicken do so; they are careful not to catch bees instead of flies; and they show their early smartness in many ways which are well worth watching.

But, sometimes, a brood of these youngsters find something that puzzles them, as when they meet with a hard-shelled beetle, who looks too big to eat and yet too small for a playmate.—*Prof. W. H. Brooks, in St. Nicholas.*

The Bumble-Bee and Grasshopper.

A bumble-bee, yellow as gold,
Sat perched on a red-clover top,
When a grasshopper, wiry and old,
Came along with a skip and a hop.
"Good-morrow!" cried he, "Mr. Bumble-Bee!
You seem to have come to a stop."

"We people that work,"
Said the bee with a jerk,
"Find a benefit sometimes in stopping;
Only insects like you,
Who have nothing to do,
Can keep up a perpetual hopping."

The grasshopper paused on his way,
And thoughtfully hunched up his knees;
"Why trouble this sunshiny day,
Quoth he, "with reflections like these?
I follow the trade for which I was made;
We all can't be wise bumble-bees."

"There's a time to be sad,
And a time to be glad;
A time both for working and stopping;
For men to make money,
For you to make honey,
And for me to do nothing but hopping."

A Tree Agent Treed.

The July *Scribner* contains the concluding installment of Mr. F. R. Stockton's droll "Rudder Grange" sketches, which are to be published in book form in the fall. One of the incidents of this last sketch is quoted below. The proprietor of Rudder Grange, returning from a drive with Euphemia, his wife, finds a tramp in one of his trees and a tree agent in another near by, with his savage dog, Lord Edward, plying between. The following scene ensues:

"This one," said Pomona, "is a tree man—"
"I should think so," said I, as I caught sight of a person in gray trowsers standing among the branches of a cherry tree not very far from the kitchen door. The tree was not a large one, and the branches were not strong enough to allow him to sit down on them, although they supported him well enough, as he stood close to the trunk just out of reach of Lord Edward.

"This is a very unpleasant position, sir," said he, when I reached the tree. "I simply came into your yard on a matter of business, and finding that raging beast attacking a person in a tree, I had barely time to get up into this tree myself before he dashed at me. Luckily I was out of his reach; but I very much fear I have lost some of my property."

"No he hasn't," said Pomona. "It was a big book he dropped. I picked it up and took it into the house. It's full of pictures of pears and peaches and flowers. I've been lookin' at it. That's how I knew what he was. And there was no call for his gittin up a tree. Lord Edward

never would have gone after him if he hadn't run as if he had guilt on his soul."

"I suppose, then," said I, addressing the individual in the cherry tree, "that you came here to sell me some trees?"

"Yes, sir," said he quickly, "trees, shrubs, vines, evergreens—everything suitable for a gentleman's country villa. I can sell you something quite remarkable, sir, in the way of cherry trees—French ones, just imported; bear fruit three times the size of anything that could be produced on a tree like this. And pears—fruit of the finest flavor and enormous size—"

"Yes," said Pomona. "I seen them in the book. But they must grow on a ground-vine. No tree couldn't hold such pears as them."

Here Euphemia reproved Pomona's forwardness, and I invited the tree agent to get down out of the tree.

"Thank you," said he; "but not while that dog is loose. If you will kindly chain him up, I will get my book and show you specimens of some of the finest small fruit in the world, all imported from the first nurseries of Europe—the Red-gold Amber Muscat grape—the—"

"Oh, please let him down!" said Euphemia, her eyes beginning to sparkle.

I slowly walked toward the tramp tree, revolving various matters in my mind. We had not spent much money on the place during the winter, and we now had a small sum which we intended to use for the advantage of the farm, but had not yet decided what to do with it. It behooved me to be careful.

I told Pomona to run and get me the dog chain, and I stood under the tree, listening, as well as I could, to the tree agent talking to Euphemia, and paying no attention to the impassioned entreaties of the tramp in the crotch above me. When the chain was brought, I hooked one end of it in Lord Edward's collar, and then I took a firm grasp of the other. Telling Pomona to bring the tree agent's book from the house, I called to that individual to get down from his tree. He promptly obeyed, and, taking the book from Pomona, began to show the pictures to Euphemia.

"You had better hurry, sir," I called out. "I can't hold this dog very long." And, indeed, Lord Edward had made a run toward the agent, which jerked me very forcibly in his direction. But a movement by the tramp had quickly brought the dog back to his more desired victim.

"If you will just tie up that dog, sir," said the agent, "and come this way, I would like to show you the Melinagua pear—dissolves in the mouth like snow, sir; trees will bear next year."

"Oh, come look at the Royal Sparkling Ruby grape!" cried Euphemia. "It glows in the sun like a gem."

"Yes," said the agent, "and fills the air with fragrance during the whole month of September—"

"I tell you," I shouted, "I can't hold this dog another minute! The chain is cutting the skin off my hands. Run, sir, run! I'm going to let go!"

"Run! run!" cried Pomona. "Fly for your life!"

The agent now began to be frightened, and shut up his book.

"If you only could see the plates, sir, I'm sure

"Are you ready?" I cried, as the dog, excited by Pomona's wild shouts, made a bolt in his direction.

"Good day, if I must," said the agent, as he hurried to the gate. But there he stopped.

"There is nothing, sir," he said, "that would so improve your place as a row of the Spitzenberg Sweet-scented Balsam Fir along this fence. I'll sell you three-year-old trees—"

"He's loose!" I shouted, as I dropped the chain.

In a second the agent was on the other side of the gate. Lord Edward made a dash toward him; but, stopping suddenly, flew back to the tree of the tramp.

"If you should conclude, sir," said the tree agent, looking over the fence, "to have a row of these firs along here—"

"My good sir," said I, "there is no row of firs there now, and the fence is not very high. My dog, as you see, is very much excited, and I cannot answer for the consequences if he takes it into his head to jump over."

The tree agent turned and walked slowly away.

Without a thorough knowledge of farming and, suitable conditions, it is a business to lose money by.

HEARING RESTORED.—Great invention by one who was deaf for 20 years. Send stamp for particulars. Verry & Harper, Lock Box 80, Madison, Ind. dg-2

Commercial.

FARMERS' ADVOCATE OFFICE,
London, July 1, 1878.

The very favorable crop reports from all parts of the United States, Canada, and, in fact, the whole world, have had a very depressing effect on the markets. Some of the "Bears" in Chicago predict that wheat will go to 65c. with them. This seems too low, but we should not be surprised to see it come to 75c. Should the present favorable weather continue, with favorable reports, there must be a still further decline.

WHEAT.—The business done and deliveries have been very light, in fact, nominal. The *Mark Lane Express*, as reported by a press cablegram of June 18th, says that the excessive humidity of the last six weeks has seriously compromised the agricultural prospects. Until within a few days the growing crops in Scotland did not suffer so much as in England, but now matters have changed for the worse, and floods have done much damage in the lowland districts. A similar condition exists on the continent, especially in the northern districts, where it is reported that the harvest is delayed by the unpropitious weather. The harvest in Europe, as regards the interests of the agricultural industry of this country, are second in importance to our own, and they will be watched with nearly as much solicitude. The winter wheat harvest is about over in Kansas, Missouri, Kentucky and Southern Illinois, and the harvest will become general in Ohio and Indiana about the first of July. With us the wheat in some sections is just beginning to turn, and ten days more of favorable weather will put the fall wheat past all danger from rust. The cool, windy weather that we have had for some time past has been very favorable. The late frosts have done some damage in some sections, but from all we can learn, nothing of a serious nature. There will be an unusual abundance of straw this year, which will make it heavy and tedious work harvesting.

BUTTER.—Nothing doing to any extent, and stocks are accumulating. An English letter, which we saw the other day from Liverpool, reports States factory butter as selling at 75 shillings. There seems to be no disposition on the part of English importers to send out orders this season. Great caution in buying and handling should be exercised by all who have anything to do with this article.

CHEESE. Has ruled low, but there seems to be more disposition to handle than butter. Stocks of May make are well cleared out, and we hear of a good many sales of first half of June at 7 1/2 to 8c. The make is very heavy.

WOOL. The market is very quiet at low prices. The deliveries have been light so far, and we fear farmers are holding back for better prices, which we are of the opinion they will not realize. The state of trade and business generally, together with foreign reports, indicate that any hopes of better prices are hopeless.

LONDON, ENGLAND.
July 2.—Flour, 22s to 21s; wheat—spring, 8s 9d to 9s 2d; red winter, 3s 3d to 10s; white, 9s 11d to 10s 3d; Cal. club, 10s 8d; corn, 22s 6d to 27s 9d; oats, 2s 8d; peas, 34s; barley, 3s; pork, 47s; bacon, 27s to 31s; cheese, 47s; beef, 72s.

NEW YORK.
Flour dull, \$3.10 to \$3.13; rye flour, \$2.85 to \$3.25; wheat quiet, 1c to 1c better, \$1.01 for No. 1 Minnesota; corn, 42c to 44c; oats, 30c to 36c; pork, \$10.25 to \$10.40.

CHICAGO.
Wheat, \$1.10 to \$1.18; corn, 37c; oats, 33c; rye, 47c; barley, 45c; pork in fair demand and heavy, \$9.20 to \$9.24.

DETROIT.
Extra white wheat, \$1.07 1/2; market steady.
MONTREAL.
Flour from \$3.50 to \$4.00, according to brand; grain unchanged.
TORONTO.
Barley, 35c to 40c; spring wheat, 75c to 90c; red winter, 85c to 90c; Treadwell, 90c to 93c; Diehl, 93c to 95c; oats, 31c to 32c; peas, 60c to 62c; wool, 20c to 21c; flour, \$3.50 to \$4.45; butter, old, 4c; new, 10c.

LONDON MARKET.
Wheat per 100 lbs., Deihl, \$1.60 to \$1.70; Treadwell, \$1.45 to \$1.50; red, \$1.50 to \$1.55; spring, \$1.10 to \$1.30; barley, \$1.00; peas, 90c to \$1.00; oats, 85c to 90c; corn, 85c to 95c; beef per qr., \$5.00 to \$7.00; lamb per lb., 10c to 13c; mutton, 6c to 7c; dressed hogs, \$4.00 to \$5.00; live weight, \$3.50 to \$5; turkeys, 62c to \$1.00; geese, 40c; ducks, per pair, 45c; chickens, 50c; eggs, 10 to 12; roll butter, 12c to 13c; tub do., 10c to 12c; potatoes, 40c to 50c; carrots, 25c to 30c; turnips, 25c; wool, 23c to 24c; cheese 11c to 12c; hay per ton, \$8.00 to \$9.00; cordwood, \$3.50 to \$4.00; flour, fall wheat, \$3.25 to \$3.00; mixed, \$3.00 to \$2.75; spring, \$2.50 to \$2.75; corn meal, \$1.60 to \$1.75; oat meal, \$2.75 to \$3.00.

Crops in Canada.

The Toronto *Mail*, of June 14, gives the following summary of its crop reports:

We completed in yesterday's issue of the *Mail* the crop reports gathered from all parts of Ontario. The result, we should say, is such as must inspire hope and satisfaction in all readers of them. The tenor of yesterday's reports is much the same as that of those published last week. In barley we find out of 44 reports one township in which the decrease in acreage is set down at only 12 1/2 per cent.; 23 townships in which the decrease is from 33 to 50 per cent.; 6 in which it is greater than 50 per cent., and 14 from which the reports are vague, generally stating the acreage to be small. As to the condition of the crop, 28 townships report it to be fair to good, and 10 state it as medium to bad, the rest being indefinite. In wheat an increase is reported all over, and in two instances the acreage is said to have doubled; reports of its condition are uniformly favorable. In peas we have 28 townships reporting the acreage as average, or the same as last year; 10 reporting an increase, and 8 a decrease; prospects are generally said to be good. In oats we have 27 townships reporting an unchanged or average acreage, and 11 an increase; prospects are almost uniformly said to be good.

Holland exported during 1877, 66,627,000 lbs. cheese and 55,332,600 pounds butter. England took over 50 per cent. of the cheese and 85 per cent. of the butter. The other customers for cheese were Belgium, France, Hamburg, Prussia, Java and Russia, while for butter, next to England, Belgium, Java and Surinam were the largest importers.

Stock Notes.

Bear in mind the great sale of stock on the Agricultural grounds at Brantford on the 11th inst. Reduced rates on railways. Read advertisement in usual column.

Mr. John Geary of London, Ontario, who is at present on a tour in Europe, visited the great horse and live stock fair held at Lincoln, England, recently and secured a very valuable draft of pure bred Lincoln sheep comprising two shearing lambs and fifteen shearing ewes. A piece of wool taken from one of these at Liverpool measured fourteen inches. They created great admiration whilst being shipped on board the S.S. Ontario en route for Canada last week.

The above mentioned stock have just arrived in good condition at Mr. Geary's stock farms near London, Ont., and in next issue we hope to give some further particulars regarding this valuable importation.

The London Horse Mart Stock Sale will take place on the Provincial Exhibition grounds at London, Ont., on the 9th, 10th and 11th of July, and on the 12th a large number of carriages will be sold.

This sale has attracted great attention throughout the Dominion and United States, and a very large attendance of American and English buyers is confidently expected.

The number of entries is far beyond the most sanguine hopes of the management.

Buyers and sellers can rely on a prompt settlement immediately after the sales without any unnecessary delay.

The entries for the stock show at the Paris Exhibition are as follows: Horned cattle, 1,700 head; sheep, 825 lots; pigs, 385 head; poultry, 2,669. The show was to be open to the public on Friday, June 7, and to close on Tuesday the 18th. The first two days, the 7th and 8th, are for judging—the admission being at mid-day, and the charge for entrance five francs. On the other days the admission will be at nine o'clock, and the charge one franc.

The very large and valuable head of Shorthorns belonging to the estate of B. B. Groom and Son, were sold on the 20th June at Winchester, Ky.

There was a large attendance of the leading Shorthorn breeders of America.

Among those present from Canada the names of Hon. George Brown of Bow Park, Hon. M. H. Cochrane of Compton, P. Q., and John Hope are mentioned.

Of the 195 Shorthorns sold—126 were females and 69 males.

Of the 126 females, 28 were non-breeders, very aged, or out of health—and these were exceedingly well sold for \$2,730, or an average of \$97 per head.

The remaining 98 females produced \$54,630, or an average of \$557 per head—an average which, though much below all prices, cannot but be regarded, under all the circumstances, as universally satisfactory.

The 69 bulls and bull calves appear to have realized over \$23,000 or the satisfactory average, under all the circumstances, of \$334 per head.

A report of the sales of Bulls has not yet reached us, except that Grand Duke of Geneva (20756), went to Hamilton & Van Meter for \$850, and 8th Duke of Geneva, to J. Dawson for \$200. Below we give all sales of females which reached \$500, or over.

Kirklevington Duchess of Kent 3d, 1 yr., S. G. Murphy, Detroit and Port Huron.....	\$2050
Kirklevington Duchess of Horton, and c. c., Bow Park Association, Brantford, Can.....	2800
Oxford of Vinewood 3d, 9 mos., A. S. Duckworth, Thompson, Ky.....	906
7th Maid of Oxford, 12 yrs., Bow Park Association.....	1000
Kirklevington Rose, 11 yrs., Col. L. G. Cannon, Burlington, Vt.....	750
15th Lady of Oxford, 5 yrs., Bow Park Association.....	1000
Oxford of Vinewood 2d, 1 yr., T. J. Megibben, Cynthia, Ky.....	850
Winsome 16th, 5 yrs., Bow Park Association.....	2600
Wild Eyes of Vinewood, 2 yrs., S. G. Murphy.....	2800
Roguish Eyes, 14 yrs., J. P. Sanborn, Port Huron, Mich.....	1000
Geneva Wild Eyes, 1 yr., J. C. Jenkins, Petersburg, Ky.....	900
Miss Wild Eyes 3d, 3 yrs., and c. c., Col. L. G. Cannon.....	1950
Red Daisy of Fairview 3d, 6 yrs., Bow Park Association.....	500
Georgie Hillhurst 4th, 3 yrs., C. C. Chiles, Independence Mo.....	525
Barrington Lally, 2 yrs., A. Hamilton, Bath Co., Ky.....	1525
Lally 8th, 11 yrs., A. L. Hamilton.....	1550
Loo Bell, 7 yrs., Geo. Hamilton, Bath Co., Ky.....	500
Oxford Loo 2d, 1 yr., Leslie Combs.....	639
Victoria's Gem, 5 yrs., S. R. Grundy, Washington Co., Ky.....	520
Victoria Hillhurst, 2 yrs., John Welsh, Louisville, Ky.....	500
Peach Blossom 9th, 1 yr., Archy L. Hamilton.....	540
4th Duchess of Vinewood, 3 yrs., C. Andrews.....	1075
5th Duchess of Vinewood, 2 yrs., and b. c., C. Andrews.....	825
2d Duchess of Vinewood, 3 yrs., and c. c., C. Andrews.....	1225
6th Duchess of Vinewood, 2 yrs., S. White, Windsor, Canada.....	1000
Bell Duchess, 8 yrs., A. L. Duckworth.....	1325
Bell Duchess 2d, 6 yrs., E. C. Thompson, Edinburg, Ind.....	725
1st Lady Bates of Vinewood, 14 yrs., C. Andrews.....	800
Crevoia 3rd, 6 yrs., and c. c., S. R. Grundy.....	510
Cordelia 10th, 4 yrs., T. S. Moberly, Richmond, Ky.....	1000
Cordelia 15th, 1 yr., Leslie Combs, Jr.....	775
May's 2d Geneva, 4 yrs., and b. c., C. Redmon, Clark County, Ky.....	1350
Rose 5th, 4 yrs., Leslie Combs, Jr.....	700
Rose 7th, 1 yr., Leslie Combs, Jr.....	510
May Rose 10th, 4 yrs., and b. c., Leslie Combs, Jr.....	2010

A correspondent of the London *Field* gives his idea of the capacities of different breeds of cattle as follows:

"The types for beef are the Booth Shorthorns, the Aberdeen cattle, the West Highlanders, Hereford and Sussex. The milk sorts are the Bates families, particularly in the Shorthorns, the Ayrshire, and the Channel Island cattle, not overlooking Dutch stock for quantity. In regard to quality the park-like Jersey is matchless, though I hear some breeders are now going solely for color, at the expense of milking characteristics, which all interested must deplore."

The Canada West Farm Stock Association at Bow Park, purchased a good few Shorthorns at high figures at the Groom Sale and will hold a sale of Shorthorns, Cotswold Sheep and Berkshire Pigs on 11th July, at Brantford, Ont.

The "International Review" for July-August is one of more than ordinary interest to the general public. It contains twelve articles of uniform timeliness; three political articles (Russia, by Karl Blind, of England; The Chinese

Puzzle, by a Californian; Mr. Seward and Mr. Motley and the Austrian Mission by Hon. John Bigelow; two politico-economical articles (The Elements of National Wealth, by David A. Wells, and Industrial Reconstruction, by Edward Atkinson, of Boston); two theological articles (Science and Theology, by James Anthony Froude; The Moral Problem, by ex-President Mark Hopkins); two papers on subjects connected with the arts ("The French Exhibition architecturally considered," by Charles Gindriez, of France, architect, and "Photograph Art in Europe," by Philip Gilbert Hamerton); two literary contributions (The Centenary of Rousseau, by Rev. Samuel Osgood, D.D., and The Department of Contemporary Literature, consisting of notes on English, French, and German books recently published); and one article on Army Reorganization, by General James H. Wilson, one of the most brilliant cavalry officers in the army during the Civil War, and now a writer of recognized ability. Each article is prepared with reference to the public demand for reliable information upon the subjects treated, and the writers are masters of the subjects. Each article, whether American or European, is an original contribution to the pages of the "Review." The number may be obtained through the mail of the publishers, or by order, at the newstands. Price, \$1.00 a number. \$5.00 a year.

Mr. John Elliott, of the Phoenix Foundry, London, Ont., has received an order from the Canadian Government Agent to the Paris Exhibition, for a number of "Meadow Lark" Reaping Machines, to be delivered in Havre by the 30th of this month.

QUEBEC FRUIT GROWERS' ASSOCIATION.—The Montreal Horticultural Society has appended the above title to its previous corporate name, with the view of supplying for the fruit growers of Quebec an association similar to those already existing in the sister provinces of Ontario and Nova Scotia. As a local society it will still hold its exhibitions in Montreal; as a provincial institution it will publish its horticultural reports, collecting the matter for them from different parts of the Province, and opening its prize list—a large and comprehensive one—to the Province at large. The annual membership fee will be two dollars as heretofore, but parties living outside the island of Montreal, upon payment of one dollar yearly, may attend the exhibitions, compete for prizes, and receive copies of such reports and other publications as the Society may issue. The secretary and treasurer of the Society, Mr. H. S. Evans, of Montreal, states that the membership last year reached the gratifying number of 761, each paying \$2. Now that its field of usefulness has been enlarged, the annual gratuity received from the Government is to be increased from \$328 to \$1,000.

Special Notices.

The summer meeting of the Fruit Growers' Association of Ontario will be held in the City Hall, St. Catharines, on Wednesday, July 10th, 1878, at 10 o'clock a.m.

Any one desirous of subscribing to the FARMER'S ADVOCATE, and sending \$1.50 to this office at once, will receive the back numbers from May and have their subscription paid to January, 1880. Twenty months for \$1.50. Send at once, as there are only a few back copies on hand.

Good, live agents, with some experience, are wanted to canvass Ontario and other Provinces of the Dominion for the FARMER'S ADVOCATE AND HOME MAGAZINE. Send qualifications and references at once to this office. Good commission allowed, and every possible advantage to first-class canvassers. No others need apply.

Patrons of Husbandry.

Grange Picnics.

Many farmers might feel thankful that the Granges have taken hold of the picnic business in earnest. Wherever they are established they are pretty sure to have picnics. These gatherings have been generally very largely attended and carried out in good order.

We attended the united picnic of Middlesex and Elgin Granges, which was held at Port Stanley on the 4th of June. The Grange Picnic now takes the place of the Farmers' Picnic that was inaugurated many years before a Grange existed in this locality. The day was as fine and pleasant as could be desired, and the gathering was the largest of the kind ever seen in this part of the country; there were about 6,000 people there.

The G. W. R. Co. have judiciously erected swings, made roads and planted a few more trees among the old natives of the forest, thus making the grounds pleasant and attractive, and affording shade for thousands to spread their repasts on the green grass and enjoy themselves. The picnic grounds are about 200 feet higher than Lake Erie; a railway is run from the summit of the hill to the beach, on which two cars are run up and down by means of a wire rope worked by a locomotive engine. An observatory is also erected, many feet high; another engine is used to raise an elevator in which visitors may ascend to the top and obtain a good view of the grounds below, the distant

country and of vessels sailing on the lake. Two steamers were at the Port to take passengers out on the lake for a pleasure trip. A frame dancing booth is erected; this was well patronized by the lads and lassies, and some old heads were to be seen enjoying the dances as well as the young ones.

A temporary platform was erected for speakers, who were principally Grange officers and members, or would-be Members of Parliament striving to gain Grange patronage. The speeches were all laudatory of the Grange, and given to strengthen the Order; only a few political remarks were made. One of the speakers said the Government had given them their charter, and that it must give them anything they ask for. The Secretary, in opening the meeting, said that the person who gave the greatest number of useful ideas in the fewest words would be considered the best speaker. The remark was a good one, and about the best we heard. There were but comparatively few who attended to the addresses. Most of the picnickers turned out for a day's enjoyment and recreation, and while some of the old steady ones preferred the speeches, all the young and many of the old enjoyed themselves in other ways.

The day was pleasantly spent, and the crowd was generally very orderly and well-behaved. We presume all the other Grange picnics have passed off well, and there have been some hundred held. The railroads should feel satisfied, and always be ready to accommodate them.

The Grangers at the Model Farm.

The Grangers of Elgin and East and West Middlesex visited the Model Farm and College, Guelph, June 17th, by special per the G. W. R. Prominent members of the Order from the several Divisions availed themselves of the cheap trip to see what a Model Farm is.

RECEPTION.—The excursion party were met at the station by a deputation from the College and driven to the Model Farm in carriages provided for the occasion by Mr. Johnson, the Principal. After lunch, the visitors were shown over the farm by the Professor of Agriculture, Mr. W. Brown.

THE FARM AND CROPS.—The farm consists of 550 acres, of which 400 acres are under cultivation. The system of farming will be seen by the given area of crops of each variety, viz., Grain crops, 100 acres; peas, 30 acres; soiling and green crop, 11 acres; pasture, 75 acres; hay, 75 acres; root crops (including 8 acres potatoes), 45 acres; rape for fall feeding sheep, 17 acres. The grain crops are not what might be expected to be seen on a Model Farm; in the experimental field especially hardly any of the roots or cereals are up to an average, considering the favorable season and crop prospects in the country generally. Such an opinion was generally expressed by a number of the prominent farmers from the counties of Elgin and Middlesex.

THE SOIL OF THE MODEL FARM.—The soil is not of the best quality. A good deal of the land appears to have a gravelly subsoil, which will defy all efforts at permanent fertilizing, as the manure will wash or leach out.

LIVE STOCK.—The farm is pretty well stocked with 16 horses, 12 Shorthorns of various ages, 5 Herefords, 6 Ayrshires, 2 Devons, 5 Polled Aberdeens and 12 grades; 250 sheep, comprising Cotswolds, Leicesters, South Downs and Oxford Downs, with 25 Berkshires and 10 Windaor pigs. The poultry department is limited to a few varieties, and altogether does not exceed 25 birds.

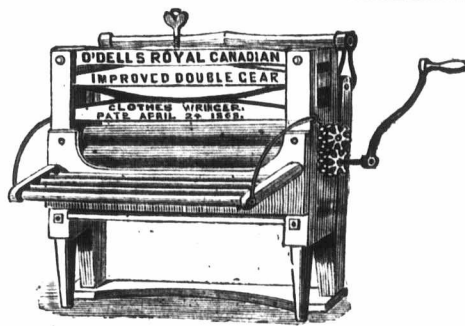
THE STUDENTS.—There are 75 students. They are from all parts of the Dominion, 4 or 5 from Great Britain, and 2 from Switzerland, although it is understood all are to follow farming in Ontario. The pupils do not appear to be farmers

sons who intend to follow farming for a livelihood, but city boys who have been placed there by well-to-do citizens to keep them from the temptations of a city life and get a respectable education ch. ap.

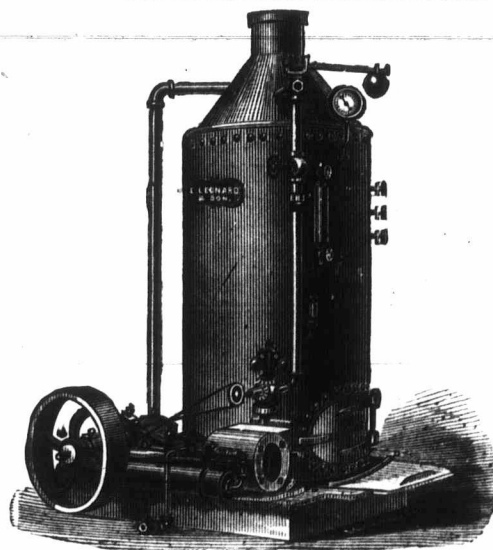
SCOURING AND FERTILIZING CROPS.—Of scouring-impooverished crops there are at least 175 acres, viz.: Grain 100 acres and hay 75 acres. Of root crops (including 8 acres of potatoes) there are 45 acres. They are, from cultivation the ground receives and the manure applied, fertilizing crops. A rape crop implies a previous fallow, and, as it is for feeding sheep, and then to be we presume ploughed under, it may fairly be classed as a fertilizer. Then there are 56 acres of improving, and 175 of impooverishing crops. Pasture and peas may be made a means of improving the soil or not, so we place them in neither class.

Have we been justified in the position we took from the beginning relative to the Model Farm. Let the price for the farm, the expenses since incurred, the expenses to be yet incurred, the inferior quality of the soil, the bad crops of the past and present seasons, the classes from which the pupils are drawn, answer the query!

New Advertisements.



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OUR WRINGERS
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THE BEST WRINGER MADE OR IN USE.
Sold by all principle hardware dealers in the Dominion. Ask for it. Take no other; or write us for Price List Catalogue.
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LONDON

NEW ADVERTISEMENTS.

AUCTION SALE
—OF—
**SHORT-HORN CATTLE,
COTSWOLD SHEEP, AND
BERKSHIRE PIGS.**

The Canada West Farm Stock Association

Will sell by Auction, at

The Agricultural Show Ground, City of Brantford, Ont.,

ON THURSDAY, JULY 11, 1878

A selection from the Bow Park Herd,

CONSISTING OF

Forty Thorough-bred Short-Horn Cows, Heifers, Bulls, and Bull Calves.

Twenty Cotswold and Leicester Rams, Ewes, and Lambs, imported or from imported stock on both sides.

Twenty Pure Berkshire Boars, Sows, and Pigs, imported or from imported stock on both sides.

Sale to commence at noon.

TERMS—All sums under \$100, net cash; \$100 and over, approved note at six months, or discount at the rate of eight per cent. per annum.

The sale will be closed in good time to enable purchasers to leave by the evening trains in all directions and reach home the same night.

Catalogues, with full Annotated Pedigrees, will be sent on application to Mr. John Brown, or Mr. John Hope, Bow Park, Brantford P.O.

* The Great Western Railway Company will issue tickets in special connection with this sale—at all stations on their line—to Brantford and return, for SINGLE FARE.

* The Grand Trunk Railway Company will issue tickets in special connection with this sale—at all station on their line—to Brantford and return, for SINGLE FARE. dg-1

FALL WHEAT.

FARMERS & TRADERS DESIRING LARGE or small quantities of **FALL WHEAT, FALL RYE AND TIMOTHY**, are requested to communicate with

THE CANADIAN AGRICULTURAL EMPORIUM
dg-1 360 Richmond St., London, Ont.



FIRST PRIZE

At Six Provincial Exhibitions throughout Canada: At Great Central Fair, Quebec; at Midland Counties Fair, Kingston; and at 45 fairs, Paris, since 1871.

The simplest, easiest operated, and most perfect rake in the world.

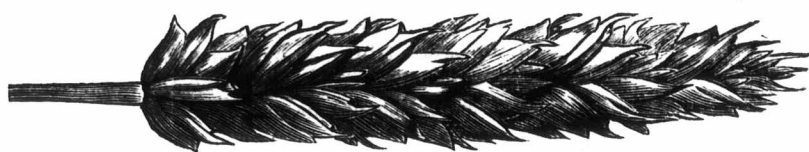
No part can possibly get out of order or hinder a farmer in the field. 100,000 sold in 1877. 100,000 more are in use in 1878. These rakes are sold in AN FIFTY PARTS were required to supply the demand.

MADE ONLY BY C. M. CASSITT & CO.,

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Send for Circulars. Correspondence solicited from Agents and Wholesale Traders, in any part of the world. dg-1



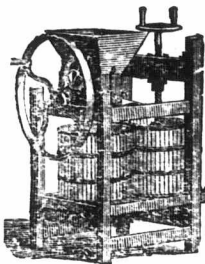
ARNOLD'S VICTOR WHEAT.

This Fall Wheat, introduced to the public last year for the first time, remarkable for its extraordinary yield and its fine grinding qualities, closely resembling the Deihl, being a cross between that and a new hybrid, is now offered for sale by me in quantities of one bushel and upwards. To secure a large quantity for distribution this fall, I sowed four hundred bushels, all of which I will certify to be genuine.

Price—\$4 for one bushel; \$3 per bushel in five bushel lots, and \$2.50 per bushel in large quantities. Special rates to seedsmen and the Trade.

dg-2

CHARLES WHELAW, Paris, Ont.



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THE BEST EVER OFFERED IN CANADA.

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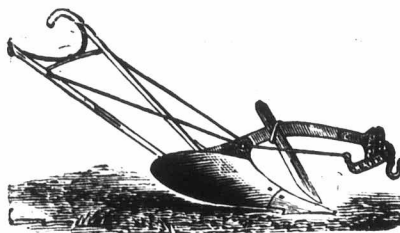
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