THE FARMER'S ADVOCATE

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The Farmer's Advocate!

PUBLISHED MONTHLY BY WILLIAM WELD.

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Letters enclosing remittances, &c., only acknowledged when specially requested. Our correspondence is very heavy, and must be abridged as muchas possible

On the Wing.

Monday morning, the 16th, we took the cars for St. Thomas, in Elgin Co. We found the farmers jubilant; the crops are excellent, every variety of winter wheat being well filled. This locality was the great stronghold of the Deihl wheat in the Dominion. The Clawson has now gained the preeminence there, although the Deihl will yield largely in every place this year. We took the cars in the evening for Simcoe. Called on Mr. J. B. Carpenter; his farm is but a short distance from the station; fine rows of maple trees flank the approach, giving the farm an appearance of refinement, taste and progress, not often to be found along the Air Line. It is remarkable to notice the extremely miserable appearance of most of the farms here and along the Canada Southern and Air Line, within 60 or 80 miles of Buffalo or Fort Erie. The position of the land is good but for the lack of draining, energy and labor; much of this fine tract of country does not look as if it belonged to Ontario. Mr. Carpenter's farm would be a credit to any locality. He has 300 acres, keeps about 30 Shorthorns and 15 grade cows, and raises wheat as a staple crop on his farm; Clawson and Silver Chaff are his leading varieties. He has a piece of Clawson that will out-yield any other we have seen this season; it was just ready for harvest when we were there. In passing through one of his pastures, we noticed the first grasshopper trap we have seen. It consisted of a large sheet-iron plate, about twelve feet long and four feet wide, bent at right angles near the middle, forming a pan about 12 feet long, 2 feet wide, and back part 2 feet high; in the lower part tar is put; a small strip of iron is fastened to the outer edges. As the machine is drawn over the ground, the grasshoppers fly up, strike the sheet-iron at the back, drop on the tar, and are fast! It was not at work when we were there, but we saw lots of grasshoppers that had been caught by it. This is a cheap way to fatten stock. We have suffered great loss by the grasshoppers eating our pastures, the result of which was an empty purse that season. There are other hopper traps, but this one would pay any good farmer. The cost of tar, sheet-iron and time would soon be paid for by a good bite for the stock. Some of you will look with sorrowing eyes on hungry stock and fat 'hoppers, and will be pleased to hear of this simple plan. Our artist has made a cut of it from our description, which will give you an idea how to make it. Mr. Carpenter said one of his neighbors made one 18 feet long, wider and deeper, but he did not know if it was better than this one. The cost would not be much in comparison to the loss of our pastures. The machine is drawn by a horse. A wire, about the size of a clothes'-line wire, is attached to the bottom; this prevents it from running into the ground. Any common mechanic could make one. Mr. C. kindly drove us about the neighborhood; there are many very fine farms here, and the country has a totally different appearance than one would imagine when passing through on the cars. At the station a large lot of Cossitt's gang plows was the principal freight to be seen. Mr. Carpenter informed us that the sale of these implements had been very great; all of these we saw were ordered. In two weeks one man sold ninety, and 2 carloads were sent to that station alone, and all were highly satisfied with them. This alone must show that there are a lot of good farmers in this section. The winter wheat was as good as could be wished, the only piece which we saw injured in the least was Deihl that had rust on it. The work of the Hessian Fly was to be seen, but no damage worth mentioning has as yet been done by it. Mr. Carpenter has a fine large, natural lawn in front of his house. We noticed no gate as we approached the house. We went into the cattle yard where the cows were being milked; a gate was there; we tried to shut it when we returned to the house, but found the grass had imbedded it; we looked at the cattle standing close by the open gate, the lawn, the road, even the pots of flowers and climbing plants on the house, and asked with astonishment, how these things were in such order and not destroyed? The faithful sheep-dog Bounce was pointod out. Nothing comes on this lawn without his permit; Bounce knows all the stock and all the stock know Bounce. When we approached the house no snappish cur or whelp, or even a dog's voice was heard; what lesson should this teach? To kill the sheep-killing, leg-biting, thievish, sneaks of dogs which are to be found on nearly every concession, and procure a good, serviceable, useful sheep-dog.

I must jump from Mr. Carpenter's farm to the farm of Mr. D. Smillie, in the Township of Vaughan, County of Peel. I must omit much of interest to many in this jump. Mr. Smillie has 200 acres; this we should call one of the model farms of Canada. The whole of the arable land is underdrained; the fence-corners are all closely mown, and the grass removed; the farm buildings are spacious, neat and orderly; the outside of the buildings are well painted. We did not see a stick, brush, board, log, thistle, burr or weed, which are too generally seen, lying around the outskirts or back part of the house, barn or sheds. We do not believe there is another farm in Canada that can surpass this for neatness, order and cleanliness. Mr. Smillie has his attention devoted more to grain than stock. The crops of wheat were most pleasing to behold; his principal variety is the Clawson. He has a large piece of the Egyptian spring wheat, which is looking very well. He is now just commencing to plant ornamental trees. To our astonishment he went over to the States to find out where to purchase trees, and bought many hundreds of our common maple trees. Surely Canadians can grow their own natural trees as cheaply as the Americans can, and save duty and freight, but Mr. Smillie says they do not do it; it paid him. This should teach us to plant more trees. Mr. Smilie found he could get his Norway spruce on better terms from our Canadian nurserymen. He has made a very fine plantation this spring; out of many hundreds there are only three trees that are not making a good growth this year. One hour's walk over this farm would do the pupils of the Government farm a great deal of good, as the crops are even, and everything is in good order. Some of our readers may visit both of these farms, and we believe they will coincide with us.

The Clawson, Silver-chaff and Treadwell wheats are preferred in this locality. We heard of Deihl being affected by both midge and rust near Woodbridge.

We dined at Lemon's Hotel, Richmond Hill. Several Canadian stockmen and farmers were there; also Mr. Wolley, from Kentucky. This gentleman was purchasing stock; he offered Mr. Lemon, in our presence, $75 gold for one ewe lamb. We tried to persuade Mr. Lemon to accept it, but he refused the offer. Some of the stockmen were criticising the remarks we made in the last ADVOCATE concerning the cow that gained the gold medal at the Centennial, which honor should, if the Exhibition was what many look on it to have been—the greatest Exhibition in the world—make her the best cow. But there are many ready to dispute her right to such honor, and nearly every breeder of note considers that he has a more valuable animal, and within half a mile of this village a rival cow was to be found. Of course we must see this wonderful cow; her name is Katinka, the property of J. McCorkney. We must admit that Katinka has a finer horn and perhaps a squarer body; even her color might be preferred by many. The great crowning points of this cow are her immense chest, brisket or dewlap, and the fullness of her front quarter. We hope this cow and Isabella may be at the Provincial Exhibition; they are well worth looking at; they both have some points that we do not believe can be surpassed by any cattle that we have seen in Canada.

We called at the

GOVERNMENT FARM AT GUELPH

on the 21st. On entering the gate we observed that a finer lot of flowers graced the borders and plots than we had ever seen there before. They appeared in a healthy, thriving condition; the ground had been well worked. The vegetable garden, also, was in good order; the carrots and cabbages were quite as good as we have seen them at any place this season. The grass plot in front of the College looked very poor when compared with the many nice green lawns we had seen. A large addition to the main building is in course of erection.

Our object in visiting this institution at the present time was to see the different varieties of cereals, &c., as they were growing. The Professor of Agriculture, Mr. Brown, kindly showed us over the experimental plots. The Scott, Soules and Arnold's Gold Medal wheats were cut and standing in the shock. The Scott wheat might have been cut a little earlier, as grains of it were to be seen shelled out on the ground. The Gold Medal wheat and the Soules wheat appear to be both the same variety. We could not see the difference on this farm when standing together. We have for years tried to find the difference, but are now further from discerning it than ever. Both wheats are alike in straw and grain, both ripen at the same time, and both have heads that are thicker set than others.

The Clawson wheat was dead ripe and should be cut; it was a fine looking crop. The Silver Chaff was ripe on one part of the land and quite ready for cutting; on the other part of the land it was quite green on the same ridge, and sown at the same time. There are some other varieties of winter wheat, but the stock is not complete in this class. The spring grain varieties are much more numerous, sixty kinds having been sown, including the samples procured from the Centennial Exhibition. One-half of the ground devoted to spring grains is now bare, except where weeds or fall wheat had been sown in the spring.

The greater portion of this land had been devoted to foreign seeds. Considerable space was given to the English Mainstay spring wheat; it has stooled out well, but shows no signs of heading. Many other varieties are in a similar condition. There have been many varieties sown procured from other countries; many did not vegetate and others produced a few heads. The Professor, Mr. Brown, very appropriately remarked that he presumed these samples had been shown at the Exhibition of 1851 and at every Exhibition since where they could gain a prize or merit. We did not see any foreign variety of spring wheat that was equal to our Canadian varieties; a great many were much later, and many resembled our Canadian wheats in the form of the heads. The Canadian and American varieties were more promising. There were a great many names given to the same varieties, as they had been sent in from different parts of the country and by different persons. No difference could be noticed in the Rio Grande and Red River; the Red Fern and Emporium were the same. The Minnesota and Manitoba wheats are mixed varieties, being composed of Fife, Club, &c. Most of the varieties were mixed. The Red Fern appeared as good as any wheat there. The oats showed much better in appearance than the wheat, as nearly all had grown. Some kinds were very late. There were two varieties that were earlier than our common oats; they were called the Black Sea and the White Blade oats. The latter were quite ripe, while most of our Canadian varieties were quite green. The oats sent under the names of the Australian, New Zealand and Sidney, are all the same, and looked quite as well as any oats there. The statistical report, no doubt, will be published after the threshing.

There was a variety of barley sent by Hon. D. Christie, which had remarkably long heads. There were some strange looking peas to be seen there. The advantages of these new varieties, if any, can only be ascertained by contiuued cultivation. Various grasses are being tried. We were quite astonished to see such a difference in some of the varieties on the same plots of ground and under the same treatment. Some parts would be looking luxuriant and healthy, while other parts would appear very inferior; these variations could be distinctly traced to a few inches. This convinced us that this land is totally unfit for fair tests. One piece may look well, and another adjoining will look part good, part bad. We also noticed this in a marked degree when viewing a piece of barley on the Government land, in a field in front of the College, on the west side of the road. The field appeared more spotted than any field we had previously seen; on some spots the barley was quite ripe, while on other spots and streaks it would be quite green. On enquiry, we heard that the substrata of clay, quicksand and gravel are so very uneven that it is most difficult to drain the land, as each of the above named obstructions are to be found in lumps and streaks by themselves below the surface. This is most unfortunate, as no proper or accurate test can ever be made without having an even subsoil. To place such a foundation in a single field would cost ten times more than has been expended in the purchase and improvement of this farm.

It is the intention of the Government to have an auction sale of stock and products some time in September.

Injurious Insects.

REVIEW OF AN ADDRESS TO THE CONFERENCE ON THE EXTIRPATION OF INJURIOUS INSECTS.

We are in the receipt, through the kindness of Mr. J. Ferguson, of the address by Mr. A. Murray, "arisen out of a letter addressed by the President of the Privy Council to the Agricultural Societies throughout the Kingdom," urging their taking prompt and energetic measures "for the extirpation of insects injurious to agriculture." The action of the Privy Council in this matter is well worthy the paternal government of the country, while forcibly illustrating the importance attached to everything pertaining to agriculture.

Mr. Murray is quite sanguine in his opinion that the evil caused by injurious insects, though very difficult to deal with, may be greatly lessened. In this we entirely agree with him. The contest now carried on with insects, trival as they may seem, will doubtless be the means of provoking greater energy and more intimate knowledge of every branch of natural history, so that the losses borne will not be without some gain. He says:—"Besides the occasional great injury done by insects, by which whole districts are ravaged, a continual drain is constantly kept on us by them, which constitutes a perceptible percentage of deduction from the cultivator's profits. Much of this is preventable, and I assume that where it can be prevented at less cost than the loss it occasions it should be prevented.

Of the remedies proposed by Mr. M., the first is a rotation of crops, not merely by an individual, but by united action. If we wish to rid a district or a country of any injurious insect, and if, as is generally the case, we have the power of doing so by attacking it at a particular time and in a particular manner, it is obvious that to be effective the attack must be simultaneous and combined; for to what purpose would it be if one cleared his farm while his neighbor did not clear his, he by his inaction preserving a reservoir of pests to replenish the cleared fields.

We doubt not that, if properly carried out, a district rotation of cropping would be a most efficient method of stamping out the pest. The great majority of vegetable-feeding insects do not feed on all kinds of plants indiscriminately; most of them are restricted to one kind of plant, so that if we should cease to grow that plant the number of the insects would correspondingly diminish. Thus, for instance, if a district is almost entirely in pasture, there will be very few wheat-feeding insects in it, but if it is turned into a wheat country, there will be myriads. If these numbers reach such a pitch as to deteriorate the crops, change the rotation and grow some other crop instead of wheat. But the great difficulty in this method is in the obtaining united and simultaneous action. Our experience of the operation of the Act for the extripation of the Canada thistle shows how ineffictual are laws merely placed in the statute book; and an Act compelling the necessary rotation, were such an Act passed by the Legislature, would be as liable to be disregarded as the thistle Act.

The next method considered is, the attacking the enemy in their winter quarters. It takes as an example a small fly belonging to to a family some of which attack wheat, others barley, &c. "The fly remains about the ear for many weeks after it is threshed, and may be found in great numbers in winter in a semi-torpid state among the chaff. The owner of the chaff should be compelled to burn it." In like manner should people be compelled to burn accumulated heaps of weeds, stalks, vines, &c., instead of storing them in a rot-heap for manure. Such heaps are the safe haunts and breeding-places of wire-worms and other pests. The truth of this we have proved by experience, and we are careful that such heaps are now converted into a most valuable manure—ashes.

Next is considered the remedy in the shape of some application that is fatal to the insect. With this remedy we are all familiar; as where paris green is used for the destruction of the potato bug, hellebore for the currant fly, and sulphur for the red spider and the hop fly. He says:—"As a remedy, however, such applications seem better adapted for individual protection than combined stamping out; although it would be foolish to forego the advantages of using them where they

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The picking and gathering of the individual insects he considers "much more clumsy than other methods, and for crops which cannot be so dropped out of rotation, as fruit or forest trees, it is almost impossible to collect the larvæ efficiently."

Every year strengthens our convictions that the increasing number of insects injurious to agriculture and its kindred pursuits is one of the most important subjects for our anxious consideration. The measures taken by the Privy Council illustrates its importance to every class of society. The scientific research of scientific men, and the experience of practical farmers, are needed in the contest with our minute but innumerable insect enemies.

Converting Bones into a Fertilizer.

A Nova Scotia enquirer asks, is there any cheap and quick way of converting bones into a fertilizer? "Could it be done by burning them, or would this process waste the most valuable parts? Fields and yards are disfigured with bones and rubbish, and the shores and by-places rendered loathsome by the smell of decaying carcasses and fish, while farmers are constantly sending hard-earned money out of the Province for superphosphates and bone-dust."

Bones may be converted into a fertilizer by burning. We have used them in this manner on a small scale, burning them with brush, weeds, sods, &c., but this method is seldom adopted, being wasteful of some of the most valuable elements —the organic matter being dissipated. They are also used broken into small fragments ; treated in this manner, the benefit to soil or crops is very slow, little perceptible at first, but of long continuance. Another method of using bones is breaking them small, then putting them in a large vessel—say a hogshead cut in two—mixing them with ashes and filling up with water, the ley thus formed will in time dissolve the bones.

Superphosphate of lime is prepared by the addition of sulphuric acid and water to the bones, either steamed, or raw and broken. For this purpose, also, bones are by some subjected to a steaming process to render the superphosphate more soluble. For home-made superphosphate, take a large vessel—say one part of a hogshead sawed in two—into this put bones, steamed or broken, about 150 pounds, and apply to them water enough to moisten the mass through, and stir it well, pour the sulphuric acid slowly, a person stirring the mass with a hoe, and when effervescence subsides apply more acid until you have used of it about four gallons. Stir it thoroughly, and let it remain in the vessel till next day, then stir in some more prepared bone, about 50 pounds, take it out of the vessel with a shovel and lay it on the floor to dry. Crush with a shovel any lumps, rendering it to a fine powdered condition. This may sometimes be more easily accomplished by mixing with it dry earth. From the directions given above it will be seen that from the expense of converting bones into a fertilizer it is doubtful if it be not more economical to purchase the superphosphates prepared.

That there are "large quantities of stuff going to waste continually," that if properly utilized would add largely to the fertility of our fields, is too true. In this new country we do not seem to know the value of fertilizers. In the countries of Europe it is not so. In Great Britain nothing is allowed to go to waste that can be used as a fertilizer. Within a few years the use of bones and bone-dust as manures has become general, and the high state of farming with the present fertile condition of that country is, in a great measure, owing to their use. The annual import of bones into England is $10,000,000 worth, principally to be used as manure. They are brought from Russia, Germany, South America and the United States. The value at which bone manure is estimated in England is shown by the proverb now current in that country :—"One ton of German bone-dust saves the importation of ten tons of German corn." Not only have bones been collected throughout Great Britain from every source whence a supply could be obtained, but the markets of the world have been ransacked to supply the demand existing for them, produced by the strong conviction of their value.

Danger Ahead—Winter Wheat.

In nearly all the spring wheat we have seen in this locality we have noticed much damage done by the Hessian fly. We have seen a few heads of the fall wheat lying in some of the fields; this we look on as a bad omen for our next crop, as we are pretty sure to suffer from the fly's ravages next year. The bountiful crop harvested the present season will encourage farmers to follow the same plan of operations they did last year, that is, to sow early. In sections where the Hessian fly has done but the slightest amount of damage this year the wheat should be sown late, as the fly matures only in early sown wheat.

You are all aware of the rapid increase of these insect pests. One of the best plans we can adopt this season is to burn the stubble, if practicable or possible, on every wheat field in which we have seen the work of this enemy. Mr. R. J. Swan, of Geneva, one of the best farmers in New York State, informs us that this season the crop on many fields will be reduced one-quarter from the injury done by the Hessian fly, and that the late sown wheat has entirely escaped. We hope each one of our exchanges will give their readers this notice, even if they have to put it in any other form. See Mr. Swan's letter in this issue.

Settling in Muskoka.

We give the following account from Mr. Wesley Sutherland, a young man who has resided near our farm in Delaware for many years. He left his father's farm last autumn to make a home for himself. He went to Muskoka, looked about and settled on lot 12, in the 10th concession of McMurrich township, a lot that has neither swamp nor rock to injure it. He put up a shanty 10 x 13, and carried his provisions in on his back, sometimes five miles, sometimes twelve miles. Two other parties located near him. He put two acres into potatoes, corn and barley, to have some food and seed for the next year's operations. The June frost did his crops no harm; he left them fenced and all right, and has returned to this locality to earn a little cash during harvest and to see his friends.

He likes that part of the country well ; would prefer it to staying in the old settlements. He could sell out his right and crop now for more than he could have made if he had stayed here.

In the spring he went three mornings with two of his neighbors to a stream two miles from his lot; they took a bed-tick with them, and by beating up the stream to a waterfall they caught as many fish as they could carry. They salted them and ate them at every meal for six weeks. Mr. Sutherland states that the accounts he has seen in the papers have been written to misguide persons; some will be praising the place too much, while others condemn it as badly. A person to succeed must take time to select a good lot; they are to be had for hunting for them. He has traveled ten days to find a lot. There is a great deal of land that is worthless. He says one man from near Guelph went up there and traveled over a rocky part under his eye, and returned with fearful accounts. A person to take up land there requires about $200 to help him the first year, and must have a will and determination, or he will not succeed.

Fill up the Ranks.

Are there any blank spaces in the turnip field, any spots where the seed has missed or where the fly has left the rows a mere brown fallow? If so, fill up the ranks, even in this month, if not already attended to. Every rod of land that bears not its crop, by so much diminishes the amount of produce. It is not the productive row or acre that makes the average, but the whole field. Nothing is more unsightly in any crop than rows or ridges producing no crop, or, what is still worse, weeds. Besides they involve a loss of fertile land and labor. We have seen these blank places so numerous and extensive as to amount to no small item, and cause a considerable loss. How this is to be remedied is worthy of enquiry. We have sometimes in such cases transplanted the young turnip plants from rows that had them to spare, taking up and planting carefully, but their success is doubtful. Even in a moist climate the turnip does not bear transplanting well ; the roots are seldom so good, and in this dry climate it would be a very doubtful experiment.

A better remedy is to sow other turnips, even though late. The best substitute for the Swede is the Aberdeen. It will succeed if sown early this month ; it is a heavy cropper, and is good for feeding in the fall and early winter, though not equal to the Swede for spring feeding. The White Globe, Red Norfolk and White Stone are also good late turnips though inferior to the Aberdeen. Before resowing the blank places the earth should be stirred up anew—seed always germinates best in fresh-tilled soil. If the blanks are not large this can be done with the hoe.

Mangels and beets bear transplanting better than turnips. They are not the least injured by it. We have not, at any time, found transplanted mangels or beets inferior in quality or yield to those that come to maturity where they were sowed. It would be well for farmers to sow a plot of cabbage seed in May that they might have at hand the plants to fill up vacant places, corners and missed rows. For fall feeding of stock, milch cows especially, there is no better green food than cabbage. An additional gain from filling up vacancies is that by so doing such places will not be left to be a mere nursery for weeds, as is too often the case.

Paris Green for the Potato Bug.

After some years' experience in contending with the potato bug, and the use of paris green for their extermination, the question, "Shall we use paris green for the purpose?" seems as undecided as ever. That it may be used for the purpose without any bad results has been proved by the most eminent chemists on the continent, and we have strong corroborative testimony that the potato has not been the least affected by its application to the vine, and the fertility of the soil has not deteriorated. The slightest trace of arsenic, the poisonous element of the paris green, has not been discovered in the soil after the application. This might be expected from the very small quantity used—about two pounds to the acre. Much larger estimates have been made ; one writer puts the quantity as high as two hundred pounds, an estimate manifestly absurd.

It is, however, necessary to be very cautious in handling it. Use it as we may, whether in water, or dusted dry over the potato tops, the greatest precaution should be used. Even suffering it to

come in contact with a cut or sore of any kind on the hand may lead to serious if not fatal consequences. Knowing fully the danger attending the careless handling of it is the first step to prevent the evil consequences that would be apt to proceed from ignorance or carelessness.

If we are to fight the long campaign successfully with the bugs, we must not lay aside our vigilance oo early in the season. Potato growers are apt to say, when once the crop is pretty well grown, "The bugs can do little harm now. I am sure of my crop." This is the time to be most vigilant in looking after them, if we are to save ourselves ten times the labor next year. Be sure to kill the last brood if you are to prevent great swarms early in the season, when they shall emerge from their winter quarters.

Crop Prospects.

The winter wheat is now all secure. The crop is the best we have had for twenty years, every variety having done well in all sections. No perceptible injury has been done by any of our numerous wheat destroyers. The quantity for export will be unprecedented.

The spring wheat will be better than it has been for some years, although the midge, Hessian fly and grub have done considerable harm to it in the western portion of Ontario. Drought has injured it to some extent in Grey and Bruce, and in some sections east of Toronto; but on the whole we believe there will be a better average than for some years past.

The barley crop is a fair one; the grain is plump and of good color. Peas, oats and corn are generally good, although the drought has shortened the crop in some localities. The root crop, generally speaking, will be good. The stock and dairy business will both be very remunerative this year. Plums are a better crop than they have been for many years. One plum-grower told us the curculio had been a blessing in disguise to his crop this year. If they had not destroyed some of the plums, the plums would have destroyed the trees. The apple crop is an unusually short one this year.

PRICE PROSPECTS.

The price of every kind of farm produce is now so good that every farmer should sell anything that he has fit for market and not required on the farm without delay. There are speculators and companies in England that command millions of pounds, ready to invest if they can see a chance of turning a quarter of a cent in a pound. There are hundreds of rich men watching every opportunity. They have their agents all over the world, can command unlimited capital at 3 per cent. per annum, and keep themselves posted in the prospects of war or peace, and the productions and requirements of all parts of the world a hundred times better than any Canadian farmer can. In nine cases out of ten a farmer loses by holding in expectancy of higher prices, and especially is this the case when prices are as high as at present. A farmer can invest his money so as to return eight per cent at the present time. By keeping the crop there are sure losses from interest on the money, and many probable ones for which he never estimates. We by all means say sell at once; let no imaginary ficticious war prices be troubling you; your place is to raise as much produce as ou can, and to sell as soon as your crop is fit for ket, when prices are remunerative, then pay ry debt first. After this is done use the er as your own judgment dictates.

anadians held their clover a few days too l year. At the present time if they were t ey would lose between $4 and $5 per bush he longer they keep it, the more it deteri hen clover was $9 per bushel, some even expected it would go up to $12 or $15 per bushel; it happened to drop to $4.50. That and $5 are about the figures it is expected to realize this year. We would advise you to sell your wheat now the price is good. It may drop quicker and go lower than you expect.

The Hessian Fly.

Some of our readers doubtless retain a vivid remembrance of the great destruction of the wheat crop by the Hessian Fly some twenty-two years ago, and they know what is his appearance and his mode of operations. The losses occasioned by the ravages of this insect pest in Canada and the neighboring States at that time were estimated at a very large amount. This season there have been indications of its appearance here, and in Michigan there is hardly a field of wheat in the State in which it is not found. Its ravages are shown by the yellow, shrivelled heads and stem. It is therefore necessary to take precautionary measures to prevent the great losses that would be sure to occur if we do not guard against it.

The Hessian Fly is thus described by Harris in *Injurious Insects*:—"The head, antennæ and thorax of this fly are black; the hind body is tawny, more or less widely marked with black on each wing, and clothed with fine grayish hairs. The egg-tube of the female is rose-colored; the wings are blackish, except at the base, where they are tawny, and very narrow; they are fringed with short hairs and are rounded at the tip; the legs are pale red or brownish, and the feet are black. The body measures about one-tenth of an inch in length, and the wings expand one-fourth of an inch or more. After death the hind body contracts and becomes almost entirely black." (See figure on page 177.)

As a general rule, this insect passes through two generations annually. The eggs of the first brood are deposited in September in a crease of the leaves of the young wheat plants. In a few days the young insects are hatched out, and they crawl down to the first joint, where they pass the winter in security. They do not gnaw the stalk nor enter into it, but fasten lengthwise, head downwards, and live upon the sap. When two or more larvæ are thus imbedded in a stalk it becomes weakened, falls down, and withers or dies, About the first of May, the pupæ, having completed the winter stage of existence, come forth full fledged flies, and they immediately deposit eggs for the second brood, which occupies the remainder of spring and summer, and is nurtured in the lower joints of the straw. Crops of winter wheat are liable to two attacks of the Hessian Fly, one generation producing another, which occupies the lower joints of the stalk. Spring wheat can rear but one brood, and is therefore comparatively safe from its attacks. It is also worthy of note that the fly cannot sustain itself in districts where winter wheat is not cultivated.

The remedies most recommended are (1) destruction of the insect in the stubble, and (2) sowing the next crop of fall wheat as late as can be done in autumn—late in September. The way to accomplish their destruction in the stubble is twofold; first, burning the stubble, which, in cutting the wheat with the reaper, is cut so high that the insect is left in it to mature into the fly, and burning the stubble necessarily destroys the entire brood. A great objection to this method is that in destroying the flies we destroy with them their parasites, our best allies, which are computed to destroy nine-tenths of every generation of the fly. Second to the destruction by burning is the following: If we see that the fly has laid her eggs on the wheat leaf, turn in a flock of sheep of sufficient number to eat the crop close to the ground in a few days.

The second method, sowing the wheat late in the fall, prevents the parent flies from having any wheat plants upon which to lay their eggs, at their laying time, and thus destroys the prospects of another season.

These artificial remedies, with the aid of our natural allies, will, if thoroughly carried out, be a means of preserving our wheat crop, though our reliance is on the parasitic insects, which rapidly increase and gather strength. We would add that a fertile, well cultivated soil is in itself a means of escaping comparatively free from the losses caused by the Hessian Fly. The poor, weak plant will at once succumb to the attacks that might be withstood by the plant that is in sound health and good thrifty condition.

Kitchen Garden.

BY GEO. VAIR.

In this department constant attention must be given to the stirring of the surface of the soil. Amongst the advancing crops this very important operation is one of the greatest aids to successful cultivation that can be put in force; for by it not only are the weeds kept in check, but by the breaking up of the surface, the soil is exposed to the influence of sun and air, and a more vigorous growth is the result. As a rule, this stirring of the soil is of far greater importance than moulding up. The late rains have put new life into growing crops, after the appearance of apparent standing still, the consequent result of a protracted drouth. Throughout most parts of the Province, early vegetables have upon the whole been plenty, and the market gardeners have been selling at fair remunerative prices. The prospect for late and winter vegetables is very satisfactory, with the exception of table turnips, which in Canada are generally a doubtful and precarious crop.

Continue to plant celery to the 10th of this month, using nothing but the richest and fattest of manure, which has been kept in preparation for the trenches. That which was planted last month will now be making rapid progress; earth a little by way of training for the results. Be making up your mind where you will put in your winter spinach; and now for a few remarks with regard to the cultivation of that most early and useful spring delicacy: For a number of years I have been in the habit of trenching and subsoiling a piece of ground for that purpose—size according to demand—by putting in an abundance of half-decayed leaves, and, in fact, the general cleaning up of the garden during the summer months, adding with the top spit a liberal quantity of well-rotted manure; sowing broadcast the last week in August and the first week in September. Experience teaches that the soil, being deeply cultivated, with the quantity of half-decayed material added, the plants remain drier in winter, and, consequently, not liable to rot off at the collar in spring. Result leaves 10 to 12 inches diameter.

Now is the time to sow radishes of all sorts for fall and winter. Some growers after the plants are well up water copiously early in the morning when the sun is shining full upon them, maintaining they grow so much quicker and are more crisp.

Liquid manure may now be applied to such as cauliflower and cabbage with great results. Just before or after rain, the former preferred, is the best time to apply it between the rows rather than close to the roots of the plants; the roots will find it in due time. The successful kitchen gardener ought never to say things are well enough, but try to get them better. Note during the season the impure and unsatisfactory kind of vegetables. Grow none but the best of everything suitable to the climate. The difference in first cost of seeds

will be but trifling as compared with satisfactory results at the ingathering, ever bearing in mind that a spurious variety robs the earth of its fertility, just as a good one, thus taking so much out of your pocket, while the sight makes you peevish and fretful.

In early cabbage I would safely recommend the Jersey Wakefield; it is tender and sweet, fit for the mansion and the cottage. To those who are fond of mushrooms (and who is not fond of them) just think out a place for them in your anti-freezing cellars. I had mushrooms all last winter in the coal cellar by the most simple contrivance imaginable, viz.: a box 12 feet long, 4 feet wide, about 15 inches deep, standing on trussels 2 feet from the floor. This I filled with the droppings from a stable where an entire horse was kept, covering the manure over with 2 to 3 inches of loam; over the top of all I put on a few unused hot-bed sashes—result, satisfactory.

Cucumbers out of doors have, as a general thing, been unsatisfactory this season. The red spider, when allowed to increase, has been sufficient to almost destroy the plants beyond remedy. Water well, keep the soil well stirred around the plants and frequently syringe with tobacco water, is the simplest and best application.

FRUIT GARDEN.

Doubts and fears, and numerous forebodings, have occupied the mind of the fruitist this summer. The apple crop will be short in many places, but the most assiduous attention will keep the tent caterpillar in check, as they are completely under control. The apple-worm is the trouble; he works away in the bark, but this point we will not discuss, as we hope to see some of our entomologists' essays upon that subject.

The Pear Crop.—The luscious pear! I have never seen the trees look better; the crop will be good. Mulch the bearing trees well with decayed manure and a little road scrapings, in these will be found all the constituents needed to successful culture. Not simply putting it round the bole of the tree, as is too often done, but extending outward at least as far as the branches spread; there will the feeder be found.

Plum trees are very promising in some localities. We have a number of trees that are weighted to mother earth with fruit, the admiration of all who see them.

Small fruits have been an abundant crop. Now is the time to note inferior varieties; root them out, replacing by superior kinds. Keep up to the times in this respect, bearing in mind that inferior kinds rob the soil of nutrition quite as much as those that are really worth growing. I had the pleasure the other day of seeing some very fine black and red currants in the nurseries of George Leslie & Son, Leslieville, Ont. Great improvements have been made of late years in small fruits, and much remains yet to be done. Too much praise cannot be given to many of our enterprising fruit growers, who have made it a half-life study to produce all manner of fruits, and to place it within the reach of the working class, all of which helps to make him happy and contented.

Progress of the Dairying Season.

BY PROF. L. B. ARNOLD, SECRETARY OF THE AMERICAN DAIRYMEN'S ASSOCIATION.

The first half of the dairying season of 1877 has come and gone, and, like other occurrences, has fixed its place in the history of passing events. It has played its part in the agriculture of the country, and made its impress upon commerce as well as upon the special interests of the devotees of bovine lacteal secretions. Periods in our business, like periods in our lives, are filled with items which give to them a distinct individuality. There has, however, been very little to distinguish the first half of the present dairying season from that of its immediate predecessors, except in the fullness of its products. The season has been very favorable, especially through the Northern and Middle States. The ground, particularly in New York, was thoroughly soaked through by the melting snows and the heavy rains in the spring—a circumstance which has not occurred in several years. Thus supplied with water, the ground has required but little additions in showers to keep the surface moist, and these have been frequent and refreshing. As a consequence, the meadows have been heavily stocked with hay, and the pastures have been unusually fresh and green, as well as abundant, yielding for the dairyman heavy returns in butter and cheese.

The goods, too, have been of excellent quality. Now and then we find both butter and cheese having less flavor than they have had in former years, and less than belongs to them when derived from the grass of drier seasons. Grass, which is characterized by great succulence, has its juices more watery and thin, and they are less rich than in grass of slower growth and less moist weather. Much rain at some times and in some places has given to grass so much succulence as to weaken its flavor and depress the richness and flavor of the butter and cheese derived from it. But the great bulk of goods which have gone forward have, as compared with former years, a full, clean and pure flavor.

The massive hills, like great sponges, took in the water from the slowly melting snow and the subsequent rains, and have been holding them to feed springs which the previous dry season had exhausted, so that cows have been better supplied with that all-important element in successful dairying—good, pure, spring water—than they have been for many seasons past. This circumstance has also contributed to a fine quality of milk. There has been less tainted and foulty milk, up to this date, than for many years.

The bare condition of the markets in the spring, has made a place for the immense crop, which, without accumulating anywhere to any considerable extent, has gone steadily forward into consumption and left the way fairly open for the products of the remaining part of the season. This is as it should be; it is by far the best way to dispose of all perishable goods as fast as they are produced. It is rare that anything can be gained by overlapping the products of one season into those of a subsequent one. If the products of any season are so large as to bear down the market in its own time, a still greater depression must follow when the products of two seasons are crowded together. Besides, the shrinkage in weight, liability to depreciation in quality, continued labor and care, and loss of interest will always balance a pretty large advance, which may or may not come by post poning the sale of dairy goods.

Dairymen are more and more appreciating the bearing of these facts, and are quite generally letting their goods go to market at current rates whenever they are ready for consumption. This not only avoids any serious glutting in the avenues of trade, and leaves the way always open, but it makes quick returns, which is always an essential element in the successful prosecution of any business.

The steady decline from the high price of cheese in the spring to present figures should discourage nobody. The price is fairly remunerative now, and we ought to be satisfied with that, and not at the double risk of a loss in price and reputation hold on to cheese, after they are fairly fit for consumption. This rule is applicable to other products than those of the dairy.

Prices for butter are less remunerative than for cheese; and the risk of getting it to market is greater, which may be a sufficient reason for holding stock of perfect make till cooler weather. But this course would not be advised for such, as in any way, defective butter, which has lost character by keeping, need not be expected to compete for a future advance with superior stock.

The Apiary.

The Management of Swarming Bees.

Rev. Mr. Mackin tells, in the *Bee World*, how to manage bees during the swarming season. Much of success or failure depends upon the ability of the bee-keeper to control the swarming impulse. If increase of stock is desired, by far the better plan, in my judgment, is to make artificial swarms. This may be done in several ways. If empty combs can be had, a very good plan is to take about four combs containing brood and adhering bees, and put them in a hive on a new stand, giving them a queen or a queen cell, and filling the hive with empty combs. Such a colony would build up very rapidly. The bees may be all taken from one hive, or from three or four, as the circumstances may dictate. Another way, and a very good one, is to take one comb of brood from each of several hives, and thus fill the new hive. The bees that will hatch out will make the new stock very populous in a short time. Put empty frames, or frames containing combs, in the hives from which bees are taken. In this way a very large increase may be obtained, and the stocks all kept strong. Care should be taken not to allow queenless stocks to build drone comb.

If we want to get the largest yield of surplus honey, we do not want our bees to swarm at all. We want to keep the stocks strong in numbers, so that they may avail themselves of the honey harvest. And there is no question of more importance than this: How can the swarming impulse be restrained? In this, as in many other things, prevention is better than cure. Two things are necessary to prevent bees from swarming. The first is to give them room for breeding and the storing of honey. If they become crowded, and forage is plenty, they will be almost sure to swarm. The second thing necessary to prevent swarming is the proper shading and ventilation of the hive. The hive should be ventilated at the top, inside of the outer caps or covering. In hot weather two or three inch-holes, covered with wire cloth, will be sufficient. Bees will rarely want to swarm if they have sufficient room, and the hive is not too hot. When the swarming impulse once takes possession of a stock, it is not very easy to control it.

It is said that bees will be satisfied if allowed to swarm, and they are put in a new place and their combs given to them, all queen cells being first removed. I have never tried it, and cannot, therefore, do more than to recommend it as an experiment worth trying. I have been successful by destroying queen cells and giving abundant ventilation.

I clip the wings of all the queens, to prevent their going to the woods. When the bees swarm, as they do sometimes, I take care of the queen until they begin to return, and then if I want to hive them I remove the old hive and put an empty one in its place, and as the bees begin to enter I put the queen with them and let them hive themselves.

To hive a swarm, when in an accessible place, is a very simple and easy operation, when one knows how to do it. Set the hive conveniently near, and with a dipper or any other convenient vessel dip the bees up and pour them down at the entrance of the hive. This must be done very quietly and gently. One should never be in a hurry in handling bees. You will be likely to get the queen among the first bees removed from the cluster, as she is usually in the lower part of the swarm as they hang on the tree, or on whatever they have settled. If you get the queen into the hive the bees will be sure to follow. As soon as the bees are all in, or even on the hive, it should be removed to where it is to remain, before any of the bees have marked the location and gone away to the fields. To prevent the swarm leaving the hive, give them plenty of shade and ventilation. In all my experience I have had but one swarm to abandon its home after being hived, and it had been left standing in full sunshine on a very hot day. I was away from home or it would not have happened.

Stock and Dairy.

The Torture of Bearing-Reins.

The severe bearing-rein, as used by coachmen generally, is nothing more nor less than horrible and needless torture to the poor suffering horse—torture while in the harness, and the cause of internal maladies when he is put back into his stall for food and supposed rest. If there is one thing more opposed to health than another, it is the increased production and then the waste of the saliva which is so necessary to the functions of the body. Who ever saw a horse in a field foaming at the mouth? Who ever saw a properly bitted hunter do so when ridden to hounds in an easy bit and obedient to a light hand? I never saw it, nor do I think anyone else has seen it. Therefore to begin with, the position of the carriage horse's head, gagged with a bearing-rein out of place, and that profusion of saliva ever falling from the mouth, must show something essentially wrong. This perpetually tossing head arises from the fevered state of the poor animal, and his consequent attempts to get rid of an irritating infliction, and not from the vulgar idea of a fiery wish to be put in action. Of this I am certain, that the less artificial constraint you put into a horse's mouth the better. The less you cumber his graceful limbs with lumber in the shape of harness the better. The freer you keep his limbs and his respiratory organs the longer he will serve you, and the greater will be the labor he will perform for you.

Sheep the Mainstay of Agriculture.

About a century ago, Mr. Coke, of Norfolk, England, owned a large tract of land, and made up his mind to improve it by bringing sheep permanently into notice. Annually he had a great time at his sheep shearing, and induced his tenants to increase the number of their sheep, thereby enriching his estate and himself, till, at the age of seventy, he was created Earl of Leicester. It is probable that many who read this will have heard of his being a widower, with three daughters of middle age, but no son to inherit the title, and how he married a young lady of twenty-six, who had three daughters by the time the earl was eighty years old, and then had one son who succeeded to his father's wealth and honors.

The Norfolk domain is one of the finest cultivated estates in England, and has the character of being the best managed. This may be attributed in a great measure to the excellent system of sheep husbandry established there. Again, to show the effects of sheep on poor soil, fifty-two years ago the writer—a boy with his father, mother, etc.—moved from Northamptonshire into the Cotswold hills, at that time only partially in cultivation, and where comparatively few sheep were kept. Year by year, however, their numbers were increased, and roots were grown upon the improved system of ridging in rows, called, then, the Scotch way, because a Scotch bailiff first introduced it. As this system progressed crops became heavier, till, at the present day, the sheep has become a renowned breed, and from having been made up by dashes of other blood, not only have they been used to improve other breeds, as the Leicester and Lincolns, but they have also been the means of establishing entirely new breeds by crossing, as, for instance, the Oxford-downs.

At the time mentioned, only half a century ago, the Cotswold sheep was a great, coarse, big-headed, clumsy animal, very difficult to fatten to nice ripe mutton. Knowing this, and seeing the Cotswolds and Oxford-downs of the present moment, what an encouragement to go vigorously into the breeding and improvement of stock in the United States!

The Leicester sheep were improved and brought prominently into notice long before the Cotswold was thought much of, and the good, old-fashioned Southdown was an established breed, the origin of which is as remote as the black Welch cattle and Welch mountain sheep. As everybody knows, Ellman, Webb, etc., improved upon the native stock the same as Bakewell did on Leicesters, and will be historical in agriculture in England as the great improvers of fine-wooled sheep in the United States will be here.

As the long-wooled and short-wooled English sheep become acclimated in the United States, they will gain favor; but the manner in which they are confined in winter and the small quantity of roots given to the tegs in their growing state, cause them to fail sadly in the round, barrel-like shape, and in the weight of the fleece.

The grade of common sheep in the United States is like dunghill fowls—easily improved; because, like them, there is a mixture of blood, and they are susceptible of giving very great influence to a thoroughbred male; hence it is easy for the common farmer to bring his flock to be what is desired by buying his rams from the pure breed he admires, and continuing to use none but pure-bred ones.

As the wealthy families in cities and the first-class hotels will give a price in proportion to the quality of the meat, there is always a sale for prime mutton, and as Down mutton has a peculiar dark shade of lean, which is well known to the caterer for the epicure, this meat commands a higher figure than the very finest Cotswold, Lincoln or Leicester—a fact which may tend to eventually be the means of making the Oxford-downs the favorite breed. For, although it is admitted that a two or three year old wether of the pure Southdown will surpass in flavor any other mutton in the world, yet the Oxford-down will only be one degree behind, and the weight of carcass and fleece will be nearly double. The Downs wore formerly the most prolific of the English breeds, and decidedly the best mothers and the hardiest of all varieties; but some of the larger, long-wooled sheep have been brought, like the Shorthorn cattle, to such early maturity that the advantages of quick returns, the same as in the mercantile pursuits, have had great influence in the general increase of long wools.—*Abridged from Moore's Rural New Yorker.*

Bran for Horses.

If fresh and perfectly sweet, though not an article of great nutriment, it is one without which a stable of horses cannot be kept for a continuance in common health. Bran, after an unusual day of severe or fast work to a horse, would perhaps save his life, by preventing fever or inflammation of the lungs or stomach. Nothing, in short, is more grateful to a horse, if we find him at all feverish in the evening; and it is then a safe and good thing to give, either in lieu of, or in addition to, his usual food at night; and here is one of the cases where the judgment of the owner or the attendant is called into play. Distress to the horse arises from two causes, each producing (in the first instance at least) two different results; the one excessive languor and depression, the other restlessness and fever—the former caused by long-continued fatigue, where the frame and spirits are completely exhausted; the other, where over-exertion for a short time has produced distress of the lungs, heart and abdominal vessels. In the first case it is nourishing and invigorating remedies that are wanting to reanimate the flagging and exhausted system; in the latter, soothing and sedative ones, to allay irritation and bring back the agitated and distressed parts to the usual state of quietude. In such cases bleeding was formerly practiced extensively. People have got wiser of late years in this respect, and have learned that when nature is for the time exhausted, exhausting it still more is not precisely the way to accelerate recovery. There are cases, however, where, in want of other remedies, bleeding (and that done without hesitation) is absolutely necessary. To instance, where, from great suddent exertion, we find the horse stop, his mouth dry and hot, the action of the heart greatly accelerated, and the abdominal vessels in a state of flutter, the animal beginning to stagger, shiver, has a frightened look, and the eyes hot and bloodshot—here, bleeding will probably stop staggers and inflammation going on; and bran tea or bran mash, if he can be got to eat it, is all he should be allowed till we find the pulse begin to beat with its usual pulsation. It will probably, shortly after, begin to beat feebly and slower than usual; in which case we may consider that life is pretty safe, and then nourishment may, and indeed should be, carefully and gradually given. Laudanum, in cases of this sort, is a very dangerous article in the hands of a novice—he has perhaps just learned enough to know it is a sedative; so it is, given at a proper time, and to prevent inflammation taking place; but where it actually has done so, it is usually as improper to be given as it would have been judicious when we only feared its coming on; our friend bran must then be the sedative.

Bran is also most useful where we find water hard, or a horse subject to be affected by it; indeed, it is always a safe precaution to use it where we are not certain of the nature of the water; a few handfuls stirred in will render hard water safe and innocuous, even to delicate horses. Bran, properly given before physic, will in all cases prevent gripes, if the physic be good; but not if merely given, as most people give it, namely, for twelve hours only before the ball is given. Bran should be given for two days and nights prior to this; some ground oats the first day but none the last, in which case the horse is half physicked before the ball is administered; and five drachms of good Cape aloes will go as far as seven or eight if otherwise treated, and for many horses is quite enough; and six drachms of aloes we should say is enough for any ordinary horse, if properly prepared. We have heard many persons say a horse does not recover from a dose of physic for some days. In such a case it is not so much the evacuation that he does not recover from, but the having really suffered while the medicine was in operation—which he certainly will have done, and severely too, if not properly mashed prior to taking it. So far from a horse being depressed by medicine, if properly given (and if he needed it), he will feel himself the lighter and more cheerful after its proper operation.

In short, bran is of far greater importance than it is often given credit for. If oats and corn put a horse in vigor, bran keeps him in health, and by preventing disease, plays its full part in promoting and keeping up that condition the other more strengthening food has brought him into.

Horses and Mules Eating Dirt.

A correspondent of the New York *Tribune* asks why horses and mules eat dirt when turned out of close stables, to which Professor Law replies: "Most commonly the habit is an indication of acidity in the stomach, and to be corrected by improving the digestive functions. Horses are at a special disadvantage in the matter of stomach complaints, inasmuch as they cannot rid themselves by vomiting up anything that disagrees, and are unable even to belch up accumulated gas. Then the stomach is much too small to allow of heavy feeding or the formation of much gas without injurious overdistention; hence, of all domestic animals, the solipeds should be fed with the greatest care and judgment. Like human beings they have their periods of acidity or heartburn, and having no opportunity of taking soda or magnesia, they lick the lime from their walls or the earth from their pathway. For temporary relief a piece of chalk may be kept in the manger, but we should seek to remove the radical evil by giving a better tone to the stomach. Feed sound grain and hay in moderate amount, at regular intervals, and don't drive or work hard an hour after each meal, lest digestion should be impaired. Give a few carrots, turnips, or other roots, if available; water regularly, and never just after a meal, and put an ounce of common salt in the food or water daily. Any existing weakness should be corrected by a course of tonics such as oxide of iron, two ounces; calcined magnesia, two ounces; powdered nux vomica, one and a half drachms; powdered fennel seed, two ounces; mix. Divide into eight powders, and give one morning and night. The habit has been sometimes caused by a deficiency of mineral matters in the food grown on very poor soils, but this may be corrected by a similar treatment.

Diseases of Farm Stock.

Domesticated animals are necessarily placed under unnatural conditions, which without due precaution on the part of their keepers are likely to produce diseases. The climate in which animals are forcibly kept is frequently far more severe than the one in which they were originally found, or the one they would select if left to their own instincts. Animals which have been bred for centuries upon high, dry plains, in warm climates, are taken to those of a directly opposite character, and then, very likely, their owners expect to rear them without affording artificial food and protection sufficient to compensate for losses sustained by change of locality. Horses from Africa and sheep from Spain are expected to endure the rigors of an arctic climate, and astonishment is often expressed if they fail to do so without becoming diseased. We think, however, the greatest cause for wonderment is that our domesticated animals, as a rule, are capable of enduring as great hardships as they do.

DISEASES OF HORSES.

The diseases to which the horse is liable are very numerous, but ninety in every hundred are caused by neglect, and are, therefore, readily prevented by giving the animals proper care. As the

cold, rainy season approaches we will begin to hear of "greasy heel," a disease caused by neglect in removing mud and snow from the legs and feet when the animal is returned to the stable after driving or permitting it to stand in its own filth. No horse ever had what is termed "grease," or sore heels, that was properly groomed, and given a dry, clean stall. The same may be said of that loathsome disease known as the "thrush," for it is merely decay of the frog and hoof through standing in wet soil or in animal excrement. Mange and other diseases of the skin originate in filthy stables, and although they may be transmitted to animals well cared for, still there is little danger of it except through actual contact. Ringbone, spavin and diseases of the limbs are usually caused by strains, hard driving or by accident. Founder, heaves, roaring and similar diseases are produced by hard driving, feeding or watering when the animal is very warm, or by giving musty, poor food when in the stable.

We might extend the list of diseases affecting horses, and also name those most prevalent among cows in winter, and even descend to the poultry yard for subjects requiring a word at this season; but a hint in regard to this matter should be sufficient for any one who has the least desire to contribute to the comfort of the animals under his charge, or obtain a fair remuneration for the labor and food expended upon them.—*N. Y. Weekly Sun.*

Weeding the Flocks.

Not alone from the soil are found springing the tares that militate against the greatest success of the genuine and desired crops, but they are found in the cattle pens, the pig-stys, the stables and chicken-coops. In the human family we find the odd and doubtful member that reduces the average that otherwise would be high; and in the animal family can we expect more, or always depend on perfection? All will not be good; weak and puny ones will appear, demanding more care and cost-in gmore than they are or can be worth. Such should be weeded out. Uuderstand tnis—every month you are weeding on the farm is a machine that is doing its best to destroy and reduce your products; if the animal is good, the material consumed is undergoing a change that will increase its value; if poor, it is absorbing your substance with no prospect of return or compensation. If sheep are staple in your breeding, give no place to any but those which yield the heaviest fleeces and the greatest amount of meat. If cattle, select those that will attain a maximum of weight in two instead of four years. If hogs select a breed that will not only eat and be satisfied, but when they have converted corn into pork will yield a maximum number of pounds for a maximum number of bushels. If the kind you are breeding will not do this, you are wasting your substance. A lean, uneasy hog eats most; a scrubby, scrawny steer is never satisfied, and will never satisfy the owner; a "plug" of a horse will keep a common man poor, and never be anything but a plug; poor sheep are expensive; in a word, poor stock of any kind is a burden and expense no man can afford to carry, and the weeding out of these useless, expensive parasites cannot be too promptly accomplished. Fewer and better is a good motto; don't wait until next year to begin this eliminating process, but do it now. Save this winter's feed by at once disposing of the tares of the flock.—*Factory and Farm.*

Thoroughbred vs. Common Sheep.

A farmer in this country who is supposed to own as good common sheep as anybody in this locality sheared his flock on the 23rd, and after weighing the fleeces, found that each sheep averaged two and a half pounds. Take the whole number of sheep in this State and they probably will not average more than the above. Say that wool is worth twenty cents per pound, the profits from each sheep will be fifty cents. Take now an estimate of fleeces of the thoroughbred Merino and Cotswold, which will not average less than eight pounds per head—the net profits on each sheep, $1.60 or $1.10 in favor of the throughbred will command a higher marketable value. Now it costs the same to raise the thoroughbred as the common sheep; the mutton of one is as good as the other; the profits of the wool of the thoroughbred is three times greater than from the common. Every farmer owning a flock of sheep should make it convenient to purchase a thoroughbred ram to improve the quality and yield of his wool; such an investment will pay.—*Live Stock Journal.*

Good Fences Essential for Sheep Husbandry.

Good, substantial fences, which sheep cannot creep through or clamber over, should be provided before buying the animals, because they can then be distributed to greater advantage, and they do much better when put in several lots; and moreover, if a shepherd has to spend his whole time tending them, it becomes expensive and necessitates keeping all ages and sexes together. It is also necessary that a comfortable barn or shed should be in readiness, and bedding and food likewise. Then, with perfect fences and a warm shelter for winter, there is a fair prospect of success in sheep husbandry. Suppose a flock of ewes was kept solely for raising and fattening early lambs, no separation of the sexes would then be necessary, because there would be but the ewes and the ram or rams till the lambs came. In such a case all the loss from bad fences would be the extra wages of the shepherd after deducting the time it would be necessary to spend with them in case the fences were good.

And now, having mentioned early lambs once more, it may not be uninteresting to add that since my last communication I have received a letter from one of the oldest importers of cattle and sheep in America—a gentleman who has most decidedly had more experience in this direction for the last thirty years than any other person. I had some idea of importing Dorsetshire ewes, but was not aware of how very much it costs to get them across the ocean. I will give an extract of what is said after explaining this to me:—

"Your intended object is to raise early lambs for the New York market. My idea is that to import ewes would be too expensive. I should not do anything of the kind. You would find the Southdowns and cross-bred Merinos quite likely to mate with the ram as early as the Dorsetshire. You should buy some two or three-year-old ewes, and use good Southdown rams; put the ewes at once on good fresh feed, rape, etc., and in two or three weeks put the rams with them. I had, one year, ten lambs in November, the ewes having taken the ram in June when suckling lambs. They were pure-bred Southdowns. I had no idea they would have taken the rams when suckling, but such was the case."

About twenty-five years ago I had some Dorsetshire ewes myself, and they did the same, only it was in January they were suckling, and they had mostly twin lambs. But at the time they were being fed very high to fatten the lambs. This was in England, and I found the Dorsetshires such extraordinarily good breeders and sucklers that nothing but such strong evidence as the above from such an undoubted source would have made me believe other breeds were equal to them; but we live and learn—*Cor. Rural New Yorker.*

The Wool Trade.

The trade in the United States in such wools as ours is by no means active. The sales of Canada combing wool will be very much interfered with in that market this season, and heretofore the long lustre Canada wool was in great demand there, but in consequence of a change in the fabrics manufactured the American combing wool of the present day is more sought after than that of Canada, from its being more suitable for the goods now being manufactured. So what was formerly the best wool that we could grow has become now depreciated in value. Canada combing wool, not being soft, but fine, long and of a good lustre, was required by the American manufacturers to enable them to give a finish to certain class of goods which could not be given by their soft wool. We have a certain quantity of that wool in Canada, but the quantity of such as manufacturers require in the United States is small.

In spite of the high prices paid for wool lately, many of our farmers who have large lots decline selling, supposing that the unsettled state of affairs in the East will be sure to advance prices. They cannot see why a war going on in Turkey and Russia will not advance the price of wool just as the late war in the United States did, but there is a very great difference.

Notwithstanding the number of farmers who hold such fallacious opinions, large quantities of wool have been brought to market at different points and sold within the last two weeks. Another week will find the bulk of the clip disposed of. Those who are holding on to their clip in the expectation of an advance in price are tolerably certain to meet disappointment, so far as we can judge from present appearances.—*Monetary Times.*

A Slight Set-Back.

The meat supply from America to England has met with a sudden check. Several reasons are assigned for this, the principal being the increased cost of the meat on this side, arising out of the demand, and the decrease of returns from England. The sudden advent of hot weather has lessened the demand, and there is also the new element of competition. It is learned that steps have been taken in London to secure a supply of dead meat from other countries than America, and much nearer home. At a recent meeting of the Royal Agricultural Society, held in London, one of the members stated that contracts had been made to ensure the supply during the next six months of the carcasses of 50,000 sheep and 4,000 oxen from the slaughter houses of Vienna, the meat to be delivered in London in from 54 to 60 hours. The shortness of the time required for the transit, it is urged, does away with the costly process of refrigeration necessary in the case of meat brought across the Atlantic. It is also urged that there is nothing to prevent the importation of dead meat from Austria, Hungary, Poland, and certain parts of Russia. In other words demand will create supply, and the cheapest sources—other conditions being equal—will carry the day. With the return of cooler weather—in four months' time—many of the difficulties that now exist will pass away. The facilities for Atlantic transit are now so great that it will be found quite as easy if not more convenient to ship meat from this side of the sea than from Mediterranean or baltic ports. Just as Canada and the United States have the call in English markets for butter and cheese, so will they eventually obtain it in meat, good quality being kept in view. Though the facts stated as regards supplies from Central Europe have their value, and should create caution, yet it can scarcely be doubted that the intelligence and enterprise of the west will be found well able to cope with any competition that may arise.

Raise Good Cattle.

There is an important lesson in the following article from the *Drovers' Journal.* More and more in every department of agriculture the stress of urgency comes for the production of the highest quality both of products and animals. Of course the subjoined article treats the matter from the standpoint of the market, but as it is the object of the farmer to turn the yield of his land into money, he should consider well that while there is no risk about A 1 products and animals, those which are inferior may either go a-begging or be sold at non-paying prices, It is true not only of cattle, but of everything the farmer has to sell, that "good to choice" are always in demand, and are sure to bring "strong prices."

"It is good to choice cattle that are in strong demand and that are particularly wanted at strong prices. It is true that medium and low grades may for a time work in sympathy as to relative prices to a limited extent with the better qualities, yet we consider it altogether possible that the market for the low grades of cattle may at any time become depressed or even demoralized by an over supply of such cattle, while the market for really good, ripe cattle may remain firm. It is never good policy, so early in the season, in the first summer month, to take half-fat cattle that will make nothing better than what is called slippery beef from good grazing fields, and send them to market; they are a kind of cattle that are never in favor with any kind of dealers, and in nine cases out of ten such cattle have been sold in the consuming markets for less than they are worth in the fields from which they have been taken in the country. It is our opinion at the present time that all cattle of this kind should be kept in the country until they are made really fat."

The horse is always ready to lend us his power for our support and good. Why not, then, watch over him, protect him for cold and hunger, supply him with all the nutritious food his system requires, so that his muscles and tendens may be elastic, and his large hazel eyes sparkle with life? The eye is a most magnificent mirror and interpreter of the mental and physical power of the horse. When the eye is dull and heavy, the elastic step is stiffened, the constitution impaired, the coat has lost its glossy appearance, the animal is reduced to poverty, disease and death, caused by abuse, exposure, musty feed, and foul and badly-ventilated stables. Let us treat our horses more humanely.—*Coleman's Rural.*

Sheep Husbandry in California.

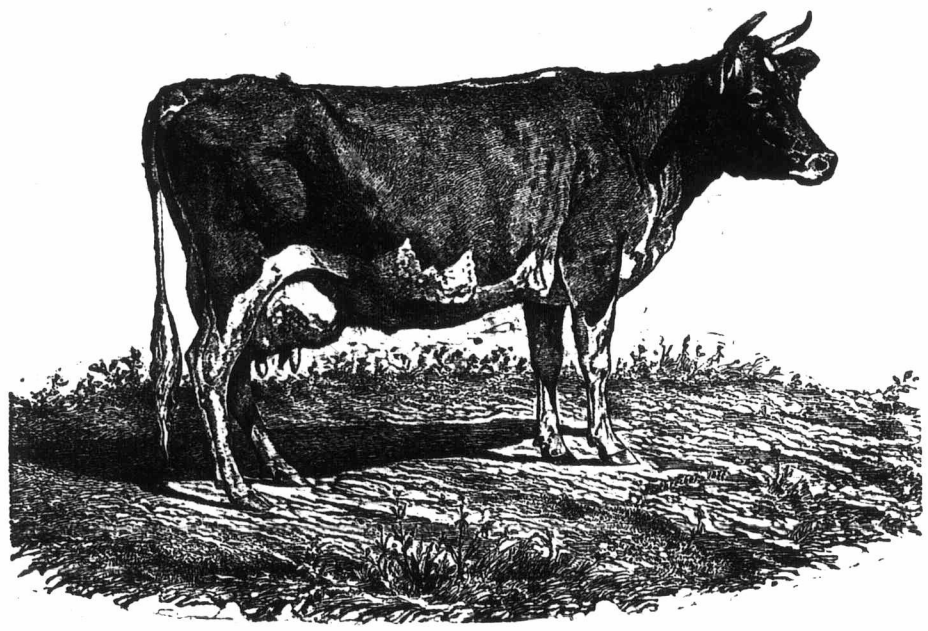
California and Colorado no longer hold out the inducements to a sheep farmer which took so many settlers to those states; sheep husbandry there 'tis true looked *couleur de rose*, but though large flocks may seem well on paper, the constantly recurring droughts occasionally necessitate a full stop save to the fortunate few, who by inheritance or wealth possess vast tracts of land and miles of water. This year is perhaps an exceptionally bad one in the former State, as sheep are dying by thousands; indeed, it is estimated that two-thirds of the entire stock of sheep must die from want of water. A letter received by the writer lately from Los Angelos says:—"Sheep are the worst investment down here possible, as we have had a fearfully dry season; half the sheep are going to die, there is a very low wool market, and mutton is fetching nothing." Now America needs $40,000,000 worth of wool a year more than she grows, and this has to be imported. If some of our writers are correct in their belief, when the trade generally begins anew it will be in this country, and as a certainty, next to food will be required clothing, so can we foresee a multitude of fresh mills ready and willing to buy our native product. No fear then for an over supply; we can double our yield and still the call will be for more. The object of this writing is to induce men to see that quality will pay better than quantity, and that in our unrivalled northern climate a present income and a future competency may certainly be relied upon.

The large falling off in the trade in fresh meats with England, attributed to the increasing warm weather is not concurred in, as to the cause, by the *Graphic*. It goes for New York cattle dealers thus:—

The business at the outset proved profitable and as a consequence too many rushed into it. The later exporters were too eager to realize large profits, were not careful enough as to the quality of their stock, and handled their shipments badly. In other words, from a lack of hard business sense and severe business honesty, losses have come instead of extravagant profits. Will business men never learn the old, old lesson that honesty is always politic, and integrity always expedient? Hard-headed Englishmen are the last men in the world to be imposed upon by bad beer or bad beef, or an inferior article of any kind. Nor will they ever pay a penny too much for anything under the sun.

Do New Yorkers want to make a break in their beef trade, as well as in their grain trade?

The insect that is destroying blue grass was the theme of conversation at court with farmers of different sections. Mr. Goodloe tells us, in Fayette, acres have been destroyed. Mr. Withers of Clintonville, and Mr. Goff of N. M. T. have a number of acres which look as dry as grass. Some are touching fire to the destroyed grass (which burns readily) under the hope of killing the insects and making the grass grow again. The insects are so small as to be hardly discoverable by the naked eye, but under a magnifying glass look like small ants. They seem to prevail in the tall grass.



JERSEY COW, TIBERIA II. R.

A cargo of Kentucky mules has been shipped to Edinburgh, Scotland, where they are to take the place of dray-horses.

It is estimated by practical men that one bushel of corn judiciously fed will produce four pounds of butter, twelve pounds of pork, or eight pounds of cheese.

Mr. T. C. Booth has been giving evidence before a Parliamentary Committee which is inquiring into the advisability of preventing the importation into England of live stock. The great Warlaby breeder showed how terrible a scourge foot and mouth disease may be in a valuable herd of cattle. He had lost five or six of his best herd by the malady, and Shorthorn breeders do not want to be told what the loss of best Booth cows means. Then, again, during one attack, in a herd of seventeen cows, all aborted except one as the result of the malady. The committee were somewhat startled when Mr. Booth informed them that from this disease alone he had suffered loss in his stock to the money value of between £30,000 and £40,000.

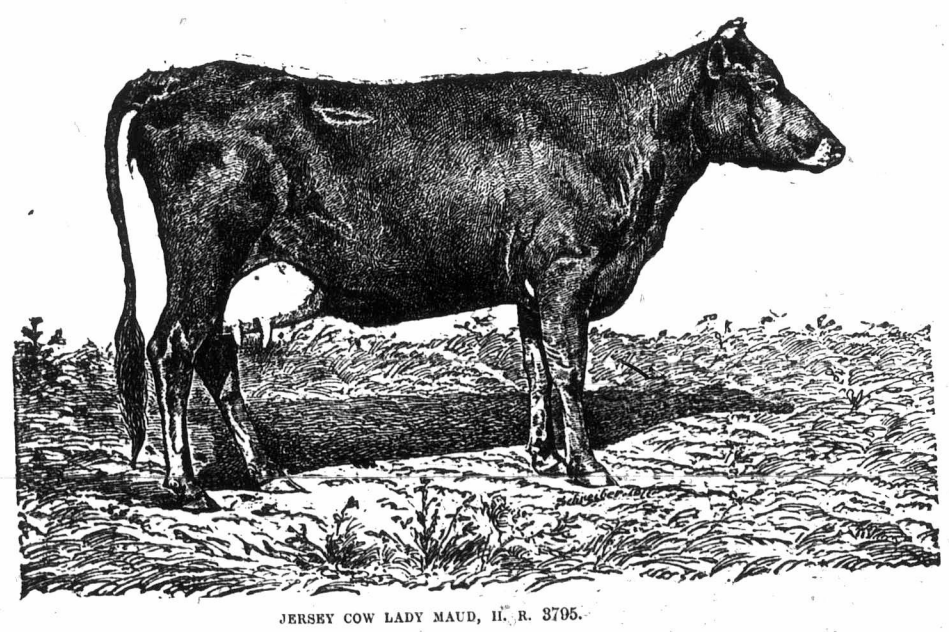
The importance of means of saving liquid manure is apparent from the fact that in every 100 pounds of cow's urine there are sixty-five pounds of water, five pounds of urea, five pounds of phosphate of lime, twelve pounds of sal-amoniac and muriate of potash, and ten pounds of carbonate of potash and ammonia. While the solid excrements from one cow during the year will manure half an acre, the liquid matter properly applied would fertilize three times that amount.

Sprengel allowed that the manure of fourteen hundred sheep for one day is equal to manuring highly one acre of land, which is about four sheep per year. Mechi, a still more recent authority, estimates that fifteen hundred sheep folded on an acre of land twenty-four hours, or one hundred sheep for fifteen days, would manure the land sufficiently to carry it through four years' rotation.

Until farmers generally learn that it is true economy to retain tha best mares on their farms, and use them for breeding purposes, the supply of good farm horses will continue much below the demand, and horses weighing 800 or 900 pounds will be those most used by farmers generally. The introduction of good stallions has done much, especially in the Western States, within ten years past, to improve the quality of the farmer's horse; but until our breeders learn to place a higher estimate on the quality of the mares that are used for breeding purposes, the progress must necessarily be very slow and unsatisfactory. — *National Live Stock Journal.*

Prize Jersey Cattle.

In last issue we gave you a cut of two cows in the Centennial 1st prize herd of Jerseys. The two cows, represented in the accompanying illustrations belong to the same herd. At the coming Provincial Exhibition we expect some of this class will be on view. Mr. Charles S. Sharpless, of Philadelphia, is the proprietor of these fine milking animals. He takes as a high milking standard, for two-year-olds, 9 lbs.; for 3-year-olds 10½ lbs.; for 4-year-olds, 12 lbs.; for 5-year-olds, 13 lbs.; and for 6-year-olds, 14 lbs., on grass alone. He knows such animals can be forced beyond those yields, and where larger yields have really existed some forcing has taken place. But there can be no comparison so fair, so uniformly reliable, and so little calculated to injure the cows as that based on grass alone. There is another point very important, viz.: the butter yield say six months after calving. The cow that is a large yielder when fresh, but whose yield decreases rapidly, may be of less value than one whose yield is smaller at first, and falls off but little. A fair proportion to decrease in the first six months would be one-third, so that a twelve-pounder might fall to eight pounds, or a nine-pounder to six pounds in this time.



JERSEY COW LADY MAUD, H. R. 3795.

Clover Hay or Rye and Oats.—For high-colored, sweet-flavored butter, we have found that clover hay, cut when in early blossom and cured in the cock, without much exposure to the sun, is the best feed. The next in value is oats, cut when in the milk, and carefully cured. Rye cut green and cured we do not value very much. We have found peas and oats sown together, cut in the flower and cured, to be excellent feed for milch cows during winter. It is also a prolific crop.

The valley of the Po, embracing Piedmont and Lombardy, is a marvel of successful irrigation. An agricultural authority estimates the irrigated surface at 1,000,000 of acres. The increase on the rental of the land thus irrigated is, at a very moderate estimate, $4,150,000 per year. The length of one of the canals or conductors in Lombardy, including their great lines and branches, exceeds 4,500 miles.

Stacking and Feeding Straw.—W. Doyle, of Gratiot, Wis., writes, giving his method of caring for straw:—Straw with us is the principal article of food for cattle in winter, and it becomes necessary as a matter of economy to make the most of it. As the threshing season comes some time before we feed, the straw shall be well stacked and picked up, as in the case of hay, and a good fence built about it for its preservation. Many farmers allow swine to get at the straw stack. This is a miserable practice, for the straw is wasted and made unwholesome for winter use. I feed it out with a great deal of care, as I would hay, and thus utilize it all.

Notes on the Garden and Farm.

SHADE TREES.—A New York State law makes provision for the planting of shade trees along the highway as follows: "An inhabitant liable to highway tax who shall transplant by the side of the highway forest shade trees or fruit trees of any suitable size, shall be allowed by the overseers of highways an abatement of his highway tax, one dollar for every four trees set out; but no row of elms shall be nearer than seventy feet, no row of maple or other forest trees nearer than fifty feet, except locust, which may be set thirty feet apart, and no allowance as before mentioned shall be made unless such trees were set out a year previous to the demand for said abatement of tax, and are living and well protected from animals at the time.

DEATH TO THE ROSE SLUG.—Mrs. H. D. Graves, of Essex Co., N. Y., writes to the florist, Vick, that she destroys the rose slug easily by the application of a solution composed of 1 pint of dairy salt and 1 pint of soft soap, dissolved in 10 gallons of soft water. Dissolve the soap thoroughly in the water, then add the salt, stir well, and shower the bushes soon after the leaves appear; again after the bloom is over. One application is generally sufficient, if taken in time. After sunset is the best time to do it.

On Tuesday morning last the model farm of Messrs. Cutler & Walker, about two miles northeast of this, on the Colony Road, was visited by a number of gentlemen of this village, to witness the removal of stumps from their clayey beds by the use of dynamite explosive agent; and the experiments, in all cases in which the circumstances were favorable, proved highly satisfactory. Solid oak stumps from two to three feet in diameter were hurled into the air, the fragments falling within a radius of fifteen feet from the vacuum in the earth caused by the removal of the stump. The more solidly the stump is imbedded in the earth, the more effectual is the work of the powerful explosive agent, if the charge can be placed near the centre, which is done by boring holes with earth augurs constructed for such purposes. In our opinion the dynamite will supersede all stump machines in the removal of obstructions from meadows and low lands.—*St. Johns Republican.*

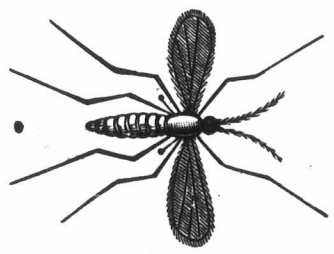
Grasshoppers are ravaging the crops in Perth and vicinity. Salt and coal oil are being used to destroy the pests, with alleged excellent effect.

On the buckwheat and rye question, says a letter to the N. Y. Farmers' Club, I have had a little experience in sowing the crops together. I once had a good crop of both by sowing the first of July under the following conditions:— The ground was good and worked up mellow, and the rye was drilled in quite deep, and then the buckwheat was sown broadcast so that it came up sometime before the rye. But it was cut in the fall, and cleared from the ground, which gave the rye a good chance to get a fair start before winter, so that the crop went through all right and proved to be very satisfactory. In this case the buckwheat obtained a good start of the rye, and as it grew very fast and occupied the ground but a little while, there was no smothering out of the rye.

"As mean as pusley" is as appropriate a comparison as I know of. It develops in a night from a seed to a weed, and if left for a few days without disturbance it seems to have more lives than the proverbial cat. It seems to grow wrong side up; it will grow if thrown on the grass, and in moist weather it will grow if hung up on a rail. There are no two ways to fight this miserable pest with any success. The only feasible method is to take it as soon as it germinates. Ground in which purslane seed has become a large component part, should be raked over every fourth or fifth day, whether any seeds are in sight or not. It seems like a large expenditure of labor, but when we calculate that by doing this we can accomplish five times as much as if we left it three weeks, we can see economy in it after all. And again it is not safe to leave it many days, because in hot weather it will be born one day and a week pass the period of puberty, in ten days develop seeds that will germinate and form a generation 1,000 times as numerous as the first. Yes, I have estimated with care the production of seeds from a single plant, and find from a thrifty specimen they number a million. And with all this in view how few gardeners can see that "A rake in season will save a million."—*Detroit Free Press.*

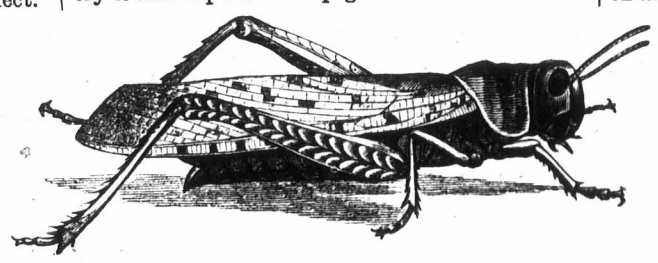
Silver-Chaff Wheat.

The accompanying cut represents the silver-chaff wheat. This wheat is by some preferred to the Clawson. It is a white-chaffed, white wheat. The quality of the grain is superior to that of the Clawson, although the latter may look quite as plump. The Clawson will be the principal wheat sown this autumn. For the past three years its hardiness and early ripening qualities gave it a decided advantage over many varieties. Some prefer the Treadwell, others the Scott; some the Mediterranean, others the Deihl. Farmers are apt to follow up a good crop, that is, sow greater breadth of the same. This is not generally thought a good plan; continue your operations as if the wheat was its usual price. The largest yield we have yet heard of this season was from Clawson wheat. The seed was imported from R. J. Swan of Geneva, N. Y., sowed by J. McClaren, London tp. and yielded 75 bushels per acre.



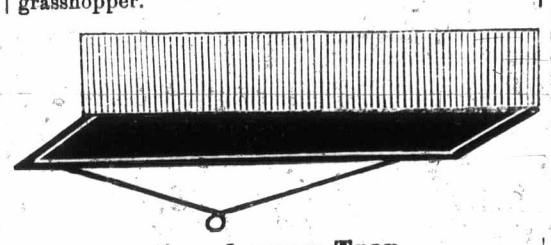
Hessian Fly.

The small dot below is intended to show the insect in its chrysalis state, to be found in the spring and in the autumn, at the bottom part of the leaf near the stem, and close to the ground. An English farmer soaked his seed wheat in turpentine, and thus prevented injury from Hessian Fly. We hope some of our readers will try it and report. See page 172.



The Common Canadian Grasshopper.

There are many varieties of grasshoppers or locusts. The principal one that troubles us to any extent is the one here represented; and what you principally want to know in this busy time is the best way to get rid of him. We give you the plan of a trap, the best we have yet seen, and one that would not cost much to construct. In our next issue we purpose giving you a full account of the grasshopper.



Grasshopper Trap.

See particulars on page 169.

TO BANISH RATS.—Rats can be banished by covering the floor near the rat hole with a thin layer of moist caustic potash. When the rats walk on this it makes their feet sore. These they lick with their tongues, which makes their mouths sore, and the result is that they not only shun this locality, but appear to tell all the neighboring rats about it, and eventually the house is entirely abandoned by them.

Major Hallett, in the *Gardeners' Chronicle*, says: Very close observation during many years has led me to the discovery that the variations in the cereals which nature presents to us are not only hereditary, but that they proceed upon a fixed principle, and from them I have deducted the following law of development of cereals:—1. Every fully-developed plant, whether of wheat, oats or barley, presents an ear superior in productive power to any of the rest on that plant. 2. Every plant contains one grain, which, upon trial, proves more productive than any other. 3. The best grain in a given plant is found in its best ear. 4. The superior vigor of this grain is transmissible in different degrees to its progeny. 5. By repeated careful selection the superiority is accumulated. 6. The improvement which is at first rapid, gradually, after a long series of years, is diminished in amount, and eventually so far arrested that, practically speaking, a limit to improvement in the desired quality is reached. 7. By still continuing to select, the improvement is maintained, and practically a fixed type is the result.

A factory is in operation at Devenport, Iowa, for the making of sugar from corn, the first in this country. The sugar is the same as maple sugar, or is chemically known as glucose, pure maple sugar, grape sugar and glucose being one and the same thing. The demand for the article by confectioners alone in the United States is immense. The sources of supply heretofore have been France and Germany, whose glucose is made from potatoes. Here it is the product of corn wholly. It is as pleasing to the taste as honey. The production of grape sugar and glucose opens a new department for Iowa corn. The capacity of the works at Devenport is 500 bushels per day. This branch of manufacture bids fair to become of immense importance.

TUBEROSES.—Tuberoses, says the *Guide*, will flower satisfactorily in the house, and no other plant will give as much fragrance, and few afford so much pleasure. The bulbs for this purpose should be planted in pots any time between the first of June and the middle of July, and the pots sunk in the earth in the garden to the rim. Here they should remain until the nights begin to get cool in September, when they should be removed to the house.

It is said that the bark of a willow tree, burned to ashes, mixed with strong vinegar, and applied to the parts, will remove all corns and excrescences on any part of the body.

Soot is said to be an antidote for smut; soot is largely consumed in carbon, and contains, also, a considerable quantity of nitrogen, besides salt and lime, potash, soda and ammonia. One hundred pounds of soot have been estimated as equal to one ton of cow dung. It is especially valuable as an application to work off the attacks of insects, and may be sown with profit in the garden or in the field.

Ohio raises 15,000,000 bushels of apples from 381,000 acres of orchards.

The machinery for the manufacture of wood paper hangings is now so perfect that an inch of white maple or other fine grained wood can be slit as to furnish two hundred thin leaves, having the surface and grain of the wood. These leaves are laid upon a paper backing, and thus constituted, may be fastened to the wall the same as common wall paper. A room thus furnished presents the appearance of a panelled apartment, since all the surface visible is that of the actual wood. With smoothed and polished woods of a coarser or more open grain, the number of leaves or veneers to the inch is one hundred and twenty-five. The machine which produces these leaves is a marvel of mechanical ingenuity and skill.

In France a gentleman owned a grand country estate; surrounding his mansion were orchards containing fruit trees of all kinds that could be acclimated, about three acres in plums, which were healthy trees, blooming every spring, but none of the fruit coming to maturity. He became disgusted and turned the plum orchard into a chicken yard, leaving the trees for shade. To his profound astonishment, the next season the trees were fairly breaking down with ripe, full-matured fruit. The poultry had accomplished what man had utterly failed in—successfully battling the curculio.—*Prairie Farmer.*

The first of October is the best time for making an Asparagus bed. Very little cutting should be done the first summer. An Asparagus bed will last a lifetime, and will pay for labor and patience.

Agriculture.

Good Time for the Farmers.

The *Am. Agriculturist* for June says:—"The experience of the past few years goes to show, that there will be no danger of "overproduction" in the future. We need not fear to raise as large crops as we can. The foreign market is large and steady, and will need all we can produce in the way of grains, meats, provisions, and dairy produce, to supply it. The low prices of the past few years have brought this about, and therefore have not been by any means an unmitigated evil. While we have been depressed and troubled by a reduced income from our farms, which has sorely embarrassed those who have been in debt, this has been the means of stimulating farmers generally, to do better by their farms than they had formerly done. In no previous period had stock been so much improved as during the few years just past, and we have, in consequence, found a market in England for meat, which has saved our home from demoralization. At no time before the present has there been so much of artificial fertilizing, and never before so anxious enquiry about the possibility of enlarging the crops, and using the most effective economy in farming operations. In the meantime thousands of persons are entering into agriculture and other industries; the wave of western emigration has broken upon a shore where the land, although valuable for pasture, is not arable, and it now flows back again upon the neglected lands of the East, which are being restored again to their former fruitfulness by means of most skilful operation. There is now a closing up of scattered ranks, and the farming interest is becoming consolidated. As population may increase, during the next 25 years, to double its present limit, and we have a hundred million mouths to feed in our own country alone, all the resources and skill of the farmer will be taxed to meet the demand for his products. The value of farms can hardly fail to increase year by year, on these accounts, and it will be the farmer's interest to see that he neglects no means of making his more valuable property pay a higher interest than now. This can only be done by making it more productive."

Salt as a Fertilizer.

It has for a long time been known to the agriculturist that the farmer who is the most successful must return to the soil as much in barnyard or some commercial fertilizer as he takes off in the shape of crops. But where to find which is the best suited to our land is what all farmers want to know. Salt for this purpose will be found to contain a supply which will benefit all forms of vegetable life, but the quantity should be applied at first with care, as some plants will bear much more than others will. Onions and cabbage, together with many other kinds of plants, will bear a large portion of salt, while on grass or kindred vegetation salt should be used as a fertilizer with care. Salt has been used in England by farmers for a long period, with the best of satisfaction. Large quantities, of a second quality, can be obtained from the salt works of our country very cheap, and which will afford the farmer a chance to test its qualities as a fertilizer on his crops, and show how good an equivalent it is, compared with other kinds, guanos, phosphates, etc. In grain growing it is used with much success in some sections, and is said to be a preventive against the lodging of the grain; and experience has shown that it is a remedy that will prevent the rust (which affects late grain so much) wherever it has been used on the growing cereals.

But a good deal of caution must be used when it is applied, especially to the grass crop, or it will kill it. And the same rule will hold good in regard to many kinds of our common fruit trees. It has been learned by experiment that forty grains of salt dissolved in a quart of water made a solution that was very beneficial to all kinds of bulbous plants, and by daily watering with this solution, the plants grew twice as fast as those that were similarly situated on land equally good, but which was moistened with water without salt. Those who have used salt as a top-dressing say that six to eight bushels per acre is highly beneficial to meadow lands, while to arable lands, if sown immediately after the grain has been sown, ten to fourteen bushels per acre may be put on without any danger of doing the crop any injury.

If the intelligent farmer would experiment with salt in connection with other manures—plaster, lime or the other commercial fertilizers—he would very soon become the possessor of facts which would be of untold benefit to him, and it is only through such experiments that the farmer can be successful in his avocation; and if he can buy the salt for twenty-five cents per bushel, and ten bushels per acre will increase the production of his land forty per cent. over what he now is getting, he can well afford to use it freely, with excellent results. And such is reported as having been done.—*Cor. Rural Home.*

Muck on Sandy Soil.

The value of muck when applied to heavy soils is well known, but it is little known that to the poorest sandy soil an application will prove very serviceable and the expense of carting prove a good investment. The reasonableness of this will be apparent from a moment's consideration of the subject. We see at once the great count in such a soil is that of a heavy tenacious clay to give it some solidity, and counteract its rapid impoverishment from the fertilizing elements passing at once from the too porous soil. Some are so extremely bad that any attempt to fertilize it by tillage would be like the child's endeavor to fill the sieve with water. Muck, though it is inferior to clay for a permanent improvement of such soil, may be applied with very good effect. As a vegetable matter it is more retentive of moisture and all elements of fertility than a very sandy soil can be, and a few inches deep applied to such soil, though not causing a permanent improvement for it for culture will enable it to give a renumerative crop of yellow or white turnips or potatoes, and by sowing white clover and suitable grass seeds, it may be made a good sheep pasture. A writer in the *Country Gentleman* says :—

Much has been said about underdraining, and its value is fully established. But no underdraining is so good as that done by nature, where she has supplied a deep, porous sub-soil, for then every foot of ground is sure of complete drainage. Unfortunately, where nature has provided this subsoil she has usually placed on the surface a sandy or gravelly soil, which is generally considered of little value, and its elements of fertility are constantly washing out, and it will not retain manures ; therefore they are much neglected, while the heavier soil have been expensively underdrained or cultivated under the curse of stagnant water. Knowing the great value of underdraining, it appeared to me that the leachy propensity of the porous soils could be destroyed by the application of some retaining substance, and thus obtain complete drainage at less expense and have an easier soil to cultivate. With this idea, about one-third of an acre of light sandy soil, so light as to be considered waste land, was mucked from three to four inches deep, and this was thoroughly worked into the soil. This was done year before last. Last year it bore a good crop of potatoes with common manuring. This year it is bearing the heaviest and best corn on the farm, with no more manure than the other fields. This proves to my satisfaction that for many crops it is better to improve the surface soil of natural dained land than knock the bottom out of a watersoaked clay soil, which never can be made so warm and dry in the spring or so easy to cultivate, as sandy soil well dressed with a retaining substance such as muck, clay or decaying vegetable matter.

Oats for Hay.

The season thus far has been a little cold for Indian corn, but it could hardly have been better for oats. This grain seems to delight in cool weather, and succeeds better at the north than in southern latitudes. The crop is peculiarly subject to rust, often blasting just as the grain begins to fill, especially if the weather is extremely hot and showery at that time. In Southern New England, where hay sells nearly twice as high as in the more northern portions, oats, as a grain crop, have become more and more unpopular from year to year, till at present time, probably, more than half of all that are sown are intended more for fodder than for grain. Some farmers let them stand till the grain will pay for threshing, but cut while the straw is yet green. Others cut when in bloom, and thus get the hay when it is in its best condition for feeding. Oats have usually been grown on old ground where corn or potatoes had been cultivated one or more seasons. A few farmers make a practice of manuring oats the same spring they are sown, but usually this crop is compelled to feed upon manure already in the soil, such as has been applied to previous crops and not wholly consumed. In unfavorable seasons, when the weather is hot and damp, oats are thought to do best under such treatment, but in a season like the present, they do equally well upon newly ploughed land, and with a fair dressing of stable manure.

For the past two years we have made special efforts towards raising, upon the farm, all the fodder to be used by the stock kept, and in order to do this have experimented in various ways. Among other experiments, we have tried growing oats for fodder upon old mowing fields, which were producing too little hay for profit. The land has been ploughed in the autumn, after the hay crop was secured. Then it is harrowed fine and smooth during the leisure days between harvesting and other work. Before winter the soil may be made to look almost like an old field, provided the ploughing and harrowing is thoroughly done. Manure of some kind is applied before the ground freezes, and if convenient is cultivated lightly into the soil.

Early in spring, as soon as the soil is dry enough to work well, it is cultivated thoroughly and sowed to oats, at the rate of from four to five bushels per acre. If the grain is small, four bushels may be enough, but otherwise, five would be better. This will give straw nearly as fine as ordinary stout timothy. It is easily cured and, when cut early and well cured, makes hay that is better than timothy and red top which are allowed to stand till dead ripe. We have had nearly five acres of such oats this season, most of which have been grown upon greensward, and the result has been quite equal to our highest anticipations. Two fields were manured with Brighton fertilizer, applied in the fall after the ground froze and left exposed during the winter, and with no preceptible loss from such exposure, even though upon land somewhat subject to washing. More labor is required for growing such crops than for cutting the hay upon old run out fields, but from our experience we should claim that such labor pays.

It would seem that land producing two or three crops of grain straw in a season, each being fairly manured and the stubble ploughed in, must be gaining in fertility. It certainly improves in mechanical condition, being light and exceedingly mellow. We doubt if oats, as a fodder crop, are yet appreciated according to their real merits.—*N. E. Farmer.*

Fancy Farmers.

HOW EVARTS, BEECHER AND GOUGH LOSE MONEY AS FARMERS.

It has of late been proposed to raise by public subscriptions enough to enable Mr. Evarts to hold the office of Secretary of State without damage to his private interests.

One of the best features in any such measure would be to abolish the Vermont farm, which is said to exhaust the best part of his income. He has 70 head of cattle, 200 sheep, 16 horses and 25 swine. The extent of land is 800 acres. Last year 200 tons of hay were cut, costing the proprietor not much more than double the market price. More than 2,000 bushels of corn were raised, at an estimated loss of 50 cents a bushel, and, therefore, ought to be good quality. His pork is estimated at 20 cents a pound, and chickens at $3 a pair.

Beecher last year raised about 15,000 bushels of onions on his Peekshill farm. They cost him $1.50 a bushel, according to estimate, and as the market in this city was $1, any one can see how much he made. Beecher can send beef to the New York market at 50 cents a pound, and can raise oats at as low a mark as $2 a bushel. His butter is reckoned at $1.25 a pound, and his eggs at 75 cents a dozen. He cleared $40,000 by lecturing last winter, and if he maintains such an income he will be able to continue farming.

Gough lectures five times a week, his fee being $200. He has a farm in Worcester, which at one time contained 175 acres. He has no children, but his expenses are very heavy, and, to bring matters in a snug shape, he sold a part of his land, and reduced the farm to 125 acres, which is as extensive as his income will admit. A few years ago his wife, who was a Yankee girl, undertook to raise fancy fowls, which some say are very profitable. She got up a very nice variety, and at a rather reasonable expense, for the Shanghais did not cost more than $75 a pair. The Cochin-Chinas were a little cheaper, and bantams could be rated at from

$25 to $40. After stocking the place with these rare birds, Gough, it is said, found that if they were to be kept up he would "be obliged" to lecture on Sundays as well as on week days to make a living. When it costs $12 to winter a chicken, a man needs a good income. The system was, therefore, changed; the fowls were abolished, and regular crops were tried with decided success. As long as Gough's rye does not cost more than $5 per bushel, and the other crops are kept at an equally reduced rate, his present income will enable him to live in a very decent manner. There is nothing like a farming life for men who have plenty of money.—*American Paper.*

Improvement of Pastures.

Why are the pastures throughout America so inferior to those of Britain? It is not unusual in the Old Country to feed a large milch cow or fatten a beef to the acre, and the grass not overstocked. The difference, we admit, may partly be attributed to the difference in climate, but only in part. In order to secure good pasture or meadow it is as necessary to prepare the land thoroughly by good cultivation and manuring as it is for barley or turnips. If land is so prepared, and then laid down with good grass seed, in proper quantities, it will be found as profitable at least as any land under tillage, and if naturally good grass land it will continue feeding stock permanently, if not overstocked. We have known excellent pastures of over a hundred years old. An American paper says:—

"This is the only country in the world where any pretentions are made to good farming that no attention is given to improving pastures. In taking up a new farm the poorest portion is invariably set apart for the pasture. After the best portions are planted and sown to annual crops, so long as they will pay the cost of cultivation, the land is seeded down to grass. This is cut and cured for hay till the farmer himself is ashamed of the small amount he gets from an acre, when he concludes that he will convert the field into a pasture. He seldom seems to think that his pasture is his great source of wealth; that his cows get from it the materials which furnish milk; that the grass it produces makes most of the wool, beef and mutton he has to sell; and that all his young cattle obtain their living from the pasture about seven months in every year. He seems to forget that he and his teams work all summer chiefly to obtain food which the stock consumes during the winter, while his pastures furnish a supply for a longer period, without any labor being expended upon them.

Land once turned out to pasture is doomed to neglect so long as it is devoted to that purpose. Weeds and bushes are permitted to spring up and spread at will. As the grass in places becomes killed out, the spots are allowed to remain barren. A large proportion of the stock kept in the pasture is yarded at night, and most of their droppings are left, when they are taken to cultivate fields. Even those that fall on the pastures are not broken up and scattered, as they should be. The rank grasses which spring up, but which are not eaten by the stock, are allowed to go to seed, and in this way gradually extend over a large portion of the ground. No farmer thinks to apply farmyard, mineral, or commercial fertilizers to his pasture. If a portion of it happens to become rich by the cattle, sheep, or colts remaining on it during the night, the chances are that he will plow it up and put it cultivated crops, and turn out another piece of land that is in too poor condition to produce corn, grain, or hay.

In England pastures receive constant attention, and increase in productiveness year by year. They are generally in so high a state of fertility that a good crop of hay may be harvested from them, if the stock is taken off, as is done occasionally. They are manured like lands which produce annual crops, the fertilizers being applied late in the fall or very early in the spring. They are ordinarily mown at least once every season, so as to keep down the weeds and coarse grasses. By cutting them off, short grasses spring up, while the weeds and rank grasses that are cut down help to enrich the soil. The turf, once well established, may not be turned during a century; but it is occasionally sacrificed by a utensil made especially for the purpose, so as to lay bare some fresh soil, on which the seed of more valuable grasses may be sown. A great variety of grasses is produced on English pastures, and attention is given to seeding peculiar soils and locations with grasses that are adapted to them. In this country little or no attention is given to this matter, but the grasses are left to establish themselves as best they will. In some localities white clover, redtop, and blue grass, all good pasture grasses, will, by a process of self-feeding, or extension of their roots, establish themselves over a considerable amount of ground. Under favorable circumstances, however, sorrel, burdock, thistles and coarse grasses will take possession of the land.

Fence Posts Top End Down.

A study of vegetable physiology led me to try several experiments, many years ago, to throw light upon this question. The sap of moisture goes up in the sap wood from the roots to the leaves of trees. I found if the post is butt-end down, the pores are open upward, and water can go up, and thus keep the post moist between wind and water, which must cause a rapid decay. It appeared probable that the pores were open only upward, and not downward in the tree. To test this, I cut a small maple sapling, (two inches through), in May, leaving the limbs all on, and placed the butt-end in a pail of brine. In thirty-six hours, the leaves were saturated with this brine, the taste of the salt being strong.

At the same time I had cut off the top branch, leaving the rest of the limbs. After winding a cloth around the butt-end to prevent evaporation, I placed the top end in a pail of brine, and allowed it to remain several days, but no brine had been absorbed at the top end. It had not penetrated the pores as far as the end was immersed in the brine, for if the bark was scraped, there was not the slightest taste of salt to be found. This being the case in the green tree, how much more must the pores of the dry tree be closed from the top end downward? I have tried many similar experiments, and think the question settled that if a post is placed top end down, no moisture can ascend from the bottom of the hole up the post to rot it; but when the butt-end is down, the moisture can ascend the pores very rapidly if green, and slowly if dry. Seasoned posts are found to last much longer because the pores are more or less filled within the seasoned wood. I should also infer that placing the top end down would make more difference in a green than in a dry post. In pursuance of the fact that the pores of green timber had been often saturated with different solutions to preserve it, by immersing the butt-end freshly cut in the solution to be absorbed, it will also be noted that burning or charring the posts only closes the pores and prevents absorption of water.—*Country Gentleman.*

Cremation in California.

Not a few Canadians have been seduced by reports of the excellence of California climate and soil to emigrate to that country. The following item from a San Francisco paper presents a rather discouraging picture of this year's propects in that State:—

The recent heated term lasted seven days. The highest reading of the thermometer, we believe, were 113 degrees at a few points in the interior. The damage has been considerable. One fruit-grower in Alameda County lost 150 tons of currants, the fruit having been cooked so as to make it wholly unfit for market. Other fruit-growers lost proportionate quantities. In short, the currant crop, which is nearly all produced for market in Alameda County, has been ruined, to the great regret of housekeepers who have come to regard this as one of the best fruits of the season. As for the cherry crop, while it was not so greatly damaged by the heat, a considerable part of it having been gathered, it was a poor crop from the start, and there is not much of it left after the heated term. We hear of several large cherry orchards where the lessees have heretofore sold from one thousand to three thousand dollars' worth of berries in a single season. This year the entire crop will hardly bring as many hundred dollars. What is worse, the buds for next year are not promising. The heat in many instances has burned the buds past recovery.

The destruction to vegetation was very great. In places where the mercury did not range much above ninety-eight degrees, the heat and the north wind denuded many trees of one-third of their foliage. Gardeners and others in the suburban towns have been busy in raking up leaves, as if it were autumn instead of the fresh and leafy month of June. At no time during the last fifteen years has the crop of roses been so utterly used up as during the last ten days. One may walk through extensive grounds now without finding a perfect rose. Not so many are seen now in the best kept grounds as might be seen in December. The mildew has been very destructive; then came an army of green parasites, then the north wind and the heat put on the finishing touches. Pinks, which are the glory of midsummer, were dried up in bunches with hardly more freshness left than sheafs of barley in the open field. In some places where the mercury went up a hundred degrees, apples and pears were partially cooked on the trees, and to this extent were spoiled as a remarkable crop. The grape crop, so far as we can learn, has suffered no injury. It is a little affected by heat, north wind or drouth. The first of the new crop is already in the market and selling at retail for 50 cents a pound. The hot weather has pinched off a great deal of growing grain, which, ten days ago, promised to mature from half to two-thirds of a crop. This will be turned into hay. As usual in a dry season, the hay crop has turned out better than had been predicted, or rather there is a greater bulk of hay, at the expense, of course, of wheat and barley.

Are There Disease-Resisting Potatoes?

AMERICAN VARIETIES OF THE POTATO IN ENGLAND.

American varieties of the potato are not so highly esteemed in England as in their native place. We have them good producers but not good for table use. The London *Gardeners' Chronicle* says of them:—

The rashness exhibited on the part of those who declare certain varieties of potatoes to be "disease resisting" is constantly being illustrated in various ways, and the experience of those who make a specialty of the potato goes to prove that if an average of three years be taken no variety is altogether exempt from the ravages of the disease. An amateur cultivator of our acquaintance grew an American variety in 1874 to 1875, and finding it, notwithstanding statements to the contrary, of good cooking quality, and entirely free from disease during the time he had grown it, strongly recommended it to his neighbors and friend. But mark the result of the season of 1876. He writes: "This season Eureka all rotted down, other varieties stored around them remaining very good." But while making this statement the writer reiterates the favorable opinion he had already expressed as to the culinary value of the Eureka: "I find it cook extremely well, very white and mealy, from my sandy red land; in fact, most of the American varieties are of good quality from this soil, while in the heavy clay lands hereabouts they are simply worthless." This is an invariable experience with the American potato. The writer makes another statement in regard to American potatoes worthy of being recorded: "On some light, sandy land a short distance from here" (he is writing from the southern part of the county of Warwick) "all the red American potatoes turn white after being grown in it about three years, at the same time yielding enormously." The land is chiefly let out in allotment gardens to laborers, and this season the Early American Rose was quite white in the skin. Did what is known as the White American Rose originate in this manner?

The area under wheat in Great Britain was 22 per cent. less in 1876 than in 1869.

A strange grub is said to be destroying the crops on Manitoulin Island. The wire-worm has made its appearance in the Sault Ste. Marie section.

Cologne, June 29.—A potato field at Mulheim, Germany, on which the Colorado potato beetle made its appearance, has been covered with petroleum and tanbark and set on fire, the government indemnifying the proprietor.

Being in Dorsetshire on Saturday, a large farmer there told me that he had found steeping seed in spirits of turpentine was a complete preventive against the fly. He said it did not injure the germination of the seed, and that the young plant came up tasting and smelling of turpentine, the odor of which remained on it until it was in rough leaf, and safe from its insect enemy.—*Agricultural (Eng.) Gazette.*

Correspondence.

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 "Printer's Manuscript," leave open, and postage will be only 1c. per ½ ounce.

Canadian Marl.

SIR,—The farmers of this section are waking up to the fact that land will not continue to produce by the old system of depriving it of its nutriment without a corresponding return, hence a desire to utilize anything available that would assist to keep up the fertility of the soil and the production of the farm. I send you a sample of an alluvial deposit, locally called "marl," some acres in breadth and from four to six feet in depth, deposited at the base of the Limestone Mountain, Nassagaweya, Co. Halton. From the fact that we have no way of analyzing its components nor of determining its specific value to the various crops, we have concluded to send you a sample for light upon the subject, as the understanding prevails here that the ADVOCATE is fully competent to ventilate any subject connected with farming. The same light will be gratefully received by your subscriber and others.

O. ROBERTSON, Milton P. O.

In many parts of Canada there are deposits similar to this now forwarded to us. We have not yet heard of any of our farmers using it to any extent. Any of our readers who have practically tested the marl might kindly report to the ADVOCATE regarding the results obtained from it. Mr. W. Saunders applied a chemical test to the sample forwarded, and has kindly given us the following information regarding it :—

It is composed chiefly of carbonate of lime, associated with smaller proportions of phosphate and sulphate of lime. It is said to be formed chiefly by the accumulation and decomposition of small shells, and is very serviceable as a manure for soils, especially where there is a deficiency of lime. It acts partly as a direct stimulant to crops and partly by absorbing ammonia and other gases from the atmosphere.

Machinery.

SIR,—The London *Times*, of the 12th ult., contains a report of the Bath Agricultural Show. Amongst the machinery exhibited, Messrs. Lasker & Son, of Andover, show a good winnowing machine with grain elevator attached, which not only elevates, but bags the finished grain by the elevator discharging into a sack placed on a weighing machine, which immediately on having the required weight, by its own pressure stops the discharge. The same firm has also affixed a novel adjustment to a very good threshing machine, for cutting the bands off the sheaves, and regulating the feeding at the mouth of the drum. The sheaves can thus be thrown in whole, which involves great saving of labor. Could not some of our agricultural implement makers copy the improvement. It would always save the labor of one man, and when the straw is short, of two.

SARAWAK.

[The great competition in supplying the demand of England, the great mart of the world, with breadstuffs, necessitates unceasing progress in the invention and improvement of labor-saving farm implements. The demand will continue for farm produce, but so keen is the competition from every continent of the globe that the cost of producing and carrying must be maintained at low figures. Our agricultural implement makers are not slow in taking advantage of every ingenious invention in their business.—ED.

Dynamite.

SIR,—If the man at New Westminster, mentioned by your correspondent, James Tyson, had used the dynamite properly, he might have had more success with it. The dynamite is sold in two different sized cartridges, one much smaller than the other. He should first have cleared away some of the earth outside the stump with a spade, and then have made a hole about three feet long under the stump with an iron crow-bar. Then he should have pushed down a large cartridge with a stick; then a small cartridge with a detonating cap and fuse, and fill up the hole with earth, pushing it down gently, but not tamping, and probably the stump, large as it was, would have been lifted out of the ground. Pressure alone will not explode the charge, but tamping might.

SARAWAK.

["Sarawak's" hints are opportune, notwithstanding our previous directions to the same effect. The effect of dynamite, if properly used, is certain, but it would not do to throw up a stump or boulder whole, but brake into fragments. Its effect is somewhat similar to that of a torpedo.—ED.]

SIR,—Some time ago I noticed in an English paper that a provision dealer in Liverpool, England, had been summoned before a magistrate on a charge of selling poisoned meat. On investigation, it turned out that the meat in question was American canvass-covered hams, which were coated with chromate of lead, to keep away the flies. A medical man, who was examined on that occasion, testified that the poison had penetrated to the bone, and he observed that the hams might as well have been packed in arsenic. As those American hams are common in our grocery stores, housekeepers should avoid purchasing them. It is bad enough having death in the coffee cup, in the shape of American adulterated sugar, without having death in the frying-pan, in the shape of American hams. Public analysts should be appointed for every town in the Province as well as in a few of the principal cities. What kind of milk do you Londoners get? Is it milkman's milk or cow's milk, and, if the latter, does not the cow with the iron and wooden tail, as the case may be, furnish a large part of it?

QUERY.

[The inspection of food as to its healthy or unhealthy state has had a beginning in Canada. It may proceed no further. They manage these things better in Old England. Let us hope "there's a good time coming."—ED.]

Crop Prospects.

We have been fortunate so far in escaping the heavy rain and hail storms which appear to have been so severely felt in many places about the 1st inst. We had a heavy gale that day, but no rain until the 3rd, and then not much wind. In low ground, frost on the 23rd ult. injured the early potatoes and grain, but a few warm showers would soon bring them round again. Except in very few places, the potato beetles are not very numerous. We used no paris green till last year, as I consider it is on the whole productive of more harm than good in the long run, as it destroys the parasites as well as the beetle. Peas (not grass, as misprinted in my last communication) have been injured by the grubs in light, gravelly soils. The temperature has been very variable all the spring. Since the frost on the 22nd the thermometer has been several times below 60° at night. Hay, except on low ground, will be about half a crop, but the yield of straw promises well. Still Mr. Vennor's forecasts of the weather have proved so correct hitherto, with the exception of February, which was an exceptionally mild month in France and Germany as well as in Canada, that it will not do to be too sure of the crops yet. According to Mr. Vennor, we may expect storms of wind and rain, and perhaps frost, if not a little snow, in July and August, which, if correct, will, I trust, put an end to the midge, which has, however, never done much harm in this part of the country, and then we may expect a fine fall and late winter. I have noticed in two or three places along a small creek which runs through my farm a change of color on some of the young maples. Still we have had no frost here, as I have cucumbers, tomatoes and beans in my garden which are uninjured, and a very slight degree of frost cuts them down. Butcher's meat is rather scarce, owing to the scarcity of grass; although there is no scarcity of butchers' work in the shape of murders or attempts at murder, cases of which are reported every week in the papers, and unless the law against such crimes is more strictly enforced in the future than it has been in the past, we can expect no improvement in this respect.

SARAWAK.

[In another column may be seen our editorial crop report. That the paris green would probably kill not only the potato bug but also their parasites is an objection urged against its use. It is feared that the bug dying from the poison, the parasite would be poisoned by feeding on it when poisoned. But it is questionable if the bug feeds on any but the living, healthy prey. We have no grounds for concluding that the parasites feed on carrion. The instinct so powerful in most animals would guard them against such fatal errors.—ED.]

SIR,—I would like to know of a Circencester College man in Canada. I was at the R. A. C. for three years and a-half, and would like to find one in this new country.

S. W. HORNIBROOK.

Dunnville P. O., 29th June, 1877.

Muskoka and its Free Grant Lands.

SIR,—Several of your readers have visited this part of Muskoka during the past few weeks, and most of them have been favorably impressed with what they saw of the district. I enclose herewith a letter clipped from the *Markdale Expositor* of May 25th, giving an account of a visit to Muskoka by a gentleman from the County of Grey, and trust you will find space for it in your next issue, as it may be read with interest by persons seeking information about the Free Grant Lands.

JAMES ASPDIN.

To those who purpose visiting the district my short sketch of the route I took may prove valuable.

Getting on board the 9:12 train at Stayner, I reached Barrie in time to connect with the train going north on the Muskoka branch, and passed through a well settled country between Barrie and Orillia. Leaving Orillia, the road crosses the south end of Lake Couchiching and runs up the eastern shore, through a rough looking country, to Washago, at the head of Lake Couchiching. From Washago to Gravenhurst (some 14 miles) the country looks to be nothing but rock and sand, covered with stunted pine. Gravenhurst is situated at the south end of Lake Muskoka, and is the present terminus of the railroad; it contains a population of about 400 inhabitants, and has some good sawmills in it; three boats run from here to different ports on Lakes Muskoka and Rosseau. We remained at Gravenhurst about an hour, and getting on board the steamer Simcoe, we had a short run up the lake and Muskoka River, reaching Bracebridge at 4:30 p. m. Bracebridge is the capital of the Muskoka District, and contains a population of 1,000; there are some fine stores and hotels here, and business appeared to be pretty good, especially with the hotels. The Free Grant Land agent lives here, and, calling on him, I got a list of unlocated lots for the small sum of twenty-five cents. There is a daily stage running between this place and Huntsville, 25 miles north-east of Bracebridge. Leaving this place at 7:30 Tuesday morning, we took the Huntsville Road for Utterson. We saw some fine farms along this road, but the general appearance of the country is uninviting. Utterson is 13 miles from Bracebridge, and contains one well kept hotel, one store, blacksmith shop, school-house, church and a few dwellings. Shortly after leaving Utterson we turned up the Stisted Road, running north through the Township of Stisted, and the appearance of the country began to change for the better. Instead of rocks, sand and pine, we see fine hardwood bush, composed chiefly of sugar maple and black birch, with some hemlock along the courses of the streams. We reached Aspdin Post-office, seven miles from Utterson, about 3 o'clock, and examined some of the cleared farms in this neighborhood, and found the soil a rich sandy loam, with clay subsoil. In some places the land is broken with rock, but not to any great extent in this township (Stisted). Wednesday morning, getting a friend to go with me, and taking a lunch and an axe, we started for the bush, returning to Mr. Aspdin's that night about half-past ten, tired out with our tramp. What I saw of the township of Stisted is fine-looking, heavily timbered land; the soil is good, with small ridges of hard head stone on the tops of some of the hills, but no stone between the ridges; the country is well watered with small streams. I did not see any gravel, and was informed by the inhabitants that summer frosts are unknown in this township. The leading roads are made by Government, and are good, turnpiked roads, and do not cost the settlers anything. Of course, when you go back of these roads the country is wild looking, but any person looking back to

what the County of Grey was twenty years ago, would think Stisted had made good progress, it being only five years since the first settlers came in. The country is fast settling up, and every new settler has to go further back; still it is not so far back when we consider that you can reach Toronto in one day from Bracebridge, and the lands open for location are a small day's drive from the latter place. I was informed that the townships of McMurrich and Perry contain some splendid farm lands, but cannot say further, as I did not see them.

SIR,—Can you, through the columns of your valuable paper, give us settlers up here any information about a worm of the following description:

It is from half an inch to one inch in length; color yellow, with a small black head, and about the thickness of heavy pin-wire.

It is very destructive, especially to oats and wheat. It eats into the stalk of the grain, and up through the centre under the ground. I have got as many as four in one stalk. We think it is the wire-worm.

If you can tell us what it is and the best method known to destroy the pest, we would be very much obliged for the information.

PRO BONO PUBLICO, Sullivan, Grey Co.

[From your description of the insect attacking your wheat, we think it is the wheat wire-worm. Over a hundred different species of the family, of which this is one, are known to exist in Canada. No kind of production of the field or garden is exempt from their attacks. Curtis says that "of all the insect enemies with which the farmer has to contend, there are none which are more fatal in their effects and more difficult to overcome than the wire-worms." Wire-worms are usually of a pale yellowish color, with a dark head; the body is round and hard. While all the species of wire-worm are not alike destructive, the destructive propensities of the wheat wire-worm are too well known to farmers. Some seasons especially it inflicts a great deal of damage. Salt is considered to be very efficacious for their destruction on sandy soil. We have known it to be applied and to rid the ground entirely from wire-worms. It is said to have been applied on clay soils with no effect. Lime and soot are also recommended to be applied in the same manner as salt before sowing the grain.—ED.]

SIR,—I am in need of information that you may be able to supply. I am going to seed down some bottom land with wheat this fall—black clay loam, red clay subsoil, or water elm and black ash land. Now, would lucerne and orchard grass do on it, or either of them with clover or timothy? Would they or either of them answer well on gravel lying to the north and well drained? I have an impression—I think got from the ADVOCATE—that alfalfa or lucerne is best for hills. Am I correct in this? I want to introduce one or both of these as soon as I find my land adapted (I certainly have portions that will do). They appear to be early in the spring. Is it best to sow in fall or spring? Would they do well sowed with oats early on the bottom land? Clover sometimes heaves on it.

I see more necessity than ever for stock raising. I am now in Shorthorns, Southdowns and Berkshires, with a fine Hambletonian stallion growing.

I top dress during winter and early spring with stable manure, sometimes very coarse, and double my hay thereby, and also protect the wheat.

Perhaps lucerne or orchard grass would be better sowed without other crops, as wheat. I know timothy does well and will cut next season when sown on fallow alone.

E. J. YORKE, Rond Eau.

[Lucerne and orchard grass would answer best if sown without grain. Lucerne should be sown alone and in the spring. Orchard grass would do best if sown immediately, so as to get a good start this fall. It will answer to sow with other seeds in spring or fall, but not near so well as if sown now. We do not think any crop or clover will do better on a hill-side than on good level ground. The more the ground partakes of the nature of a clay loam the better.—ED.]

SIR,—Through your valuable paper I wish to benefit my brother farmers. Although the haying season is about over, and mowing machines are laid aside, to those who want a first-class mower, I would recommend the Toronto Mower. I bought one which I saw thoroughly tested before I purchased. My machine has cut about 30 acres, most of which was very rough and stumpy. The mower is in perfect order yet, and has not cost more than five cents for oil. It is easily managed, everything done from the seat, can pass a tree or stump without either stopping the team or knife, and is of very light draft. I have cut several times around the field with one horse. One field I cut all the fence corners. It never chokes; the team can start it in the harvest grass without backing; it is noiseless and just as comfortable to ride on as a buggy; lastly, it is very substantially made.

G. H. G., Burlington, Ont.

Eldorado Wheat.

SIR,—Within these last few days I have seen three pieces of Eldorado wheat, and from present appearances it is my opinion that as soon as it can be bought for the same price as other wheat, it will not be wanted. What I saw was very light in the straw, showing that it would require very rich land to produce bulk of straw at least. The quantity of straw will not only be deficient, but the quality, it is admitted, is almost worthless for feed. This is a serious objection to keep much stock. It is also very badly mixed—in a handful of 15 or 20 heads, I counted 5 or 6 of another kind. A farmer who had sowed 2½ bushels told me that there was only about one-quarter of it Eldorado, and that it was the biggest swindle ever perpetrated in this country. Some fields are not yet headed out, but as far as it has appeared, I understand, all are much dissatisfied. I would not like to say anything to injure the production of a good thing, but it appears to me this wheat will go the road it has gone before—hide its head for about 30 years, and then come up under some other name, and fool a lot of farmers. There is a class of men in every line of business who will run great risks in the hope of striking some big thing. Farmers are no exception; it is astonishing how many get fooled every year with the glittering bait. A prize is drawn sometimes, as in the case of those who sold this wheat at $12 per bushel, others rush in, and then the blanks appear. I hear the company have had a meeting at Toronto, and have decided that it is not to be sold this next year for less than $6 to $8 per bushel. If I have said anything that will prove erroneous, as the season advances I will correct.

We are still at work

TILE DRAINING.

The one we are engaged with at present, although long pieces are straight, it comes round in the form of half a circle, with an outlet at each end. It is a very important drain, 18 x 20 yards long, without including branches. We are taking great pains in its construction, not sparing cost to make it everything it should be. At each end we use six-inch tiles till we come to certain branches, or where branches are intended; then five-inch till we come to others, then four inch, and so on. In that way the drain, when finished, somewhat resembles a tree, each part getting smaller as it divides. To get a good outlet part is over five feet deep, a still longer part four feet, and scarcely any less than three feet, We dig and lay the tile in the way described in the June number. I think I shall feel a certain satisfaction in the belief that I have done something that will be a benefit to future generations. I have sometimes felt that we had taken in hand too much.

In spite of all we can do, the

CANADA THISTLES

will get their heads above ground. We had ten acres of corn which we intended to cultivate each way; but when we came to work it, the thistles were so strong, and the corn so weak, that we came to the conclusion that the game would not be worth the shot, and gang-plowed it down. I learned a lesson when I was a boy, about doing things that has been of some use to me. My father started the winter, one year, with 20 store pigs; feed became scarce in the spring, and 10 died of starvation, the others were mere skeletons. It struck me that it would have been better to have killed those ten in the fall, and given what they ate to the others; or if five had been knocked in the head, and the food given to the fifteen, it would have been better. This simply illustrates what is continually taking place by those who take in hand too much. If a field is to be summer fallowed to kill thistles, it must be done thoroughly, or a similar loss will take place as with the pigs. Although we have not been able to keep them entirely under, we are coming so near it, that, from past experience, we expect to succeed. I have frequently seen them nearly killed by cutting while in blossom; still, I do not believe in any certain day having anything to do with such a result. It is rather a concurrence of circumstances, such as the condition of the thistle, and state of the weather at the time, which will not always come together on the same day. The right plan is, to smother them to death, by keeping their heads under ground, just as you would drown a cat by keeping her head under water. F. M.

Innerkip, July 9th, 1877.

SIR,—E. C. wishes for information through your columns respecting the culture of cranberries. Firstly, how and when to plant them, and how soon they will bear? What kind of soil is best adapted for their culture, and where can the plants be obtained, and at what cost?

A READER, Almonte P. O.

[You had better consult "White's Cranberry Culture," price $1.25, as the cultivation of the cranberry has not been very successful here. Any subscriber who has the plants for sale will kindly let us know.—ED.]

Rye for Feeding and Bread.

SIR,—Knowing from the ADVOCATE that you are in favor of a diversity of crops, I would bring to the notice of your readers a cereal that seems to be little thought of by farmers in Canada. Investigations by Prof. Marklyn and Mr. Cooper would seem to place rye before wheat in the scale of nutrition. They pronounce it one-third richer than wheat. It is especially rich in gluten. This accords with the generally received opinion of farmers. In Pennsylvania, rye has been considered one of the most valuable of cereals as food for horses, and in Europe it is held in high estimation for bread. It winters well and thrives on a comparatively poor soil. X.

SIR,—A great deal of the present crop of wheat is injured with "Hessian Fly;" in some cases one-third is no exaggeration of the loss. My own is almost entirely free from it. I attribute it to my later sowing. Farmers have been for the last five years sowing very early—by the 25th August. I never commence to sow sooner than the 15th of September. My father-in-law, John Johnston, says when he came to this country, from Scotland, every one sowed early, and there was a great deal of "Hessian Fly." He ganged his own gait, and sowed late, and escaped to a great extent, if not wholly, the ravages of the insect. There was no very great loss last year by Hessian Fly, but some; not like this year in crops around me. I am threshing to-day, and it would do your eyes good to see the grain and the yield.

The Potatoes are looking very fine in this section of the State; I never saw them as a crop look so fine. A great many beetles, more than last year, but paris green and attention conquers them. I find several parasites at work, a black beetle with red spots on him, he seems to stab the potato beetle and its young bug; and a small bug which lives on the eggs; so we will have potatoes if care is given to them, but not if carelessness reigns.

R. J. S., Geneva, N. Y.

SIR,—I write to ask you if you will inform me as to how I could become a member of the Canadian Entomological Society. I read the first account of this society in your worthy journal, the FARMERS' ADVOCATE. If you could give me the name of the secretary and his address you will oblige me. I have taken great interest in entomological science in the Old Country, England, and I should like to do so in this. If you could inform me through your journal I should be obliged to you. Yours, &c. WILLIAM MYERS, M.B.

Juddhaven, Lake Rosseau, Ont., July 24, 1877.

[By enclosing $1 to J. H. McMechan, secretary and treasurer of the society, London, Ont., you will become a member and be entitled to all the society's publications during the year.—ED.]

Cure for a Stifle Dislocated.

Take a calf's rennet (salted), boil it for about three hours, keeping enough water in the pot that in three hours time there will be a quart or more on the rennet, then take off the water and let it cool, and apply the water to the stifle joint by rubbing it in well with the hand two or three times a day. Commence using it as soon as possible after it happens. J. ARMSTRONG.

Hazledean, Ont.

Garden, Orchard and Forest.

Evergreens in Protecting our Orchards.

At the June meeting of the Michigan State Pomological Society, Mr. Lyon, the President of the Society, said on this subject :—

"When I came to this lake shore there was a prevailing opinion among the orchardists here that no protection was needed from the wind, that the sooner the timber was removed entirely between the lake and the orchard the better. The lake was looked upon with the most perfect trust as a mother that would protect from any kind of a blast, and the less obstruction between her and the fruit trees the better. But judging from the growing practice along the shore, I am convinced that there is a conviction among the people that a shield of tree growth of some description is a necessary accompaniment to successful fruit culture. If we require something of the kind here, where location near so large a body of water is so much in our favor, how important a matter it must become farther inland where they have no such modifying element! The full force of our strongest winds has power to do incalculable damage in many ways. It injures foliage, drops the fruit, breaks off limbs and buds, piles up the sand, and in various other ways troubles the orchardist. I have in mind now an orchard that in 1873 took the first premium in its class; it is exposed to the full force of the wind and has the entire breadth of Lake Michigan to modify the temperature of the air moving from that direction, but the orchard is a ruin, while others that might be considered less favored from their distance from the lake, remain in good vigor. The question recurs to what will we do in this matter of protection, and if we use evergreens, how shall we employ them? Evergreens are of slow growth generally, and those recently planted can be of very little benefit as a protection, so that the return for expenditure is not an immediate one. My own plan would be not to confine the planting to evergreens solely, but to use some quick growing deciduous trees in connection therewith. The Lombardy poplar is no friend of mine; I never was enamored with its habit of growth, but it develops so rapidly that in the case mentioned with evergreens it might be admissible until the evergreens get sufficiently developed to serve the purpose for which they were planted. Of course soil and location will have everything to do with the selection of appropriate trees for this purpose. It must not be forgotten, too, that evergreens until well up in the world will not stand the blowing sand or severe winds, and therefore require themselves the protection of hardy deciduous trees for a time. However, after attaining some size, the evergreens usually employed are quite hardy and serve an excellent purpose. Among varieties I would select for the purpose of protection, is first the Norway spruce, which seems wonderfully adapted to all soils in our State. Upon light soils the white pine is a quick grower comparatively, and forms an excellent barrier, and is very beautiful. For lower growth arbor vitæ is good, and our native hemlock is most beautiful of all."

Thinning Fruit.

The *Michigan Farmer*, in notes of the Michigan Agricultural College Farm, says :—

Here is one useful experiment which exemplifies the effect of the thinning of fruit in summer, to which we have often directed attention. There is no part of the farm that receives less attention than the orchard and its fruit. There is no care given to the trees, and the quality of their fruit. There is no attempt made to thin out the fruit, and to thus grow a better and higher quality of any variety. Last year Prof. Beal caused a number of the Northern Spy apple trees to be severely thinned of their profusion of young fruit, with the intention of trying whether the bearing year could not be changed. Every other year a profusion of fruit was gathered, and the off year there was a scarcity. Well, here in the orchard there was a large number of Northern Spy apple trees, several of them had been thinned last year, which was thir bearing year. Every tree that had been thinned of its fruit last year, was bearing a fair average crop of fruit this year, and the trees that had not been thinned, but let alone as is the usual custom of orchardists, were standing next to them without any fruit on them. To Mr. Beal this proved that the bearing year could be changed, or at least sustained that theory as shown by some pomologists; but still it would not be satisfactorily settled until the trees had had time to show by their future crops that the change had been established. But with such a season as last year, when fruits were so plentiful, and every orchard and tree bore with a profuseness that seemed as universal as an epidemic, here were trees that had been checked at an early date by taking off fully one-half of the immature fruits soon after they were formed, and this year their crops of fruit were a fair average.

The Canker Worm—Another Remedy.

A gentleman writes as follows concerning this pest and the way of ridding trees from its ravages:

The people of this village who have apple trees are just now in ecstacy over the newly discovered means for capturing the canker worms, and the process is so simple yet so effective that it should be known and thoroughly used wherever that pest has made its appearance. For a few days past a gentleman has watched with vexatious regret the progress of devastation upon his fine fruit trees and was about to apply the axe as a remedy, when noticing how easily the worms are beaten or shaken off the tree, experimented to prevent their return and found that fine, dry ashes, lime or plaster heaped around the trunk of the tree would surely prevent their ascent, and being voracious eaters they soon perish on the ground, or may be readily gathered up and destroyed, as they collect in multitudes, attempting to climb up the lime and fall back without reaching the firm bark of the tree. The plan has been satisfactorily tested, and the lime heaps about the trees in nearly every garden show the determination to preserve valuable fruit by thus arresting the blighting scourge. A steep slope around the trees may be made with dirt, then cover with fine ashes or lime, and scatter up a little on the bark, and the worms are effectually stopped. They cannot climb up a loose, dry, floury substance. The worms are nearly done eating for this year, but it will be worth while to apply this remedy in season next year.

Flowering Hyacinths in Moss.

Peter Henderson says in the *American Agriculturist* that most people "who have cultivated hyacinths and other Dutch bulbs, know how to manage them when grown in ordinary soil in pots, or in glasses in water, but few are aware that they can be grown better in moss, (Sphagnum), than in either. This moss is found in many of our swamps, and is largely used by florists and nurserymen for packing plants to send to a distance by mail or otherwise. Its light, sponge-like qualities are such as the roots of hyacinths and other bulbs delight to revel in, and in which they grow luxuriantly. The moss may be either used to fill pots, window-boxes, or wire or other basket. A wire basket in which four or five different varieties of hyacinths are planted, presents a very attractive appearance when suspended in a window or other part of the room. In filling the moss into the pots, boxes, or baskets, it should be pressed moderately firm, and the hyacinths planted with one-third of their thickness above the surface. After planting, the moss should be watered sufficiently to thoroughly saturate it, and after the surplus water has run off, the baskets or other receptacles are to be placed away in some dark, cool place, such as a cellar or dark closet, where the temperature does not exceed 50°. In five or six weeks after planting, the moss will be found to be filled with roots, and the bulbs may then be taken from their dark quarters into the light; and if kept in a temperature of 60 or 70 degrees, they will flower abundantly in three or four weeks after; the moss must be kept moist at all times. The flowers of the hyacinth will be greatly increased in size and brightness of coloring if they be watered with guano water once a week. This should be very weak, one pound of guano to fifteen or twenty gallons of water, or a pound of sulphate of ammonia may be used instead of the guano, in the same quantity of water. The advantage of using moss for hyacinths, &c., is in its lightness and cleanliness in handling.

"The wire baskets, especially when filled with moss, present a much more pleasing appearance than they would if filled with soil. The bulbs may be planted from October to January; by planting at intervals of two or three weeks a succession of bloom may be had from January to May."

What the Birds Accomplish.

The swallow, swift, and night-hawk are the guardians of the atmosphere: they check the increase of insects that otherwise would overload it. Woodpeckers, croopers, and chickadees, &c., are the guardians of the trunks of trees. Warblers and flycatchers protect the foliage. Blackbirds, thrushes, crows and larks protect the surface of the soil; snipe and woodcock the soil under the surface. Each tribe has its respective duties to perform in the economy of nature; and it is an undoubted fact that, if the birds were all swept from the earth, man could not live upon it, vegetation would wither and die, insects would become so numerous that no living thing could withstand the attacks. The wholesale destruction occasioned by the grasshoppers which have lately devastated the West, is undoubtedly caused by the thinning out of the birds, such as grouse, prairie hens, &c,, which feed upon them. The great and inestimable good done to the farmer, gardener and florist by birds is only becoming known by sad experience. Spare the birds and save your fruit. The little corn and fruit taken by them is more than compensated by the vast quantities of noxious insects destroyed. The long persecuted crow has been found by actual experiment to do far more good by the vast quantity of grubs and insects he devours than the little harm he does in the few grains of corn he pulls up. He is one of the farmer's best friends.

Watering Kitchen Gardens.

This is a subject to which more than ordinary attention should be paid, inasmuch as in many districts kitchen garden crops suffer considerably from drouth during the dry summers. Therefore, in choosing a site for a new garden, the means by which it is to be watered during dry weather must not be overlooked. In some parts artificial watering is seldom resorted to, nor is it needed; but in naturally dry localities deep cultivation affords in some measure a substitute for the watering pot. Unfortunately, however, deep soils do not everywhere exist, and in such cases arrangements should be made for supplying water in some practical manner. Where there is a running stream, as sometimes happens, advantage should be taken of it to irrigate the garden; but where this is impracticable, from low situation of the water, recourse must be had to pumping or carrying. Where, however, there is no stream or other convenient way of obtaining water, a well must be sunk; and to do this in some parts of the country is no easy matter. A little expense, however, must not be thought of if a good and productive garden is the object in view.

After the well has been sunk, a pump will be needed to throw the water from the well into a tank placed some few feet above the level of the highest part of the ground. If a main pipe be then laid from this tank down the centre of the garden, branch pipes or wooden troughs may be laid from it to conduct the water into tanks distributed about the garden; or, better still, means may be provided for watering with a hose. This is the best and easiest way of watering, and, in some cases, even better than irrigation, as in the latter case all the crops have to be watered whether water is necessary or not, whereas, by the former method, any part can be watered separately, and the plants may be sprinkled overhead, an operation that is in many cases more beneficial to vegetation than root watering. Whenever water is given to any kind of crop, it should always be of a temperature, if possible, within a few degrees of that of the soil to which it is to be applied.

What Birds Eat.

There was a paper read by John W. Robinson, before the Illinois Horticultural Society, on birds and what they eat. It is as interesting as anything we could write on the subject.

The red-tailed buzzard feeds upon squirrels, rats and mice, and, therefore, is the farmer's friend. The sparrow hawk occasionally takes a barnyard fowl, but feeds principally upon mice and moles. The king bird eats gad-flies, bot-flies and various insects, and sometimes fruit, but is not destructive to fruit to any degree. The great crested fly-catcher and pewee are fast friends of the orchardist, and live on insects solely. The bobolink eats the seeds of weeds, insects and, at the South, rice. Sportsmen eagerly kill it for the delicacy of its flesh.

The red-winged blackbird in the spring lives

principally on cut-worms, wire-worms, caterpillars and the larvæ of noxious insects; later, they attack corn, and also eat the seeds of various plants. The purple grackle follows the plowman in the spring and destroys the larvæ of many noxious insects. The oriole feeds on beetles, curculio, pea curculio, and the long-snouted nut weevil, and, we may add in parenthesis, it is thoroughly detested by the fruit growers in Southern Illinois. The orchard oriole, a wren, is too little known and appreciated by orchardists. It devours hosts of worms and noxious insects, and is the most industrious bird the writer knows. The meadow lark lives principally on subterranean larvæ. The blue jay, this pert and showy bird, the writer considers mean, deceitful, tyrannical and sly, yet he is one of the few birds which eat the orchard caterpillar.

The butcher bird is one of the most industrious of the feathered tribe, and feeds on caterpillars, spiders, grasshoppers, &c. The cedar bird eats the canker worm. The white-breasted nut hatch, and American creeper, live on tree insects solely. Robins eat grubs, the larvæ of the May beetle, and cut-worms, and are especially destructive to the canker-worm and codling moth. The finch family includes about twenty varieties and subdivisions. They spread over large tracts of country in search of grubs, larvæ of insects and seeds. The American red start is a gay little fellow, flitting about from place to place after swarms of flies. The warblers are a great service to the farmer and horticulturist, for they destroy great multitudes of noxious insects.

House wrens, the patient, presevering, and yet brave little fellows, feed exclusively on caterpillars and insects. The black-capped titmouse eats the larvæ and cocoons of the codling moth.

Woodpeckers are the true laborers for man, their chief food being tree larvæ. The American or rain crow is a quiet bird, having a timid and retiring disposition. He guts the tent of every orchard caterpillar he once meets. The quail is one of the intermitting destroyers of the clinch bug and the striped pumpkin bug, and is one of the most valuable of birds to the farmer and horticulturist.

The essayist believed that farmers and horticulturists had not discriminated enough between friends and foes; and he noticed a number of cases where the indiscriminate slaughter of birds had worked evil to the products of the farm and garden.

Hollyhock Culture.

BY F. R. ELLIOTT, LANDSCAPE GARDENER AND HORTICULTURIST.

This flowering plant is very much neglected, being interspersed amongst other plants in shrubbery borders, but if planted in rows in rich, well drained soil, so as to form a back-ground to a neat border, it would well repay the grower with a splendid display of bloom.

It is true, the hollyhocks of fifty years ago were not gems of beauty; tall, stalky, with only a single flower of medium size and no beauty, but now varieties have been originated of beauty in their habit of growth, and bearing double flowers of colors, from pure white to rich bright scarlet, set upon the sides or around the stems, of two to four feet in height, foaming perfect pyramids. In the making of a large bouquet they come in perfectly as would the camellia or rose.

The hollyhock is propagated by cuttings, single eyes and seeds. The cuttings should be taken off the plants early in spring, and do best dibbled in light soil, in a frame where a slight bottom heat can be given. When well rotted take up carefully and plant them in six-inch pots, using one-half rich loam, one-fourth well decayed manure, and one-fourth leaf-mould with a little clean sand and fine charcoal, all well mixed together. Remove the plants to a cool frame for a short time to harden off previous to planting them out in the open ground. This mode of propagation has the advantage of affording a succession of blooms after the old plants have succumbed, and though the spikes are not so fine in the first season as those on old plants, they will fully equal them the next.

The next mode of propagation is by single eyes taken off in July and August, and inserted in light soil, in small pots well drained, and placed in a frame of leaves and fresh fine manure, so as to have the assistance of a little bottom heat, giving air as required.

When the eyes have made a little growth, and are sufficiently rooted, pot the young plants singly in three inch pots, replace them in a close frame for a few weeks, and when the pots become full of roots another shift will be required, this time into six-inch pots, using soil as directed for cuttings. At this stage the plants may be placed in a cool pit or frame to protect them through the winter, admitting plenty of air on all favorable opportunities. They will be ready for the open ground in the spring, or, they may be established in the ground now, if planted in well drained soil, and protected by some light mulch. Another method of propagation is by dividing the roots in early spring, or by seeds in a frame, or the open ground according to period of season. Where a particular style of growth, or color of flower is desired it is best to obtain a plant of each, rather than trust to the seed.

A New Way of Growing Strawberries.

There is no doubt but that in many parts of the country the "hill" or "stool" plan is a failure because of hard winters. Fruit is much larger and finer grown by the "stool" system (that is keeping the runners clipped off), and the reasons for this are that the ground gets better cultivated, and the plants, being worked upon all sides, make a luxuriant growth and bear in proportion. Now, if we can adopt some plan by which the soil can be better stirred all around the plants, we know fine fruit will be attained. Therefore we propose what we will style the "matted hill system," which is as follows:

Prepare the ground well, mark it 3 or 3½ feet each way, as for corn, and at each crossing of marker set a strawberry plant (or, if you have plenty of them, two in each place will be safer and better). Keep the cultivator running both ways, and quite often, as plants commence to run freely, and by doing this, and when cleaning the hills by hand, drawing stray plants and covering with earth, a matted hill will soon be formed 1½ to 2 feet across. We have noticed that where there were vacancies in matted rows, and clumps of plants here and there, that the fruit was much finer than where the matted rows of plants were continuous. Roots of strawberry plants run much further than what one would suppose, and where the ground is filled with them, the finest is not so fine as when they can have more room. We advise the trying of this plan by those who have plenty of land and horse help. After they are through bearing, a small plough, with a sharp knife or wheel, can be run through both ways, and hills ploughed down closely, ground levelled off, and cultivator and hoe run through as before.—*Fruit Recorder.*

The Raspberry Rust.

The red rust found upon the raspberry, blackberry, and strawberry leaves, on the under side, is a fungus known as *Aregma bulbosum*. When examined under the microscope the red matter is seen to consist of a number of foot-stalks bearing spore cells, ranged in a cylindrical method upon the foot-stalks, to the number of four, five, or seven. This fungus has a double condition of existence, being at one stage red in color and at another black; just as the related wheat rust, which is red, is only one condition of a plant which finds another in the state of smut, which is black. Unfortunately, the character of these rusts, of which there are over 1,000 distinct species or varieties, is not very well known, and a wide field for investigation is open. The best description of them is given in Prof. Cooke's *Microscopic Fungi*, an English work. The remedy is a preventive one, viz., to cut off the affected shoots and burn them, to drain the soil, and to apply fresh, dry-slacked lime to the leaves upon the under side when wet with dew. As the wild varieties are badly infested, it is rather questionable if we shall succeed in getting rid of the parasite.—*Ex.*

During the past few weeks we have noted growers very busily engaged in tying up their early cabbages in the market gardens at Fulham and elsewhere. The operation is simple, just, in fact, that adopted in the case of Cos lettuces. The succulent outer leaves are folded carefully around the heart or centre of the plant, and the whole is bound firmly with a withe or piece of bast. There are several good reasons for this practice. The centre being protected from the weather, the cabbages heart sooner by two or three weeks than they otherwise would do, and they are more easily handled in gathering and packing for market, and compact little cabbages are always preferable to loose ones, which, moreover, are apt to get broken in gathering.—*English Garden.*

Effects of Smoke on Trees and Flowers.

The frequent failure of trees planted in town is to be attributed to other causes than the injurious effects of smoke. The plain fact that some trees thrive while others fail, though all are alike exposed to the same influence, is strong proof that where failures do occur they must be due to some other cause. The *Pall Mall Gazette* offers the following very pertinent remarks on this subject:—

"The planting of trees in towns has of late years become a common practice, but many failures occur, owing to the trees selected not being adapted to the soil and climate in which they are expected to flourish. Some valuable remarks on this subject were made by Mr. R. H. Alcock, F. L. S., at a recent meeting of the Manchester Field Naturalists' and Archæologists' Society at Handforth. Mr. Alcock, who had paid particular attention to tree-planting in towns for many years, gave the result of experiments he has made in planting trees in close proximity to his mill in the outskirts of the town of Bury, and said that the tendency to attribute every failure in plant cultivation in towns to smoke involves a fallacy which requires to be guarded against. He finds that rhododendrons, for instance, grow very well in his neighborhood, regardless of smoke or soil, although they will not grow at all in the purer air of Evesham, in Worcestershire. Again, the plane tree, which flourishes in Paris and London, will not grow at Bury. Poplars make rapid growth at that place but soon die. Limes, notwithstanding the smoky atmosphere, grow well in Bury and in Manchester. Among other trees which appear to flourish in smoke are the wych elm, sycamore, birch, horse-chesnut, and Turkey oak. Mr. Alcock has grown three or four plants of the ash for about four years, and they seem to do well. The beech also grows well, and he has not lost a single tree during the last 25 years. Many shrubby plants will also grow well. The holly or the hawthorn will grow anywhere. His experience of the laurel is adverse. The laburnum, on the other hand, does not mind the smoke. On the whole the effect of a smoky atmosphere on some trees seems to be favourable rather than otherwise; and certainly flowers appear to flourish in London, to judge by the brilliant colours of the balcony and window gardens now relieving its dinginess.

A Remedy for Ivy Poison.

At this season of the year many people become poisoned either by handling or exposure to poison ivy. Generally all sorts of remedies are tried with little immediate effect, and the poison is slowly thrown off by the process of nature. There is, however, a remedy which is vouched for by a correspondent of an agricultural paper as a sure and speedy cure. The agent is common lime, a small piece of which should be dissolved in water, and the parts affected bathed with the water. This remedy is simple and should be widely known.

Linseed Oil for Pear Blight.

The *American Rural Home* says:—A year ago we gave some accounts of experiments by D. P. Wescott, of this city, in treating blighted pear trees with linseed oil. He had in the latter part of the previous year washed several pear trees which had commenced blighting with raw linseed oil, and the spread of the blight seemed to have been arrested, and the trees had then put forth their foliage, which appeared perfectly healthy.

We felt a little anxious to know whether those trees entirely recovered, or whether in course of last season they succumbed. So yesterday, June 1st, we visited the grounds again and were pleased to find his trees looking perfectly healthy and making a vigorous growth of new wood. You can see upon the trunks, and on some of the branches, the dead, blackened exterior bark, showing the effects of the blight two years since, but not a leaf indicates that any remnant of the disease remains. We took a knife, and cutting through the dead bark, found the inner bark green and sound. We think that these results are sufficient to warrant further trial of the remedy, as it is easily applied and seems to do the trees no injury.

Let verbena stalks lie down on the ground, if you wish to propagate for fall blooming. Hold them to the earth with hair-pins, split sticks or bits of wire.

The English Sparrow.

At a recent meeting of the Farmers' Club at Elmira, N. Y., a letter of inquiry was presented as to the English sparrow, whether its introduction was likely to result in injury or otherwise. Mr. E. Loomis, an English agriculturist, now travelling in this country, and present at the meeting, answered the inquiries as follows, as to the sparrow in England :—

In England sparrows are very plentiful—in some districts their numbers are so great that farmers have felt much alarm, expecting them to destroy their crops of small grain. Years ago the parish authorities, in many instances, voted sums of money to be used in payment for the destruction of the birds, and accordingly they were destroyed in great numbers, boys undertaking the work stimulated by the reward and delighted by the fun of shooting. Now, however, the feeling is very much changed. I have heard of cases where a single bird has revealed in its crop when cut open as many as fifteen or twenty wire-worms, and these worms if left to do their mischief would injure the crops very much. Within my recollection it has been a common practice to poison the sparrows and to use any means to effect their destruction. But when it was found that they were engaged in the good work of aiding farmers by capturing the worst pests in the fields, there was a great change in the estimation in which they were held. Sparrows breed enormously and they are also ravenous feeders, and remarkable for their tireless activity. But when all these qualities are exerted mainly for the good of the farmer, as they really are, there need be no fear that the birds will become unmanageable pests. It is true that here and there a spot may be found in the wheat field, where the sparrows have done mischief, but on the whole I believe it has become the opinion that they do far more good than hurt. And if this be true in England how much more reason there is in this country for tolerating the birds, for insect life abounds much more here. On the whole I think the correspondent may quiet his fears, for in balancing the accounts I am very confident there will be a good credit left to the sparrows after all their mischief is fully charged up.

Death to the Sparrows.—In various parts of the country an unusual mortality is noticed among the English sparrows. It is thought the birds, in eating the potato bug, are poisoned by paris green.

Prize for Tree-Planting.

The Massachusetts Society for Promotion of Agriculture has offered a series of prizes for the encouragement of tree-planting in New York State—the awards to be made 10 years from the 1st of March next, for the best results produced in the interval. The white ash, the European larch and the white and Scotch pine are the varieties especially favored. Something has been done already toward promoting a new centennial growth of trees, and the inducements offered will give another impulse to the work. Mr. Sargent, of the new Aboretum of Harvard College, estimates that over 1,000,000 of trees will be planted in Massachusetts this year.

The carrot crop is rendered useless in many gardens by grubs eating into the roots. This takes place in many well-managed gardens. The best remedy that I have tried was to scatter a quantity of soot and lime over the surface of the ground before forking it over for the carrots. This works it into the ground, and keeps the soil free from all sorts of grubs for the whole season. The next best way is to sow the lime and soot between the rows and hoe it into the ground.

The Ivy.—Why is it that every one is pleased with the common ivy? There is a charm about that plant which all feel, but none can tell why. Observe it hanging from the arch of some old bridge, and consider the degree of interest it gives to that object. The bridge itself may be beautifully situated; the stream passing through its arches clear and copious; but still it is the ivy which gives the finish and picturesque effect. Mouldering towers and castles, and ruined cloisters, interest our feelings in a degree more or less by the circumstances of their being covered or not, by the ivy. Precipices, which else would exhibit only their naked, barren walls, are clothed by it in a rich and beautiful vesture. Old trees, whose trunks it surrounds, assume a great variety of aspects; and, indeed, it is a most important agent in forming the beauty and variety of rural landscape. And it is as useful as it is beautiful; the ivy is of vast advantage to the smaller birds, as it affords them shelter in winter, and a retreat for building their nests in spring and summer. It is in fructification in October and November, and the sweet juice which its flowers exude supports an infinity of insects in autumn, while its berries are a store of nutriment for many birds in early spring.

The Peach Bark Louse.—The *Rural World* gives the following directions for the extermination of this destructive insect :—The trees should be closely pruned, and the bark and limbs brushed with a stiff brush in winter. A light painting of linseed oil would also at that time destroy such as were not removed with the brush. When the bulk of the eggs are hatching, and the young, which are then minute white specks, are moving slowly over the tree, a good syringing with whale oil soap will destroy them.

The *American Journal of Agriculture* gives us this pretty hint :—"Fringed Gentian is among the loveliest of all autumn flowers and is invaluable for paper decoration. If the plant be gathered just as the first flowers appear, and put in water in a light, airy place, every bud will expand into a lovely blue flower. The only care is to keep the glass filled with fresh water, as one plant not unfrequently has from twenty to fifty buds in different stages of development. It lasts in perfection a long time, often a month or more."

The *Scientific Farmer* says :—"The amount of good done by chickens among fruit trees can hardly be estimated. We completely conquered the canker worm in an orchard of 100 trees, in two years' time, by colonizing a flock of 50 chickens or so in the midst of the lot not to mention the ceaseless missionary work undertaken by the biddies in the surrounding gardens and fields. We always preserve all the birds, too, not begrudging them a few cherries and berries.

The *American Pomological Report* says :—The rule that the roots will be found as far from the base of the trunk as the entire height of the tree, after many examinations has invariably been found within bounds. In many cases they extend to a much greater distance. Even young dwarf pears, the quince roots of which are commonly supposed to be quite short and confined to a dense mass of fibres near the base of the tree, I have easily traced to a distance from the tree equal to its height.

Manure for Fruit Trees.—The Western New York Horticultural Society lately discussed the question of manure for fruit trees. One member said he had used superphosphate of lime with good results. Another member said he had seen more benefit resulting from superphosphate the second year than the first, especially when the first was a dry season. Another member preferred wood ashes. He once used 1,800 bushels of leached ashes on the sandy soil of his orchard and vineyard with very great advantage, applying it at the ratio of 300 bushels per acre. The quality as well as size and yield of fruit was very much improved. Another member considered barn-yard manure as furnishing all the elements required for growth and fertility. Fruit-growers should, therefore, manufacture all the manure they can, by keeping horses, cattle, pigs, poultry, and gathering up all the litter, &c., for the manure pile. Some people are liable to make mistakes in using stimulating manures as fertilizers for fruit crops.

A correspondent of the Chatauqua *Farmer* says : "Let me speak for the crow. Last year, as I was harrowing corn with a vibrating harrow, having teeth (you know it is a noisy thing), it uncovered a great number of white grubs which you could see all about the ground; they are very destructive to vegetation of all kinds. They ate or destroyed thousands of hills of corn that year. You could see the track of the grub as he traveled to get something to eat, for they travel when in search of food. You could see the surface of the ground a little elevated and checked when it is hard and dry. Well, you see, when I was harrowing, as soon as the crows heard the harrow at work they would come and light on the ground that was being harrowed, and the fresher the better they liked it; when going one way they would light after I had passed along; when I returned, and came within six or eight rods of them, they would rise gently and circle round in the rear again. I have counted as many as seventeen grubs that one crow picked up at one lighting. They take any and everything, large and small, that is, worms, grubs and beetles. Crows can't pull corn when planted with a machine; and we have no fear of them from that source. Finally, wherever civilization is there are rooks and crows."

Bees are necessary to some kinds of clover. Thus 20 heads of Dutch clover yielded 2,290 seeds; but 20 other heads, protected from bees, produced not one. Humble bees alone visit red clover, as other bees cannot reach the nectar. The number of humble bees in any district depends greatly on the number of field mice, which destroy their combs and nests. More than two-thirds of them are thus destroyed all over England. Near villages and small towns nests of humble bees are more numerous than elsewhere, which is attributed to the cats killing the mice.—*Darwin's Origin of Species.*

By spent hops I mean hops that have done their duty in the brew-house, but which can do more valuable service on the soil of our land. I have used hops on potato ground in this way—first, by spreading the hops on the ground as though I were giving it a good coating of well decomposed manure, and when I have dug a trench, before I lay the sets in, I put some of the hops in the trench so that the sets are laid upon them, and then cover them in, and so on. I find that the potatoes turn out fine in size, very clean, and very free from disease. I do not know what chemicals the hops contain, but certainly there is something in them that the potato is very fond of. If any of your readers would give them a trial, I think they would derive a great benefit therefrom.—*London Gardeners' Chronicle.*

Poultry Yard.

Making Hens Lay.

The production of eggs is one of the most profitable branches of the poultry business. Properly managed, hens pay from one to three hundred per cent. profit as layers. Neglected, they cause loss, and are a "bill of expense." To get the best results, too many should not be kept together. Of large breeds, 20 or 30 hens are sufficient. Of Leghorns, or smaller breeds, not more than 30 to 50. They lay as well without a cock, and their eggs keep longer. Plently of room should be given. One square yard of space indoors is none too much for each fowl. Their droppings should be cleaned up at least three times a week. A bed of dry earth for a floor they delight in. A box of dry dirt and ashes is essential for dusting in. Provide suitable nests and nest eggs. Give plenty of clean, pure water; keep quarters clean, well ventilated, dry and comfortable. If hens have free range in summer, they obtain from animal or insect and vegetable life most of the materials which compose the substance of an egg. The conditions being right, any hen will lay. The natural and best conditions, then, are found in summer. Imitate these as nearly as possible, and our hens will lay in winter. We must supply artificially in cold weather the wants which nature supplies in warm weather. A hen is a machine for converting a compound of raw material into one of the most nutritious and highly organized substances—the egg; but the machine will not work unless it is in perfect order. Before laying, the hen must be in good health, condition and feathers, and must be kept so; for laying is a severe and exhaustive drain upon the system. The feed of laying fowls must consist of grain in variety, wheat and buckwheat being best, and not over one-half corn in winter, and one-fourth in summer. Cooked feed daily serves in various ways, also milk, fresh meats and scraps, raw and cooked, chopped fine, with broken fresh, raw bones or ground bone, three times a week at least, with plenty of gravel and broken oyster shells constantly accessible. Cooked vegetables are necessary, but when confined, raw onions, turnips, apples, and cabbage should be given three or four times a week, in good supply. The first feed each day should be mush, and the last grain; excepting Asiatics, give all they will eat, but no more. Watch, study and supply their tastes, wants and comforts. Care well for and feed your hens properly, they will not disappoint you, unless it be in "shelling out" large returns and making a handsome "balance sheet," on the profit side.

Skimmed milk, or sour milk, or milk in any condition, is a most excellent drink for poultry. It is meat and drink both. Some of the finest chickens we ever saw were raised upon the free use of milk with their food.

Correspondence—Continued.

Another Tree Swindle.

A party from Derby, Vermont, has been through this section with brazen face and lying tongue, and sold a lot of apple trees at 50 and 75 cents each, representing the fruit to be superior and the trees fine. The trees, on delivery, were found to be poor, miserable-looking things, and when planted out hardly any of them grew. The farmers here thought it a Canadian sell, as they stated they were Canadian nurserymen, and were not aware it was a Yankee swindle until now. D. L.

Windsor, Nova Scotia.

[There are so many swindling agents traveling through our country that something should be done to protect the unwary. They are often well dressed, have a most pleasing manner, nay, they will put on religion, or any kind of a cloak to meet the party to be duped. By the most cunningly devised lies they will get farmers' signatures to papers; that is the last seen of them. The papers or notes are sold to the first note-shaver, and the law does the rest.

We must raise a revenue in our country to pay our debts; a good tax on every traveling agent might abate the evil and turn the business of the country into its legal and proper channels, namely, the producers, or the substantial dealers. In villages, towns or cities, or factories, a large revenue might be thus derived, the farmers would be better protected, and legitimate and honest dealers would be encouraged.—ED.]

SIR,—Some dissatisfaction having been expressed by a few of my customers regarding the Mainstay wheat, which I put out last spring, I have much pleasure in handing you the enclosed letter from Capt. Delf, the originator of the Mainstay.

W. H. BROWNE,
Manager Canadian Agl. Emporium.

London, 20th July, 1877.

SIR,—I am in receipt of your letter of 21st June, and I am sorry to hear any complaint of the wheat from your side, as on this side I am constantly receiving the most satisfactory reports; in fact, speak to whom you may, all are loud in its praises. There may have been something adverse in the season with you to prevent its proper development, and in all probability it will succeed better the second year of growth, as most varieties of grain require to be acclimated in some measure.

The grain crop here offers but very poor prospects, especially the barley and oats, while wheat will be generally a bad crop.

WILLIAM DELF.

Great Bentley, Colchester, July 6th, 1877.

Ontario Fruit-Growers' Association.

At the last meeting of the Ontario Fruit-Growers' Association, held in Stratford, Rev. Dr. Burnett presiding, there were on exhibition a number of specimens of fruit—cherries, raspberries, gooseberries, &c. Messrs. Arnold, Mitchell, Jarvis and Parker having been appointed a committee to examine them, presented the following repot:—

Mr. Bradt, Wentworth—Bradt's Seedling Russett; a very fine apple and in excellent condition for the lateness of the season.

E. C. Fearnside, Hamilton—Tradescant Seedling Napoleon Bigarreau Cherries; very fine.

A. Moyer, Jordan—Currants, black, white and white raspberries, of excellent quality.

H. Parker, Woodstock—A beautiful sample of Whitesmith Gooseberries.

John White—Gooseberries, the same as exhibited at Philadelphia, and pronounced ahead of any known kind; they are mildew-proof.

Mr. Searle, Clinton—Fine, large English Gooseberries, also Clinton and two Rogers hybrid groups.

D. Housberger, Jordan—Fine raspberries, Brandywine, Herstine, Reed's Prolific, Elim City and Highland Hardy.

V. S. Gregory, St. Catharines—Raspberries and gooseberries; the latter very fine.

Mr. Saunders, London—Four hybrid raspberries of excellent flavor and size.

E. Arnold, Paris—Fine samples of gooseberries and raspberries.

R. Kettlewell, London—Fine Seedling Cherry.

Improvement in Farming.

We take the following extracts from "A New Theory of Tillage" in the *Scientific Farmer*. They can hardly be said to be new ideas to the readers of the FARMERS' ADVOCATE, but they present thoughts and facts in different aspects and from another authority:—

The better the gardener, the more thoroughly he cultivates his growing crops; and the more thoroughly he understands the reasons which underlie his processes, the better fitted is he to contend with adverse circumstances of soil, or climate variation. As the florist's pursuit utilizes industry and intellect, the gardener's pursuit receives a more laborious industry, and a lower grade of intellectual standing. In America, our best gardening represents the principles which underlie our best farming, but our best farming, through the neglect of principles, cannot be said to be gardening in all but the succession and variety of crops. Although the difference of price between vegetable crops early in season or out of season may allow a greater expenditure to the gardener, than will the price of ordinary farm crops justify the farmer, yet this is not the whole difference between the two classes. The crops are governed by the same natural laws in their growth, and accordingly the best results upon all are to be gained by the most judicious application of those principles which affect their growth whether applied by the farmer or the gardener; and as reason indicates, so does observation show that the best farmer and the best gardener is the man of the most intelligent application of intellect to his work.

Of the class called farmers, but one remove above the pastoral state, and of which we see so many examples scattered all over the West—even many, I am sorry to say, in the more densely populated East—we can say nothing concerning principles, for they have none; but little about practices, for they hardly have these. They keep tickling their own virgin soil, and the harvests, after a time, cease to smile, and the weeds of the field, ever on the watch, take the place of the harvest, and sour the man and sap his land.

Is this severe? Consult the census; examine with care the average yields for 1873. In California, that great empire state, whose fruitfulness is the wonder of nations, the yield of wheat is given as a paltry 13½ bushels per acre. In the Carolinas, between 5 and 6 bushels. In the Southwest, from 7 to 17 bushels. In the West, from 11 to 18 bushels. In New England, from 11 to 19. In the great Middle States, from 11 to 16 bushels only.

Good farmers in Massachusetts get yields of from 18 to 42 bushels per acre; in New York from 20 to 57 bushels per acre. A careful examination of the records of farming as deducted from the various state and national agricultural reports will satisfy the inquirer that good farmers obtain good crops, but the average crops are small through the careless, ignorant, or no culture of the many.

In England, according to Caird, the average produce of wheat is 27 bushels per acre. In Scotland, according to Mr. Dudgeon, the average is 22 to 26 bushels for lighter land, and from 30 to 32 bushels for good land, while crops frequently range from 50 bushels per acre, upwards. With the best farmers, these larger figures may be their usual crop.

A Few Characteristics of Clover.

BY A FREE TALKER.

Talking of clover as a fertilizer it is well to remember some of its chief and most valuable characteristics. One of these is its tap roots. These sometimes run to the depth of two, three, four and we have heard of them five feet in length. These roots must break and pulverise the soil and they must bring up from the subsoil valuable materials for plant food. Now, consider the value of these roots to a field that is fully permeated by them. A good judge says they are worth as much as five cords of good manure to the acre. The value of clover is as much, and even more, in the roots than in the stem; in the quantity of the roots.

Another characteristic of clover is that it is a biennial plant, a plant that lasts for two years, and then runs out, or perishes, from *bis*, two, and *annus*, year. This fact indicates its most successful treatment as a fertilizer. As a general practice it seems best to allow the plant to attain its maturity which cannot be done the first year. Hence, the best farmers adopt the plan to mow the clover the first year for cattle-food, and the second year to turn it under as food for crops. This gives the plant time to perfect itself and run its race, or fulfill its mission. The consequence of this will be a rich mass of vegetable matter already gathered in the soil. To get the full benefit of clover, time should be allowed for the roots to grow. There can be no doubt of the great value of clover roots, for they serve two purposes, first, breaking and dividing the soil while growing, and, second, they afford the soil a great mass of vegetable matter while in the process of decay. The second year's growth, or the full biennial growth, furnishes more pulverization, more weight of vegetable matter, and consequently, more fertility.

The more roots the more tops, or the more herbage. There is a characteristic of the growth or formation of the plant worthy of attention. Every one is acquainted with the process of clover. If clover is to be used as a fertilizer this is worth attention: for green manuring is turning the clover under when fresh or in blossom. There is a great difference in the value of clover, as a fertilizer, when in blossom, than when it has formed its seed. Notice the changes in successive growth, the green leaves, the green, fresh stalks covered with leaves, the flowers. This is the stage of growth when carbon, oxygen, and hydrogen are the active principles taken into the plant.

Then comes the period of decay, dry roots, withered stalks, when all the business of the plant is to perfect its seeds. The stalk is harder and becomes like a stick. Now, we ask, in all reason, which is the proper time to plough under for the purpose of fertilization, this great vegetable mass, at the blossoming time, or at the seed time? When the leaves, roots and stalks are dry, or when they are fresh and full of the ingredients that give life to the soil? We believe that the true time to plow under a crop of clover is at the time of blossom, and that the difference between a green plowing and a dry plowing is very great.

Opinions differ, we know, but it does appear that the treatment of a clover crop should be well and firmly settled. Every part of the plant is valuable. Its great importance to the Michigan system is acknowledged. Its roots take from the subsoil, frequently where the plough does not reach, valuable constitutents of plant food, while its leaves take from the atmosphere equally valuable properties, and these turned under while green, take nothing out but what they give back; yes, more, for that which has been taken from the atmosphere has been given back to earth.

This practice of feeding off, preferred by some of the best farmers, before plowing under, removes some portion of the objection that this is a very dear system of fertilization; that is to say in green manuring you give two crops for one, or in other words you take two years to get a crop of wheat. In answer to the objection it is only to be said: this, or exhaustion; this or nothing. Beside it is not for one crop of wheat that the sacrifice is made, it is for all time to come, for the next century!—*Michigan Farmer.*

A Model Yankee Farmer.

A New Hampshire correspondent of the Manchester *Mirror* expresses his views on the deserted farm question thus bluntly: "If farms have run down the people who occupy them are a long way ahead in the race. We have got on our farms today a class of people who can cipher through the the algebra, play the piano, and boast of an acquaintance with the fine arts, but they can't work. They have got fine minds, but their bodies are sickly, puny, and weak. To talk the matter plainly, we have bred the bone and muscle out of our families until we have got a kind of human Jerseys, fire-bred, mild-eyed, and nice to look at, and pet, and put on exhibition, but so tender and weak that they are fit neither for our climate, our work, nor our circumstances. Our fathers worked twelve or fourteen hours a day, and never thought of getting tired. We are used up when we have worked four hours. Our mothers made butter and cheese, fed the pigs and chickens, did the milking, raised a dozen children, made the clothing for the family, and when a shower was coming could rake or load hay. Our wives want a maid to tend the

baby and another to do the house work, a boy to do the chores, and if we keep more than one cow, a cheese factory to prevent the milk from spoiling. It is safe to say that ten farmers' wives to-day cannot do as much work as would one fifty years ago. As a farming people we are played out. If the New Hampshire farmer, who wants a wife to help him get a living, instead of one to hang ribbons on and pour patent medicines into, he would just go down to your city and find a good, strong, vigorous, industrious and frugal Irish or German girl, he would find his farm would pay better than it does now, and his children would be likely to be worth ten times as much as farmers as will be any of the next generation of pure-bred Yankees."

The Family Circle.

"Home, Sweet Home."

Nettie's Fortune.

"Finished at last," said Nettie Rives, as she threw open the door of her mother's room and stood on the threshold for inspection. "How does it look?" and she shook out the folds of the dress she had been trimming and making over.

"Very well indeed," said Mrs. Rives; "I am sure no one would think it had done service before."

Nettie gave a little sigh. "Oh dear, it must be very nice to be rich, to be saved all this bother."

"Yes, but with the bother you would have to resign the pleasure there is in making an old thing look as good as new."

"It is a pleasure," said Nettie, looking down on her work with pardonable pride; "but I would willingly give it up to be set free from thinking so much of rags. They talk of riches being a temptation and a snare, but I am sure I should not be half so worldly minded if we were not so poor."

Mrs. Rives smiled. "I dare say all poor people think th same; we are all apt to fancy it would be easier to be good in any other position than our own."

"But, indeed, if I could get a new dress whenever I pleased," Nettie persisted, "I should not think of it night and day, as I do now, when I have to turn and twist everything to make a decent appearance. If I could go and buy a hat I would not be tempted to study my neighbors' in church to see how to trim my own."

How much longer she might have gone on it would be difficult to say, but just then her father came out of his study and interrupted her.

"Are you going out, Nettie? I wish you would call at the post-office. I am very busy, and this is the day for Tom's letter."

Nettie was glad of an errand; it was a beautiful afternoon in the early spring; and she was soon on her way, little dreaming of the surprise that was in store for her.

The Rev. Charles Rives was a clergyman in a small country town, doing his work faithfully, and trying to live upon a salary of one thousand dollars. Nettie was his only daughter; her mother had died in giving her birth, but Mr. Rives had married again, and his second wife had borne him three sons, the eldest of whom was now studying medicine in Philadelphia. To provide food and clothing for a family of six persons and to live in the style expected of him with such very limited means at command, was a problem in itself; but when to all this was added the necessity to starve neither the minds nor the tastes of any one of the six, (a necessity which Mr. Rives and his wife felt more and more strongly as their children grew up around them), the solution of the problem became a task from which any one might shrink. Year by year it had been accomplished, it is true, but not without the exercise of the most rigid economy, and although Nettie was by no means discontented, there were times when she longed for a different life, and felt it hard to be obliged to count every cent so carefully.

Arrived at the post-office, two letters were handed to her, one the expected missive from her brother, the other a large yellow envelope addressed in a bold business hand, "Miss Annette C. Rives."

Who could have sent it? The handwriting was strange, and the post-mark, "New York," added to the mystery, as she had no correspondent there. Curiosity conquered, and stepping back within the door she broke the seal.

"Madam: By the will of my late client, Joseph Thompson, Esq., of this city, you have fallen heir to the sum of fifty thousand dollars."

What did it mean? Had she taken leave of her senses? Could the letter be for her? Yes, there was the address, repeated again. But who was Joseph Thompson, and how was she his heir?"

Crushing the paper back into the envelope she sped home, and, regardless of the rule not to disturb her father when he was writing, she burst in upon him, exclaiming:

"Papa, papa! do read this and tell me if I am in my sober senses." The good minister looked up from his sermon with a serious smile: "I must say it is an open question, Nettie." But when he had glanced at the letter his excitement almost equalled her own. Fifty thousand dollars! Could it be possible?

She watched him eagerly as he read.

"Is it true? Do tell me, for I feel as if the world were turned upside down."

He drew her closer to his side, and said, gravely, "read this, my child," and Nettie read on another page the copy of the will.

"I give and bequeath to Annette Caroline Rives, (daughter of Reverend Charles Rives and Annette his wife,) in grateful and affectionate remembrance of her mother, the sum of fifty thousand dollars."

Still she did not understand.

"Who was he, papa? I am sure I never heard of him."

"No. Long years ago he knew and loved your mother—loved her so well that he would have made her his wife. He was one of the few men whom such a disappointment ennobles. I had lost sight of him for many years, but you see he had never forgotten."

"Nettie's bright eyes filled with tears; but she was young and pensive regrets for the man she had never seen would have to bide their time. The glad excitement of the present soon resumed its sway.

"Where is Mamma?" she exclaimed, starting up; "I must go and tell her. Oh! it does seem too good to be true."

Mr. Rives went with her, and it need hardly be said his half-written sermon was left unfinished. The Saturday evening was given up to very happy castle-building, for Nettie was full of plans for spending her money for the benefit of the whole family.

"We can have a sewing-machine now, mamma, and that bookcase for the study I have been coveting so long. And oh," —her eyes fairly dancing—"Tom can go to Paris to finish his studies."

"Softly, softly, my child," said her father; "how long will your money last at this rate?"

"Fifty thousand dollars? It sounds as if it would last for ever.

"But, Nettie, the fifty thousand you must not touch. You must content yourself with spending the interest. If you once begin upon the principal it will all be gone in no time."

"And how much will the interest be?"

"That depends upon the manner in which it is invested. Probably between three and four thousand dollars."

"Well, whatever else we do, Tom must go to Europe. You know it has been his one great wish and it is to do him good all his life long. Mamma, why don't you speak? I am sure you agree with me."

"It is only too good of you to think of it, dear; but I am not sure it would be just right. It would make a great hole in your year's income, and Tom is not your own brother."

"Is he not?" asked Nettie, in fierce indignation; "You have never asked me to remember that before; he is my brother in heart and soul, and you must not deny me this."

"Nothing could please me so well, darling," said Mr. Rives, fondly, "the only thing is that we must not let our little heiress sacrifice herself entirely."

"No fear of that; there will still be enough left for kid gloves and buttoned boots; and if you are going to begin to preach selfishness to your own child—" Nettie dropped her hands in her lap in mock despair.

"I will try not to do that," said Mr. Rives, and so the matter was settled. Monday's mail took a letter to Tom, telling him the glorious news, and in a few days there came a very manly, grateful answer.

"A thousand thanks to dear Nettie for giving me such an opportunity. I will not oppress her with protestations of gratitude, but in the years to come I hope I may prove to her how deeply I feel it."

And then came a sentence that made Nettie's cheeks glow as she read it:

"I rushed over to John's office to tell him, and he was as much delighted as I am. He says it will be of inestimable benefit to me; that he will never cease to regret that he was unable to visit the medical schools of the old world before he began to practice. Dear old fellow! it is a shame that he had not such a good fairy of a sister, for he always did make more of his opportunities than any one I know."

John Henderson, so spoken of, was Tom's bosom friend. Though several years his senior, there had grown up between them at school one of those attachments as rare as it is beautiful; the elder boy influencing the younger for all that is good and true, and receiving in return an almost romantic devotion. Whatever his friend did seemed to Tom the thing best worthy to be done, and from the hour in which John Henderson declared his intention of becoming a physician, Tom's choice of a profession was made. John, however, had graduated with honor, and had begun to practice as his uncle's assistant in Philadelphia before Tom was ready to enter the medical school; but he proved an invaluable friend to the young student, inspiring him with much of his own enthusiasm, and assisting him in various ways.

John's parents were near neighbors of Mr. Rives, and twice a year he paid them a visit. At such times he was always a frequent guest at the parsonage, and those were bright days for Nettie—the days whose expectation, and whose memory gladdened all the rest of the year.

There had been no regular love-making between them, no declaration, and no engagement, but in her inmost heart Nettie felt that John Henderson cared for no one as he cared for her. She trusted him perfectly, was happy in the present, and content to wait.

Ah! if she could only have done as much for him! That was her thought as she read Tom's letter.

Time passed on, and with the beginning of June Nettie came into possession of the first instalment of her year's income, which was found to amount to four thousand dollars. Very wisely it had been decided to leave the principal where Mr. Thompson had invested it, and to employ his lawyer to look after it.

"For what do we know about money matters?" Nettie had said. "We who never had more than we could carry in our pocket-books before!" Mr. Rives had put a decided negative upon her proposal that her money should go into the common purse. No, indeed," he had answered, "you shall be our Lady Bountiful, if you like; no one shall deny you that pleasure; but I will not consent to anything which might tempt us to feel ourselves defrauded when the day shall come that may give you other claims and other interests."

Certainly the acquisition of wealth never brought to anyone more innocent happiness. It was so pleasant to order magazines and reviews for her father, to lay on his table some long desired book, to give the younger boys new fishing lines, bats and balls, to send for a carriage and take the whole family for a drive; in a word to indulge in all the little harmless gratifications which poverty had so long repressed.

To Nettie her fortune seemed an unmitigated blessing; she was yet to find the thorns in her wreath of roses.

At length in the early summer came a telegram from Tom to tell his proud and happy father that he stood first in the graduating class, and soon followed himself to be petted and made much of by Mrs. Rives and Nettie. He was to leave for Paris in September, and one day in the midst of the busy preparations for his year's absence, John Henderson suddenly made his appearance.

"I did not promise it," he said "for I was not certain that I could get away, but I always meant to run up and say good-bye to Tom if possible."

"But what was the matter with him?" Nettie asked herself at the close of the day when he had been in and out of the house as usual; the day that once would have been full of sunshine, now left a vague feeling of dissatisfaction she could not have put into words. He was kind and cordial, full of interest in Tom's plans, unchanged to every one except herself. To her he was not what he had been before. There was nothing she could find fault with, either in tone or manner, and yet she felt that something had come between them—a veil, a barrier, she knew not what; and her heart ached with a sickening sense of loss and want.

A few days of bewildered pain and doubt, and then the revelation came to her. It happened in this way. The afternoon was oppressively hot, and she had gone to her own room to lie down for an hour. The window was open but the blinds were closed and after a little she was roused from a light nap by the sound of voices in the garden below. The two young men were sitting there in the shade.

"He married a rich wife," said John, "that was the beginning of his prosperity."

"Lucky fellow," replied Tom.

"Do you think so?" asked his companion gravely. "To me there is something immeasurably contemptible in a man marrying a woman for her money."

"Yes; but why be so uncharitable as to imagine that money was the attraction?"

"Because to most men it is such a powerful one that there is always the suspicion of its being the chief. At any rate I should be sorry to lay myself open to the imputation, or to bring its shadow over the woman I loved."

"You don't mean to say that if you loved a woman you would not marry her simply because she were rich and you were poor?"

"I do."

"Well, I never was in love," said Tom, "so perhaps I don't know, but it does seem to me if I loved a woman well enough to want her for my wife, I should not care whether she was a queen on her throne or a beggar in the street, I would not let riches or poverty or anything else on earth come between us."

Brave, true words they seemed to Nettie; but alas! they had not come from John. She buried her face in the pillow; she was too miserable for tears. This, then was to be the result of the fortune she had welcomed as so great a blessing. It was to shut out from her the far greater good of the love that might have been hers. From her inmost heart she wished that she had never heard of Mr. Thompson or his legacy, that she could go back to the days of her poverty, when she had been truly happy as she could never hope to be again. The sense of her own powerlessness came over her very bitterly. She knew that Tom was right, that John Henderson was wrong; and if she were a man—. But alas! she was only a woman; she could not speak; there was nothing for her but silent suffering, and the future seemed to her just then a dreary, hopeless blank. Mechanically she took up a book that lay beside her. The first words that met her eyes were these:

"*She asked for patience, and a deeper love*
For those with whom her lot was henceforth cast,
And that in acts of mercy she might lose
The sense of her own sorrow."

Then tears came to her relief. Yes, this was left to her i nothing more. If her wealth had proved no blessing to herself, at least she might make it a blessing for others; and she took heart, trying to be thankful that there was much left to live for. But at twenty-two it is not easy to reconcile one's-self to the prospect of a life devoid of any personal happiness, and the struggle for resignation was sharp and cruel. Very bravely it was carried on, and so successfully that none of those nearest and de rest to her suspected her trouble; but in after years Nettie often looked back to that week with a shudder, as one remembers some horrible night-mare. Her escape from it, if due to her own brave truthfulness, was certainly unpremeditated, and, as she believed, providential.

Sitting in the parlor hemming the last of Tom's handkerchiefs, she was listening rather than joining in the conversation between him and his friend.

"When you go back to Philadelphia, John—" said Tom.

"I am not going back," John answered, interrupting him abruptly.

"Not going back?"

"No; I have made up my mind to go out west and set up for myself. I am tired of being merely Dr. Stone's assistant, admitted upon sufferance to his patients when he is unable to go himself."

Nettfe dropped her work and looked at the speaker in blank amazement; the petulent words and tone were so unlike John Henderson.

"What in the world has come over you to put such a notion into your head?" asked Tom in his usual straightforward manner.

"I don't know; perhaps it is your going away that has unsettled me, old fellow," he said, turning to Tom and laying his hand on his arm. "At any rate, a restless spirit has taken possession of me. 'Men were made to roam,' and I am no exception to the rule."

What sudden inspiration was given to Tom that he started up and walked out of the room, shutting the door behind him?

In the silence that fell upon the two whom he had left, Nettie almost heard her own heart beat. It flashed upon her in a moment that it was for her sake John was going away, and she knew her hour had come.

She crossed the room and stood beside him. "John," she said, "if you are to make this change, will you not go with Tom first? You can if you will, and I should be so glad—"

The hot blood crimsoned his face. "Nettie, how good you are. I will not pretend that I do not understand you. But it is impossible. I could not lay myself under such a burden of obligation."

She looked bravely into his eyes, and her voice did not falter. "Will you go with me, John?"

Of the two he was the most embarrassed. He fairly quivered as he answered her, in a voice choked with emotion:

"Do not—do not tempt me beyond what I am able to bear."

For one instant she hesitated, but she had gone too far to draw back now.

"Be honest with me," she said, entreatingly; "let there be truth between us, if nothing more. I have dared to say this to you because I believed you loved me. If I am wrong ——"

"Wrong! Nettie, the one true love of my life; my brave, true-hearted darling; I will go with you to the ends of the earth. Neither your riches nor my poverty shall come between us," he said, unconsciously quoting Tom's words.

She had conquered. Even John Henderson's pride was not proof against such an attack, and if Nettie had begun the love-making, it was he who finished it after the most approved style with tears and blushes on her part enough to satisfy the most fastidious. And so Tom's plans were quietly overturned and his departure postponed for a month, that he might go with his sister and her husband. He was nothing loth, nor at all unwilling to take the second place, while all the chief interest centered in Nettie and her arrangements. Able at length to indulge her liking for pretty things, she gratified herself and her friends by ordering a trousseau worthy of Joseph Thompson's heiress, and in order to select it she must go to New York. Another motive she had in going there, but she kept it to herself, only at the last moment letting John into the secret.

"There is one thing that troubles me." she had said to him; "I cannot bear to think of leaving them all at home to go back to the old pinching poverty."

"Nor I," he had answered her; "only devise some way of preventing that, and you will take a great burden from my conscience."

Nettie pondered in her own mind, and the result was a long consultation with her lawyer in New York, and the signing of certain papers which she carried home in triumph and showed to John Henderson, whose enjoyment of the secret almost exceeded her own.

Not one of those who loved her in her own home had ever hinted that they would lose anything when she should leave them but her own sweet companionship; they had been most unselfishly glad of her happiness, and full of eager interest in her projected bridal trip, and when the wedding day came they were completely taken by surprise at the unfolding of Nettie's little mystery, for the wedding fee proved to be no less than the fourth part of her fortune made over in due form to Mrs. Rives. Protestations were of no avail; the deed was done.

"You need not say a word, papa," said the happy bride; "it is not yours, but mamma's; the wedding fees have always belonged to her; and I may tell you both this much for your consolation: without some such arrangement John could hardly have made up his mind to take me, he had such a horror of marrying a rich wife."

"No," said John Henderson, turning to her with a fond smile, "not a rich wife, Nettie, but one whose riches consist of money. The smallest part of the wealth that has come into my keeping to-day is the fortune that Joseph Thompson left you."

Minnie May's Department.

MY DEAR NIECES,—We have been specially requested to give a recipe for making good pastry, by some of our nieces who complain of never succeeding in making light, flaky paste, which should be in order to be delicious and wholesome. Very good pastry may be made by taking two-thirds the proportion of butter to flour, instead of the old rule, pound to pound. Pastry being made of flour, butter and water should never be imposed on by other ingredients, or it will tell the tale very quickly. Having weighed your butter and flour, take one-third of the butter and stir lightly in the flour, then get ice water, or the coldest water you may have, and pour gradually with one hand while you stir with the other, until the paste is of a consistency fit to roll out. "Always endeavor to make your paste in a cool place, or, at this hot season, take early morning for it." Flour the board and roll this out, and put over it small pieces of the butter which you saved out, say as large as a bean and about two inches apart, then dredge in flour lightly, turn over the edges of the pastry and roll out as before; repeat this process five or six times, using your butter on each rolling. Bake in a quick oven, and do not open the door to look at it for a few moments. MINNIE MAY.

RECIPES.

HASTY PUDDING.

A housekeeper directs:—Nine tablespoonfuls of flour, six eggs beaten light, one quart milk; have a hot oven, and bake 20 minutes. Eat with sauce; butter and sugar rubbed to a cream and flavored to your taste is very nice. Such a hasty pudding must be nice, if one has plenty of cheap eggs. We should want some sugar in it. Our home manuscript book calls this recipe "Sunderland Pudding."

WASHING CAMBRICS.

Black pepper, I have found, would prevent the colors from running in black and white or brown cambrics. A tablespoonful, stirred into the first water, is sufficient, and it in no way injures the water. EMILY MAPLE.

PRESERVING CORN.

We have tried various methods of bottling and canning green corn, but never with satisfactory results. We have also eaten that put up by those who make a business of canning fruits and vegetables, but the corn was always poor, to our taste. We know of no way to put up green corn successfully, except to cook it on the ears, then shave off and dry it in a strong sunlight, or by the fire, or in the oven. Preserved in this way, it is very palatable at a season when green vegetables are scarce. HOUSE GIRL.

TAPIOCA CREAM.

Soak over night two heaping tablespoonfuls of tapioca; in the morning drain off the water; beat the yolks of two eggs with half a cup of sugar, a little nutmeg and the tapioca; stir all into a quart of boiling milk; boil ten minutes, and pour into a pudding dish. Beat the whites of the eggs to a froth with a little sugar, flavor with lemon or vanilla, spread smoothly over the cream, and put it into the oven and brown. To be eaten cold.

EGG SAUCE.

Make a drawn butter, chop two hard boiled eggs quite fine, the white and yelk separately, and stir it into the sauce before serving. This is used for boiled fish or vegetables.

LEMON SAUCE.

Make a drawn or melted butter sauce, cut a lemon into very thin slices, take out the seeds and stir the slices into the sauce, give it one boil, then serve over boiled fish, fowl, or meat.

BEEF LIVER.

Cut the liver in thin slices, dip each slice in wheat flour or rolled crackers, and fry in hot lard or beef dripping; season with pepper and salt. It must be thoroughly cooked and a fine brown.

WHITE SPONGE CAKE.

The following recipe for white sponge cake has been thoroughly tested and found to be satisfactory in every respect. Unlike other kinds of sponge cake, it will keep as long as fruit cake, and taste as fresh as when first baked. Great care must be taken, however, to follow directions:—Whites of eleven eggs, 1 even tumblerful of flour, 1½ tumblerfuls of granulated sugar, 1 teaspoonful of cream of tartar, one teaspoonful of vanilla flavoring. Sift the flour three or four times before measuring. Beat the eggs on a large platter till very light, then add the sugar, moving the hand lightly in the same direction you had in beating the eggs. Then add flour in the same way. Do not paper or grease the pan, pour the cake in at once and bake in a moderate oven 36 or 40 minutes. Try with a broom straw. When done take from the oven and turn the pan immediately upside down and let stand on the tube till cold. The success of the cake depends upon having the eggs very stiff, and in adding the sugar and flour quickly and lightly. This cake fills a three-quart pan—the pan must have a tube.

BLACK ANTS.

Some one enquires, through your paper, for a way of getting rid of black ants. I set around plates containing corrosive sublimate, dissolved in a little water, and they always leave. This is poisonous; so it should be out of the reach of children. S. L. I.

MEASURE AND WEIGHT.

It is often inconvenient for a housekeeper to weigh out ingredients for baking; and as some recipes give weight instead of measure, this table may prove as handy to others as it has to myself: Ten eggs weigh one pound; a tablespoon of salt or sugar, one ounce; a common tumbler holds one pint; flour, one quart is one pound; white sugar, one quart is one pound. J. C. L.

TO WASH CORSETS.

Take out the steels; use hot water; one teaspoonful borax to every pail of water; place the corsets on the washboard and scrub well with a clean brush, using very little soap; do not boil the corsets, but if very yellow, bleach in the sun; rinse well; rub in a little starch and iron when quiet damp.

SKIN ON THE HANDS.

One can have the hands in soap-suds, with soft soap, without injury to the skin, if the hands are dipped in vinegar or lemon juice immediately after. The acid destroys the corrosive effects of the alkali and makes the hands soft and white.

WASHING PRINTS.

Borax put in the water used for washing ginghams and highly-colored prints, will preserve the colors.

THE SKIN.

A piece of flannel is better to wash the face with than a sponge. The slight roughness cleanses the pores of the skin, and prevents these little black specs, which so many complain of, and try every remedy but the right one (soap and water and a rough towel) to cure.

FLY PAPER.

Powdered black pepper is mixed with syrup to a thick paste, which is spread by means of a broad brush upon coarse blotting paper. Common brown syrup will answer, but syrup made from sugar is preferable, as it dries quicker. For use, a piece of this paper is laid upon a plate and dampened with water. The paper may also be made directly at the mill by adding sugar to the pulp, and afterwards one-fourth to one-third of powdered black pepper, and rapidly working it into a porous, absorbent paper.

BORAX FOR COLDS.

A writer in the *Medical Record* cites a number of cases in which borax has proved a most effective remedy in certain forms of colds. He states that in sudden hoarseness or loss of voice in public speakers or singers, from colds, relief for an hour or so, as by magic, may be often obtained by slowly dissolving and partially swallowing a lump of borax about the size of a garden pea, or about three or four grains held in the mouth for ten minutes before speaking or singing. This produces a profuse secretion of the saliva, or "watering" of the mouth and throat, probably restoring the voice or tone to the dried vocal cords, just as wetting brings back the missing notes to a flute when it is too dry.

LIME IN REFRIGERATORS.

Fresh, unslaked lime, in small quantities, placed in refrigerators, will absorb much of the moisture, thereby rendering the atmosphere dry so that meat and other articles, sensitive to moisture, may be kept sweet and fresh for some days. A little experience will enable one to know how much lime to use and when to renew it.

CASE OF STRAW MATTING.

If white straw matting is washed twice during the summer in salt and water—a pint of salt to half a pailful of warm, soft water—and dried quickly with a soft cloth, it will be long before it will turn yellow.

CLEANSING PAINT.

In cleaning paint, put to two quarts of hot water two tablespoonfuls of turpentine and one pint of skimmed milk, with only enough soap to make a weak suds, and it will remove all stains from the paint and leave a fine lustre almost like varnish.

NEURALGIA AND RHEUMATISM.

A very simple relief for neuralgia is to boil a small handful of lobelia in half a pint of water till the strength is out of the herb, then strain it off and add a teaspoonful of fine salt. Wring cloths out of the liquid as hot as possible and spread over the part affected. It acts like a charm. Change the cloths as soon as cold till the pain is all gone; then cover the place with a soft, dry covering till all perspiration is over, so as to prevent taking cold. Rheumatism can often be relieved by application to the painful parts of cloths wet in a weak solution of sal-soda in water. If there is inflammation in the joints, the cure is very quick; the wash needs to be lukewarm.

TO REMOVE SPOTS FROM CARPETS.

Mix half an ox's gall with one quart of water; wet and rub the spot with this. Then, with a clean scrubbing brush, warm water and soap, scrub the spot well, and wet and half wring a clean floor-cloth in clean, cold water and rub the soap and gall out of the carpet; rub the spot with a dry, coarse cloth until it is nearly dry, then pin a piece of thin brown paper over the spot, to prevent dust from settling on it while wet, and leave it to become perfectly dry. If the spot occurs near the side or end of the carpet, undo a few tacks and slip under the spot a thickly folded coarse towel to absorb the water which runs through, and prevent the wet carpet from lying in the dust; after washing the spot, remove the folded cloth and slip in its place a piece of brown paper, and leave this till the carpet is perfectly dry.

FOR SPRAINS AND BRUISES.—Take half a pound each of beef tallow, beeswax, resin and stone-pitch, and one pint of lard oil. Boil together for half an hour, remove the scum and pour into cups. For use, spread it on kid and apply. It gives immediate relief, and is good also for domestic animals as well as man.

PRESERVING CUT FLOWERS.—Cut Flowers in vases will keep much longer if the vases are filled with white sand, and with water enough barely to cover it, or rather to keep it thoroughly wet. Water by itself rots the stems, so that they lose the power of drawing up moisture; but this does not occur so readily where they are thrust into the wet sand, The sand should be washed by having water poured on it and drained off before use; otherwise, the salt which all sea sand contains will prove injurious. As wet sand is an unhandy thing to put into vases, it is well to have it washed and dry beforehand.

A French chemist recommends putting sal ammoniac to the water in which cut flowers are placed say 5 grains to a pint and a-half of water, to preserve them. They will retain their freshness by this means, it is said, for a fortnight.

REMOVE THE FLOWERS.—The *Garden* says: "All lovers of flowers must remember that one blossom allowed to mature or 'go to seed' injures the plant more than a dozen buds. Cut your flowers, then, all of them, before they begin to fade. Adorn your room with them; send bouquets to your friends who have no flowers, or exchange favors with those who have. On bushes not a seed should be allowed to mature."

DOING UP SHIRTS.—First have the clothes well washed and well wrung out, and laid in your clothes basket; then make your starch—cook until very thick; to every quart of boiled starch put in one teaspoonful of sugar. Dip your collars and cuffs and the shirt-bosoms in the thick starch, just as hot as the hand can bear; rub in well; wring out, shake and hang up to dry. Fold down the evening before you want to iron. Before you begin to iron see that your irons are clean and smooth and your fire well regulated; have a good clean iron-holder and bowl of water, with an old napkin in it; set on your iron-table; next take up a shirt, shake out well, as that helps to get rid of the wrinkles; iron all but the bosom, then put in your bosom board, stretch it out well, wring out your napkin and give it a good rubbing up and down; then iron it until it looks dry (now you are about half done). Wring out your napkin and give it another good rubbing and iron as before; continue in so doing until the glossy appearance suits you, os I know it will if you only persevere. Don't be afraid of rubbing with a wet cloth; in that way you can do away with all the wrinkles and blisters. Iron collars and cuffs in the same way, and have starched things well dried before laying away, If you want to use what is called cold starch, dissolve the starch in cold water, dip clothing in, roll up and iron as above. I have experimented both ways, and like boiled starch best; it polishes better, is more pliable, and isn't half as "boardy" as cold starch.—*Chicago Tribune.*

WEDDING.—"Student" writes:—"I am about to be married and would like information on two or three points:—1st. What do I need for a wedding suit, what material, etc.? 2nd. Is it customary for the groom to offer the bride presents? If you think it my duty to make a present, what would be suitable? 3rd. I am to be married in church—should the groom and groomsmen leave their hats in the vestibule, or should they carry them in their hands?" At a stylish wedding in a New York church a month or two ago, the bridegroom and groomsmen were dressed in black broadcloth, white vests, white kid gloves and white neckties. The groom walked in with the bride's mother, then the six bridesmaids and groomsmen, then the bride, dressed in white silk, trimmed with lace and flowers, with orange blossoms in her hair, a long, sweeping, lace veil, and leaning on her father's arm. The bridesmaids were dressed in white, with tulle veils reaching to the floor, with flowers of cardinal red in their hair, and large boquets of the same color in their hands. No recollection of hats lingers in the memory; they may have been left in the vestibule in care of the sexton. It is customary for the bridegroom to make the bride a present, but the impulse to this is commonly supposed to be love and not duty, and the gift varies indefinitely. The "reception" takes place immediately after the ceremony, at the residence of the bride's father, or on the return of the wedded pair from their bridal tour.

Recipe for an Appetite.

My lad, who sits at breakfast
With forehead in a frown,
Because the chop is underdone
And the fritter overbrown,

Just leave your dainty mincing,
And take, to mend your fare,
A slice of golden sunshine,
And a cup of the morning air.

And when you have eat and drunken,
If you want a little fun,
Throw off your jacket of broadcloth
And take an up-hill run.

And what with one and the other,
You will be so strong and gay,
That work will be only a pleasure
Through all the rest of the day.

And when it is time for supper,
Your bread and milk will be
As sweet as a comb of honey.
Will you try my recipe?

A PLEATING MACHINE.—Mrs. Abel B. sends a description of a pleating machine which does its work well, and which she invented. Any one who chooses can make one like it without being prosecuted for infringement of patent. Take a board one inch thick, ten inches wide, eighteen inches long, and draw a straight line one inch distant from the edge of each side. Take heel-nails used by shoemakers and drive them just a quarter of an inch apart on the straight lines. Before driving the nails make holes for them with an awl, and drive them just far enough to have them firm in the board. Now, take two pieces of wide tape the length of the board, lay the tape just outside of the nails to the edge of the board, draw it firmly and straight, and fasten at each end with a carpet tack. Get one and a half pounds of galvanized wire the size of very large knitting-needles and cut it into pieces ten and a half inches long. Now, fasten with a pin the trimming you wish to pleat around one of the wires, and place the wire outside of the first nails on the board at the right hand. Have the right side of the trimming next the board, the next wire under the tapes and over the trimming, and between the second and third nails; the next wire under the trimming, over the tapes, and between the first and second nails. This makes one pleat. The wires should be perfectly straight and the trimming kept firm and straight while being placed. When the wires are all placed, lay a damp cloth over and steam with a moderately hot iron. Confine the pleats with a strong thread before taking out the wires.

WOMAN'S MARRIAGE.—To marry one man while loving and loved by another is about the most grievous fault that a woman can commit. It is a sin against delicacy, against kindness and truth. It involves double treachery and cruelty. It involves wounding the spirit, withering the heart, perhaps blighting and soiling the soul of one who is abandoned and betrayed. It involves the speedy disenchantment of the one who is mocked by the shadow where he was promised the substance, and who grasps only the phantom, soulless beauty, and the husk, the shell, the skeleton of a dead affection. It entails ceaseless deception at home and abroad, by day and by night, at downsitting and uprising; deception in every relation, deception in the tenderest and most endearing moments of existence. It makes the whole of a life a weary, degraded, unrewarded life. A right-minded woman can scarcely lay a deeper sin upon her soul or one more certain to bring down a fearful expiation.

COURTSHIP IN BULGARIA.—When a young man in Bulgaria wishes to get married, he sends his female and male relatives to the object of his adoration with presents, generally materials for costume, which are carried on trays by several young boys who are followed by gypsy musicians. If the fair one thinks that her admirer and the presents are good enough, she sends back gifts by the same people, and straightway the pair are engaged. Their marriage follows a few days after, when a quaint-looking wreath of boxwood plant is placed on the head of the bride, which she is obliged to support for forty days. After that time has elapsed, she is supposed to become settled in life, and the headgear is cut shorter every now and then till her head subsides into its ordinary shape.

A Good Garden.

Years ago Horatio Seymour told me how to have a good garden. His plan was—and it has been mine ever since—to have a small, sunny patch where lettuce and tomatoes and early peas may be started, and then in the field plant everything else. Here with horse culture and good tillage, vegetables will grow and beat the fussy, pent-up, gardening way of most farmers, who generally grow a hundred weeds to one vegetable. "Before breakfast and noon times" (the time allotted to the garden), grow less and less as hoeing time and harvest press upon the hours and energies, and so when she most needs it, the good housewife finds garden sauce scarce, and at the very time it ought to be plenty, and she must set a table scanty in variety and often in fullness when the voracious appetites of long days and growing boys come into the kitchen—and they are sure to come, and often with dissatisfied looks, if not complaints. A few rows across the cornfield set apart for peas, beans, squashes, beets, early potatoes, &c., would have made a wondrous difference. It is no more—not so much—of a task to hoe "garden stuff" in the field as corn, for coming good dinners lend a helping hand, but working in the garden pulling weeds and grubbing up the ground with a hoe is hard work, and every farmer's boy will shirk it if possible, and the paterfamilias too, unless he be possessed of rare grace and goodness.—*F. D. Curtis, Kerby Homestead.*

Never read or sew with any light from the window or a lamp falling directly upon the eyes. Millions have lost their good eyesight from non-observance of this simple rule. It is founded on scientific principles which we will not take room to explain at length. The light direct upon the eyes contracts their pupils, so that not enough rays are admitted from the printed pages or fabrics sewed, to make them plain to the sight. Always sit so that the light from the window or lamp shall fall *over* the *shoulder*, usually over the left one as it will not be obstructed by the right hand in sewing. Another advantage, and a great one, is, that when facing the light, one naturally inclines forward to save the eyes. This cramps the chest and lungs, and is injurious to the health; but with the light from the side, or over the shoulder, one inclines to sit in a much more upright and healthful position. Every one who follows this suggestion, will find it conduce to comfort, health, and good vision,

BEAUTIFY YOUR HOME.—It is a great mistake to suppose that money spent in reasonably improving a place is thrown away. It may be doubtful whether there is any more direct way of increasing its pecuniary value. Certainly its market value will depend very much upon its outward appearance. Tasteful and well-painted buildings, well-arranged garden with neat fence, shade trees properly disposed, good farm fences and cleanly-kept fields, will set off a farm to great advantage and make an amazing difference when it comes to be sold. And if it be not sold these things will add wonderfully to the enjoyment of its possessor, if he be not blind to everything but the dollar. Every man owes it to the community in which he is living to contribute to the general reputation and public enjoyment by makings his surroundings as attractive as possible. A measure of time and expense should be devoted by everyone to the making of his farm and his home more beautiful year by year.

A CURE FOR STAMMERING.—A Canada journal contains a letter from a correspondent who professes to have been a stammerer from childhood almost to manhood, and who wishes to give other sufferers the benefit of the treatment by which he was cured. He says: "Go into a room where you will be quiet and alone, get some book that will interest you, but not excite you, and sit down and read two hours, aloud, to yourself, keeping your teeth together. Do the same thing every two or three days, or once a week, if very tiresome, always taking care to read slowly and distinctly, moving the lips but not the teeth. Then, when conversing with others, try to speak as slowly and distinctly as possible, and make up your mind that you will not stammer. I tried this remedy, and read for two hours aloud, with my teeth together. The first result was to make my tongue and jaws ache—that is, while I was reading; and the next to make me feel as if something had loosened my talking apparatus, for I could speak with less difficulty immediately. The change was so great that every one who knew me remarked it. I repeated the remedy every five or six days for a month, and then at longer intervals until cured."

Uncle Tom's Department.

My Dear Nieces and Nephews,—You all seem to be quite lively this month, as our table is stacked with letters, all hoping and striving to be the fortunate winner of the prize which was offered to the one who succeeded in solving all or the greatest number of puzzles—not to everyone who sent correct answers, as some appear to have understood. We, however, have read our letters, and find that Minnie Hyde and Henry Ptolemy have answered an equal number correctly this month; last month Minnie Hyde was just one ahead. This being such a close contest, we take pleasure in sending each a chromo. We again offer a beautiful chromo to the one who sends the most correct answers to August and September puzzles. All communicaticus must be in by the 20th of each month. Now, my nephews and nieces, be "wide-awake." Uncle Tom.

PUZZLES.

106—ENIGMA.

I am composed of thirty-four letters, and am the first line of a celebrated poem.

My 32, 26, 6, 9, 29, 19 is the originator of a theory that has excited much discussion.
My 2, 17, 3, 12 is a part of a man.
My 4, 5, 13, 22 is to select.
My 7, 8, 20, 10 everybody owns.
My 1, 34, 25, 3 is used by printers.
My 1, 5, 19, 29, 4 is a loose garment.
My 10, 11, 25, 29, 4 is a subject of discourse.
My 25, 29, 18, 20, gives the name of a fish.
My 31, 11, 33, 10 is an animal. A.M.N.

107—CHARADE.

"Sitting one day at my window
Looking out on the street,
I saw my *first* passing by—
'Twas a little girl with bare feet.

"She had on an old dress
All tattered and torn,
While my *second*, used so long
That it was old and worn.

"It was pitiful to see
My *whole* in such a state,
I called her in and clothed her well,
And found her a better fate."

Estella.

108—SHAKESPERIAN ENIGMA.

I am composed of forty-four letters, and am a celebrated phrase from Shakespeare, spoken by Brutus to the Romans.

My first is in sand but not in lime,
My second in yours but not in mine,
My third in tumble but not in leap,
My fourth in gift but not in keep,
My fifth in high but not in low,
My sixth in reap but not in mow,
My seventh in Tom but not in Jack,
My eighth in carriage but not in hack,
My ninth in love but not in hate,
My tenth in companion but not in mate,
My eleventh in vice but not in sin,
My twelfth in screw but not in pin,
My thirteenth in doom but not in fate,
My fourteenth in reckon but not in rate,
My fifteenth in tart but not in sour,
My sixteenth in bread but not in flour,
My seventeenth in string but not in rope,
My eighteenth in marry but not in elope,
My nineteenth in tear but not in mend,
My twentieth in pull but not in send,
My twenty-first in idle but not in study,
My twenty-second in postpone but not in ready,
My twenty-third in sip but not in drink,
My twenty-fourth in beaver but not in mink,
My twenty-fifth in you but not in me,
My twenty-sixth in port but not in lee,
My twenty-seventh in least but not in less,
My twenty-eighth in hamper but not in mess,
My twenty-ninth in cat but not in dog,
My thirtieth in wet but not in fog,
My thirty-first in Edwin but not in Ed,
My thirty-second in stool but not in bed,
My thirty-third in town but not in city,
My thirty-fourth in love but not in pity,
My thirty-fifth in tile but not in rail,
My thirty-sixth in dish but not in pail,
My thirty-seventh in real but not in fable,
My thirty-eight in horse but not in stable,
My thirty-ninth in mountain but not in hill,
My fortieth in move but not in still,
My forty-first in mirth but not in glad,
My forty-second in sorrow but not in sad,
My forty-third in black but not in green,
My forty-fourth in saw but not in seen. A.N.

109—ARITHMETICAL PUZZLE.

Take one-half of ten, and multiply it by itself so that the answer will be neither less nor greater than the number taken. S. Q.

110—BURIED POETS.

1. Do not go near that cow; perhaps it may toss you.
2. Our old servant lived in brother David's cottage.
3. Please get me a box of Mitchel's pens, Ernest.

111—BURIED FISH.

1. Is Kate or Mary going out with you this morning?
2. He made a paper church for Ned to play with.
3. If you think so, let me take the parcel to the station.
4. Mamma says almonds and raisins will not hurt children.
5. Julia lost her ring at the concert, which made her very cross.
6. I gave him the map I kept for him.

Emma Farmer.

112—ANAGRAM.

Fi omse ungoy ylad I uocld dinf
Ho'wd kate em rof reh wno,
Ot erh d'i eb a bansduh inkd,
(Ym "ilwd atos" rae lal wosn)
Tub hesudl les eb ssopess'd twih ashc
Phrepas 'willt eb sa lewl,
Cebusae I siwh ot uct a sadh,
Dan eb het "pit pot" wesll.

113—My first a meat we often eat,
My second a beverage is,
My whole a food is rendered good
For invalids to use.

Henry Ptolemy.

114—ENIGMA.

My first is in rain, but not in snow.
My second is in catch, but not in throw.
My third is in stem, but not in stalk.
My fourth is in crow, but not in hawk.
My fifth is in rock, but not in clay.
My sixth is in week, but not in day.
My seventh is in lamb, but not in sheep.
My eighth is in much, but not in a heap.
My whole is a confection much prized by children in the summer season.

115—ACROSTIC.

A State in Germany; a fruit; a vegetable; an annual; a town in Scotland. The initials and finals give the name of two English officers.

Answers to July Puzzles.

95—But-ton, Flint-lock, Book-rack, Kid-glove. 96—Printing ink.

97—Manganese.
LImestone.
LuDicrous.
MenDacity.
HumiLiate.
ReferEnce.
ConfesSed.
ConductEd.
HeterodoX.—MIDDLESEX.

98—

Meats.	Puddings.
Cold Ham.	Potato.
Pickled Tongue.	Cottage.
Roast Beef.	
Bread.	Pies.
Biscuit.	Custard.
Cold Bread.	Currant.
	Gooseberry.
Cake.	Dessert.
Lemon.	Blanc Mange.
Gold and Silver.	Floating Island.
Cookies	Ice Cream.

99—Sam, Fred, Nora, Willy, Esther. 100—North American Indians. 101—Night shade. 102—St. Helena. 103—1, Rice. 2, Indian. 3, Suet. 4, Bread. 5, Tapioca. 6, Apple.

104—

C
E L F
C L O V E.
I V Y
E
T C

105—

TEA-CUP
A P

Names of Those who have sent Correct Answers to July Puzzles.

Amelia Shambel, Alice M. Nicholson, Henry Ptolemy, Emma Turner, Kitty Lowe, Susie Leader, Minnie Hyde, Kittie Thompson, Janet Lowe Lovekin, Mrs. M. A. Hepworth, A. Symonds, Tom Omiase Shanks, James Holmes, Frank Taylor, John Freeman, Lucy Ferguson, Stephen Murdock, Alice Smith, James Harris, Susan Hunt, Theo. Black, Nora Hooper, Harry Trevail, Edwin Caesar, Eleanor West, Myra, Emma Murray, John LeForde, Maude Climdrer, Nellie Anderson, W. Frost, James Day, Fred. Barnes, J. Cromwell, Jean McDougall, Nettie Leicester.

Dear Uncle Tom,—As you so often have requested your nephews and nieces to communicate with you, I think I will embrace the present opportunity of sending you a brief account of holiday time with me. Father allowed me two weeks for recreation before going into the harvest field to assist him, having passed my examination creditably and satisfactorily to him. Two weeks I thought would be such a long visit, having never been away from home so long at a time before. I went to visit my uncle, who has a farm bordering on the River St. Clair. Such a rare treat to see that lovely river! My cousins and I went out fishing, boating and bathing, all of which were novelties to me. How proudly I walked home from the river carrying my first pickerel, and how pleasant it is to be in a row boat, with a long line trailing from the stern trolling for pickerel, and to pull them in one after another—great fellows with wide mouths and voracious jaws, that make the water fly when they take the hook! My cousins took me to visit Detroit. We went *via* the River St. Clair; the day was bright and lovely for sailing. They told me the names of all the islands in the river, which we have all studied in our geographies. Some of them are inhabited. The most delightful part of the scenery is going through the canal, which is a mile and a half in length; there are willows growing on both sides and a lighthouse at each end. There are two or three island hotels not far from Detroit, where people go and spend the day (some longer) in fishing, boating, etc. The boat leaves Detroit at nine in the morning and returns at ten in the evening, which leaves a pleasant day for the citizens to enjoy the river or island. Now I must tell you of a little we saw in Detroit. We went to the summit of the City Hall, it is a fine building; we had to climb up 216 steps to reach the top, but the view you get of the whole city quite repays you. There are a great many trees growing on the streets, which present such a pretty appearance peeping through the mass of buildings; on one side we got a good view of Windsor and the river, which looks all astir with boats. My cousins took me to the library, which is one of the finest buildings in the city. We went to the different parks, cemeteries, etc. Elmwood cemetery is beautifully situated, and the natural scenery is exquisite. In fact, everything looked very nice to me, as it was my first visit to an American city.

From your nephew, James.

HUMOROUS.

Scene at the Seaside.—Youth, with sad, love-struck air: "Oh, wilt thou be mine, my own dear bride? I love you deeply, fondly, passionately, wildly! I cannot live without you! Say, oh say thou wilt be mine!" Maiden—with downcast eyes: "Adolphus, is there anything the matter with my dress? I saw the Smith girls just now look at me curiously. Does my hair set all right?" Adolphus discontinued his love-making.

Didn't Like Mutton.—A good story is told of the recent excellent performance of Handel's "Messiah" at a Baptist church: A farmer took his wife to hear the grand music so splendidly rendered on that occasion, and after listening with apparent enjoyment, the pair became suddenly interested in one of the grand choruses: "We all, like sheep, have gone astray." First a sharp soprano voice exclaimed: "We all, like sheep——" Next a deep bass voice uttered, in the most earnest tone: "We all, like sheep——" Then all the singers at once asserted: "We all, like sheep——" "Darn'd if I do!" exclaimed old Rusticus to his partner. "I like beef and bacon, but I can't bear sheep-meat." There was an audible titter in that vicinity, but the splendid music attracted attention from the pair, and they quietly slipped out.

A Yankee gentleman, escorting a British friend to view the different objects of attraction, in the vicinity of Boston, brought him to Bunker Hill. They stood looking at the splendid monument, when the Yankee said this was the place where Warren fell. "Ah!" replied the Englishman, evidently not posted up in local historical matters, "did it hurt him much?" The native looked at him. "Hurt him!" said he, "He was killed, sir." "Ah! he was, eh!" said the stranger, still eying the monument, and compounding its height in his own mind, layer by layer. "Well, I should think he would have been, to fall so far."

An old Scotch lady had an evening party, where there was a young man present who was to leave for an appointment in China. As he was exceedingly extravagant in his conversation about himself, the only lady said, when he was leaving, "Tak' care'o yourself' when ye are awa', for mind ye, they eat puppies in China."

A little girl, who made very frequent use of the word "guess," was told by her teacher to say, "persume." Presently, one of Mary's little playmates coming up to her remarked: "I think your cape very pretty, and my mamma wants your mamma to lend the pattern, because she's going to make one like it." "My mamma has no pattern," was the prompt reply, "she cut it by presume."

"Suppose, Belle," said a poor but honest youth to his girl—"suppose that a young man loved you dearly—very dearly—but was afraid to ask you to marry him because he was timid, or felt too poor, or something; what would you think of such a case?"

"Think?" answered the girl, immediately; "why, if he was poor, I'd say that he was doing just right in keeping quite still about it."

The question was dropped right there.

EQUAL TO THE OCCASION.—Lady: "I want some tea, Mary. I suppose mamma did not leave the tea-caddy unlocked."

Mary: "No, miss; but I know where missus keeps the key. It is under the clock in the study."

ALL IN THE DAY'S WORK.—Gigantic Footman: "Did you ring, ma'am?"

Tender-hearted and impulsive lady: "Yes, Thomas. You see this poor kitten the children have found? It is motherless. Get some milk, Thomas, mew like its mother, and feed it."

Bashful Spooner (on his honeymoon): "Larry, my wife and I have both noticed that the townspeople stare at us very hard. I hope you haven't been telling anybody that we are newly married." Larry (the faithful factotum): "Me tell 'em, sor? It is likely Oid go agin my express ordhers? Why, whinever anybody's thryed to pump me, sir, Oive towld 'em you wasn't married at all!"

CONSOLATION.—"William," observed a Milwaukee woman to her husband, "Mrs. Holcomb feels pretty badly now, since the loss of her child, and I wish you would drop over there and see her. You might say that all flesh is grass, and that we've all got to go the same way; and see if she's going to use her dripping-pan this afternoon."

A servant girl hearing the lady of the house ask her husband to bring "Dombey and Son" with him when he came home to dinner, laid two extra plates for the supposed visitors.

WHAT IS FOOLSCAP PAPER?—You probably all know foolscap paper when you see it; do you know why it is so called? This is the reason: When Cromwell became Protector of England, he caused the cap of liberty to be stamped upon the paper used by the government. When Charles II. came into power he had occasion to use some paper, and some of this government paper was brought to him. On looking at it he inquired the meaning of it, and on being told, he said—"Take it away; I'll have nothing to do with a fool's cap." Thus originated the term "foolscap," which has since been given to a size of writing paper usually about 16 by 13 inches.

A tiller of the soil need not join the ceaseless howl of "hard times," even though prices are at bed-rock. He need not fold his hands idly and see his property depreciate in value, as is the case with persons of many other vocations, but can improve his soil, increase his facilities for feeding the immense army of non-producers, thus lessening the sufferings of mankind, for it makes no difference what a man's calling or profession may be, in the end the farmer feeds them all. Away, then, with the absurb idea that the farmer's is a menial calling, and one which the intelligent, learned and moneyed man discards as below the average vocations of life. Ideas of the kind are void of common sense; and the time is fast approaching when the profession will apply to the farm for talent, the counting-house appeal to the farm for occupants, then we shall be near our millennial, and if this was the case to-day, the "boys in stripes" would be few, and those places of incarceration, the prisons and penitentiaries, could be remodeled and used for agricultural colleges, for crime would be now unknown, requiring but a few plans of punishment.—*Chatauque Farmer.*

How a Paper is Made.

"Pray how is a paper made?"
The question is easy to ask,
But to answer it fully, my dear,
Were rather a difficult task;
And yet in a bantering way,
As the whip-poor-will sings in the glade,
I'll venture a bit of a lay
To tell how a paper is made.

An editor sits at his desk
And ponders the things that appear
To be claiming the thoughts of the world—
Things solemn, and comic and queer—
And when he hits on a theme
He judges it well to parade,
He writes, and he writes, and he writes,
And that's how a paper is made,

An editor sits at his desk,
And puzzles his brain to make out
"Telegraphic" so squabbled and mixed,
It is hard to tell what it's about.
Exchanges are lying around—
While waiting dispatches delayed,
He clips, and he clips, and he clips,
And that's how a paper is made.

An editor out in the town,
In search of the things that are new—
The things that the people have done,
The things they're intending to do—
Goes peering and prying about,
For items of many a grade;
He tramps, and he tramps, and tramps,
And that's how a paper is made.

And all that those workers prepare,
Of every conceivable stripe,
Is sent to the printer, and he
Proceedeth to stick it in type.
His lines, all respecting his will,
In slow-moving columns parade—
He sticks, and he sticks, and he sticks,
And that's how the paper is made.

In short, when the type is all set,
And errors cleaned up more or less,
'Tis "locked in a form," as we say,
And hurried away to the press.
The pressman arranges his sheets,
His ink gives the requisite shade,
Then he prints, and he prints, and he prints,
And that's how a paper is made.

Something in the Bed.

Judge Pitman has a habit of slipping his watch under his pillow when he goes to bed. The other night somehow it slipped down, and as the Judge was restless, it gradually worked its way downward towards the foot of the bed. After a bit, while he was lying awake, his foot touched it, and as it felt very cold, he was surprised and scared, and jumping from his bed, he said:

"By gracious, Maria! there's a toad or a snake or something under the covers. I touched it with my foot."

Mrs. Pitman gave a loud scream, and was out on the floor in an instant.

"Now, don't go to hollering and waking up the neighbors," said the Judge. "You go and get the broom or something, and we'll fix this thing mighty quick."

Mrs. Pitman got the broom and gave it to the Judge, with the remark that she felt as if snakes were creeping all up and down her legs and back.

"O, nonsense, Maria! Now, you turn down the covers slowly, while I hold the broom and bang it. Put a bucket of water alongside the bed, too, so's we can shove it in and drown it."

Mrs. Pitman fixed the bucket and gently removed the covers. The Judge held the broom uplifted and, as soon as the black ribbon of the watch was revealed, he cracked away three or four times with his broom. Then he pushed the thing off into the bucket. Then they took the bucket to the light to investigate the matter. When the Judge saw what it was, he said:—

"I might have known that! Just like you women to go screeching and making a fuss about nothing! Who's going to pay me for that watch? It's utterly ruined."

"It was you made the fuss, not me," said Mrs. Pitman. "You needn't try to put the blame off on me."

"O, hush up and go to bed! I'm tired of hearing your blather. 'Pears to me you can't keep your tongue still a minute. Blame me if I ain't going to get a divorce and emigrate!"

And the Judge turned in and growled at Maria until he fell asleep.—*N. W. Weekly.*

"Circumstances alter cases," said a lawyer to his client, after losing his fourth lawsuit. "Cases alter circumstances," savagely replied the client. "By your management of my cases my circumstances have been nearly ruined."

The Dutch cure a lazy pauper by putting him into a cistern, letting in the water, and providing him with a pump, that, with hard work, will just keep him from drowning.

BLARNEY.—In the highest part of Blarney Castle, in the county of Cork, is a stone usually pointed out to the visitor, which is said to have the power of imparting to the person who kisses it the unenviable privilege of hazarding, without a blush, that species of romantic assertion, which many term falsehood. Hence the phrase of blarney, applied to such violations of accuracy in narration.—*Brewer's Beauties of Ireland.*

Annual Fair List for 1877.

Secretaries of all Agricultural Societies sending in the date of their Exhibitions by the 20th of August will have them inserted in the September No.

PROVINCIAL.

PROVINCE.	WHERE HELD.	DATE.
Ontario	London	Sept. 24 to 28.
Quebec	Quebec	Sept. 17 to 21.
Nova Scotia	Kentville	Oct. 1 to 5
Great Central Fair	Hamilton	Oct. 2 to 5
The Central	Guelph	Oct. 2 to 5
East Lambton	Wyoming	Oct. 2 to 3

American State Fairs.

Am. Institute,	New York City,	Sept. 12 to Nov. 12
Am. Pomological,	Baltimore, Md.,	Sept. 12 to 14
California,	Sacramento,	Sept. 17 to 22
Central Ohio,	Mechanicsburg,	Sept. 5 to 7
Central Ohio,	Orville,	Oct. 10 to 13
Chicago Exposition,	Chicago,	Aug. 29 to Oct. 13
Connecticut, (no fair).		
Fremont, Nebraska,	Fremont,	Oct. 3 to 5
Georgia,	Atlanta,	Oct. 15 to 20
Industrial Exposition,	Kansas City, Mo.,	Sept. 17 to 22
Indiana,	Indianapolis,	Sept. 24 to 29
Illinois,	Freeport,	Sept. 17 to 22
Iowa,	Cedar Rapids,	Sept. 17 to 21
Kansas, (no fair).		
Kansas City, Mo.,	Kansas City,	Sept. 17 to 22
Kentucky (north),	Florence,	Aug. 28 to 31
Maine Pomological Ex,	Waterville,	Sept. 25 to 28
Maine Dairymen's Ex,	Orono,	Sept. 18 to 20
Michigan,	Jackson,	Sept. 17 to 21
Minnesota,	Minneapolis,	Sept. 3 to 8
Missouri,	St. Louis,	Oct. 1 to 6
N. E. Indiana,	Waterloo,	Oct. 2 to 5
Nebraska,	Lincoln,	Sept. 24 to 28
Nevada,	Reno,	Oct. 15 to 20.
New York,	Rochester,	Sept. 17 to —
New England,	Portland, Me.,	Sept. 3 to 7
New Jersey,	Waverly,	Sept. 17 to 22
North Carolina,	Raleigh,	Oct. 16 to —
Ohio,	Columbus,	Sept. 10 to 14
Oregon,	Salem,	Oct. 8 to 13
Pennsylvania,	Erie,	Sept. 24 to 28
Southern Ohio,	Dayton,	Sept. 24 to 28
Texas,	Austin,	Oct. 9 to 13
Virginia,	Richmond,	Oct. 30 to Nov. 2
Wisconsin,	Janesville,	Sept. 10 to 14

WIND PUMPS.—Mr. J. Cousins, of this city, is erecting many wind pumps in the city and in the country. They will in a few years be found in general use; they are durable, efficient, and can be put up at less than half the price asked for less efficient pumps. See his advertisement in this issue.

Mr. P. J. Edmund has opened an office on Richmond street in this city as engraver on wood and solicitor of patents. He engraved the Hessian fly and the wheat head shown in this issue. As he is a young man of obliging manners, we feel sure he will receive a liberal patronage. Give him a call.

Patrons of Husbandry.

Sub. Granges.

597. Cataraqui—P. W. Day, M., Collins Bay; A. M. McGuinn, S., Westbrook. 598. Ops—Jno. Colvert, M., Reaboro'; Fred'k Dawson, S., Omemee. 599. Maitland—Robert Fallis, M., Newbridge; Wm. Boyd, S., Newbridge. 600. Ulster—Abel Smeltzer, M., Ulster; Joseph Welwood, S., Ulster. 601. Plainville—Alex. McLeod, M., Coldspring; Jno. Kent, S., Coldspring. 602. Botany—James Thompson, M., Botany; A. Clark, S., Harwich. 603. Jolly Farmers'—Ransom Ernigh, M., Halbrook; Geo. W. Burtis, S., Burgesville. 604. Oak Ridge—Richard McKnight, M., Otterville; W. S. Burkholder, S., Otterville. 605.—Farmers' Glory—Daniel Costello, M., Ennismore; Thos. Telford, S., Ennismore. 606. Frank Hill—Wm. Sullivan, M., Frank Hill; Wm. Bootis, S., Frank Hill. 607. Beaver—Arch. Gordon, M., Holyrood; Chas. Stewart, S., Longside. 608. Valley—Jno. Dickey, M., Middle Sterviacke, N. S.; Robt. Putnam, S., Middle Sterviacke, N. S.

Division Granges.

39. Colchester—Wm. M. Blair, M., Truro, N. S.; James N. Crow, S., Truro, N. S. 40. North Perth—Wm. Keith, M.' Hammond; Robt. Forest, S., Newry Station.

Stock Notes.

SALE OF THE QUEEN'S YEARLINGS.—The same number of yearlings as last season, fifteen, were sold on Saturday, June 23rd, at the Royal Paddocks, Bushey Park, England, and though the attendance was small, the company consisted mostly of buyers, and the total realized 4,650 gs, showing an average of 310 gs. against an average of 100 gs. each last year. The chief purchase was made by Mr. F. Rowlands, who took four lots, including a 600 gs. daughter of St. Albans. John Day bought a Trumpeter colt at 55 gs., after some brisk competition. The highest-priced one was a Blair Athol filly from Miss Evelyn, and she went to Count Woehronowski for 800 gs.

The Shorthorn sale of Mr. George Elmhurst, England, was held on July 6th, and realized an average of over £140 sterling per head. About 35 head were sold.

Mr. Chas. M. Lansing, Niagara, Canada, has sold to Geo. W. Miller, Grantham, the yearling Shorthorn bulls Lord Cambria 23748, and Baron Wynnstay 3rd—the former to head his herd of twenty to thirty thoroughbred cows, following such bulls as Prince Louis 6058, and Kirk's Oxford 10326.

Bell's Messenger, London, July 2nd, gives the followlng statement:

The arrivals of live stock and fresh meat at Liverpool from the United States and Canada during last week were very great. From Canada three steamers arrived, bringing collectively 485 head of fine oxen, and 61 valuable horses. The quantity of fresh meat landed from the United States last week was 5,058 quarters of beef, 850 carcasses of sheep, and 20 carcasses of veal, this latter being the first consignment of the kind that has reached this country from America.

Mr. T. Guy, Sydenham Farm, Oshawa, Ont., has sold to Hon. G. W. Allan, Toronto, Ayrshire cow Peerless [389]; to John Murray, Stratford, bull Marquis [781]; to John Hanna, Jennettville, bull Vanguard [946]; to D. Lick, Harmony, bull Macaulay [947]; to Every Brothers, Drayton, bull Highlander [928]; to Thos. Nicholls, Plattsville, cow Fancy; to John H. Holden, Belleville, bull Sirus [601], and cows White Medora [776], Cora 4th [774], Little Nell [773], Jemima [517], Eugenie and two bull and two heifer calves.

Mention has been made of an importation of Southdowns for Messrs. Combs & Scott, of Kentucky, brought out by Mr. Simon Beattie of Annan, Scotland. Mr. B., who expects to return to Scotland, August 4th, writes that he also brought out eight Lincoln sheep and a superior two-year-old Clydesdale filly, for Thomas Irving, Logan's Farm, Montreal. Of the latter he says:—"I have shipped and handled a good many Clyde horses, but this is, I think, one of the best I ever shipped—good color, fine form, good size, and superior action, and Mr. Irving is uncommonly well pleased with her."

Mr F. W. Stone, Moreton Lodge, Guelph, Ont., has made the following recent sales:—

To Mr. C. Elwell, El Paso Co., Colorado, the following Hereford bulls and heifers, viz:—

1. Mariner, 2 yr., by Commander-in-Chief (3033), dam, Gentle 14th, &c.
2. Evelith, 1 yr., by Crown Prince (3778), dam, imported Perfection 3rd, &c.
3. Florissant, 1 yr., by imported Governor 4th (4620), dam, Graceful 9th, &c.
4. Idsal, 1 yr., by Crown Prince (3778), dam, imported Perfection 4th, &c.
5. Oakley, 1 yr., by imported Portrait 3rd (4851), dam, Gentle 14th, &c.
6. Mountaineer, 1 yr., by Governor 4th (4620), dam, Bonnie Lass 7th, &c.
7. Vesta 8th, 1 yr., by imported Governor 4th (4620), dam, Vesta 6th, &c.
8. Graceful 16th, 1 yr., by Governor 4th (4620), dam, Graceful 10th, &c.

Also one Berkshire boar, by imported Baronet, dam, Swanwick Lassie, &c.; and two sows, Attraction and Fascination, by Black Humfrey, dam, imported Enchantress, &c.

Mr. Elwell writes that the stock all stood their long journey well and arrived in good order.

Mr. Stone has also sold to Mr. J. Van Woert, New York State, the Berkshire boar pig Glensdale, by imported Baronet, dam, imported sow (bred by Mr. Humfrey) by Duke of Swinetown, &c.; also, sow Lady Glensdale, by imported Humfrey, dam, Swanwick Lassie, &c.

CANADIAN HORSES IN ENGLAND.

Bell's Weekly Messenger says:

"Canadian cattle and horses appear to be arriving more freely as we pointed out a few weeks since that they were likely to do. Mr. G. Frankland, one of the largest raisers of cattle in Canada, is now in Liverpool for the purpose of receiving a number of consignments from his trans-Atlantic pastures and stalls. A correspondent at Liverpool, writing last evening, says:—'Mr. Frankland received to-day, ex-steamship Memphis and St. Louis, of the Dominion Line, 260 head of 5-year-old Shorthorn cattle in excellent condition. They will be sold in the London, Liverpool and Manchester markets. Mr. Frankland will remain here for some time, and will receive similar consignments weekly.' Regarding the horses which we mentioned three weeks since, our correspondent adds:—'The twenty fast trotters, referred to by you as coming from Toronto, arrived in the Memphis. Among them are some very fast trotters, viz., Charles Douglas, a trotting stallion, 16 hands 1 inch in height. This horse can trot a mile in 2 min. 28 sec., being undoubtedly the fastest trotting horse that was ever brought from America. He was entered for the Alexander Park Races on Monday (this day) but unfortunately did not arrive in time. Then there are a pair of black mares, 2 min. 50 sec.; a pair of chestnut geldings, time, 2 min 50; John Ross, a bay gelding, 16 hands high, by the celebrated Royal George, 2 min. 36 sec. There is also Tecumseh Boy, a dark bay gelding, 16 hands, time, also 2.36; and a wonderful chestnut mare to look at, but her time I did not ascertain.' Correspondent adds:—'In fact, they are all very fast, and are the most valuable shipment of horses that ever arrived from America. They were all landed in splendid order.'"

Commercial.

London Market.

FARMERS' ADVOCATE OFFICE, London, July 31.

The market begins to be better attended, and larger receipts of grain are coming in. There were from 1,500 to 1,600 bushels offering to-day, which sold at the following figures:—New wheat (Deihl) went at $2 to $2.59; Treadwell, new and old, at $1.80 to $2.10; New Red, $1.60 to $1.90; Old Spring, $1.90 to $2.10; Oats, $1.35 to $1.45. Wool—one bundle brought 31c.

GRAIN.

Deihl, new, $2 to $2.50; Treadwell, new, $1.80 to $2.10; Red Winter, new, $1.60 to $1.90; Spring Wheat, $2 to $2.20; Barley, $1 to $1.10; Peas, $1.10 to $1.20; Oats, $1.35 to $1.45 Corn, 90c. to $1; Rye, $1 to $1.10; Beans, $1 to $1.37.

PRODUCE

Roll Butter, fresh, 16c. to 22c.; Tub Butter, 15c. to 18c.; Cheese, factory, 8c. to 8½c.; Hay, old, per ton, $11 to $12; Hay, new, per ton, $8 to $10; Potatoes, new, per bushel, 45c. to 50c.

LIVE STOCK.

Cattle, per 100 lbs., live weight, $3 to $4: Sheep, each, $4 to $5; Lambs, each, $2 to $3; Milch Cows, each, $30 to $40.

HIDES.

Hides, 7c. to 8c.; Calf Skins, green, per lb., 9c. to 11c.; Calf Skins, dry, per lb., 12c. to 16c.; Sheep Skins, $1 to $1.50; Lamb Skins, 40c. to 60c.

TALLOW.

Tallow, 6c., rough, 4c.; Lard, per lb., 10c. to 12c.

FLOUR.

Fall Wheat, XX, per 100, $5; Mixed Wheat, do, $4.75; Spring Wheat, do., $4.50.

Liverpool Market.

Liverpool, July 31.

Flour 32/, Red Wheat 12/, Red Winter 12/2, White 12/6. Club 13/2, Spring Wheat 12/, Corn 29/, Oats 3/6, Peas 37/6, Barley 3/6, Pork 54/, Lard 49/6, Beef 85/, Bacon 39/, Tallow 41/, Cheese 54/.

Toronto Market.

Toronto, July 31.

The following are the street prices:—Wheat, Spring $1.40 to 1.45; Red Winter $1.35 to 1.40; Treadwell $1.45 to 1.46; Deihl $1.30 to 1.50. Oats 48c to 50. Peas 76c to 77. Flour, Superfine $6; Spring Extra $7.25; Superior $7.50.

Montreal Market.

Montreal, July 31.

Flour—Market dull and lower to sell; quotations entirely nominal in absence of transactions. Sales—100 bbls. strong bakers at $7.75; 100 medium bakers at $7.22½.

New York Market.

Wheat nominal; Chicago, $1.55 to 1.58; Milwaukee, $1.58 to $1.60; red winter, $1.50 to $1.60; Nc. 1, $1.60 to $1.70.

Cheese and Butter Markets.

Albany, N. Y., July 30.—Owing to the small amount of cheese sold at Little Falls last week, the offerings to-day were the largest of the season; 12,000 boxes of factory were offered, some of which did not sell. The sales were held for an advance; but buyers claim the probability that advance is not very strong. The sales effected were at 9½c. to 10½c.; two lots selling at the latter market; the price for the best does not exceed 10c.; 5,000 or 6,000 is going for this price; few farm cheese 9c. to 10c., none but fancy commanding the latter.

Butter firm at 18c. to 20c.; a good article selling at 19c. Creamery make command a fraction better.

Utica, N. Y., July 30.—At the cheese market, 10,000 boxes were offered; 3,000 went on commission, and the balance was sold at 9½ to 10½c. Market firm and active.

Little Falls, N. Y., July 30.—Five hundred and twenty boxes dairy offered; finest reached 10c., others 8c. to 9½c. 12,0 0 to 15,000 offered; sale at 10c., and a few may r ach 10½ to 10½c.

Ingersoll, July 31 —The market to-day was well attended, but owing to the fact that buyers and sellers were wide apart in their views as to values, no sales were made. Sixteen factories placed their offerings—4,825 boxes—upon the board. Offers of 10c. were made, but factorymen would not accept this figure—many of them had sold their first half of July for that figure, and now that the cable was higher they were not content with that price for the make of the last half of the month.

At the London market on Saturday, 28th, there were offered 840 boxes, but as far as we can ascertain, no sales were made, buyers having already filled their orders. Most of the July make has been taken up at from 9½ to 10c.

The butter trade in Montreal at the moment is certainly in a healthier condition than it has been heretofore this season. Besides the speculative element which has found its way into the trade of late, a demand has sprung up on foreign account, and for the very finest grades prices have been paid which will overtop our outside quotations, but, unfortunately, this class of butter is so rare here, that we do not feel warranted in quoting the figures as a criterion for the general market. We advance our quotations as follows: Good to fine, Eastern Townships, 20c. to 21c. Good to fine, Brockville and Morrisburg, 19c. to 20c. Western, 17c to 18c.

Live Stock Markets.

New York, July 27.

Beeves—Receipts, 1,120 head, making 3,320 head for the four days, against 5,700 head for the same time last week, The market was not so wildly active and prancing as yesterday, but trash was taken at good figures, and a clearance was effected before 11 a. m. Ordinary to good oxen sold at 12½c to 13½c per lb.; the best steers, 13¾ to 14c; good bulls, 3 to 4c; poor to good native steers, 10 to 11c. Dressed beef fell off about ½c per lb.

Chicago, July 31.

Cattle—Receipts, 4,100 head; shipments, 2,200 head. There was a fair demand for city butchers' stock. Common to good sold at 3.10 to $4.30. Shipping stock sold at $5.45.

Live hogs—Receipts, 8,500 head; shipments, 5,000 head. The market is dull and prices are 5c to 10c lower. The demand was chiefly for light. Common to choice heavy sold at $4.90 to $5.15; common to good, light, smooth bacon hogs at $5 to $5.10, closing weak.

MONTREAL CATTLE MARKET.

Montreal, July 31.

A fair business was transacted, but prices were unaltered. Dealers endeavored to establish an advance, but failed. The butchers complained of the unusually heavy amount of waste in grass cattle this season compared with other years, to meet which they assert they ought to purchase at lower than present rates. Considerable quantities of cattle are being shipped from Ontario to the Buffalo market just now, where better prices have been obtained. Prime cattle for England are very much wanted, and good figures are being paid for such stock. Mr. R. J. Hopper sold 52 head last Friday for $21.29, and had one car-load held over from last week. He also bought from Mr. Frank Rogers, Toronto, 20 cattle, averaging 1,107 lbs. each, for $52.58 per head; from Mr. W. Elliott, of Kingston, 23 head, weighing 21,150 lbs., for $887.47; and from Mr. Brown, of Brockville, 11 for $230; and sold 4 extra steers to Mr. M. Doe for $264; 2 to Mr. Bridgeman for $121, 7 to Mr. Howard Pennalack for $320, 6 to Mr. Geroux for $327, 2 to Mr. A. Coultry for $160, and 6 others at $40 each. Mr. J. C Coughlin sold 125 hogs at $5.37½ per 100 lbs. Mr. Wm. Head sold 19 cattle to Messrs. Craig & Ryan, Quebec, at $45 each.

MONTREAL HORSE MARKET.

There is not much doing in the local market. At an auction sale held last Friday, at No. 679 Craig Street, 7 horses were sold at prices ranging from $30 to $120 each. Yesterday Mr. Elwes sold at his depot, No. 54, Bonaventure Street, a pair of carriage horses for $350, and a superior saddle horse for $200. An American gentleman was the purchaser. During the week ending July 23rd, 42 horses, valued at $3,152.90, were shipped from this city to the United States. In the six months ending June 30th there were shipped from this city to the American markets 1,583 horses, valued at $130,493.34, or an average of $82.43 each horse. Some 25 or 30 horses were said to have been shipped to Britain on the S.S. Memphis, in the last of this week.

Wool Markets.

PHILADELPHIA.

July 31:—The market is quiet but firm, and the supply is moderate, but equal to all demands. Sales of Ohio, Pennsylvania and West Virginia XX and above, 48c. to 50c.; X do., 47c. to 48c.; medium, 46c. to 47½c.; coarse, 40c.; New York, Michigan, Indiana, and Western fine, 43c. to 45c.; medium, 46c. to 47c.; coarse, 40c.; combing washed fleeces, 50c. to 55c.; do., unwashed, 37c. to 39c.; Canada combing, 40c. to 55c.; fine unwashed, 29c. to 30c.; coarse and medium unwashed, 30c. to 35½c.; tub washed, 42c. to 45c.

BOSTON.

July 28.—The demand has fallen off considerably. Ohio is quoted at 46c. to 58c. for medium and X; 50c. for XX; Michigan X at 43c. to 44c.; No. 1 and X Wisconsin at 42c.; combing and delaine is in demand at 50c. to 55c. Super and extra Pulled remains the same. Stocks are light and sales principally in the range of 44c. to 45c.

Commercial Items.

A lively inquiry is being made for dried apples, and stocks in Montreal are quietly changing hands. They are said to be a good investment just now.

There is a desperate effort in England to shut down upon the importation of Canadian and American beef into Great Britain. Stories have been circulated calculated to spread a fear of the meat among consumers, and some butchers have gone so far as to put diseased cattle on the market, representing it as the American article. At the recent investigation into the merits of imported meat, the testimony was strongly in favor of the foreign product, and the only opposition was from butchers, who claimed that, as the Canadian beef could be sold cheaper, it was gradually undermining the home product.

The investigation into the losses of sheep in the States during the past year shows a total loss of nearly 3,000,000 sheep and lambs, which were destroyed by dogs an wolves and various diseases, to the aggregate money value of nearly $8,000,000.

SHEEP PRODUCT IN AUSTRALIA.

The number of sheep in Australasia, fncluding Tasmania and New Zealand, was 58,735,665 in 1874, and the value of the wool exported was $73,726,065; in 1875 the value was $79,289,355. The area leased for grazing in New South Wales alone was 41,732,000 acres in 1848, 49,068,491 in 1860, 120,228,920 in 1870, and 183,107,200 in 1874. Such rapid growth in this branch alone is, we believe, unexampled From the moment the auriferous climax had been passed and the gold fields began to give out, the Australians fell back upon wool-growing with redoubled vigor, without thereby neglecting their other manifold sources of wealth.

Hants county, N. S., shipped 15,000 tons of plaster to the United States last month.

LARGE SHIPMENT OF WOOL.

As an evidence of the extensive wool business done this season by Messrs. T. & J. S. Symington, we learn that the firm shipped one day last week by the Grand Trunk Railway over 36,000 pounds of wool, all of which was purchased by them during the wool season.—*Sarnia Observer.*

MARKETS IN MANITOBA.

The cattle market is entirely glutted. The destruction of the crops in Minnesota by the grasshoppers has caused scores of farmers there to club together and send their cattle to this Province. At present there are in this market awaiting sale nearly 1,000 head; about a like number are reported between here and Pembina; and besides 2,000 or 2,500 are on the way from Montana. Prices have run down to 20 per cent. below what they are in Minnesota. At present milch cows can be bought for from $15 to $25, beef cattle for 3½ cents, oxen for from $80 to $120 per yoke, and stock steers for 2½ cents.—*Free Press.*

THE BARLEY CROP.

Now that the harvest of barley has begun, an approximate estimate of the quantity and quality of the crop can be made, although, to a certain extent, still depending upon the state of the weather until housed. The breadth of the land sown to barley will be slightly in increase of that of last year. The grain is good and plump, and the yield considerably above that of last year—the only danger now being that the color may be affected by the rain.—*Belleville Intelligencer.*

The first load of new barley received at Cobourg on the 26th ult. was an excellent sample, weighing about fifty pounds to the bushel.

The Alliston, Ont., foundry received an order some time ago for $600 worth of dog-churn castings, and they have given such satisfaction that another for $1,000 worth has been sent from the enterprising dog-churn manufacturer.

The refrigerator system of transporting butter across the Atlantic during the hot season has been acted upon by Messrs. A. A. Ayer & Co., of Montreal, who are shipping several thousand packages by this process in the holds of the Allan steamers Moravian, for Liverpool, and Canadian, for Glasgow. This new feature in the exportation of butter should enable us to compete successfully with the United States.

At the Delaware State Convention of Peach-Growers resolutions were passed recommending the destruction of trees if they do not prove more remunerative than in the past four years.

Hanna & Co., of Montreal, purchased this week from Mr. Henry Arkell, of Port Stanley, 5,000 pounds of butter. This is the largest store they have ever purchased from any one dealer in the county.

Watford shipped 23,000 lbs. of wool this season.

Mr. McCallum, East Williams, shipped a car load of cheese direct to Glasgow last week.

The quality of the new wheat coming forward is so excellent that millers do not require old wheat to mix with it. This is an unusual occurrence.

Agricultural implement makers, and every one else whom it may concern, will, no doubt like to be informed of the fact that the Canadian sons of Great Britain are exerting themselves to become competitors with their mother country. When an International Exhibition was projected in Australia, the Canadian Government sent a Commissioner to look after the interests of the Dominion. This solicitude, it appears, has not been thrown away, for a Canadian correspondent has favored us with a reference to a telegram which was received in the town mentioned on the 6th inst.:—"Mr. John Elliott, of London, Ont., has received a telegram from Sydney, Australia, from Mr. Flemming, who is representing the merchants of the Forest City, ordering thirty Meadow Lark reapers, ten mowers and twenty horse-rakes to be shipped immediately for Sdyney *via* New York. The order amounts to about $5,000." With wood at a nominal price and skilled laborers willing to work at fair wages, we fear that we have here another important competitor with this land of dearer wood, iron and coal, and disproportionate wages.—*Bell's Weekly Messenger (Eng.).*

Mr. Van Norman, of Brantford, purposes establishing an oat meal mill in Whitby.

The Joseph Hall Works, Oshawa, Ont., report having sold 1,417 mowers and reapers in the Dominion during the present year.

There are fifteen mills at work in the vicinity of Gravenhurst, Ont., and they turn out an immense quantity of lumber and shingles. Logs can be taken to that place by water from points 300 miles distant at very small cost.

A splendid three-year-old California salmon, weighing five pounds, was caught in the trap nets of Wilmot's Creek, in Lake Ontario. This fish is the product of an importation of California eggs by Mr. Wilmot, and hatched out at the Newcastle establishment, Ont., in the spring of 1874. It is said to be superior to the native salmon taken in the rivers of the Lower Provinces.

The L. D. Sawyer Manufacturing Co., Hamilton, have had an unusual demand for threshing machines this year, 1130 having been sold.

NEW MANUFACTURING FIRM.—A new corporate firm is about to be established in London, Ont., under the name of "The Barnes Excelsior Fanning Mill Co.," with a capital stock of $9,000. The names of the applicants for incorporation are: Robert Shoff, London, dealer in fanning mills; Thomas Pearce, London, dealer in fanning mills; John Edmund Barnes, London, dealer in fanning mills; Samuel McClure, Watford, Ont., farmer; John M. Roberts, London, farmer; of whom the three first named are to be Provisional Directors of the company.

FOR AUSTRALIA.—Messrs Crawford & Co., of the Globe Foundry, London, Ont, last month, shipped 50 I X L reapers to Australia,

THE FLAX CROP.—On Saturday, the 21st ult., Mr. John Beattie, of the Seaforth flax mill, commenced the work of flax pulling. He has about 400 acres of this crop, and says it never looked better in that section than it does this year. Operations have already been begun around Exeter, where over $3,000 will this year be paid to pullers as wages. In the neighborhood of Parkhill, Mr. Shantz has over 200 employed in harvesting flax. This interest is year by year becoming more valuable.

New Advertisements.

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