THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE

—AND—

Home Magazine.

WILLIAM WELD, - Editor and Proprietor.

The Only Illustrated Agricultural Journal Published in the Dominion.

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THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

The Month.

In taking a drive in the coutry the other day, we noticed that some of our subscribers have adopted the plan we have for years suggested—that being to plant more trees. We noticed a fine young row of maples, which were planted a year or two ago. This lot, we know, were planted from our suggestions. We were pleased to know this. It is a step in the right direction, and in time the owners of these farms will be delighted with the result of their labor expended in that way. But the maples were of a great diversity of length and shape; some were so low that cattle might destroy them, others were towering high in the air. Some had branches on one side and none on the other. We would suggest that each of you having young orchards, or young ornamental trees, would take your knife, and, if needs be, your saw, and aid nature to balance the trees. Too much wood on one side will cause a tree to lean in that direction; an evenly balanced top will keep your trees straight. If your maple trees are uneven in height cut off the tops of some of the long ones. If some are making too great a growth take off some of the wood. Endeavor to have an even row, about the same size and same height. You will be well repaid by a little attention to these remarks. June is the right month to summer trim your trees. Make a smooth, clean cut with a sharp knife. The sap will not ooze out as in the spring. New wood will immediately form around the wound, and it will heal up so that in a year or two you would not be able to see where you cut the wood from. Evergreens may now be trimmed back and brought into any desired shape or form.

Keep a good lokout for the potato bug. Paris green is the best feed for him. Most of you apply this too freely, and waste your money and injure your potato vines. A teaspoonful is enough for a gallon of water, and then the water only requires to be sprinkled with a light spray. If you mix it in plaster one pound of Paris green is sufficient to mix with fifty pounds of plaster. We have heard of it having been found efficient when put in sixty pounds of plaster. Then dust the vines as lightly as possible with it. Some people use a machine. We have tried a machine and prefer its use to Paris green in fields.

The winter wheat west of Oshawa promises an abundant harvest if no mishap overtakes it. We presume we shall have a larger yield in this western portion of Ontario than has ever before been harvested. East and north of Oshawa the accounts of the winter wheat are not encouraging. The season for spring seeding and planting has been as favorable for these operations as could be required—fine genial rains have descended at more suitable intervals than man could appoint, and everything betokens a good and bountiful harvest. Fruit of all kinds promises good returns except strawberries.

Be sure and keep the weeds well under control this month. There is only one boss on a farm, which will be you or the weeds. If they conquer you the farm demands another boss, and will have it, too.

Are your haying and harvesting tools all in order? Do not let your hay get woody nor your grain get dried up. There is more grain and grass cut too late than too early. If you have a large quantity of hay write to T. Brown & Co., of Ingersoll, Ont., and get his circular about his Hay Loader. Every farmer that we have seen that has one would not easily part with it.

In our correspondence department of this month our English letter should be read carefully by all that have an interest in the future prosperity of Canadian agriculture.

The communications about salt are of importance to you. We are pleased to note that our Canadian salt must be better appreciated than it has been, not only for dairy and stock and land purposes, but for preserving our fencing and building timber. It may not pay to use it for all common fences, but where we set good solid posts for gates, wire fencing or building timber, we have no longer doubt of its utility. We heard it had been tested by applying it at the base of telegraph poles, and on inquiring of the person who applied it, he informed us that seven years ago he set telegraph poles with and without salt. On examination this year he found those that were set without salt were now decayed two inches into the wood, while those that had salt applied to them were just as sound as the day they were put in. Read about salt in May issue.

"Brant Farmer" takes us to task because we anticipate that good will be done by the Agricultural Commission. "Brant Farmer" may be right or wrong. We do not pretend to infallibility, but trust and believe there are some gentlemen on that Commission that will not act against the dictates of conscience to the injury of the farmers' interests, for which they receive their pay, even though that should not exceed their necessary travelling expenses. In regard to the Agricultural College, legislators and farmers know our opinion about it, its origin and its intended work, but as neither the legislators nor all the people coincide with our views, it is our intention to glean what information we can obtain from this institution and the Agricultural Commission and furnish it to you, avoiding as much as possible all party political subjects. Mr. Brown, the farm manager, we believe, is desirous of producing and teaching profitable results. No doubt he meets, as most farmers do, with some results that are not satisfactory. We do not condemn "Brant Farmer" for differing from our views.

Death of Hon. George Brown.

The Hon. G. Brown's demise from the fatal wound of a low, debased assassin has thrown a pall of mourning over the country. The honorable gentleman possessed a firm mind and a wonderful memory. He was an able writer and fluent orator. He commanded more power than any other person in Canada. His unfaltering loyalty to the British empire remains a pattern for others. In his death every Canadian may read one grand lesson, which every office-holder, every subscriber, and every honorable and honest man might with credit to themselves, and to the country, adopt—that is, never to sign a paper or give sanction to any document that conscience informs you is undeserved, or may give positions to unprincipled men, and do much injury to the community. Perhaps it may suggest that our laws are not as rigidly enforced as they might be. Are not pistols too often in the possession of lawless characters that have no property of their own to protect. Would not a $5 or $10 license on any pistol kept produce a revenue sufficient to reduce the working men's cotton shirting ten or fifteen per cent.

The pistol killed Abraham Lincoln, perhaps the best President that ever ruled the U. S. D'Arcy McGee's death was from that weapon, and even our Queen's life has been attempted with it.

INFECTED CATTLE.—The Veterinary Department of the Privy Council of Great Britain reports that the orders enjoining the slaughter of cattle from the United States has been fully justified. The number of infected cattle last year imported from the United States largely exceeded the number of cases of disease detected among the cattle imported in the same period from European countries.

English Letter, No. 14.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, May 1.

This has been a great day in Liverpool. Every driver of a horse, or even a "moke," used for draught purposes, regards May Day as his particular festival, and dressed in his best, and with his animal decked with all the braveries that his purse will afford, he parades the streets in procession with his fellows, to the admiration of all beholders, who are not a few. The Corporation, who own a magnificent stud; the railway companies, the leading brewers and other large firms give considerable encouragement to their employes in the matter of these May Day displays: and they have really become a high festival. The day was gloriously fine, and the turn-out even more than ordinarily good. The horses were in grand condition; and it is safe to say that both in numbers and quality for heavy draught purposes they were far and away the best show in the world. It is well within the mark to say that the horses seen in to-day's procession represented a value of a million dollars.

I see it announced that about 3,000 Austrian horses are to be sold by auction at the Barbican Repository in London during the next few weeks. As I think I have before remarked, all the advantage these animals have over the Canadians is a point or two of breeding; so far as soundness goes I think Canadian horses have the advantage.

It will interest some of your readers to know that Mr. Clare Sewell Read, one of the Agricultural Commissioners who went out with Mr. Pell last fall to report on Canada and the States, is one of the victims at the late election. He sat for South Norfolk as a Conservative tenant farmer, but is defeated by Mr. Gordon, the Liberal candidate, though, singularly enough, by only one vote. Mr. Pell retains his seat for South Leicestershire, though he has to make himself happy with a Liberal colleague instead of as heretofore, a Conservative one. But *quantum suff.*

You will, I am sure, even at the risk of some little disadvantage to your own trade, be glad to learn that the prospects of the British farmers are better at this stage of the season than they have been for many years past. The season so far has been a perfect model, and the farmers are looking forward with renewed hope to a harvest which will to some extent recoup them for their heavy losses of the past few years. The fine dry weather which has prevailed through March and April has also been most beneficial in checking disease in sheep, and for lambing and calving. Altogether the times here are very hopeful, and the only thing more to be desired is that, as the depression of the last four or five years was pretty general the world over, the return of prosperity will be equally so, and that the Dominion will have its full share. It must be borne in mind that the English people are consumers very much according to their earnings, and when times are good and wages high the English operative must and will be well fed; and as it is impossible that home production, even in the most abundant years, can more than half meet the demand, there will still be a splendid market here for those who will take the pains to send a really good thing. I am very pleased to note that, judging by some late consignments, Canada can produce and send to us cattle quite as good as any we have at home. £45 per head for a whole consignment was recently obtained for Canadian beeves, and this is a price to be proud of. Australia seems inclined to try her powers as a competitor with you and the States in providing fresh meat for the British market. I do not think, however, that you have any serious cause for alarm. Your land is as cheap and at least as good; your climate as favorable for beef producing; you are much nearer your market; and the cost of freight, insurance and the like will always heavily handicap the Australian colonies.

Emigration from Europe is now in full swing, and compared with the last few years, the increase is very great. A large proportion of those now passing through Liverpool are Swedes and Norwegians. The German emigrants just now are very few. A good number of English and Irish are also leaving.

The Report of the Veterinary Department of the Privy Council, just issued, gives some interesting statistics respecting the trans-atlantic cattle trade, which I make no excuse for quoting :

"From Canada there were landed in 1879 at the ports of Bristol, Glasgow, Liverpool, and London, 157 cargoes of animals, consisting of 25,185 cattle, 73,913 sheep, 3663 swine, of which 154 cattle, 1623 sheep, and 249 swine were thrown overboard during the voyage ; 21 cattle, 226 sheep, and 3 swine were landed dead ; and 4 cattle and 61 sheep had to be slaughtered at the place of landing owing to injuries received in transit. From the United States there were landed in 1879 at the ports of Bristol, Cardiff, Glasgow, Grimsby, Hartlepool, Hull, Leith, Liverpool, London, Newcastle-upon-Tyne, South Shields, and Southampton, 535 cargoes of animals, consisting of 76,117 cattle, 119,350 sheep, and 15,180 swine, of which 3140 cattle, 5915 sheep, and 2943 swine were thrown overboard on the voyage ; 221 cattle, 386 sheep, and 392 swine were landed dead ; and 93 cattle, 167 sheep, and 130 swine were so much injured that it was necessary to slaughter them at the place of landing. Thus it appears that 14,024 animals were thrown overboard, 1249 were landed dead, and 455 were so much injured or exhausted that they were killed at the place of landing, making a total number of 15,728 animals which were either lost on the passage or so much injured that it was necessary to slaughter them immediately on landing.

"Notwithstanding the increased restrictions on importation, the number of foreign animals imported was larger in 1879 than in the previous year, the total from all countries out of the United Kingdom being 1,241,847, as against 1,200,323 in 1878. From European countries we received 143,187 cattle, 750,469 sheep, 32,591 swine ; from Canada, 25,185 cattle, 73,913 sheep, 3663 swine ; from the United States of America, 76,117 cattle, 119,350 sheep, 15,180 swine ; from the Channel Islands, 2151 cattle only ; from the other countries, 12 cattle, 22 sheep, 7 swine. From Ireland we received 641,370 cattle, 673,371 sheep, 429,663 swine. The total from all sources was 2,986,251 animals in 1879, against 3,043,090 in 1878.

"There were landed in Great Britain during 1879 from places out of the United Kingdom, exclusive of the Channel Islands, 2671 cargoes of animals, consisting of 244,501 cattle, 973,754 sheep, 51,441 swine. In 122 cargoes the inspectors detected diseases among the animals on landing in this country. The diseased cargoes came from the following countries:—Belgium, 46 cargoes, of which 6 cargoes, consisting of 3141 sheep, contained 8 sheep affected with foot-and-mouth disease, and 68 sheep affected with sheep-scab. France 27 cargoes, of which 2 cargoes, consisting of 25 cattle, 30 swine, contained 1 cattle affected with pleuro-pneumonia, and 20 swine affected with foot-and-mouth disease. Germany, 496 cargoes, of which 21 cargoes, consisting of 312 cattle, 28,277 sheep, contained 29 sheep affected with foot-and-mouth disease, and 496 sheep affected with sheep-scab. The Netherlands, 659 cargoes, of which 21 cargoes, consisting of 1830 cattle, 11,076 sheep, 1079 swine, contained 9 cattle affected with pleuro-pneumonia ; 1 head of cattle, 7 sheep, and 64 swine affected with foot-and-mouth disease ; and 83 sheep affected with sheep-scab. Canada, 157 cargoes, of which three cargoes consisting of 339 cattle, 1746 sheep, 180 swine, contained 13 sheep affected with sheep-scab. The United States of America, 535 cargoes, of which 69 cargoes, consisting of 13,301 cattle, 8553 sheep, contained 137 cattle affected with pleuro-pneumonia, 33 sheep affected with foot-and-mouth disease, and 37 sheep affected with sheep-scab."

These figures show that the number of cases of pleuro-pneumonia detected in the cattle from the United States far exceeded those from the continent of Europe, and amply justified the measures taken here. Canada, on the contrary, occupies a most favorable position, being debited only with thirteen sheep suffering from sheep-scab. It would seem, also, that Canadian shippers manage things better than their neighbors, for while the losses amongst Canadian cattle in 1879 were less than one per cent., and amongst Canadian sheep barely two per cent., the losses amongst United States cattle were four and a half per cent., and amongst their sheep over five per cent. Another instructive fact to be gathered from the above is that last year Canada supplied to this country only one in 35 of the cattle, one in 22 of the sheep, and only one in 130 of the pigs imported into England.

Value of Rocky Lands.

In considering the natural resources of the Dominion and the best means of developing her agricultural resources, the great difference between the geological formation and the soil of the several parts must not be overlooked. The Algoma and Muskoka Districts demand a system of agriculture very unlike that suited to the western part of the peninsula. The vast region of rocky land, heavily timbered and diversified by lakes and rivers, is not without its value as a farming country, though it will not have the extensive wheat fields of our western counties. We have had considerable experience in farming stony land, as well as fertile wheat soils, and we know that rocky land, if properly cultivated, is sure to pay well for the labor. Good crops of oats, barley, clover, potatoes and other roots may be calculated on, and they of good quality. An item from the N. Y. Tribune on the "Best uses for rocky lands," is well worth the consideration of settlers in the rocky lands of such districts as Muskoka :

"Thousands, if not millions of acres of land, since the settlement of our Eastern States began, have been cleared of their valuable forests and put under cultivation, which are so rocky and stony as to have never paid back in their crops anything like the value of the labor bestowed upon them ; and much less afforded the slightest profit to their owners. Such lands should not be ploughed, but as soon as cleared, if not wanted to be grown over again with wood, they ought to be put into grass and then stocked with sheep, young cattle of the smaller breeds, ponies and goats, whichever pay best for their pasturage. The short grass which grows up among rock and stones on a dry soil is usually extra nutritious, and endures a drouth better than on open soil, as the stones and rocks retain a greater amount of moisture around them during hot clear days than lands which are free of these. Where sheep are not liable to be injured by dogs, they would be most profitable animals to stock stony land, particularly if of a superior mutton breed like the South and other Downs, as we have a large and well paying English market now open for all such.

"Next to sheep handsome ponies would probably pay best. These should be of different breeds. Such are not only the most desirable for children and young ladies riding and driving, but are also suitable for various kinds of work, in which they can be more advantageously employed than larger horses. Any observant traveller in Great Britian will notice this. They are profitably bred and reared there in great numbers on what would otherwise be almost waste lands, from the extreme south of England to the most northern islands of Scotland."

In such a country a judicious system of forestry would be very serviceable—the preserving of tracts of the native forests, and where they have been cut down, planting the trees most suitable to the climate and soil. They would, beside the benefit in respect of the climate, be sure after some few years of paying a good profit.

Alsike gives smaller crops than red clover, but of better quality. It is especially recommended for soils liable to heaving by frost and affords to the bees excellent pasture ground.

From the United States.

[BY OUR OWN CORRESPONDENT.]

Washington, D. C., May 17, 1880.

The reports just received at the Agricultural Department from all parts of the U. S. state there is less disease of stock prevalent in many localities.

We are having quite an "oleomargarine" war in the U. S. just now. Scientists, legislators, farmers, dairymen and people who have some respect for their palates, their pockets and their stomachs, are investigating this fraudulent cow-grease. One million pounds, it is estimated, have been made and sold to the deluded public *for butter* within the past year. What kind of diseased animal fats are used for making these counterfeited prints of the dairy, not even science has yet been able to tell us. The nauseated public, and the indignant farmer who must compete with the remodeled and regenerated scraps of fat by selling his genuine product of the dairy by the same name, at the same price, will soon demand a stringent law by Congress aimed at oleomargarine and its making. In consequence of this agitation of the butter question, it has been suggested by an experimental agriculturist that it would pay to introduce and cultivate in green or hot-houses in this country the "Butter-tree," discovered in Central Africa by Mungo Park. He alleges, from personal observation and experiments, that this remarkable plant yields from its kernels, by pressure, a white, fine, rich butter, which even in that climate will keep well for a year without salt. Although the gentleman is not an illusionist, nor a Col. Mulberry Sellers—who saw millions in every new enterprise, from a steamboat on the Mississippi River to eye-water in Asia—he intends to extend his experiments with the large tropical trees, such as the "Phulnorse-tree," of India; the "Illupic," of Coromandie; the "Madhuca," of Bengal, and the milk-giving "Cow-tree," of South America. As Julius Cæsar, when he invaded Britain, found the people to be good butter-makers, but instructed them in the art of making cheese, so this modern experimentalist may teach us something about milk we never knew.

The Commissioner of Agriculture, Gen. Le Duc, in answer to a Resolution of the U. S. Senate, has just transmitted to that body a full and complete report on the manufacture of syrup and sugar from sorghum, Chinese and other sugar canes, the cost, machinery, etc., etc. He reports that the introduction and wide spread distribution of the "Minnesota Early Amber" by his Department has resulted in the extensive cultivation of that sugar cane in the U. S.; that for the northern part of the U. S. (and Canada) there is probably no cane so suitable as the early amber, and that no other of the several varieties cultivated in the U. S. will yield north of Chicago. He states in the report that the juices of the early amber granulated more readily, it is earlier than the other varities, ripening its seed in 90 to 100 days, and yields bountifully a syrup of excellent quality, and in many cases good sugar has been produced. The Chinese cane ripens two weeks later than the early amber, and the Honduras and Liberian five weeks later than the Chinese. It is shown that after this amber had been subjected to a very heavy frost, sufficient to freeze water ½ inch thick, in which condition it remained for four days, no injury was done to the quality of the cane. It is stated, however, that the cane should be speedily worked up after freezing and before it has time to thaw. The cost of machinery, which is very simple, to work up the product of ten to fifty acres of sugar cane of two or three neighboring farmers will be from $150 to $300. When the cultivation of the sugar cane becomes more extensive he suggests that mills will be erected, just as flouring or grist mills are now built, where the sugar will be made for a toll. Until such time he considers that there is more profit to farmers in the making of the syrup alone. The entire cost per gallon, in the west the past season, in which estimate is included breaking of land and cultivation, and everything necessary to production of syrup, is 16⅔ cents average (13 lbs. to gallon). This should give 6 to 8 lbs. of sugar to gallon, which by the use of centrifugal would cost one cent per lb. to produce.

The report is copious, and in order that those entering on this industry may know what is practically attainable, even with common appliances, gives data and instructions for the selection and preparation of the soil, down to and through the whole process of manufacturing, with description and illustration of machinery.

A large box containing pressed samples of the herbs and plants of Great Britain, arranged in large books, has been received at the Agricultural Department, from the famous Kew gardens of England, and they are just being unpacked and arranged by the Department Botanist.

The U. S. Consul at Port Louis, in the Island of Mauritius, in a recent despatch to the Department of State, reports that the cattle plague, which was so long malignant and fatal in that island, is subsiding. The deaths are now principally cows in stalls. Since the first appearance of the disease 28,615 head of cattle have died, besides 524 deer and 19 goats. The working cattle on estates seem to almost entirely escape the plague. There were 2,927 cattle of all kinds imported into Mauritius during the last quarter of 1879. This island, it will be remembered, is the scene of the beautiful story of "Paul and Virginia."

The race at the National Fair Grounds this week has brought here more fast horses than have ever before assembled upon any occasion of the kind in this country. There are at least two hundred on hand, and no less than fifteen starters will be in the race. All the leading stables of the east, west and south are represented. There are some of the prettiest flyers ever seen here, but those which attract most attention are the noted racers of Belmont and Lorillard, of N. Y. LOTUS.

A horse with weak digestion should be fed four times a day, with but a small quantity of bulky food, and should not be watered until two hours after eating.

To keep bugs off melon and squash vines, plant a tomato plant in each hill. By doing this the bugs did not bother them at all; while across the fence, where there were no tomatoes, they were all killed by the bugs.

Few know how easy it is to propagate most shrubs by root cuttings. Roots the size of a pen-holder are the best. Cut these into pieces an inch long, and plant them about an inch deep in a cold frame, and they will be six inches high and ready to plant by the time the garden plat is ready.

In cultivating roses faded flowers should always be removed, since this checks the tendency to produce seeds and encourages new growth and fresh bloom. This is particularly necessary in the case of the hybred perpetual roses, some of which do not bloom as often as desirable unless all the conditions are favorable.

The clematis is one of the most beautiful and hardy climbers we have. They thrive in almost any situation, are perfectly hardy, and produce masses of beautiful flowers and foliage. Their large star-shaped flowers mingled with their bright green foliage, trailing over trellises, produce a very beautiful sight.

Cabbage, containing as it does a large per cent. of phosphoric acid, makes one of the most valuable kinds of food for young pigs, calves, chickens, etc., All young animals requires a bountiful supply of phosphatic food to make bone and muscle. Young clover is next in value to cabbage.

The Western Fair Grounds.

Every farmer and mechanic in Ontario that has visited the Provincial Exhibition when held in the City of London has admired the admirable location of the grounds, their convenience to railway and hotel accommodation, the porous nature of the soil and the running water. To these advantages the success of the Western Fair, and the large receipts of the Provincial Association when the Exhibition has been held in that city, are partially due. A few interested citizens have for years attempted to drive the farmers from these grounds by continued annoyances and neglect, by allowing the buildings to become dilapidated and preventing the farmers from improving them. They have harrassed the farmers by taking votes of the citizens and cramming them with erroneous impressions through the daily papers; they have not given fairly the farmers' side of the question. During the past month a catch vote of the city has been taken, just when the farmers are too busy seeding to attend to anything else. Tenants have been allowed and induced to vote; land-owners or tenants have been allowed to vote in every ward where they held property or paid taxes. Thus some have voted seven times. Interested men, employing horses, worked hard, and despite the silence of the farmers, only 92 majority was obtained. This majority was aided by a trap set in this manner: Every voter had the privilege of voting whether the grounds should go north, west or east of the city; thus a rivalry existed to have them moved to localities in which certain parties might be most interested. If the question had been fairly before the citizens, we feel satisfied that by far the greatest number would vote for the retention of the grounds.

As the farmers have a very strong hold on the London Exhibition Grounds, we do not think they will be induced to part with their rights, especially as they consider the citizens have not acted honorably towards them in this matter at the present time or on previous occasions. It is our impression that the moving of the site for the Exhibitions would tend to their injury and to the injury of the city. But it too often happens that what is everybody's business is nobody's business; and when ever there is property of value to be manipulated, or money can be obtained, those expecting to profit can agitate and too often carry measures that are to the injury of the public. The farmers and their properties are the food on which all the voracious office-seekers prey. It is time that we should try and protect ourselves from the enormous drains that are made on our pockets and on our properties. We trust that the farmers will show themselves equal to this emergency. We believe they have right and might on their side, should it be necessary to take legal steps to check the spoilation of the finest Agricultural Exhibition Grounds in Canada, and on which the finest Provincial and most successful County Exhibitions have been held.

So hurriedly was this By-law passed that farmers did not heed what was being done until the vote was taken. As the city papers were filled with arguments for the sale tending to mislead voters, we felt it our duty to attempt to defend farmers' rights, but could only with great difficulty obtain a very small space in the city papers. We, therefore, on the eve of the voting issued 6,000 supplements and sent boys to deliver one in each house, showing the farmers' rights. This had the effect of reducing the majority to some extent. We have also caused a petition to be sent to the City Council to stay proceedings. We have strong grounds for still hoping the land may yet remain unsold. We know that every well-wisher to the Exhibition and to the farmers' interests will coincide with us. If citizens and farmers act fearlessly and honorably, and despise bribery and deception, the grounds will be retained and converted into a park and exhibition grounds combined.

Country Road Making.

When the country was new the plan of making roads by statute labor was, perhaps, the best, and the only available one. Our municipal and legislative bodies were not then existing, or in their infancy, and the hardy settlers knew it was pre-eminently to their advantage to build the roads as fast and as well as possible. Besides this they could not have been made by a money tax on the settlers, as they were too few and too poor; but now, in the older sections of Ontario, where the land has been thickly settled and improved for many years, this system is no longer found to be the best. Our statute labor, though a large amount is supposed to be done, amounts to very little in comparison to what it would if all were to pay a road tax in proportion to their amount of statute labor. This could then be expended by the council in each respective section where most needed, all jobs being let by tender. A greater amount of work could thus be done for the same expenditure, and in a better way. As the system now exists, men, in a majority of cases, go on the roads because the law compels them, and they put in a few days as easily as they can. Besides this, pathmasters are often changed every year, and what one may have done this year next year's pathmaster may entirely disapprove of, and have done over again. Thus, to a great extent, a year's work is lost. And often men are chosen as pathmasters who are not competent to direct the making of a good road. The men are thus set to work at a disadvantage or to do work which is not needed, and much of the year's work is wasted. There is an argument used in favor of the present system, viz., the country being divided into sections, each man works in the vicinity of his own farm, and the better the roads are made the more valuable is his property. This should be an incentive sufficient to cause them to exert themselves to their utmost, but experience has shown that the reverse is the case. Men, as a general thing, never do so little work in a day as when doing statute labor. Some of these men who now do road work are tenant farmers, whose leases are of short duration. These men cannot be expected to take a very deep interest in a vicinity where, in all probability, they will not be living more than four or five years. We believe our present system has outlived its usefulness, and that changes should at once be made, particularly in the older sections of the country.

Packing Fruit for the Market.

Fruit-growers are well aware of the advantages of having packages for fruit prepared in time, so that they be on hand when needed—small baskets for berries, and barrels and boxes for later and more abundant fruit. In preparing early fruits for market, as strawberries and others, it is necessary to pick them before they be soft, the state of the weather and the character of the fruit requiring that they be not allowed to remain on the vines till dead ripe. To get a good price, the fruit should be carefully assorted, any inferior fruit lowering the price of the whole package. The inferior fruit may be sold separately at a lower price; the high figures obtained for what has been selected will more than make good the loss on the culls. The packages, especially for choice early fruit, should be such that there will be no risk of damage in handling or marketing. A good sale depends much on the appearance of the packages, as well as the quality of the fruit, and good care should be taken that not one fruit bruised, damaged, or in way inferior, be found in what is offered for sale as a prime article. If a fruit-grower has established a reputation for having good, well-selected fruit he will have no difficulty in selling at the highest prices.

Diseases of Farm Stock.

We are pleased to report that the Dominion Government has enacted laws with the view of endeavoring to prevent the introduction of diseases among our stock. Stock in transit through our country are to be closely inspected, and are not to be in any way allowed to come in contact with our stock. Even Canadian cattle are not to be shipped in cars that are used for the American trade; and many necessary sanitary clauses are embodied in the Act. Although these laws appear to cover and prevent the danger of infecting our cattle, yet, despite the well-prepared Act, there appears to be some understanding or arrangement that admits of Americans sending to Canada hogs that may be infected with Trichina, or those that have been in contact with hogs infected with Hog Cholera. The importation of still-fed hogs, and Southern or soft pork, if we are rightly informed, may be still carried on. This class of swine can be sent into our country notwithstanding the published law, and such animals can still be cut up into "Wiltshire cuts," "Lancashire sides," and "Westphalia hams," or any other brand desired, and shipped in such a manner that the buyers and consumers are induced to believe that this meat is either English, Irish or Canadian. Canadian pork is of a firmer and better quality than the average American pork; Canadian hogs are not diseased, while many American hogs are. If Canadian farmers are to obtain the full value for their good meat, we must not let inferior American pork be packed and shipped from Canada as Canadian or British productions. We should be pleased to have correct information about this subject from any of the members of the Board of Agriculture and Arts, or any members of the Agricultural Commission, if this information is not correct.

Improved Berkshire Swine.

In this issue will be seen the advertisement of A. A. McArthur, of Lobo, Ont. Four years ago Mr. McArthur called and informed us of his intention of devoting his time and means to getting up the finest herd of this valuable class of swine to be found in this Dominion. We have noticed his importations and reverses (he met with various losses at first), but from continued perseverance he has now, we believe, attained the high position that is to be admired in every calling of life—able to lay a just claim to the honor of having the best in any class of farm stock, farm, or merchandise. It is our opinion that no breeder in Canada can at the present time show as large a number of fine improved Berkshire pigs raised from stock possessing as high a record as Mr. McArthur can. He has a reputation of high honor among those that know him. We are highly pleased to report about farmers that excel in their calling. In each prosperous section of Canada there are farmers that are ambitious and strive to excel one way or another. Some have their land in high order, some devote their attention to a particular class of stock, some to crops of different kinds. We like to converse or hear of the kings in each locality, and wish them every success. We hope every reader of the ADVOCATE will show that they have some grand point of excellence about their farm or household in which they show their superiority. There will always be enough of the tardy and slovenly whose farms must sooner or later be sold, but the progressive, careful and enterprising will have the pre-eminence.

TILSONBURG SUGAR FACTORY.—The construction of a new sugar factory at Tilsonburg is being rapidly pushed forward. The order for machinery has been given to manufacturers, and the prospects are that it will be in operation in October next. The farmers in the neighborhood who are interested in its success are engaged in planting upwards of 200 acres of sorghum, which is the most extensive experiment of the kind yet made in Canada.

The Apiary.

Modern Improvements.

BY CHAS. F. DODD, NILE, ONT.

It is only a few years since the invention of movable comb hives, which has opened up a new era in bee-keeping, and placed it on the basis of a successful business pursuit. Such hives, adapted to climate, furnish every facility for intelligent management of bees, by regulating swarming, guarding against moths, and manipulating both bees and comb. The invention of the honey extractor, a machine which empties the honey from combs by centrifugal force without injury, so that the combs may be returned to the bees, marks another great step in apiculture. Thus virgin honey, free from foreign admixture, is obtained, having the flavor of the flower from which it was taken. And for comb honey, the dove-tailed section, or one pound box, of recent invention, has come to our aid, and we can now have our honey stored in boxes containing just one pound each; honey in these boxes commands the highest price, and has the readiest sale over all other kinds of boxes now in use.

The further invention of artificial comb foundation completes the requisites for placing bee-keeping on the basis of a great industry in our country.

Simultaneous with the first and all of these improvements, the introduction of Italian bees, and improved modes of rearing queens, of transporting and introducing them to colonies, have greatly improved the value of the honey gatherers.

How to hive a swarm.—A few hints to the novice on hiving may not be out of place. Have everything ready before they swarm; when they commence swarming do not go to ringing bells, beating tin pans, etc., for bees are not particularly fond of music (although the Italians have three bands). If they commence to cluster let them alone, but if they seem disposed to fly away get some water and with a dipper scatter it up among them; also, throwing loose dirt among them, or reflecting a mirror before them, will often be the means of causing them to alight. As soon as they have all clustered shake them into a tin dish (a boiler lid is best) and carry them to the hive; pour them down in front of it, and with a wing or large turkey feather brush some in, and the rest will follow. It is best to give them a card of comb containing eggs and larvæ, and there will be but little danger of them leaving the hive. As soon as you have them all in, place them where they are to remain; shade the hive (if single boarded) from the hot rays of the sun. Do not allow your bees to swarm too often, for one good swarm is worth more than two poor ones; return late after-swarms to the parent hive, or unite them with other weak stocks.

The Proper Time to Cut Timber.

This is a far more important question than the majority of farmers or builders are apt to consider it. It is our impression that by due attention to this an almost incalculable saving may be effected. If we can make our posts, rails and fencing timber last double the length of time by attending to this, what a saving might be effected by our railroad companies by attention to the following small note! Our correspondent is an aged, thoughtful, practical gentleman, and knows of what he speaks:

SIR,—Your correspondent, W. R., Strathroy P. O., wishes to know the best time to cut tamarac for fence posts. The best time for all purposes is in the months of July and August. When the trees are felled they should be allowed to remain until the leaves have fallen off. These will draw all the sap out of the wood, and then the tree should be cut up, split, the bark taken off, and drawn out of the bush and piled in the sun, so as to allow them to dry quickly. The posts will also last longer if they are set with the small end downwards.

S.

PRIZE ESSAY.

Comparative Profits of Tillage and Stock-feeding.

It is extremely difficult to treat of a subject like this within a few columns, giving it the important and detailed discussion which it demands; I can therefore only speak of it in rather a general way, and would premise that there are so many circumstances which affect the results that no arbitrary rules or method of procedure can by any means be laid down.

To consider tillage first:—This I would define as the raising of grain principally, but of course roots and other products are usually considered or rather included under this name—but on the majority of farms devoted to tillage, grain is the crop which is grown for sale. Of course, in the neighborhood of cities other crops can be grown with profit, such as potatoes, carrots, and other roots—but at a distance from cities, these crops, unless under exceptional circumstances, cannot be grown as profitably as grain, and for two reasons, namely: their bulk and the frequent loss from non-keeping qualities. If a farmer has a farm of one hundred acres in wheat, he will as a rule get a crop of two thousand bushels; this will be worth to him say one dollar a bushel, making two thousand dollars; now from this we have to deduct the cost of labor, manure, seed, etc., which is fairly estimated at eight dollars an acre, making eight hundred dollars, to which it is only proper to add two hundred dollars for contingencies, making one thousand dollars, which, deducted from the two thousand, leaves him with one thousand dollars to pay him and his family. I do not make any estimate or allow any value as a return in actual money for the straw, as this will necessarily be made into manure and returned to the land. The estimate of twenty bushels to the acre may in some cases be considered a large one, and in others a small one—this of course depends upon the natural fertility of the soil. But we have to consider one very important item—the manure; the demands of the grains, wheat and barley, upon the soil are very great, and artificial manures must be bought in order to satisfy them; upon the cost of these hinges in a great measure the amount of the profit; if the cost of these brings the amount of money spent upon each acre above eight dollars, by so much will the amount of profit be reduced. It appears to me that where a farmer has a farm of one hundred acres, not more than fifty should be in grain every year; by this mode a biennial rotation may be secured, and the cost of production per acre be materially reduced. I said that there were a great many circumstances which we had to consider, and when I speak of the Northwest, that "illimitable wilderness," every one will admit that this is going to have a very important influence upon the price of grain; if the settlement of the country is rapidly effected, so much the sooner will the price of grain be lowered; to me this appears to be the most vital question to the grain-raising farmers of the Provinces of Quebec and Ontario (that is, if there are any in Quebec). When or how rapidly this settlement is to be consummated is beyond my power to say (but I would say that if that humbug of a railway, the Canadian Pacific, is carried through, the farmers of the Provinces will not have to decide whether it is better to raise grain or fatten beeves, but will have to discover some means of making an elegant repudiation or pretty insolvency; the taxation will be—in fact, is very nearly now beyond the powers of the country; *all taxation ultimately falls upon the farmer*). However, for the sake of comparison, we will admit that on a farm of one hundred acres, the cultivator realizes a return of one thousand dollars; from this is to be deducted his living, say six hundred dollars, leaving him with four hundred dollars in hard cash.

I have now to get at the result of stock-feeding on a farm of the same size, and would put the price of beeves, live weight, at an average of three and a half cents. From thirty to forty head ought to be sold off a farm of a hundred acres, but the cultivation must be thorough, and in most cases soiling will be found the most profitable, except where pasture land is very cheap. A three-year old steer ought to weigh a thousand pounds, perhaps more, and now when the remarkable tendencies of the Shorthorns to fatten have been so much developed, this is not a difficult task, and one which can be done at a cost of two cents a pound, labor, etc., included, together with the farmer's living; leaving a profit of one cent and a half a pound, which on thirty cattle of a thousand pounds each, gives four hundred and fifty dollars, and on forty cattle gives six hundred dollars. I can not in this article go into details as to how this is to be done, but it has been done and even more. We have, therefore, as the return to the grain-farmer four hundred dollars and to the stock-feeder four hundred and fifty, with this further advantage that the land is always kept in a state of the highest fertility by that grandest and best of all manures, barn-yard manure. Further, stock-feeding is more reliable, and is, what with some may be a minor consideration, far more interesting; then the rotation of crops is fully secured, and I am very strongly of the opinion that it is the best, cheapest and most inexpensive way of renovating worn-out farms. There is, however, this to be remembered, that the Australian meat trade is assuming huge proportions and will perhaps cause a serious decline in the price of beef; against this we may set the Manitoba wheat competition against the grain farmer, so that the question is still in the same state. Then the Australian cattle are, I believe, prairie fed, in fact something like Texas beef—all muscle. If this is true, the stock-feeder has nothing to fear, as stall-fed cattle will always command a good price; the market for Canadian beef is England, and it is agreed on all hands that the heavier the cattle, the greater the amount of profit. Being of the opinion that cattle, with few exceptions, should be kept on every farm, I may not have done justice to the grain-farmer; but from my own experience it appears to me that I have rather over-estimated his profits and under-estimated those of the stock-feeder. Of course, there are farms which enjoy exceptional advantages either for grain raising or stock-feeding, but a consideration of these is of no use, except as a matter of information to the average farmer.

I would sum up that in my opinion the grain farmer will have a very serious competitor in the Manitoban, and that the best plan to pursue is to fatten stock and to do it well, and it must pay; but when wheat can be grown for fifty years on the same plot and give yearly a large yield, the difference in distance (causing a freight charge) is not sufficient to over-balance this advantage. The probabilities are that the grain markets of the world will be glutted—but when this is to take place each one will have to judge for himself.

H. B. STEPHENS, St. Lambert, Que.

[The above essay was unavoidably left out of last month's issue; we now publish it as the best we have received on the subject. Some of our readers may hold different opinions; if so our columns are open to free discussion.]

Reaching for the "Grain Gamblers."

The "grain gamblers" of the U. S. have received the attention of the milling interest, in the way of a protest against the methods adopted in speculation, in the form of a lengthy circular distributed throughout the country, accompanied with a petition to Congress for such legislation as shall give relief from the evil effects of the so-called illegitimate methods. The circular refers to crop estimates promulgated at the commencement of the wheat year, in September, indicating and exaggerating the prospective or existing deficiency in the world's supply of wheat, and the large purchases of this cereal by a syndicate of operators the following year, for which prices were advanced to an unwarranted position and maintained arbitrarily, stocks being thus held out of foreign consuming markets while there was a large fleet of vessels at the seaboard begging for the freight at nominal figures. The circular says: "The millers throughout the country have been obliged to pay gamblers' prices for wheat to grind. They have consigned their flour to the interior and Atlantic markets, and drawn advances on the same, with instructions generally to have the flour stored unless the cost price of it could be obtained. The quantity so shipped and stored exceeded the requirements of the people by 2,000,000 barrels, which has been held at $2 per barrel above its real value, which $2 our people are obliged to pay for permitting gambling in wheat. This flour cannot be sold to foreign countries in need of it without a loss of $2 per barrel, which has already ruined many millers, and has seriously injured all of them; and it is now—the 1st of April, 1880—estimated that three-fourths of the mills have remained idle two months, and must so remain until this nefarious syndicate is deprived of its power for mischief."

"It is estimated," says the circular, "that the syndicate has caused a loss to the United States by not selling wheat to foreign countries before prices declined, and to those whom they have inveigled into dealing with them—the millers, the shipping interest, legitimate dealers and consumers of flour in the United States—which amounts to $300,000,000. They have abrogated the laws of trade—supply and demand—and the relative prices in different markets, and interdicted commerce between the States and foreign countries; they have broken up legitimate trade and generally demoralized a most important branch of commerce, thus bringing sorrow and suffering upon our people."

In conclusion, the circular says: "We are in favor of enacting laws by Congress and in all the States making it a penal offence, punishable by fine and imprisonment, for any person to sell that which they do not possess, or to purchase merchandise which they do not expect to receive and pay for. All contracts which are to be settled by the one paying and the other receiving the difference between the contract price and the value of the the article at some future day, and all species of luck or chance trade, dealing or gambling, of whatever description, should be declared illegitimate, and punishable under the law."—[Ex.

Lily Blight.

Some complain that many of their lilies drop their leaves, and die down just about the time they are coming into bud. This we have never observed among the common kinds, such as Longiflorum, Double Tiger, the Speciosums, etc. It is chiefly among the California and some foreign varieties, and is usually caused by disease in the bulb, which can be prevented by deep planting in a shady location, where the full rays of the hot sun will not strike them all day. When the first appearance of the disease is observed, they can usually be saved by shading, and dusting them with sulphur two or three times. Lilies do exceedingly well when planted among shrubbery or other tall growing plants, which will afford shade.

Few plants will bear intense shade. In dense natural woods the ground is almost bare, while when the trees have been partially cleared off, abundance of plants will soon make their appearance. Most of the climbers like a little shade, because it is their nature to climb the trunks of trees, where, of course, they must be somewhat shaded by the overhanging branches. All the erns prefer shade.

Dairy.

Salt Test in Cheese.

BY PROF. L. B. ARNOLD.

At the Kinburn cheese factory, Aug. 22d, 1879, an experiment to test the effect of different brands of salt upon the quality and keeping of cheese, was made in the following manner: A vat of milk was made into curd as uniform as possible in quality, and when mature enough for the press three parcels of curd of 136 lbs. each were weighed out and each salted with 3¾ lbs. of salt—one lot with Stapleton salt made at Clinton, a second with Higgins' Eureka, and a third with Coleman & Gowenlock's fine dairy salt. After being thoroughly mixed and left standing for half an hour for the salt to strike in, each lot was divided into two cheeses, and left standing in the hoops with the followers on for 20 or 30 minutes longer before pressing. A fourth lot consisting of 90 lbs. was salted at the same rate with the common coarse salt of C. & G., and enough of it taken to make one cheese, the balance being used next day without any note made of it. The long time between salting and pressing was given to secure as even salting as possible. To have pressed at once after applying salt would have been to give a greater effect to the coarser salt than the finer, because the latter, by dissolving more rapidly, would to a larger extent have been washed away by the expressed whey. As it was, a little difference occurred in the amount of salt retained in favor of the coarser salts. It would have been more exact to have pressed the curd and then ground it again before salting.

All the samples of salt used appeared clean and nice. The grain of the Coleman & Gowenlock common salt was the coarsest and was judged to be twice that of the Stapleton, and the Stapleton twice that of the Higgins, while the dairy salt, which is made from the coarse by grinding, was finest of all. A private mark, it was agreed, should be put upon each lot by the maker and the cheese kept for future examination.

The first examination was made October 25th, when they were 64 days old. There were present with me T. Ballantyne, of Stratford; John Murray, maker, and John McMillan, salesman. No one but the maker knew anything about how any of them had been salted till after all, by repeated tests, had agreed upon their comparative merits. Having been subject to considerable heat in the curing room, they had become well advanced, but were all in good condition and fine. They were probably in their best estate.

The cheeses salted with Stapleton and Higgins salt were pronounced alike and best, the flavor being purer and the texture more plastic and rich. One of those salted with Stapleton salt was harder and drier and less cured on one side than the other, owing to a little settling of brine from the upper to the lower side of the curd while standing in the hoop a half hour or so before pressing—a common occurrence where there is any brine to settle. The cheeses salted with dairy and common coarse salt were alike and a little inferior to the other two lots, the texture being less buttery and mellow and the flavor less pure, dying away in the mouth with a slightly acrid and bitter taste, such as is known to be developed in butter and cheese seasoned with salt containing chloride of calcium or chloride of magnesium. In this case the peculiar flavor and less salvy texture are believed to be due to a small quantity of the latter chloride in the unclarified salt.

These points being settled, the maker was requested to preserve a sample of each lot for examination at the annual Convention in February, which he did, and a committee was appointed to examine them. Upon that occasion, in company with Wm. Gillard, of Tavistock, one of the best experts in Canada, I made a careful inspection of them again, when they were six months old, and found all the samples more or less over-ripe, and none of them alike on both sides. The difference in the sides was occasioned by lying for a long time without turning. The upper side which was most exposed to the air had advanced considerably more than the one which was down, and the duration of all had doubtless been shortened by too wide changes in temperature while in the curing room. They were not in good condition for judging of the effect of salting, as very different conclusions might be arrived at by examining different sides of the samples. Taking both sides of each cheese into account, they were found best preserved in the order of the size of the grain of salt used. The cheese salted with common coarse salt was best preserved, that with Stapleton next, with the difference between the other two in favor of Higgins. The committee appointed came to quite a different conclusion, which is not strange under the circumstances, and has little or no significance in respect to the kinds of salt used. In one point the judges appointed agreed with us, namely, that the cheese salted with Stapleton salt was better preserved than the one salted with Higgins salt, but I do not attribute this unfavorable showing to any defect in the intrinsic merit of the Higgins salt. It is easily accounted for from its finer grain and greater waste—a circumstance which in fairness should be taken into account. Taking the condition of the several lots of cheese in their best estate, it was as clear as it could well be made by a single experiment that the Stapleton salt, as purified by the new patent process, is as pure and as good in all respects for use in the manufacture of cheese as the best foreign salt, a conclusion important to the general public as well as to the cheese makers of the country in particular.

Mr. R. G. Starne showed samples of salt at the Kingston Convention, made, I believe, at Goderich, which promises quite as well as that made at Clinton. It was a very nice looking salt indeed, and was claimed to be chemically pure. I took a sample of it to Cornell University, and Dr. Babcock applied tests which indicated that the claim was pretty nearly correct, some traces of lime only being found. Between these two clarified brands of salt Canadian dairymen ought to find a supply in their home production which should satisfy the most critical tests, and at a cost below that of any imported article.

Management of Cream.

The London (Eng.) Agricultural Gazette gives the following extracts, among others, from H. Melward's Report of the Royal Agricultural Society of Ireland:

I think it of much consequence to the making of good cream butter that the milk should not be allowed to turn sour before skimming, and when ice is not used, we should be guided by the temperature of the air as to the time it should be left; but even when possible to do so, I do not advise that milk should be left longer than thirty-six hours before creaming, as by that time the greater part of the cream, if not the whole, will have risen. Although it may become thicker, it will increase in quality; but a very slightly sweet cream butter is made from cream of the best quality and churned as soon as possible after skimming. A fancy quality of butter is thus obtained, but in less quantities than from the same amount of sour cream. I think that much depends on the mode adopted in the souring of cream as to what the results shall be in the quality of the butter. The Danes appear to regard this as a stage in the process of very vital consequences, and one on which the uniformity of quality very much depends. I cannot do better than refer to the souring systems practiced in Denmark, as giving full instructions as to what I should recommend. Where possible, it will always be found more satisfactory and productive of better butter to churn the cream every day when it has arrived at its proper stage of fermentation or souring, rather than to leave it to be done at longer intervals, when the different lots of cream put into a churning shall be of varying degrees of sourness. This cannot be done in small dairies, and it is one very important advantage that arises in the working of large ones. When it is impossible to churn every day, much care will be required, as is done in Normandy, to keep back the souring of the first lots of cream, to get the whole to a proper degree before churning. While souring cream imparts an agreeable flavor to butter that sweet cream butter is wanting in, if carried too far it is likely to impart a strong taste and to injure it in other ways.

Of one thing I am quite convinced, that it is possible, but not by any means probable, that small farmers—men of ten or twelve cows—can continue to make packing butter, and have it of such a uniform quality as is necessary; and I think the time is fully come, so far as they are concerned, for the adoption of a new method. The systems and appliances for dairy practice of the present day all point to carrying it out on a large scale; and, where it can be done, I am quite sure that it will pay the small farmer much better to dispose of his new milk to his more extensive neighbor, rather than to try to convert it himself; and without going so far as advising the factory system, I am of the opinion that much may be done by the men of twenty or thirty cows taking in the milk of their smaller neighbors to work with their own.

Washed and Unwashed Butter.

During the last dozen years there has been great improvement in the methods of butter making and the standard for butter of all sorts is considerably higher, while consumers are becoming every year more fastidious in their selections. The markets now demand that butter shall be not only fresh and rosy, but that it be properly worked so that the grain is unimpaired. Butter that has been manipulated until it is salvy or greasy, even though it be fresh and of good flavor, will always rank as secondary in all our leading markets, and of course must go at a much lower price than that which a perfect article will command.

A few years ago an earnest controversy was carried on among butter makers as to whether butter should be washed or unwashed, those advocating the latter claiming that by pressing or working out the buttermilk without the aid of water it served to retain more of the aroma and delicious flavor naturally belonging to butter, and which should not be removed by allowing the butter to come in contact with water.

It was claimed also that unwashed butter was of longer keeping quality than that which had been washed, and consequently that the practice of washing was very detrimental and ought not to be practiced by those seeking to make a fancy article. On the other hand, those who advocated washing argued that not one butter maker in ten could work out the buttermilk without seriously injuring the grain of the butter, and, moreover, that even the most skillful makers of "unwashed butter" were liable to injure, and did injure, the grain of their butter by overworking, and hence more poor butter was the direct result of this effort to get out the buttermilk without the use of water, than by washing. As to the keeping quality of butter, they claimed that the "washed butter" retained its flavor and goodness longest, because the buttermilk was more thoroughly expelled; the retention of the buttermilk in the butter being the main cause of decomposition and rancidity in the product.

On the whole, the advocates of washing butter were the most numerous, and as the art of butter-making had progressed, they have had rather the best side of the argument. Of course, it will be understood that good, clean, sweet water must be employed in washing butter, and that it never should come in contact with water having taints or odors of any description.

The best butter-makers of the present day endeavor to avoid working butter as far as possible, in order that the "butter grain" may be kept uninjured and preserved in all its integrity. To accomplish this object, the cream must not be over-churned, for the butter is often seriously impaired in the grain by too much churning. When the butter begins to form or is in small particles about the size of wheat kernels or a little larger,

stop churning. The butter is then in a granulated state, and the buttermilk may now be drawn off, and the grains of butter can then be washed with cold water and afterward with brine, which will free it from all milky and caseous matter. Some drain or draw off the buttermilk from the churn in a hair sieve, and then wash by turning water on the butter in the churn. When butter is manipulated in this method it requires little working—no more than gathering it in form and getting the salt evenly distributed through the mass.

Butter treated in this way is never salvy or greasy, but remains with its grains uninjured, and should therefore be in its best state. Thus as our knowledge of what constitutes perfect butter obtains, together with the art of producing it, the old method of working out the buttermilk without the aid of water must be pushed aside for a more intelligent and safer practice. In conclusion, it may be remarked that whatever working is required, care should be taken to avoid a grinding motion, as this injures the grain. If a lever-worker be used, the working should be by pressure, and the lever should not be allowed to stop or slide on the butter in a grinding fashion.

Butter-making may now be said to he approximating rapidly to a high art. Consumers are fast being educated to distinguish the finer grades, and now regard with disgust those greasy, salvy, and rank flavors which a few years ago could perhaps be tolerated. This is as it should be; for the old-time poor butters were not conducive to health, and were the cause many times of serious ills which the more educated taste now avoids. Of course we do not dispute the fact that large quantities of poor butter get upon the market, but the prices for such are so low that they do not pay the cost of production, and this helps to raise the standard; for price has a wonderful influence in stimulating to better methods, which the enterprising dairyman soon tries to reach. The creameries and butter factories have been as great educators to butter dairymen as they have been to the tastes of consumers, and the spread of these institutions with the knowledge they disseminate, will, we trust, at no late date, wipe out the great bulk of inferior and low grade butters.—[Country Gentleman.

Art vs. Nature.

Whether to use coloring matter or not is a mooted question among our dairy theorists. The opposite argument is well stated in the following extract from a communication from Bradford County, Pa., to the Country Gentleman:—"The Jersey cow, famous for the production of 'gilt-edge butter,' has nearly lost her glory. The patient, scientific breeder, having spent years in establishing a family of cows that will, with suitable feed, uniformly give rich, yellow milk, learns at last that he has little or no reward for his pains. Yankee ingenuity has discovered an easier way for giving color to butter than the quality of the cow or the food she consumes. Intead of green, nutritious hay, feed that which is stale and musty. Instead of rich, yellow corn, give buckwheat bran. Instead of sowed corn, give straw. A little coloring thrown into the cream, and we have the 'gilt edge.' Justice to the breeders of yellow butter producing stock, and justice to the consumer, require that all artificially-colored butter should be marked as such before it goes into market. All of us remember how keenly sensitive the dairymen of the country were to the great wrong imposed upon consumers by manufacturers and dealers in oleomargarine, when they passed it off for genuine butter. Legislatures finally enacted that oleomargarine should be stamped as such. Does not the same principle of honor and justice require that all artificially-colored butter shall be stamped also? What will be the effect of this deception on the rising generation? The quantity of foreign substance, in the form of coloring, put into the butter is governed wholly by the amount of gain that is expected from its use, and the aim seems always to be to do the thing so nicely that the consumer will never know the truth. The child soon understands the drift of it all, and soon learns to practice deception for a little present gain. The heathen Chinese may be excusable for giving the artificial green to such teas as have not the required color, for the sake of a little gain in price. He might insist also that the coloring does not injure and it suits our fancy; yet we prefer to judge for ourselves what food is injurious and what is not. No class of people has complained more bitterly against frauds and adulterations than farmers, and now legions of them are falling into the same practices, by preparing an article that is expected to pass into the hands of the consumer for what it is not.—[American Dairyman.

Agriculture.

Drained Swamp for Meadow.

A correspondent wants to know "whether a swamp thoroughly drained can be put in permanent meadow, and if so, how it is to be done?" It is further remarked that "a dry surface muck, black as tar and about four inches thick, varying somewhat in thickness, covers an undersoil of sand, gravel and clay, running partly in seams and spots. The ditching is three feet deep, and tile laid, from which issues a steady stream of pure, bright water." The best thing probably that can be done with this is to Summer fallow it, plowing it deep, the object being to get the upper and lower soil mixed, and give time for the decomposition of the muck and green vegetable material which may be growing upon it, getting it thus thoroughly incorporated with the clay and gravel, and acting upon it. It requires a whole Summer and a Winter to do this. In no land, perhaps, do we meet with so many failures, the amount of fertility considered, as in swamp soil when first reclaimed. Usually, the land drained in the Summer, and plowed in the Fall, is sowed in the Spring following, and notwithstanding there may be perfect mellowness—the frost will produce this effect—there usually is more or less disappointment, and sometimes almost a total failure. The reason is the time has been too short to decompose the vegetable material and remove the acid of the soil. Beside, the muck and the heavier soil have not been sufficiently mixed, some places being pure peat, others clay or gravel. The better way is to do the work right in the start, and then there will be little chance for disappointment.

If, however, it is desired not to keep the land idle, it might do to plow at once, giving a chance for the vegetable matter to rot, so as to have a second plowing done this season, applying a heavy cultivator thoroughly before the last plowing, as also after it, so as to prepare the land for a Spring crop. Should the crop fail, as it is hardly likely, the land can still be worked during the Snmmer, all the better for the previous working, only the seed for the Spring crop lost. For it is an axiom with me that there is no loss in working the soil; that the four or five plowings here would pay for the labor in the increased benefit to the land.

As the land is intended for permanent meadow, it would be well to equalize the soil by exchanging muck for clay and gravel in spots where they seem in excess, for these places, unless treated, will be comparatively useless, making the field uneven in its yield. If it pays to cart manure on the land, it must pay to cart it (muck is manure) from one place in the field to another. The surface also of course needs leveling for a meadow.

It is further asked "what grass or grasses are best to seed the land to?" As there will probably be considerable clay or gravel, the land being worked deep, and as it is furthermore low, compared with the surrounding land, perhaps timothy and red top would succeed as well as any. I have known the two grow together in surpassing abundance in small valleys, between hills, the line of sufficient drainage and abundant water meeting the point where two grasses also may meet in full growth. But perhaps the land is too dry for the red top, in which case timothy alone or in connection with some other dry-land grasses might do.—[Ex.

The increase of crops in the United States in 1879 over those of the preceding year, is reported by the Agricultural Department to have amounted to $415,000,000, owing to the unusually heavy crops and the great increase of the area cultivated. A greater area than that of 1879 is now under cultivation, and the promise for heavy crops is, so far, good. The English crops this year give fair promise. If this promise be realized, we may expect low prices. Returns of April 1 to Dept. of Agriculture show an increase in the area sown in wheat last fall of 13 per cent. more than in the fall previous; in the area sown in rye there is a decline of 6 per cent. as compared with the year previous. The condition is precisely the same this April as last year. There was a large increase in fall sown wheat in those States that heretofore have exclusively sown in the spring; the experiment was unfortunate, and all, particularly Iowa and Nebraska, report great disaster from the winter. On the whole, the wheat crop thus far looks as favorable as in the spring of 1879.

Wood Ashes in Drought.

In the Spring of 1878 I planted a few acres to corn; soil a light loam with sandy subsoil. Unleached ashes were applied at the rate of not less than 60 bushels per acre, and the crop was a good one. In the Spring of 1879 I put the same surface to potatoes, with no manure at the time of planting. Just as they began to come up, a coat of ashes was spread on top of the ground, about 50 bushels per acre. The supply ran short, leaving three-fourths of an acre to be manured from a large heap of nice fine compost. The land seems precisely alike in all respects; all was planted the same time, with the same variety of potatoes, cultivated in the same manner, and as well as I know how to cultivate. The season was exceeding dry in this county, and the potato crop almost a failure in consequence. Repeated experiments have proved to me that where land is manured with fine compost the crops resist drought much better than where there is none, or where a very coarse manure is used. When the dry weather came, I fully expected to see the potatoes where the ashes were suffer from the dry weather first. To my surprise the reverse of that was the case.

The dry weather continued until the soil seemed like baked ashes. The potatoes where the manure had been put drooped and almost died, while the first row, only three feet away, but where ashes had been spread, showed a most marked difference, and it so continued through the season. When the crop was dug the land where the ashes were yielded about 150 bushels of nice potatoes per acre, while the portion where the fine manure was yielded not more than half as many bushels, and a large proportion of them were too small for market. I have no doubt but that the land where the ashes were would have yielded at least double what it did, had it not been for the drought. I am well aware that ashes are an excellent manure, having used many thousand of bushels during the last ten or fifteen years.—[N. Y. Tribune.

New Brunswick Provincial Exhibition.

The Government grant of $10,000 in aid of permanent Exhibition Buildings of the city of St. John, has had the effect of settling the doubt that has for some time existed as to whether we should have a Provincial Exhibition or not during the Autumn of 1880. The locality chosen is all that could be desired, possessing as it does fine railway and steamboat facilities for the shipment of stock, agricultural produce, and manufactures It is very questionable if any more convenient spot could be selected. The citizens of St. John, with their accustomed energy and zeal, may be depended on to have the building completed in good time.

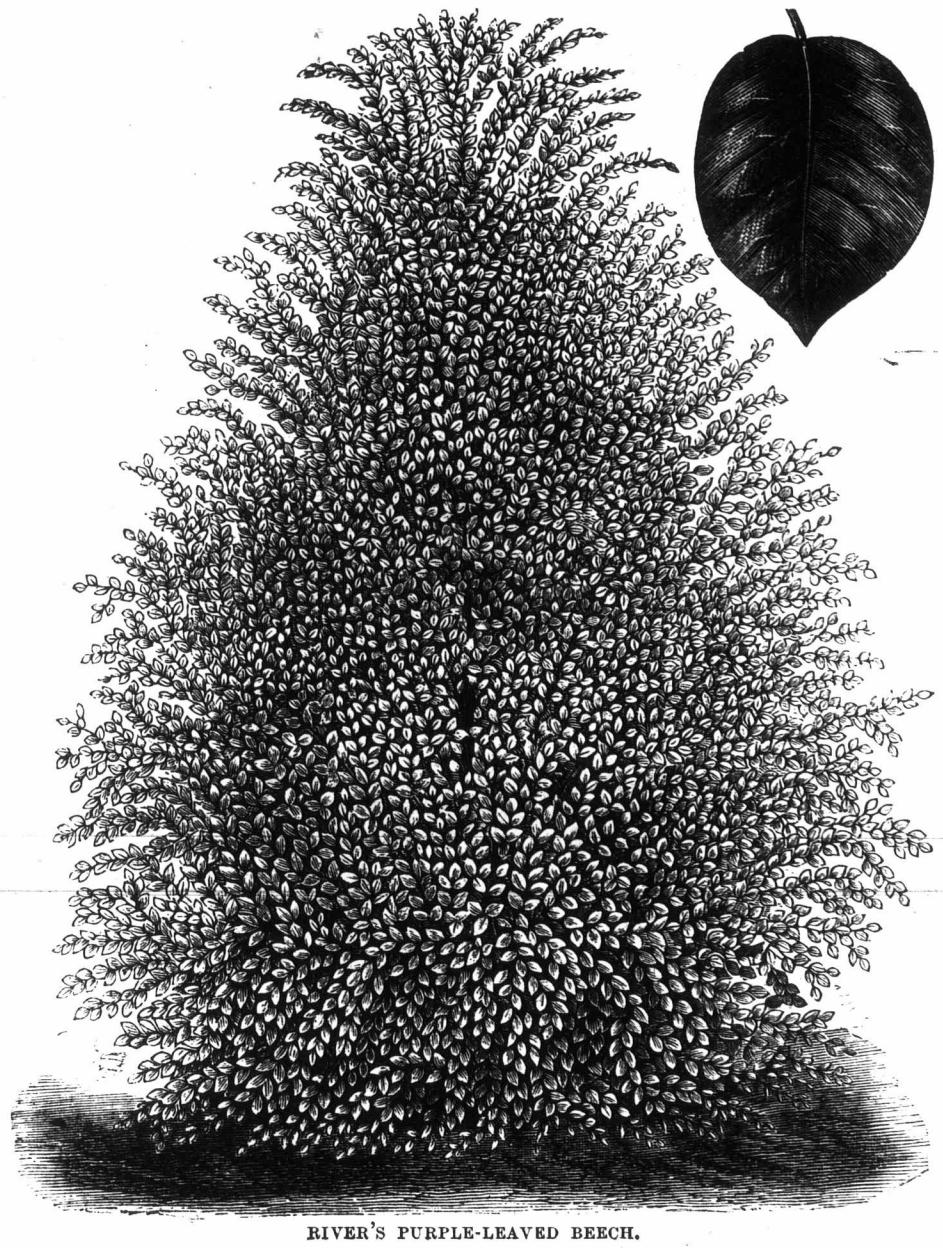
With the importations we have had by Agricultural Societies, and those made by the Government, our Province now possesses a fair sample of the various breeds of stock. To bring those together at the Exhibition in October next, will be theprivilege of those who are now the owners. That the improved stock has become more numerous than formerly is certain.

Referring to the different breeds of horned cattle, representatives of the Shorthorns are to be found in the hands of breeders in the Counties of Victoria, Carleton, York, Queens, King's, St. John and Westmoreland; Ayshires in the hands of breeders in King's; while the Jerseys are to be found in the counties of St. John and Carleton. We shall be glad to learn of the determination of our stock men to come to the front and make as fine a display as possible. Much of the interest in the Exhibition will depend on their efforts, and we trust that there will be no holding back.—[Maritime Farmer.

A Beet Root Crop in N. B.—On the question of sugar beets, Mr. Sterling said that 30 members of the association in Sunbury county had planted an eighth of an acre with 1½ to 2 lbs. of seed on that quantity of ground. The result was generally satisfactory. No fly cuts them, as in the turnip crop he had found in weeding. The sugar beet was good feed for hogs and cattle. The average was 25 to 42 barrels on the eighth of an acre. He found no trouble in raising sugar beets. Some consider the mangold, with which they made a comparison, superior to the sugar beet, and will raise no more. He himself found them excellent for milch cows and for hogs tops and roots being equally well suited for feeding both. He had prepared his land as if for turnips.—[Report Farmers' Club.

River's Purple-leaved Beech.

The accompanying illustration represents one of those very handsome trees, the Purple-leaved Beech. There are but few of these trees yet to be seen of any size on this continent, although they appear to answer well here. It is only within recent years that they have been introduced among the fine lawns and forests of England. No tree astonished us so much when in England; in our youth we had not seen them, but they had recently been planted and had made a very large growth. The bright rich purple color of the leaves made a very grand and pleasing contrast when seen among other trees. Gentlemen who are planting ornamental trees would not have a complete collection without one or more of these. There are two varieties. Those grown in England were tall, handsome trees; the cut represents one of a denser foliage. Messrs. Ellwanger & Barry, of Rochester, N. Y., have a fine collection of these trees.



RIVER'S PURPLE-LEAVED BEECH.

The Potato Bug.

In some parts of Canada they have not the same practical knowledge of the potato bug that we have been favored with in the western section. A few hints may be useful to those in the eastern part of the country. It is not the old striped bugs that devour the leaves, and thus prevent the growth of the tubers; it is the young brood that do the mischief. Kill the old ones wherever you see them; in killing them you prevent the propagation of thousands of devourers. As soon as the first of the young ones makes its appearance, sprinkle with Paris green, a teaspoonful to a gallon of water. We have proved it to be an unfailing remedy. A second brood may, it is said, be propagated, and if so, it will require another application of the dose.

Prof. A. J. Cook, of the Michigan Agricultural College, says 1 lb. of London purple, dissolved in 100 gallons of water, is an effective poison for potato bugs, canker worms, leaf rollers, and all leaf-eating insects. We have had no experience with it and still rely on Paris green, until it is further tested.

ASHES.—In nearly all soils ashes are beneficial. Their action is manifold; they supply to plants inorganic elements which they require; they neutralize acids; they act chemically as solvents upon other salts in the soil. They are more beneficial on sandy and gravelly soils than in clay. For plants that contain a large percentage of potash and phosphoric acid, as carrots, turnips, potatoes and cabbage, ashes are essential manure.

To Colman's Rural World, O. M. writes, saying: Fifteen years ago to-day I received around a bundle of plants a few golden willow ties, which I carelessly stuck in the ground, and although they had no cultivation, they are to-day thirty feet high and as large round as a man's body.

The Hay Harvest.

Whoever secures his hay in June will find his grain not only in its better quality, but the chances are that he will have another crop in August, the quality of which will be superior to the first. Grass that is cut just as it is coming into blossom, starts up again with great vigor, apparently determined to accomplish its great mission of producing seed. The second crop, however, has more foliage and less stems than the first, and in this respect is better, for the leaves contain more nutriment than the stems. Comparatively few farmers have appreciated rowen hay. Very many know nothing about its value, as they have harvested their first crop so late that the roots had little time and less inclination to produce another. There has also been a very general impression that two crops exhausted the land, and that it was better to let the aftermath remain as a protection to the roots of the grasses and as a fertilizer. The truth is that two crops, cut before the seed is formed, are less exhaustive than one cut so late that the seed is matured, and as for the fertilizing effects of the aftermath, if the first crop is cut in June, and the land is in good condition, the second growth will be so luxuriant that its cutting will be a necessity, as otherwise it will smother the roots. We like a good allowance of aftermath as a protection to the roots, and especially to elaborate some sap for their invigoration, but if the first crop is cut in June and the second in August, the third growth will be ample for these purposes.

This early harvesting of the hay crop is likely to work a revolution in the management of mowing lots. The early harvest will necessitate also a late second harvest, and both together will necessitate more top-dressing, so that when the custom is well established of starting the mowing-machine early, we look to see twice as much grass cut and twice as much stock carried on the same amount of land. A recent article in the Rural New-Yorker expresses our ideas on this point: "In the good old times, before mowing-machines, tedders, and horse-rakes, it would have been cruelty to talk about two or three hayings in one Summer. But now that the handling of the grass is reduced to so small an item, there is no difficulty about it, if we can only raise the grass.

To establish the custom of cutting two crops of hay each year, and then leaving an aftermath sufficient for the protection and invigoration of the roots, it only requires a few progressive farmers in a town to lead the van. The others will slowly, but surely, fall into line. They may say some sharp things, may talk about Neighbor A.'s verdancy in cutting green grass, and call Neighbor B. a blockhead, and Neighbor C. a calf, but there is nothing so successful as success, and when they see the barns of A., B., and C. overflowing with hay in the Fall, and their stock in the Spring as fat as Pharaoh's fat kine, they will be stimulated to start the mowing-machine the next Summer pretty soon after they hear its click in the fields of their neighbors. The early harvester of hay need not say a word to his neighbors. If he only sets them a good example, shows them increased crops and improved stock, there are few so dull or stubborn that they will not appreciate the silent influence.

Another good result which we anticipate from the early harvesting of hay is the stocking of land with a greater variety of grasses, and especially with those that start early and grow late. One of the greatest and most common mistakes of the majority of farmers is that they sow only two or three varieties of grass-seed. This is a great advance on the practice of our grandfathers, who sowed no seed at all, considering grass a spontaneous production that needed no artificial cultivation. Our fathers learned that it was better to anticipate nature, and sow a little timothy and clover, and in moist soils a little red-top. It remains for us to improve on this practice, and sow at least a half dozen, possibly a dozen, varieties. This is the teaching of the Great Husbandman, for on a square rod of an old pasture or meadow there can generally be found a score of different species of grass growing together. An observing acquaintance last Summer sat down on a cock of hay, and from his well-cushioned seat selected 26 varieties of grass, the product of about a square rod. These different grasses doubtless draw on the soil for different kinds of nutriment, and likewise furnish a variety of food for stock. Timothy may make the best of hay, though we doubt it, but it is not worth while to restrict one's self to timothy when there are so many other kinds of grass evidently intended to grow together. Orchard grass will furnish nearly twice as much hay, and of better quality, certainly if with it is sown a liberal allowance of Kentucky blue, meadow fescue, perennial rye, tall oat and red clover. These six varieties, President Flint recommends to be sown together for an early crop, as they are ready for harvesting about the same time, in June. For a later crop he recommends timothy, red-top, English bent, and clover, and for a permanent pasture a still greater variety, maturing at different periods through the whole season. If we sow only two or three varieties, nature, or, more properly, Providence, supplements our neglect by slowly bringing in others, but there is great gain in anticipating this natural increase.

Particular care should be taken not to expose hay too much to the sun and winds.

Poultry.

Poultry House.

The proper accommodations are a good double-boarded frame, brick, stone or gravel wall. It should be close enough to exclude frost, yet allow of plenty ventilation. The size of such for a farm of 100 acres is to accommodate about 50 birds, and requires to be 16x22 ft., with 6 ft. wall. This is to be divided into four rooms, as in the diagram, one for roosting, one for laying, one for setting, and one for feeding; the partition to be of lath with two feet at the base of close-jointed boards, so that small chicks may not run all over the house.

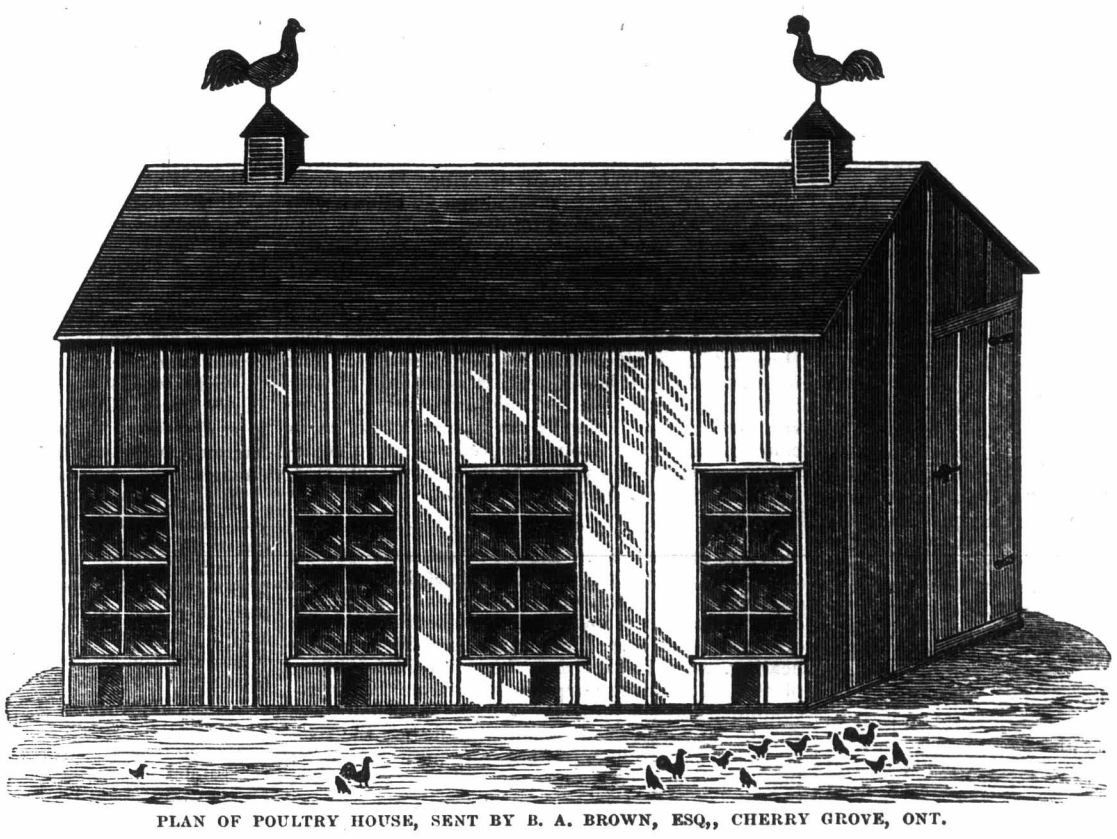
The lighted side, with large, low windows, should face the south. The roostings should be in berths or shelves that can be removed handily and cleaned every week, and then sprinkled with dry sand or sawdust, so that the droppings may not stick to the boards. The laying apartments, also, are in boxes that can be taken out; and the hatching boxes require to be loose, so that the whole structure can be removed in a few minutes except the walls and partition, and given a good fumigation.

The boxes and roostings are apt to get infested with parasites, to destroy which use carbolic powders, and give the birds a box of dry wood ashes to wallow in. The feed room must be provided with troughs for feed and water. The floor may consist of clay or boards; I prefer boards, for they may be scrubbed and sprinkled with dry lime, and thus be kept clean and pure longer than any other floor; dry sawdust is a good absorbent to use instead of lime.

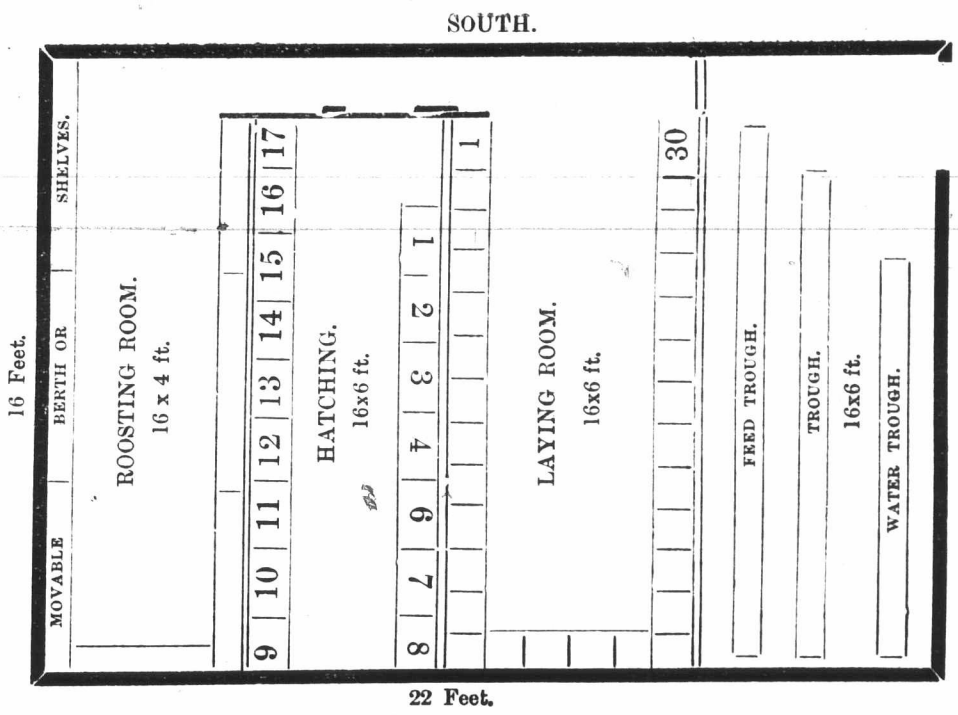
Turkeys, geese and ducks must or should have a separate building, as they require different treatment and distinct apartments.

R. A. BROWN, Cherry Grove, Ont.

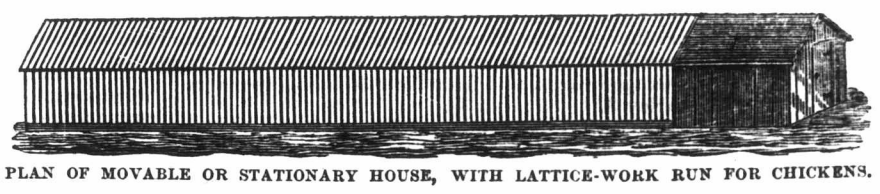
[Mr. B. will accept our thanks for his plan, which we have deemed good enough to have engraved, If any of our readers send us good drawings of plans or improvements that we consider deserving of attention, we may have them engraved. The poultry interest is destined to secure much greater attention in Canada than it has ever yet obtained, as it will pay handsomely to ship first-class poultry to Europe. It is our impression that, if many of our readers would devote as much attention to this branch of agriculture as they do to raising wheat, they would find their balance sheets in three years greatly in favor of poultry-farming.]



PLAN OF POULTRY HOUSE, SENT BY B. A. BROWN, ESQ,, CHERRY GROVE, ONT.



GROUND PLAN.



PLAN OF MOVABLE OR STATIONARY HOUSE, WITH LATTICE-WORK RUN FOR CHICKENS.

Milk as Poultry Food.

We have been trying milk as poultry food during the winter and can recommend it for this purpose. One difference between winter and spring laying is the absence of animal food in winter. The milk supplies this, and is devoured eagerly. The skim and buttermilk may be kept standing in the feeding trough, or mixed with scalded meal of various grains. Indian meal is a good ration once a day, but it should be varied with oat or rye meal, and with whole wheat, buckwheat or barley. In a warm room with southern exposure, and plenty of light, there is no difficulty in getting plenty of eggs from early pullets, when eggs are of great market value. Later, when the broods come off, milk will be an excellent feed for chickens, turkeys, and all kinds of young poultry, and will give quite as good returns as when fed to pigs.—[American Agriculturist.

HAWKS AND OWLS.—These pests to the poultry-yard and roost are so heavy a tax upon the raiser as to make the business unprofitable. Against the latter there is a safe remedy, which is to make a roost for the fowls so that the owls cannot see them; but as so few will make these protections, the next best thing is to destroy the destroyers. Hawks are very apt to alight near the place on some prominent object and watch for their prey, and if a stout pole be set up with a steel trap set upon it in a conspicuous place, both hawks and owls can be caught in the trap.

Soiling Crops.

With the best grass, it is necessary to grow green-fodder crops for cows, and sometimes for horses, for it is found that the grass alone will not support as many cows as the farm can and ought to carry on the other crops. With one-half of the area in arable land and one-half in grass, one-half of the grass being mown for hay, and thus but one-fourth of the farm in pasture, 100 acres can support no more than six or eight cows in the Summer season, unless the pasture is supplemented by green-fodder crops. Fifty acres under the plow and 25 in hay can support 25 to 40 cows upon hay, straw, and fodder, with some grass and roots fed during the Winter, and it needs all of these to supply the land with manure. But if 10 acres of the arable land is put in fodder crops, Summer feeding for 15 or 20 cows can be produced, which with the pasture, will keep up nearly the Winter's allowance of stock. As at least two fodder crops can be grown in the season upon the same ground, a great economy of feeding results from partial soiling, and as 25 to 40 tons of excellent fodder can be grown on one acre of rich land, a comparatively small area is required for the purpose. To pasture luxuriant herbage is a waste, because three-fourths of the feed is trodden down or fouled and remains unconsumed; so that where even grass is thick and heavy, the saving made by cutting and carting it to the stock repays the labor many times. It should, therefore, be a part of the system of farm management, wherever it is possible, to have some green fodder ready for cutting as early in the season as may be. We have found it advantageous to have the next year's turnip and corn ground seeded to rye in the Fall, instead of leaving it bare, and to either cut it for the cow and young stock, or turn them on to it to pasture it down in the fore part of May, in time to get the corn in early in June. Upon good soil and with the help of some fertilizers, a good growth of rye may be procured early, and if this is cut off a considerable quantity will be left upon the ground to be plowed in for the corn. This furnishes the first green fodder of the season. If the ground is not required for corn, the rye may be cut later, some part of it twice, and used up to June, when the stubble may be plowed, and either field or sweet corn planted for fodder immediately. Evergreen sweet corn grows tall and rank, and if planted in drills 3 feet apart and 3 stalks at each 4 inches in the rows, it will produce when full grown 500 pounds to the square rod. This is 40 tons per acre. But the crop needs to be fed before it has arrived at its full growth, and cutting will begin when it is 4 feet high, or in August. At this season the pastures will have given out, and extra feeding will be needed. As a few rows are cut it will be advisable to turn in the plow, and prepare a "land," and sow corn again, or Hungarian grass, or rye or turnips, or rye and turnips together, leaving the rye to grow after the turnips are pulled for late Fall feeding. This occupies the ground continually, but as none but immature crops are grown, there is but little exhaustion of the soil, and moderate manuring will replenish it. After the rye is fed off, a piece of orchard-grass and clover will be found convenient. This grass is very early. For hay, it is in the best condition at the same time as red clover, and, when mixed, these two furnish an early cutting for hay, and a late cutting or two for late soiling.

This will carry the stock on until oats and peas are ready, and if these are sown in strips in succession, a continuous supply of the best of fodder may be had up to time when early corn comes in. After corn is ready, there is no scarcity. Hungarian grass and millet, sown in June, July, or early in August, will furnish a change for corn, or may be sown upon land from which oats and peas or the earlist corn have been cut. As the ground used for these soiling crops is cleared, it should be resown at once, as the profit of soiling is made from the large product of repeated crops. The last crop sown for Fall and Winter use is white turnips, which, however, should be avoided for feeding milking cows, on account of the unpleasant flavor given to the milk; and the first sown for use the next season is Fall rye. Thus a complete round of green fodder is produced under this system, a large portion of which that may not be used may be cut and cured for Winter feeding.

This practice enables the pastures to be made the most of. To have the grass gnawed out by the roots, affords no feeding, and prevents the growth of the herbage. But by the help of green-fodder crops, when a pasture is eaten down, a portion of it may be fenced off and the stock supplied in it with the fodder; or, which is preferable, a plot may be fenced off and the cattle partially fed therein every day, the rest of the pasture being divided into lots or separated by a portable fence, so that portions may be partially grazed in turn, and none of it eaten bare. The grass will thus recover rapidly after having been grazed, and will last longer. Partial soiling admits of introduction on any farm upon which stock are kept, and may be used with horses, cows, sheep, or hogs.—[N. Y. Times.

A Lesson in Agriculture from Australia.—Of late years in Australia and New Zealand large tracts of uncultivated land, described as "morass" and "scrub," have been cleared and laid down with the most suitable grasses for cattle and sheep pasturage. In one instance, in Australia, 100,000 acres in one tract have been so treated, with the best results; and not only is the laying down of new pastures being actively pursued by the richer colonists, but the renovation of old pastures also, thus giving a good lead to agriculturists. The necessity for the latter process is perhaps greater in the colonies than in the mother country, where the land is less fertile in its natural state, as in course of time the stronger rooted and more vigorous growing grasses assert their natural superiority over some of the weaker kinds.

What is Plaster?—Plaster is sulphate of lime or gypsum, and when pure consists of 32½ per cent. of lime, 46½ per cent. of sulphuric acid, and 21 per cent. of water combined and not abaorbed, (water of crystallization.) This water is driven off by heating, when the gypsum becomes fit for use as plaster for building purposes, the water being recombined and the paste acquring its stony hardness again. For field use it is not heated, but the rock is simply ground fine. If the gypsum is free from impurity it is always the same, wherever may be its origin. It is easy to discover impurities, as gypsum is so soft as to be easily cut with a knife, while carbonate of lime or quartz, which are the usual impurities, are much harder.

A farmer who has experimented with poultry-droppings, well-rotted cow manure, barn manure and bone-dust for melons, reports that the best yield was gained from hills to which the bone-dust was applied.

A New York farmer kills the cabbage worm by sprinkling the plants with common black pepper from an ordinary tin box—a pound to 150 plants—sometimes previously sprinkling with soap suds from the week's washing.

Rye straw put up in bales is passing over the New Brunswick railways to Boston, where it is said to be worth more than hay. Rye is a profitable crop on land where the growing of other grain would be a losing business.

I regard well-rotted chip manure as excellent to spread on the ground in orchards. I use it in my orchards, and that it is good accords with my experience, as it does with common lime, since the chip manure must possess the same elements, in a degree, for the formation of wood fiber which the growing trees require.—[Ex.

Near Norrkoping a river was deepened to accommodate larger vessels, and some seven feet below the old bottom eight oak trees were found, supposed to have been embedded at least 900 years, The bark, the Timbertrades Journal says, was almost destroyed, but the wood hard and black, resembling ebony, and was sold for cabinet work.

At a recent meeting of the Yarmouth County N.S., Agricultural Society it was resolved that the society be authorized to import and furnish at cost, any quantity needed of any varieties of seed wheat, or other grain, potatoes, trees or plants. Wheat has been sown in the county on a small scale, the average being wheat from 25 to 30 bushels per acre; barley 30 to 35; oats 33.

Mr. W. A. Wheeler, Worcester, Mass., cites a remarkable illustration of the value of mulch. The surface under alternate rows of old apple trees on a dry, rocky hillside, was covered in July a foot deep with swale hay as far out as the limbs extended. The next season, "the bearing year," those thus favored were loaded with large fine fruit, and showed, he says, "a great growth of new wood and the leaves had a beautiful green and Spring-like appearance," while the unmulched rows were barren, though of the same varieties.

Harrow Your Corn.

It is strange that there are yet so many farmers who are afraid to take the harrow on the cornfield.

If the corn has been planted pretty deep there will be no danger of pulling it up, and even a stalk pulled now and then will not hurt, for that left will do so much better that it will not be missed. So start the harrow, and if you want a good yield keep it going. Commence before it is up, and keep at it till it is eight or ten inches high. The larger it is before it joints, the less danger there is of pulling it up, for every day it becomes better established and rooted to the ground.

Harrowing is the best way of cultivating small corn, because the teeth go right through to admit the air and to absorb moisture of the air for the benefit of the rootlets of the corn.

Another very beneficial advantage is that with a harrow wide enough to cover three rows of corn you can get over your ground so soon that you can repeat it so often that you can disturb and pull off the little weeds as soon as they sprout and they cannot get a start, and thus you can keep your ground clean of the annual weeds, if you start the harrow soon enough and repeat the harrowing often enough.

Of course a very important consideration is that you have a good harrow. The very best is the cheapest, although it will cost twice as much as the inferior one. If your corn is planted in rows four feet apart, your harrow should spread twelve feet, then you can take three rows across the field, and if your harrow has at least seventy-two teeth, it will cut the ground, every two inches, and if it oscillates it will so thoroughly stir the ground that it will be impossible for a weed to get in its seed leaf to escape its scarifying effects with its tiny life. Of course well established perennial, and for that matter annual weeds also, will bend around the teeth and continue to grow, hence the importance of commencing soon after the ground is plowed.

Another point is that the harrow be a flexible one, that is, that it is in two or more parts as it may adjust itself to the inequalities of the ground.

[The above appeared in the Stock, Farm & Home Weekly. The idea is not altogether a new one to the Canadian farmers in the older sections of the country, though the plan they adopt is not exactly the same as that recorded above. We have used the harrow in the corn field very successfully under the following circumstances: when the land was fully prepared we ridged it as we would for turnips, making the ridges 36 inches apart, then dropped the corn in the trenches between the drills; when finished dropping we harrowed lengthways of the drills, covering the corn, and flattening the drills considerably, and as soon as the weeds began to start we harrowed again and at intervals according as the weeds started, until the corn became too large; we thus saved a large amount of labor at the early part of the season. The land was always harrowed the same way the drills run. We never harrowed corn which was planted on the level, but would advise our readers to carefully try the experiment; if it works as well as recorded above it will certainly be a great saving of labor.]

Superphosphate has been found a great protection against the ravages of the currrant worm. Spread it around the roots of the bushes and fork it in. It will also help the growth of the bushes and increase the size of the fruit.

How I save my clover hay.—I cut in the evening when there is no dew. Clover holds dew so long that, if cut in the morning, it takes too long to cure. In the morning, as soon as the dew is off the top, it is ready to cock up in large, loose shocks. I leave it in the field two or three days for the stems to cure, and then put under shelter and salt a little.

Edible Ferns.—Most of the ferns found in our woods contain more or less starch, and when properly prepared are extremely palatable; so that we hear without surprise that an attempt has recently been made in France to popularize them as an article of food. The tender shoots of the common break fern, when exposed above the soil to the air and sunlight, become exceedingly fleshy, white and tender. A famous French painter is known to pride himself on his fern omelettes; and the hill tribes of Japan live on fern all the year round. In spring they eat the tender leaflets, and later in the season they eat the starch extracted from the roots.

Garden and Orchard.

The Apple Tree Borer.

More important even than the cutting out of the borer when it has established itself in the apple tree, are the precautionary measures to prevent this destructive insect from getting into the trees. We must become acquainted with the borer and its habits, and so be enabled to guard against it.

The apple tree borer is the offspring of the beetle *Saperda Candida*. It is important to understand these insects and their workings in order to prevent their getting into trees, for one borer is sufficient to stop the growth of a young apple tree, and having once entered the tree, it is dangerous following him with a knife. This borer is of a light brown, with two broad white stripes extending from head through both wing covers the whole length of the insect; the face, antennæ, under-side of the body and legs, white; length, about three-fourths of an inch; antennæ, about the length of the body. From this description, it will be easy to recognize the insect. The larva of this species penetrates the young tree just below the surface of the ground (where the beetle depesits her eggs), and eats its winding way up in such a manner as to make it difficult to follow it with a wire. The only way to save the trees from this destructive insect is to prevent it from getting to them. This, in our view, is easy enough if proper care and attention is given to the trees.

In the first place, be careful to remove all sprouts, suckers and grass from the roots of the tree. Secondly, keep the bark near the surface smooth and clean by frequent scouring or rubbing with the naked hand. This should be done at least once a week during the months of May and June. This will brush off the eggs. Another remedy, and perhaps a most effectual one, is to take one pint of sulphur, add to it one gallon of soft soap, and tobacco water sufficient to make it of the consistency of common paint. Apply it with a brush in May or June on the body of the tree at the surface and two or three inches below. I think if the above remedies are used faithfully, no borers would be found to trouble the apple trees. I have no faith in other remedies, such as the use of the knife and wire, camphor and chloroform, ammonia, sal ammoniac, brine and potash.—[Ex.

Coal-Tar vs. the Curculio.

Mr. A. Y. Van Eps asks The Tribune for information as to the efficacy of coal-tar smoke in fighting the curculio. Its use for this purpose was first recommended by Mr. Windoes, of South Haven, Mich., in March, 1874, at a meeting of the Pomological Society of that place. He accidentally discovered its value while burning some of it near a plum tree; upon jarring this tree no curculios were found upon it. The next year, 1869, he mingled one pound of sulphur with one gallon of tar, placed the mixture in a large frying-pan, which was fastened to the end of a long pole, and each alternate morning passed under the trees, carrying the vessel with its contents ignited, and of course it gave off a cloud of smoke, so dense that it would often fairly blacken the foliage. He continued this practice from the time the plums set until they were the size of a hickory-nut, or from about the middle of May till the 1st of July.

That year his crop was enormous; the next he was away from home, and so neglected the orchard, and had no plums. In 1871 he again tried the coal-tar and induced a neighbor to do the same; they both had full crops, while neighboring plum orchards, which received no attention, produced no fruit. The succeeding seasons gave the same result. These experiments convinced Mr. Windoes that "with a reasonable amount of labor the plum crop is a certainty, and very profitable." Of course this treatment does not destroy the foe, but only drives him to some other feeding-ground; and as he is quite indiscriminate in his taste, attacking the apple, cherry, pear and peach as well as the plum, the best fruit-growers perfer the other remedies—the Ransom or chip method, and the jarring process. By these means many orchardists are entirely successful in overcoming the curculio, and are reaping rich profits from the plum and peach.

THINNING FRUIT.—The sooner fruit is thinned after it has set, the better it is for the tree, as all growth of fruit costs effort for the tree to make, and is therefore exhaustive. No one who desires the choicest fruit will fail to thin an overloaded tree.

Benefits from Hoeing.

One of the greatest benefits from sowing our garden seeds in drills is the opportunity it affords us of hoeing frequently and thoroughly between the rows.

Too many persons who use the hoe supposed that the chief benefit derived from it is to kill the weeds. That, certainly, is an important work, and which is greatly neglected. Weeds are not only in the way of cultivating the crops which we plant, but they rob them of much of the nutriment which they need. Hoeing, then, is an essential service in respect to destroying the weeds.

There are other advantages, however, which are quite commonly overlooked. Let us see.

1. The loosening of the soil in the operation of hoeing is beneficial to the plants; as much as the destruction of the weeds or more so.

2. Moisture abounds in the atmosphere during the hottest months, and it is absorbed and retained most abundantly by a soil which is in the most friable state. Prof. Schluber found that 1,000 grains of stiff clay absorbed in twenty four hours only thirty-six grains of moisture from the air; whilst garden mold absorbed forty-five grains; and fine magnesia seventy-six grains.

3. Then, again, pulverizing the soil enables it better to retain the moisture absorbed.

4. The soil, in order to be healthy and active, must breathe. A light, porous soil admits the air and thus it is fed and greatly invigorated by the atmosphere.

5. The sun's rays heat a hard soil much quicker than a loose one, and the hotter the sun is, so much greater will be the evaporation from it. So that the hard soil is deprived of its moisture much sooner than one of a loose texture.

6. The roots of plants can find their way through a moist, loose soil, in search of food, much better than they can through a hard, dry soil.

7. A soil that is kept loose near the surface by the action of the hoe, will receive and hold the rain water that falls, while a hard soil will allow most of it to run off into the valleys and streams as it falls.

An English gardener, Mr. Barnes, of Devonshire, in giving an opinion of the importance of hoeing, said he "did not agree with those who say that one good weeding is worth two hoeings; I say, never weed any crop in which a hoe can be got between the plants, not so much for the sake of destroying weeds and vermin, which must necessarily be the case if the hoeing be done well, as for increasing the porosity of the soil, to allow the water and air to penetrate freely through it." He adds: "I am well convinced, by long and close practice, that oftentimes there is more benefit derived by crops from keeping them well hoed, than there is from the manure applied. Weeds or no weeds, I still keep stiring the soil, well knowing, from practice, the very beneficial effect it has."

Mulching for Fruit.

A fruit grower gives the result of his experience in mulching for fruit, as follows:

It may not be generally known, especially by farmers or those engaged in pursuits foreign to fruit growing, that many varieties of fruit plants, vines and trees, require, to obtain the best results, a large amount of mulching and manuring.

The grape vine is a great feeder, requiring before planting a deep preparation of the soil, good cultivation, and frequent applications of manure to the surface ever after.

Currants and gooseberries require frequent mulching to keep out the blue grass, keep down weeds, and to promote luxuriant growth.

The Doolittle black cap raspberry, which every family should have in abundance, can not be grown successfully on any soil without heavily manuring, and should be cultivated both ways, like corn, and no tips allowed to grow.

The strawberry bed also requires a frequent top dressing of well rotted compost and plants kept thin on the ground.

Cherry trees, old enough to bear, by heavily manuring, will produce nearly double the number of bushels, much larger and sweeter, and from ten days to two weeks earlier.

It has been a theory with fruit growers, and has generally been conceded, that apple orchards, even when down in grass, are better off without manure. When an orchard is not in cultivation and is old enough to bear, a good mulching in the fall or winter will, in nine cases out of ten, result in a fair crop of apples the next season.

Codling Moth.

Prof. Cook gives the following in the Prairie Farmer:

This insect passes the winter as a larva, concealed in some crevice, and wrapped in a thin cocoon of light colored silk. Early in May it resumes the pupa state, and soon after emerges from its concealment, as a small gray moth. The moth, whether from the cellar, the kitchen, or the orchard, steals forth to the bearing apple trees, where, on the blossom end of the now forming fruit, it lays its small eggs, only one on each apple. These moths will continue to emerge from their winter home for six weeks. Here at Lansing they come forth from the time of the fruit blossoms—the middle of May—till the first week of July. The eggs soon hatch, and the wee larvæ eat in to the apples, from which they emerge sleek and full-fed, in about five weeks.

So the larvæ from the first brood will be leaving the fruit from the last of June till the last of July. About half of the apples which are attacked—rather more in early varieties—fall to the ground before the larvæ leave them, and, unless the apples are destroyed, the "worms" crawl forth and seek a crevice in which to transform. In the absence of rubbish or stumps beneath the trees, they crawl up the tree trunk and hide under bark-scales, in cracks, or wherever concealment is offered. Those in the apples which adhere to the trees crawl down on a like errand. In from ten to twelve days—sometimes eight, if the weather is very warm—the second brood of moths comes forth to prepare for a repetition of same destructive work. This second brood behaves very much like the first, except that the larvæ do not assume the chrysalid or pupa state till the next summer. So we see that the moths cease to emerge after the first of September.

If hogs or sheep are kept in the apple and pear orchards they will eat all the windfalls, and so destroy all "worms" that fall with the apples to the ground. As many of the larvæ which leave the apples while the latter are still pendant will be destroyed by sap suckers, blue jay, robin, cuckoo and shrike, the above remedy is more complete than we would at first believe, and should never be neglected, unless a better one be made to take its place. The best remedy, and one which has given excellent satisfaction whenever applied with thoroughness, is to trap with bands. This demands the removal of all rubbish from beneath the trees, which should be done before the first worms leave the fruit. In this latitude June 20 would do. Further south June 1 would be none too early. This work can be done at any time in April or May, when most convenient. Five weeks from the time that the trees bloom the bands should be placed around all trees which are bearing fruit.

The bands should be woolen cloth or carpet paper. They ought to be about five inches wide, and long enough to reach around the tree and lap sufficiently to tack. First tack one end of the band to the tree, about four feet from the ground, driving the tack clear to the head. Then pass the band around the tree, bringing the untacked end over the tack first driven. Through this end a second tack should be driven, though not quite to the head, that it may be easily removed with a claw.

Seven weeks after the trees bloom the bands should be examined. It is well to go first to the trees which bear early apples. If no worms or cocoons are found examination may be delayed for ten days, when all the bands should be carefully unwound and all the larvæ and pupæ killed. This is easily done by pressing them with the thumb. After all are killed retack the band. To make the tacking quick and easy, a small tack-hammer with a good claw may be suspended about the neck. After this the work should be repeated every tenth day, and if very warm, every eighth day, for seven or eight weeks, and again after all the fruit is gathered, in November or December.

Killing the Peach Tree Borer.

A contemporary recommends the following: "One pint of crude carbolic acid, costing 25 cents, is sufficient for twenty gallons of soft soap, with as much hot water to thin it; then stir in the pint of carbolic acid and let it stand over night or longer to combine. Now add twelve gallons of rain water and stir well, then apply to the base of the tree with a short broom or old paint brush, taking pains to wet the inside of all crevices. This will prevent both peach and apple borers. It should be applied in the latter end of June in this climate, when the moth and beetles usually appear."

Summer Pruning.

No orchard or fruit garden can be said to be well managed if summer pruning is neglected, for the strength and vigor of the trees, bushes or vines will be wasted in making superfluous wood instead of forming fruit buds for the next year's crop. It is better to pinch off a tender shoot than to let it become a strong branch, needing the application of the knife, or it may be, the saw. The old proverb which says that "as the twig is bent, the trees is inclined," is very expressive. If we wish to obtain well formed trees we must begin in proper time, and bring them into the desired shape by judicious pruning. The formation of low branches should be encouraged in fruit trees for the double purpose of having the fruit within reach and shading the stem from the rays of the sun.

If summer pinching or pruning is commenced in proper time, there will not be so many ill-shaped trees to be seen, one sided and double headed specimens will be scarce, the center of the trees will not be crowded with wood nor with branches crossing and chafing each other. Most trees are inclined to grow more to one side than the other, shooting out toward light and fresh air, and avoiding the drip of other trees. It will be necessary to check this tendency hy shortening in or removing those branches which extend too far on one side. The centers of fruit trees of every kind should be kept free from wood, so that the rays of the sun may reach the fruit on all the branches. In training trees as pyramids it sometimes happens that the side branches shoot up above the central or leading branch; this tendency should be corrected by pinching the shoots as fast as they appear, thus keeping down the irregularity and bringing the trees into the desired shape. The productiveness of apple, pear, peach and plum trees, and of gooseberry and currant bushes, &c., may be increased, and the size of the fruit considerably enlarged by pruning, that is, by shortening in the shoots of the last year's growth, leaving only spurs a few inches in length.

Grape vines require summer pruning very much. They should be so disposed on the trellis as to present their foliage evenly to the sun. It will not do to have a dense mass of leaves on one part and bare sticks in another. Superfluous branches should be removed, long ones pinched to retard their further extension and to allow those which they have outstripped to come up. A vine culturist will find something to do about his vines every working day in summer; shoots to be pinched or broken off, branches to be tied, weeds and insects to be destroyed, branches to be thinned, or removed all together, if the vine from any cause is not able to support them. Shade trees, shrubs and woody plants require to be kept in proper shape by summer pruning. The cuts made by the knife now will not bleed as in the spring, but will dry up in the sun. Suckers and superfluous growths of every kind and broken branches should be removed. —[Western Rural.

The Cost of Carelessness.

It is only poor farming that don't pay. A fruit grower sends an unassorted lot of big and little and fair and gnarly apples to market, and gets returns that scarcely cover cost, while his neighbor, will receive twice as much for half the quantity. One butter-maker is paid 15 cents the pound and another 30, and their ideas of the profit of dairying are a little wider that the prices of their product. It is so in every enterprise of the farm. One would suppose that in wheat culture by machinery there would be little chance for difference in results of harvesting and marketing, yet even there is abundant opportunity for the blight of carelessness to assert its destructive power. For instance, in Alameda County, California, a lot of 2,102 centals of wheat could only command a bid of 80 cents per cental, because not left in the cleanest condition by the separator. The owner was neither so lazy nor so thoughtless as to accept it, but had it cleaned and was offered $1. Elated with so large a gain at so small an outlay, he gave it a second cleaning, and then sold the shipping wheat for $1 19¼, 1,885 8-10 centals; 128 3-10 centals of feed, and 85¾ centals of oats and burrs, for all of which he received $2'241 71. As the cleaning cost $147 14, he made a clear profit of $412 99. "Cleanliness is next to godliness," and profitable in all things.

On Planting and Cultivating Flowers in the Open Air.

Avoid working the soil in early spring or at any time, while it is wet.

To have beautiful flowers, and a profusion of them, plant your plants and seeds in rich soil, as a rule. There are only a few plants that do better in a poor soil than in one that is well enriched, prominent among which are the different varieties of Amaranthus.

Nothing is gained and frequently very much is lost by planting in the open ground before the season is sufficiently advanced and warm enough for things to grow well. In the limits of this small treatise it is impossible to give any adequate information regarding the proper time for planting out all different kinds.

The arranging of plants in masses of individual or distinct colors affords opportunity for exercising much taste, and those just beginning at outdoor floriculture should not feel that it is beyond their ability to practice this pleasing means of adornment satisfactorily. Neither is it necessarily an expensive means of decorating, as a small mass, say for instance, three to four feet across, may be just as complete in itself as one many times larger. The circular form of bed is a safe one to try for this purpose, and I recommend such fine distinct kinds as Geranium, Coleus, brilliant scarlet or other colors of Pansy, also White Candytuft, etc., to beginners

In watering plants that have been recently set, or at any time when necessary, it is better to apply an abundance of water *at one time*, then to apply it by littles and often. A small basin-like opening should be made in the soil around the plant, the stalk standing in the center, and this should be filled once or repeatedly with water until the soil to some depth and distance around is soaked. Then in a few hours or by the next morning, if the water be given in the evening, which is the best time, dry soil should be drawn into the opening to prevent the sun from baking the otherwise wet surface.

Flower beds that are exposed to strong sweeping winds will never look as well as others at places better sheltered, in this respect.

The soil should be frequently stirred during the growing season, and especially soon after every shower. Finely breaking the surface with a hoe or small rake after it has been beaten down by the rain, will enable it to retain moisture much longer than if left to become hard, as it will do if not thus worked. Without proper culture and attention, weeds will be certain to put in an appearance in flower beds, vases, hanging baskets, grass plats, walks, drives, etc. Their presence will never be tolerated by any cultivator who has regard for neat and tasteful appearances.

Be on the alert to provide strings, stakes or trellises to climbers and top-heavy plants, and to guide the young tendrils of climbers that are stretching out for support, which they perhaps cannot reach. Dahlias should be provided with strong stakes early in the season, if their breaking down would be avoided.

The season of outdoor flowers can be extended almost every year, by protecting the plants during the first frosty nights. Usually after first frosts the weather comes off warm and pleasant for some time.

Hardy bulbs such as Hyacinths, Tulips, Crocus, etc., must be planted in the fall months. These are a class of flowers that seldom fail to yield satisfactory returns to inexperienced cultivators, either if planted in the open ground or forced in the window or conservatory in winter.

Charcoal as an Absorbent.

The absorptive power of charcoal is well known in the arts. Its capacity in this direction is most remarkable. Accurate experiment has proved that in twenty-four hours it would absorb ninety times its own volume of ammoniacal gas, eighty-five times its volume of muriatic acid gas, and sixty-five times its volume of sulphurous acid gas. It is this remarkable quality that makes it so valuable in destroying odor, color, taste in many substances, and perserving meats, vegetables and fruit, from rapid decay. Its use as a filter in cisterns is well known and its value here depends upon the same quality. It separates and appropriates to itself the decaying matter and other impurities in water, rendering it pure and sweet. If placed on the surface of the soil, it will gather from the air moisture and gases and impart them to the growing plants. On the same principle its value in the barnyard, stable and hog pens, as an absorptive agent, is incalculable.

Small Fruits for the Family.

Perhaps the following, from a correspondent of the Rural New Yorker, will inspire some of our readers to give more attention to the cultivation of small fruits. The correspondent says:

"Ten years ago, when my husband's failing health drove us from the city, we bought a farm in the hope that out-door life and a plentiful supply of fresh fruits would drive away impending invalidism. But we soon found our supply of fruit was limited to certain months of the year, and that during the summer our only supplies, until apples ripened, must come from three 'old-fashioned' English cherry trees and a few straggling raspberry and currant bushes. These, with a dozen forlorn, scrubby dwarf pear trees not in bearing, and a good apple orchard, constituted our stock of fruit. Two big lilacs, two clumps of peonies and a cinnamon rose bush formed our list of ornamentals. But we soon changed all that. The thought of owning land and going without strawberries was an intolerable one to me, and the first spring after coming here I set with my own hands (because, though far from idle, they were the least busy hands in the family just then) a Wilson strawberry bed a few feet square. The next year we had all the strawberries we could use, and we have never been without them since, but, of course, the bed has been renewed. The Wilson is still our favorite, although my husband, whose sweet teeth are innumerable, prefers a sweeter berry, and in his search for one has tested several other varieties.

"We have added to our stock of fruits from time to time by purchase and propagation. until now we have of small fruits, blackberries, raspberries, gooseberries, currants and grapes, all of choice varieties. Nor have the larger fruits been neglected; and we can 'point with pride' to trees and say, 'All these are the work of our hands.' On counting up I find that the aggregate of varieties that we have planted amounts to over seventy-five, and yet we have not made any great outlay of money. Our purchases having been made directly from the nurseryman, we have got much better terms than if we had dealt through agents.

"Our fruit is nearly all in bearing now, and it would be hard to describe our delight in the enjoyment of a succession of delicious fruits through the whole summer. First come strawberries, which begin ripening the middle of June, and by having early and late varieties, their season is much prolonged; before they are fairly gone the raspberries, cherries and currants are ready for use, followed in rapid succession by blackberries, grapes, peaches and pears Last summer we had fresh berries on our table from the middle of June until the first of October; and, incredible as it may seem, but probably owing to the very warm weather that month, I picked several clusters of large, beautiful Kittatinnies on the 28th of October with which to decorate the wedding supper table of a friend.

"We do not purpose to raise small fruits for sale, but we do intend to have an abundance for our own consumption; and one-fourth acre devoted to their culture gives us such overflowing measure that every year there is a surplus of nearly every fruit we raise, for which we find a ready sale among our less favored but wealthier neighbors, whose daughters gladly come and pick our fruit for a share. Indeed, they tell me that they can with greater ease and more profit pick the fruits in our garden for a small share than to search through the woods and tangled brush-heaps for wild ones. We reduce the work of raising them to a minimum by setting our plants in long lines between the rows of young fruit trees, so that a horse and cultivator may as readily be driven between as through the rows of a corn-field. Treated in this manner but little hard labor is required, and the young trees are also greatly benefited and kept in a thrifty condition by the frequent stirring of the soil."

Hungarian grass and millet are alike in their habit, and the mode and time of sowing and cutting are alike; the method of sowing is the same as for oats, but with time of sowing they differ entirely. Oats yield better by being sown early, when the temperature is still cool. It is, even in this climate, a rather hardy plant. Hungarian and millet, on the contrary, require heat for germination and the young plants will not endure any frost. A peck of seed is considered sufficient for an acre. For hay they should be mown while in bloom. They yield a heavy caop, and if cut and saved in time, good hay.

Stock.

Grain in the Summer Ration.

Cattle feeding is now undergoing a change from the hap-hazard to the scientific system. Much more study is given to the quality of foods for the growth and fattening of cattle than a few years ago. Feeders begin to see that they have heretofore given little attention to variety in the rations of their cattle.

The question which we wish to consider here is, whether the cattle feeder had not better feed more grain while the cattle are on pasture. The addition of a few pounds per day, to each steer, while on grass, would be all utilized in laying on extra fat, and would improve the quality of the beef for fall shipment by giving more solidity to the flesh; the extra fat taking the place of the sap, in summer beef, the animals would shrink much less in shipment.

The English, in feeding Indian corn or peas, accompany them with 4 to 8 lbs. of oil-cake per head, in order to balance its carbo-hydrates with albuminoids. But the ration then is no more nitrogenous than 8 lbs. of corn or peas with pasture. The American feeder, with whom grain is always plenty, may therefore have as good a ration, at much less expense, by adding 6 or 8 lbs. of corn or peas per head on good pasture. In fact, the feeder's art must be shown in the skill of combining rations. Nature here furnishes, in rich grass, a large proportion of albuminoids, and the feeder can improve the effect of this with a few pounds of corn or peas. And, besides, this small amount of grain in the warm season will produce a much greater effect than if fed in the cold weather. The grass ration being so bulky does not furnish all the food which may be assimilated by the animal, and a little concentrated grain adds little to the bulk but much to the assimilable food, and consequent increase in weight and value of carcass.

Another important consideration is seen in the fact above mentioned, that the grain renders the flesh more solid—containing less water or more dry substance—and, in consequence of this condition, steers so fed will lose much less on being taken from pasture for stall feeding in the fall, or for shipment to market. All observing feeders know that steers taken from a good pasture must be fed in stall for some time without much increase in weight, as the sap, or extra water, in the carcass is being replaced by fat made from the grain, and the steer may be doing well for thirty or more days with but little increase in weight. But when grain is fed with pasture this shrinkage does not occur on being put up in the fall for stall-feeding. On the same principle, cattle stalk-fed through the winter, when taken to good pasture in spring, will increase in weight very rapidly by the addition of sap, or water, to the carcass. We have known such steers to gain five lbs. per day for fifteen days after being taken to pasture.

We know that some good feeders are averse to feeding grain with pasture, because they think the steers depend too much upon the grain and do not eat so much grass. But we think their error has been occasioned by not considering ths points we have given above, as to the effect of grain feeding upon the quality of increase in weight. In sections where corn is cheap it appears evident to us that a small grain ration with pasture will pay 25 per cent. better for the grain than the same amount fed in cold weather.—[Ex.

Cattle Disease in Maryland.

Official investigations, by order of Gov. Hamilton, show that Pleuro-pneumonia exists among Maryland cattle to a much greater extent than was supposed. Cases have been discovered in five counties. The Inspector in Harford County found that on a dairy farm near Belair seventeen cattle had died of the disease since last fall; of the remainder of the herd, nineteen were appraised and slaughtered April 22nd. In this and most other cases where disease exists, it is traced to the Calverton stockyards in New York, which appear to be thoroughly infected. No attempts were made in this State last year to check the disease, and, although vigorous measures are now being taken under the law passed at the late session of the Legislature, it is feared it has obtained so strong and extended a foothold that its eradication will be almost impossible. Farmers are much excited over the matter, and fears of unprecedented mortality among cattle when hot weather comes are expressed.—[Ex.

The Sheep-Owners' Opportunity.

The paramount consideration with the average flock-owner is to realize the greatest profit from his investment of capital and subsequent care and attention. To the question, How is this most certainly to be secured? we have often answered, and now reiterate, get the best stock within your reach; so breed and feed these as to secure the highest development; create and preserve for your flock and its products such a reputation as will insure a ready market at good relative prices; try very few experiments; stay on solid ground, even though the flashes of profit promised by a deviation, or the shadows of temporary disappointment, may invite you to walk in new fields. No matter what the blood, or how nearly perfect the animals may be, intelligence, liberality and kindness on the part of the shepherd will make them better; and with such improvement will come additional profit—profit through increased weight of fleece; profit through heavier and better developed carcasses; profit through a heavier percentage of lambs, and their speedy and more perfect development; profit by reason of securing outside prices and ready sale for whatever is placed on the market, because of its superior quality; and, finally, the advantage of freedom from the many hardships and annoyances inseparable from attendance upon unthrifty or otherwise undesirable animals.

Though every flock-owner cannot have the best sheep, there is encouragement in the fact that no one is so circumstanced that he cannot with certainty and comparative rapidity advance the excellence of such as he may possess. Animals of great excellence, representing all varieties or all breeds, can be had at prices within the reach of every breeder. Feed is plenty, labor is cheap, information upon any point of doubt can be had for the asking, prices are good, and demand active—in short, the opportunity and incentive for a general advance all along the line of those engaged in sheep husbandry are at hand, and those who do not intend to avail themselves thereof had better stand aside, for there are unmistakable signs of a forward movement.—[National Live Stock Journal, Chicago.

Breaking Colts.

By all means the colt should be broken to halter while yet a suckling, and the earlier in life this process is commenced, the more easily will it be accomplished. He may soon be led by the side of the dam without difficulty; and when once accustomed to being guided by the halter, it will be an easy matter to lead him anywhere. He may also be tied by the side of the dam, as the preliminary step in teaching him to stand quietly when hitched alone. The first step in "gentling" a colt is to overcome his natural timidity by gradual approaches; and when he finds he has no reason to fear, the work is half done. All the subsequent lessons given him through all the various steps of breaking and training should be based upon this plan of gradual approaches—a species of sapping and mining that will subdue the most vicious, and tame the wildest colt, if perseveringly followed. He should be accustomed to the bridle by means of the "bitting rig," before any attempt is made to ride him; and the mounting should always be first attempted in the stall or the lot where the colt is perfectly familiar with all the surroundings. When it is desired to break him to harness, the same principle of gentleness and care to avoid giving fright should be practiced. Place portions of the harness on him at a time, and let it remain on him in his stall until he finds that it will not hurt him; then lead him out with the harness on, alone, and again by the side of another horse also in harness. Accustom him perfectly to the use of the lines, and then let him make the acquaintance of the sulky. Push it along after him; and when he has found that it also is harmless, get him between the "thills," and finally hitch him to it and drive him. It is the most convenient of all vehicles for use in breaking colts for driving, as the weight is but little, and there is no danger to be apprehended from sudden turning around. Many trainers provide themselves with a stout, two-wheeled vehicle, constructed like a sulky, but with very heavy "thills," so strong that the colt cannot possibly break them let what may happen. Such an arrangement is especially desirable for wild or vicious colts that have not been "gentled" when young, or for such as from improper handling have formed bad habits that must be cured,—[National Live-Stock Journal, Chicago.

"Scours" in Calves.

This disease, so fatal to young calves, is most common where cows and calves are housed, and among calves brought up artificially. Apart from hereditary tendency and the new demands on the digestive functions of the young thing, it is mainly due, especially in calves brought up at the pail, to long fasts and subsequent rapid gorging, or to being compelled to drink sour, stale milk, sometimes given too warm. Sometimes, even when fed naturally, the milk contains injurious matters, owing to the cow being over-driven, excited, or having access to foul water, or on account of the milk having been retained too long in the udder. The early symptoms are:—a dirty tail, dullness, disregard of food, abdominal fullness, with fluid, bad-smelling yellow or whitish fæces discharged with violence or pain. As treatment, the patient should be removed to a clean, airy but warm box. If put on the milk of a farrow cow, it should have that of one that has calved more recently; and if the health of the nurse fails or the bag cakes, the calf should be supplied from a more healthy source. If the little thing is given to rapid drinking, an artificial teat in the pail for it to suck at will partially remedy the habit. The stomach should be cleared of irritating food and acrid discharges by a dose of one or two ounces of castor oil and a teaspoonful of laudanum. If the skin or membranes of the mouth, nose or eyes, are of a yellowish tint, two grains of calomel and 20 grains of chalk may be added and repeated daily for some time. In the absence of the yellowish tinge, give with each meal a tablespoonful of sherry wine in which one-eighth of the fourth stomach of a calf has been steeped for 24 hours. A tablespoonful of tincture of cinnamon, with 20 grains each of chalk and gum-arabic, will be an excellent addition. Finally, if the abdomen is tense or tender to the touch, it should be rubbed over with a thin pulp made of the best ground mustard and tepid water, and covered with a bandage to prevent drying until it has taken effect on the skin.—[Ex.

THE HAIR AND HORNS OF THE DURHAM.—The late R. A. Alexander, the renowned Kentucky fine stock breeder, said, "a good heavy horn on a bull is indicative of substance and constitution; besides, it indicates masculine or positive character." He says further, "no cow-horned bull can or ever will be an impressive sire," and others have asserted that they never yet saw a prize calf by a cow-horned bull. Mr. A. also stated: "a long woolly coat invariably covers a fine, richly-marbled carcass of beef." A commission man of long and extensive experience in the handling of fat cattle also states: "I have seen well marbled meat under a fine short coat sometimes, but not as a rule; but have never failed to find well-marbled flesh under a fine, heavy, fleecy coat of hair."

SULPHUR FOR ANIMALS.—If taken internally with their food, sulphur will almost invariably keep all kinds of animals free from lice. We have made a practice for years past of giving a heaping tablespoonful once a week in the feed of each of our cows, and the same quantity to about every ten hens in our flock, and they have never been troubled with lice on them. It may be given in the same proportion as to size when required in the food of poultry, pigs and sheep. Sulphur is a mild cathartic when desired for this purpose, and in small doses seems to have a general beneficial effect on the animal system, something like salt, though, of course, not of that nature.

The progeny of poor stinted thoroughbred stock will not attain to the perfection of that from perfect well-cared for specimens.

Turkeys and other fowls are often affected at this season with a catarrhal disease known as roup. The eyes and nasal membranes are inflamed and exude fetid matter, the head swells, the throat is sore, and the bird cannot swallow. The disease may be caused by cold or infection. The treatment is to bathe the head with warm vinegar, to inject a few drops of kerosene-oil into the nostrils, and to wash the throat with a solution of chlorate of potash in water. Give soft food, dropped into the throat; warm milk and bread is the best, and add to it a pinch of powdered hyposulphite of soda.—*N. Y. Times.*

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Disease in Horses.

SIR,—Are some horses predisposed to diseases of the limbs, such as spavins, splints, ringbones, &c. If so, how can such horses be distinguished from those which are naturally sound? ENQUIRER.

["The horse with unduly small joints is weak and especially subject to sprains and bone disease. A knee that is wanting in breadth from side to side, or from before backward, and to the lower part of which the back tendons seem to cling ('tied in below the knee'), is one which will predispose to disease of the small bones of this joint, to sprains of the back sinews, to splints, and to ringbones. Similarly a hock that is wanting in prominence and breadth at the point, or that is narrow from without inward or before backward at its lower part, will certainly give way under severe work and throw out curbs, spavins, or other defects. A pastern that is unduly long and oblique will predispose to disease of the bony pulley behind the fetlock, or to ringbone on the lateral aspects of the pastern bone, because of the great strain thrown on the ligaments. A pastern, on the contrary, which is unduly short and upright, whether in trotter or in cart-horse, will predispose to splints, disease of the fetlock, ringbones, etc., because of the concussion in severe work.

"Faulty and imperfect nutrition of the bone is certainly a frequent cause of bony growths. As allied to this is the fact that such growths are especially common in young and immature horses put to hard work. Here the bones contain an excess of soft elements, and under severe strain and concussion take on inflammation, with the result of an excessive deposit which becomes calcified and bony. A similar condition often results from poor health or imperfect digestion. As the health falls off the nutrition is impaired, and the bones are not the last to participate. Changes of various kinds may occur, but, as a rule, the soft elements of the bone increase at the expense of the hard or earthy portion; and as the subject is thus placed in the condition of the young animal, but without its vitality and power of recuperation, it suffers readily under disturbing causes, and is especially susceptible to overwork and concussion. Thus it follows that a period of indigestion, that debility caused by bots or other parasites, that a diseased tooth interfering with chewing, that any chronic affection of the breathing organs or kidneys, that rheumatism and a variety of other disorders may indirectly become causes of bony growths. In the same way, prolonged idleness in stall or box, and irregularities in exercise, will interfere with the perfect nutrition of the bone, and lay it open to injury and disease under work. Finally, hores bred on flat, damp soils are usually less durable in their bony systems that those that have been raised on hilly or undulating ground. The free range of the young Mustang, Broncho, or Shetland pony no doubt contributes to produce their phenomenal hardiness and endurance."]

SIR,—Will you please inform me what will make a horse's mane grow? R. D., Waterford, Ont.

[There are many preparations to stimulate the growth of hair, but the use of them is attended with more or less danger. It is, therefore, better that they only be used by such persons as thoroughly understand their effect on the system. To hinder rubbing, and give the mane and tail a bushy and glossy appearance, the skin must be kept clean. This may be done by washing with castile soap and warm soft water, to which a tablespoonful of washing soda may be added to a gallon of water.]

Important Changes.

CATTLE RUNNING AT LARGE.

SIR,—In the report of the Fruit Growers' Association of Ontario, published in your last issue, there are certainly some very good views expressed with which I quite coincide. I think the time is now past when animals should be allowed to run at large and pasture the entire summer on public roads. In some sections farmers turn out all their stock, even to the horses, to pasture on the roads. Some only allow them to pasture for a month or two in the spring, while others let them stray all summer. They are a constant source of annoyance to the public, and besides this the farmer who thus uses his stock loses the whole summer's manure, which is a more considerable loss than it is generally believed to be. To keep up the fertility of our soil all our manure must be carefully husbanded. Besides this, animals running at large do not get the necessary care and feed, both of these being necessary to produce a perfect animal, these alone being profitable both in the English and American markets. The scrub animals, such as are raised on the roads, are almost profitless. These are only a few of many reasons, but if these were all they are sufficient to prohibit stock from running on the road in the cleared and thickly settled sections of the country.

The clauses in the report regarding fences have also some useful hints. The old fashioned zigzag rail fence has served its time in all the older sections of Ontario. When the country was new it was, perhaps, the best fence settlers could construct, but now that our land has become so high in price we cannot afford to use them longer. Few people have any idea of the amount of land occupied by these unsightly fences on their farms. If the country was divided into 400-acre blocks, as some of it is, and we divide the farms into 16-acre fields, which is a fair average, on each 400 acres there will be 3360 rods of fence, or 840 rods on each 100 acre farm. The fence bottoms will cover a strip at least half a rod wide, therefore 2⅝ acres is wasted on each 100 acres in Ontario. There are about 77,606,400 acres in Ontario, one-third of which we will allow for waste land, rocks, water, &c., which we think a very large proportion; then there would be 51,737,600 acres fit for tillage. Any one can calculate the vast amount of good land which is covered with fence bottoms, besides the amount of land which is indirectly injured by them. Insects harbor in and about them to a great extent. We have had turnips where the plants have been almost destroyed for a rod wide all around the outside of the fields, which, in a 10-acre field would amount to almost an acre, or a clear loss of quite $20, including labor and profit. There are also other destructive insects and vermin which harbor in the fence corners, whose damages we cannot as easily estimate, and beside the insects the foul weeds and briars find a friendly protection, from which the Canada thistles, &c., send forth their seed in abundance. Yet we cannot do away altogether with our fences, as the Fruit Growers' Association would advise. We must have line fences of some kind. What are they to be? is the question. Timber is getting scarce; the crooked fence is a large yearly loss to both farmers and the Province. But we think the ingenuity of our manufacturers has supplied our wants just at the right time with barbed wire. The Americans have been using it to some extent for some time, and in your last issue we see the "Dominion Barb Wire Fence Co," of Montreal, are manufacturing it for Canadians. A wire fence has many merits—the snow will not drift, insects can find no hiding-place, and the ground that it occupies need not be wider than four feet, which will amount to a large saving of land over the old system, beside doing away with the insects and the weeds. If this system of fencing cost twice as much as timber, it would, in the long run be far the cheaper. Considering the above advantages, and also its durability, I think a wire fence would be much improved by placing one good stout pole or rail from post to post, above the wire, so that stock could see it more readily and not be so apt to get hurt by running against it. It would be found especially beneficial as a road fence when the snow drifts and fills the roads in winter, thus doing away with the expense of shovelling out the roads so often, the cost of which is very considerable, and if spent on the roads for their permanent improvement would make a decided change for the better. If our roads were so fenced they would not need to be so wide by a rod as they are now. This would effect an enormous saving of land to the Province, and would also increase the revenue.

PROGRESS.

Milk Fever.

SIR,—I have had several cows sicken and die soon after calving. I feed well; my cows are all in high condition. It has been invariably my best milking cows which have died; they all had an abundance of milk after calving, but which in part disappeared when taken sick. What is the cause?

A. H., Bowmanville.

[From your description we believe your cows have died from milk fever. We will give the causes, symptoms, &c., as given by Professor Law in "The Farmers' Veterinary Adviser:" The symptoms are dullness, languor, uneasy movements of the hind limbs, a full bounding pulse, red eyes, hot head and horns; soon the cow becomes weak on its limbs, unable to rise, lays its head back on the flank, or dashes it to the ground, breaking the horns if the surface is hard, and struggles convulsively with the limbs. The surface of the body may now be bedewed with perspiration. The eyes red, fixed or rolling convulsively, the pupils dilated, the heat of the head still greater, and the pulse quicker and weaker. Sensation is completely lost, and the skin may be pricked at any point without the slightest response, and the eyeballs may be touched without causing winking; neither dung nor urine are passed, the intestines and bladder being also the seat of paralysis and torpor. In one form of the disease the heat of the head, delirium and violence may be entirely wanting; the prominent symptoms being the fever, accelerated pulse and breathing, elevated temperature, loss of power over the limbs, paralysis of sensation, inappetence torpor of the bowels and bladder; both forms are exceedingly false. Almost all attacked within two days after calving perish, and a large proportion of those taken ill during the first week. Prevention—Spare diet for a week before and after calving, an active purgative (epsom salts) to act as soon after calving as possible. Plenty of fresh cool air, milking if necessary before calving, and thence daily after. When the grass is luxuriant it is necessary to keep such animals as may be predisposed to the disease in-doors upon dry hay with plenty of salt and water, or in a very bare pasture. Treatment—If the animal is seen to be sick before it becomes unable to stand, bleed from the jugular vein, but never after the pulse has lost its fulness and hardness; apply ice cold water, bags of ice, or a solution of an ounce each of nitre of sal ammonica, in a quart of water, to the head around the base of the horns; give powerful purgative, (2 lbs. of epsom salts, ½ oz. carbonate of ammonia, ½ dr. nux vomica); apply friction to the limbs, draw the milk off at frequent intervals, and repeat the ammonia and nux vomica every four hours. The nux vomica may be replaced by strychnia, 1 grain to two or three drops of vinegar, in a teaspoonful of water, and injected under the skin twice, with an interval of four hours between the injections. The fever may often be materially reduced by enveloping the whole body in a sheet, wrung out in cold water, and covering over this with dry ones. In the second or torpor form of the disorder there is often no call for cold applications to the head, while purgatives and nux vomica are especially demanded.]

Gypsum.

SIR,—I wish for some reliable information regarding gypsum. It is spoken of very highly as a fertilizer by some, while others deny that it is of any value. How is it that there is such a difference of opinion on a subject that is so easily tested? If it is of real benefit in farming it should be more generally known, that we might make more use of it than we do. Yankee farmers are importing it from Canada. Q., Elora, Ont.

[Gypsum (more generally called plaster) has been proved to be very beneficial to some crops and on some farms. In other cases there has been no perceptible advantage from its use. This has led to the difference of opinion that you speak of. There can be no reasonable doubt that many who have used it have been paid by the increase of yield. It is especially serviceable to clover and corn, though it has been proved to be of service to other crops as well. Plaster attracts moisture and its accompanying ammonia from the atmosphere. This can be proved by plastering part of a crop and leaving part unplastered, and examining them when the dew lies on the ground. A similar trial will show the profits from using plaster; the yield of each will prove the value of it.]

The Pea Bug.

SIR,—At what stage in the development of the pea is the ovum of the pea bug deposited, and how? H. D., Brantford.

[We glean the following from standard works on this very destructive insect: It does not deposit its eggs in the flower of the pea, as is sometimes taught, but on the surface of the young pod, without special reference to any particular part. They are attached to the outside of the pod by a "viscid" fluid, which dries white and glistens like silk. As soon as the eggs are hatched, the larvæ bore directly through the pod, one entering each pea, making a puncture smaller than a pin-hole. As the pea and pod enlarge the punctures close up, and the larva excavates a small cavity in the pea, leaving its outer coating whole; in this cavity it assumes the pupa state and comes out a perfect beetle—some in the autumn, but the majority remain dormant until the spring of the next year.]

Salt for Timber.

SIR,—The following is not intended as a composition competing for the prize you so liberally offer, neither does it aspire to the dignity of an essay on "The use of salt as a preservative of timber," but is simply intended to give the writer's experience and observation on such use.

Living on a sea cost, I was in the habit of sinking all timber in deep sea water for twelve or eighteen months previous to using it; the result was a hardening so great that the carpenters complained of the difficulty of working it; and in regard to durability, I do not expect to live to see its decay.

It was also the custom of ship-builders on laying the keel of a vessel to bore an auger hole in timber, usually oak or yellow pine, near the end; fill it with salt, then plug it up, and on completion of the vessel the ribs and other timbers were well salted. The decay termed "dry rot" is that which salt is intended more especially to guard against, R. S. W., Woodsholme.

Agricultural Societies and Their Management.

SIR,—We live in an age of great progress. The world moves at a rapid pace in advancement. Minds are ever busy, and thought is active and constant in proposing new plans and devising new schemes for securing the best results. It would be passing strange in the midst of all this progress that there should be none manifest in the management of our Agricultural Societies. We confess, in viewing the management of some of these Exhibitions, and notably that of the Provincial, we have sometimes been forced to the conclusion that they were altogether an exception; and that having made in past years a well worn rut for the wheels to run in, they were bound then to continue for time immemorial. Not that we would advocate change merely for the sake of change, but when a better way presents itself, why not adopt it? One of the first things to be sought for is efficient officers, who will be attentive and courteous, and at the same time guard well the interests of the Society; men who, if need be, are willing to suffer some personal inconvenience and sacrifice rather than delegate their duties to paid employes, whose chief object is to secure a good day's pay.

Having secured such officers, a great many minor matters of detail present themselves, which go very far to make an exhibiton useful and successful. These need not be mentioned here. We only wish to call attention to a few matters of importance. We have admired much the effort made by some of these Societies to aid in the introduction of improved stock. This may be done in two ways, either by the purchase of male animals by the Society, to be used by the members under certain restrictions; or by giving prizes sufficiently large to amount virtually to a *bonus* to any private party who is enterprising enough to purchase and introduce one. In Great Britain this is often done, especially in the case of horses, and with very gratifying results, and we think in many localities might be undertaken here.

Again, we can see no reason why these Societies should not partake more of the nature of a Farmer's Club, holding meetings of the members say once a month in winter, for the purpose of discussing questions of common interest relating to the business in which as farmers they engage. Surely there ought to be no necessity for so many different organizations to secure this object. Here we have a common platform where *all* can meet on common ground. The Society would have funds with which to obtain any desired information or secure the services of prominent persons to lecture on important topics. If this idea could be introduced, we prophesy a new impetus to these Societies, with some reason for their existence.

In the management of an exhibition one of the most essential things is the securing of competent and honorable judges. This is—as all who have any experience will acknowledge—a most difficult task, but to accomplish which earnest and painstaking effort should be made. In this connection we are bound to say that however well the plan may appear in theory which is adopted by the Council of our Prov. Association, practically it is proved to be a very bad plan. Men are sent from different parts of the Province as judges in different sections who have no practical knowledge of those departments, with the hope, we presume, that the others will be experts, and so the task will be made easier. We have witnessed a case where every one was disappointed in finding every other one as incompetent as himself. Such a committee deserves only the pity of onlookers; but it is too bad that valuable animals fitted for exhibition at considerable expense should be by such incompetence placed at the foot, as they sometimes are, instead of at the head, where they belong. When such things occur they only bring contempt on both judges and managers. Every judge should be able to form his own opinion on the merits of the animal or article, and be prepared to express it; and we would therefore like to see the system introduced in this country which has worked so well in connection with some exhibitions on the other side. Let there be five competent judges chosen; let each come to his own independent conclusion, and so record it upon a card given for the purpose, and let these be handed to the person in charge of the department, who reads in the presence of all the decision thus arrived at. Such a plan is not open to the objections of the old way, and would, we think, if introduced, give entire satisfaction. ONTARIO.

Canadian Herd-Book.

SIR,—I quite agree with the articles that have appeared in the ADVOCATE on the management of the Board of Agriculture and Arts; but one important branch, which is giving little or no satisfaction to those most concerned, you have entirely overlooked. I refer to the "Canada Shorthorn Herd Book," which is so conducted that the breeders have good reason to complain, especially in the delay of getting out the 4th volume. It is now over *three years* since some pedigrees which are to appear in the 4th volume were sent in to the Secretary for registration, and said volume is not yet published. What inducements have the breeders to buy the book when ready for sale? Why not issue one every year, and have it ready for the breeders by the first of February each year? The cost to the breeders of each yearly volume would be less than the cost of the periodical issue is now; it would therefore meet with more ready sale, and be more useful to those concerned, and sending certificates to the breeders would be no longer necessary, thus doing away with a considerable expense. I have asked members of the Board what was the cause of so much delay and expense, and where the fees go to. Some have said they "could not tell;" others have complained that the Association was losing money by publishing the Herd Book, and also complain that breeders do not purchase it as freely as they should. I think they have a good reason for not buying it. Many retire from business within a period of three years, and others see little use of buying, considering the lapse of time between the publications, many animals being dead before the volume in which they are recorded is published. My impression is, the Board contains too many members who have no interest in agriculture or fine stock, and who do not consider the breeders' interests, which are at the present time much neglected; in fact, I do not believe many of the members see the necessity of a Herd Book. I would suggest that the breeders have a convention in June and form themselves into a Shorthorn Breeders' Association, and assume control of the Herd Book.

BREEDER, Kent Co., Ont.

[When the Canadian Herd Book was first introduced the Canadian breeders were not as numerous or wealthy as they are now, nor as capable in other ways of founding and carrying on a Herd Book. And the Society did a good service by taking it up, though it has not been conducted as many breeders think it should have been. We believe the Society has outlived its usefulness in this respect, and that the record would now be better in the hands of the breeders. It would then be conducted by experienced stockmen, whose interest it would be to make the Herd Book a success; also, being practical men, they would know the requirements of the breeders. The most successful Herd Books and records now published on the continent are those conducted by the breeders themselves, and what other breeders have done Canadian Durham breeders certainly can do. We have been informed that there are to be 5,000 pedigrees published in the coming volume; some of the same have cost the breeders 50c. each, and a number have cost 75c. each to record. If they had all cost 50c. each, the total would have been $2,500 in registration fees; but if 2,000 were registered at a cost of 75c. each, and the other 3,000 at 50c., the total would then be $3,000 in fees. We understand this volume is to be sold for at least $4 per copy. Now we think it very strange if this is a losing business to the Society, but if it is, surely there must be bad management on their part.]

Pleuro-pneumonia.

SIR,—We owe you much for your timely warning of danger and your efforts to keep our cattle free from the diseases that are spreading in the United States. Hoping that you will persevere in this good work, I send you a clipping from an Ohio agricultural paper, on the necessity of using the greatest precaution to prevent the Pleuro-pneumonia from getting a foothold in the country, and hope you will make place for it in your valuable paper:

"We have known the owners of animals (thought to be convalescent, but really carrying large, encysted masses of diseased and infecting lung within their chests) anxious to dispose of them and realize some salvage from the wreck of their splendid herds. No ordinary purchaser would have suspected these animals, and yet they carried within them that which, if transplanted to other places, might have proved the starting point for a general infection of the country. Like all new plagues, this gains new force with every step made in its advance. As the malady is developed in this country by contagion only, it secures an additional advantage with every new animal infected. Every new case of sickness is but another manufactory of the virus spreading this on the air in countless myriads with every breath expired. No change of latitude or altitude, no modification of season or climate, no alternations of heat or cold, no change geological or atmospheric, no alterations, electrical or telluric, will rob the poison of its virulence or destroy its vitality. The plague once introduced prevails alike on the mountain top and in the valley; on the sea-coast and on the inland plains. As the seeds of this disease remain latent in the system for a period varying from ten days to three and a half months, and only become manifest by their effects at the end of this time, infected cattle may be carried from ocean to ocean, or from the lakes to the gulf, and remain thereafter for weeks or months in apparent health, and yet spread pestilence and destruction in the end. With such a disease, and with the large cattle traffic from the west, it is certain that contagion must be quickly carried in the channels of such traffic as soon as the infection shall have polluted its source."

STOCK-FEEDER, Amherstburg, Ont.

SIR,—I have a cow which gives ropy milk. What is the cause, and how can I cure her?

G. B., Orangeville, Ont.

[From the N. Y. Times we extract the following answer: "When cows are suffering from any functional disorder, the milk is at once affected. Sometimes the milk is acid, and soon becomes thick and ropy, and is often clotted in the udder, and is drawn in strings and clots. Epithelium scales and cells, which enter into the structure of the milk glands, are sometimes drawn from the udder with the milk, and when the milk is at rest these or the clotted milk fall to the bottom and form a suspicious and disagreeable impurity. The remedy is to restore the cow to a healthful condition by appropriate treatment. A brisk purgative, a pound of epsom salts or a quart of linseed oil, may be given, and afterward repeated doses of an ounce of hyposulphite of soda daily until the trouble is removed."]

SIR,—I received my large package of seeds for my new subscriber. It is more like two dollars' worth of seeds than one. Many thanks to you for them. J. S., St. Thomas, Ont.

What has Become of the Sheep?

SIR,—Between the 19th and 22nd of May I travelled nearly a hundred miles over the N. R.R., and made some short excursions on foot, and during the whole trip and return I saw less than fifty sheep. I do not say that there were no more sheep in the locality, but from the car windows and platform all I saw were about forty, in three or four small lots. Now sheep are all in pasture at this season, and should be visible to the traveller in something like proportion to the numbers kept; and allowing only twenty-five to each farm, should show many hundreds of sheep in a trip of say 100 miles. The fact is, the sheep are not in the country—at least not in this section of it, and this at a time when wool is 30c. and upwards per lb. Depend on it, there is something wrong; the sheep have been drained out of the country during the hard times, and those who have them have good property, for they must go up in price. Farmers who have sheep, take the hint in time.

The weather is unusually wet here at present, and is keeping the tail end of the seeding back very much. Nearly every one has more or less to put in yet, besides roots and corn. The fall wheat is very partial; on clay lands the ground is more than half bare, as a rule; on light lands, with an open subsoil, the fields are well covered. Clover the same as wheat—much damaged on heavy or wet lands; clover seed will be high next year, and hay will likely be higher, although the present weather is favorable for a good growth to start with. T. H., Meaford, Ont.

[We can tell you why there are so few sheep in your locality—simply because there has not been one FARMER'S ADVOCATE circulated in your county to twenty circulated in some sections where the farmers now have sheep and wool to keep and to sell. This journal has for a long time advised its readers to keep all the sheep they can, and to purchase from non-subscribers. An intelligent traveller informed us a short time ago that in travelling through the country he could tell pretty correctly where the ADVOCATE was taken and where it was not. The farms of subscribers evinced a greater approach to neatness, comfort and prosperity, while those of non-subscribers could be detected by the lack of trees, by dilapidated-looking fences and untidy, slovenly, slipshod farming. Just take a note of this. This is what we wish to aim at, that is, to enrich our readers both in information and in pocket. We cannot always be right in our instructions about the future, but we know of many who have profited to a very large extent by hints thrown out in season.]

SIR,—What is the best and quickest mode of replacing the loss sustained by the failure of grass seed which was sown in the spring of 1879, and winter killed last winter? 2. What is the value of fall rye as hay? 3. The advisability of transplanting an old asparagus bed which we desire to remove. J. B. W., Beaverton.

[At this season of the year Hungarian grass, millet or corn may be sown after the ground is prepared, and if cut while green enough will make a good substitute for hay. If you desire to sow grass seed as soon as possible, prepare your land and sow in August or September. The fall rains will generally give the young seeds sufficient growth to withstand the effects of the succeeding winter, but grass, as a general rule, does best sowed in the early spring. 2. Rye makes a good hay, but should be cut when in blossom, or just when the grain is forming. 3. Old asparagus plants may be removed, but they should be transplanted in the early spring in a rich, deep, mellow soil, and care should be taken not to allow the roots to become at all dried.]

SIR,—I often see inquiries about saw dust as manure. All our public omnibus companies use saw dust for bedding horses, and many farmers use it for cows. It absorbs all moisture, and makes capital manure. Nothing beats it for pigs. It cleans their skins and keeps them in a very healthy state, same as if groomed daily. After using in the stable mix it in the manure heap, and it will make good manure. Our farmers are glad to get it. Another manure I have found very good for onions and celery, viz.: spent hops from a brewery. They absorb moisture, and in very dry weather retain it like a sponge. In drawing onions the roots are sometimes found clinging to the lumps, and those fortunate enough to strike a lump are very vigorous.

The ADVOCATE is much liked here by those who have seen it. F.C.E., Manchester, Eng.

The Agricultural Commission.

SIR,—Having been a subscriber to the ADVOCATE since its first appearance before the agriculturists of Canada, I will take the liberty of writing a short letter, hoping that you will not take it amiss should I speak just as I think. I have always felt anxious to receive the ADVOCATE and desirous for its welfare, seeing that it claimed to look fairly and squarely into all matters pertaining to agricultural interests, regardless or not caring for either side of politics, but standing out boldly and fearlessly for right; in short, daring to be a Daniel—daring to do what is right! But what has happened to you? In your last issue you speak of the Agricultural Commission—that they will do good. What good? Have you gone so far astray as to say a Commission appointed for the purpose, no doubt, of reporting in such a way as will be favorable to one side or the other in a political way? For, in fact, sir, it is my candid opinion this Commission was appointed by the Ontario Government at Toronto for the purpose of getting the farmers of Ontario to say that they don't believe in the N. P.; and any man with half an eye can read that Commission and their report before the Commission starts on their tour for information. But it should not be put this way; it should be a Commission to talk the agriculturist into what the Commission wishes. Now, I am perfectly satisfied if a farmer should say that a duty on corn, oats, or any other article, was needed, that will never be embodied in the report. For this reason: There are some on that Commission that know nothing about farming, and they are that rabid in politics that they would raise a "breeze" or leave the Commission before they would make a report in favor of the N. P. Now, what necessity was there for this Commission or bill of expense to Ontario? Could this information not be received from the members from the ridings that contain more farmers than others? I say it could. If not, what is the use of sending men to Parliament if they don't understand the wants of their constituents? It looks to me as though our Parliament must be composed of very poor material, if a Commission has got to go through the country and get information, and the M.P.P.'s getting $600 for voting, having a good time through the winter, &c. Now, Mr. Editor, in conclusion: If you have got to toady to this Commission, that, no doubt, is to make a favorable report of the Model Farm (I should, and feel like calling it a "model humbug!") it is high time the farmers knew it. We want a paper to criticize, but not to side in with all this "high-falutin" red-tapeism. No doubt, it is hard for you to throw all aside, being an Englishman and the son of an Old Country clergyman, but it must be done.

BRANT CO. FARMER.

From Manitoba.

SIR,—Your correspondent, D.G.S., of Ronson, Ont., sends you a letter which is likely to do Manitoba an ill turn, published as it is in a paper which reaches the greater part of the farming population of Canada, especially when partly backed by your own, to my idea, rather hastily formed opinions of last year. D.G.S. and I think you also took the very worst piece of road in the Northwest, and last year it was exceptionably bad, and the said road seems to me to be the tough morsel that choked off that would-be settler. I don't blame him for being disgusted with the mud, but no man is surely insane enough to expect macadamized roads in a country that has only been opened up for a very few years. The country he passed through contains timber enough for any settler's use, though it is small, and as far as its being poplar is concerned, we mostly prefer it for fencing, if it is split, only using oak for pickets. The toll bridges are being done away with, taken over by the Government, and bridges put up where the ferries were. As far as the charge goes, he must remember that the means of crossing were the result of private enterprise, and the time lost by the proprietor very considerable. Had he been here a year or two ago he would have had to raft or swim, and would then have blessed the bridge proprietor if he had to pay twice the fee. That Manitoba is a good country the number of satisfied settlers prove, and those not only the fair weather settlers of the last few years, but the pioneers who struggled through the grasshopper plague of 1872-5. The hard scratching for a living pulled through by many of them could only be imagined by those who were here and saw it, but the only reminder of it you ever hear is, "I'm getting on well enough, but I'd be better off if it hadn't been for the hoppers." I never saw men who *wanted* work want it for long, but wages, of course, are not what they were—$20 a month on a farm, and others according to the work is what you can get now. I am writing about what I know from experience, having been both employer and employe, and having been twice cleaned out by grasshoppers. I landed here eight years ago with $30. I am now getting on well, having a pretty good farm on Pembina Mountains, and a clear balance sheet, stock, land and implements all to the good, and I labored under one disadvantage—I earned my first wages after landing here. I only mention these little things to show that men who are not to be frightened by a lift on a muddy cart wheel can succeed here, notwithstanding all that is said and written to the contrary. At the same time I don't advise any man to come here with less than $500, and even with that he must be one not easily frightened by hard times and hard work, and determined to look past the first few years, taking them as a disagreeable necessity and making the best of them.

Your prize essay by Mr. Ireland was very good, I thought, and perhaps my plan of stretching wire fence may be of use to him. I drive my posts as he does, but two rods apart, and between them I staple to the wires four false posts from 2½ inches in diameter, the butt resting on the ground and the top sawn off level with the real posts. The saving of labor is enormous, also of timber. The wires are kept tight to their place, and the posts are so close that cattle can always see the fence. Anything charging the fence is not so likely to be cut, and the amount of spring allowed the wire will save both it and the posts from breakage. I have tried this on 1½ miles of fence and found it to answer. A. C. W.,

St. Norbert, Manitoba.

Budding Fruit Trees.

SIR,—Will you inform me how to bud fruit trees and which is the proper time of the year?

S. E., Aurora, Ont.

[In our July number of 1878 we gave full particulars, but for the benefit of recent subscribers we will again give a short description. For budding a sharp, thin-bladed, round pointed knife is used, with a handle terminating in a thin wedge-like piece of ivory or bone, which is useful in raising the bark of the stalk. The buds are taken from the shoots of the present year's growth, when they have become perfected; this may be known by the formation of the terminal bud. Should the shoots be backward in growth, they may be more rapidly perfected by pinching off the upper end, checking their growth and ripening the parts. The buds to be removed are developed where the leaf joins the stem. The buds should be well formed before being removed, or they will be of no value; when of the proper age the young shoots from which the buds are to be taken are severed from the tree with a sharp knife, and the leaves are removed from it, while their foot-stalks are left attached to the buds as handles. The operator selects a smooth place on the stalk he wishes to bud, and makes an incision across it through the bark, and another at right angles to and below it, so as to form a T. The bark is raised on each side of the perpendicular cut by the ivory handle of the knife. The stalk is then ready. Taking the stalk of buds in his left hand, the operator inserts his knife above the bud, bringing it out below so as to cut away the bud, also a portion of the bark and a part of the wood. When budding the cherry and other trees of spongy growth and slow adhesion, it has been found better to cut away a thick portion of the wood, and in no case should the piece of wood cut away with the bark be removed. Having thus prepared the bud insert it as quickly as possible in the incision in the stalk, and commencing at the bottom of the incision, wrap the bud and stalk with something that neither air nor water can penetrate, only leaving the vital part of the bud uncovered. The bud will soon swell, when the tie should be loosened, and finally removed. This will take place in 10 to 20 days. Should any length of time elapse from the removal of the bud to its insertion in the incision it must be kept moist. The time for budding is from June 15th to September 15th. The only rule that can be given is to secure the perfect development of the bud, and to ascertain that the bark of the stalk separates freely from the wood.]

Experience gained in the past season goes to show that liberal manuring is the most economical. We can see in the past harvest where five dollars worth more fertilizing per acre would have given twice that value of grain.

The Family Circle.

"Home, Sweet Home."

THE DOCTOR'S NIECE.

BY E. W. P.

"Women must either love or hate; the difficulty is to find which is their humor. So, Master Ned, I advise you to have nothing to do with them!" smiled the Doctor, as he rose from desert.

"I'll wager, sir," laughed the gentleman addressed, "if it's not an impertinence, that you were not of that opinion in your younger days."

The white-headed Doctor bent his kindly face towards the handsome youthful speaker.

"Youth and age, my dear Ned," he said, "commit the same errors in each generation. Yes; from the days of our first parents! Yet, if you can, take my advice, and leave Isa in peace. She will have nothing to do with you!"

The Honorable Edward Chesterton received the announcement with a clear genial laugh as the Doctor quitted the room. He fancied he had read Isa Pomeroy better.

"What a dear, noble old fellow it is!" he remarked, sipping his claret, and addressing his fellow-student, Dick Mortmain, a dark, gentlemanly young man of twenty. "Talk as he may, I'd swear he has experienced 'la grande passion,' bachelor though he be!"

"My doubt rests on any woman refusing him, Ned."

"Bah! Recollect what the gentle knight, Don Quixote, said of the sex!"

And the speaker sighed.

"'Prithee, why so pale, fond lover,'" laughed the other, "when the doctor's niece so encouragingly smiles on you?"

His companion, flushing, laughed.

"There, come to the library, Dick. I've promised to master that portion of Æschylus, and I never break my word to the Doctor"

The private pupils of Doctor Pomeroy had moved to the door, when they were arrested by an imperative tap at the window.

Striding to it, Edward Chesterton drew aside the heavy curtain, and was lost in admiration.

Outside, standing in the snow, and beneath the arching ivy, covered by the same fleecy material, with a scarlet cloak thrown about her head and shoulders, was a girl of scarcely eighteen, brunette of complexion, with black, sparkling, saucy eyes, and a rosebud, vermilion mouth.

"Little Red Riding Hood, by Jove!" exclaimed Dick Mortmain. "How charmingly bewitching!"

"Why do you not open the window?" cried the girl, impatiently rattling the glass. "Mr. Chesterton, a life may depend upon delay! Pray let me in!"

Already the bolt was drawn, the French window flung wide, and the young man's hand extended to assist her enter. Then, the reflection of the red fire flashing on the panes being no longer between them, he saw she was considerably agitated.

"Good gracious, Miss Pomeroy!" he ejaculated; "what has happened? Something has distressed you!"

"Yes; much to excite pity!" she answered, rapidly "There is a woman lying by the roadside, a few yards from the gate. I saw her as I came from the Trennions. She was so still I thought she slept, and tried to rouse her, but she groaned, and did not move. Oh, Mr. Chesterton!"—and Isa shivered with that fearsome awe the young experience at the presence of death—"I fear she is dying of cold!"

And, clasping her tiny hands, she looked implori gly at him.

Had she asked him to start that instant to release an ice-bound bear at the North Pole, he would have gone, much less have traversed those few yards to save, perhaps, a fellow-being's life.

"In what direction is she, Miss Pomeroy?" he asked, already half out of the window.

"I will show you," said Isa

Nothing loth to have such a guide, he drew her hand through his arm, and set out, Dick Mortmain joining them after lighting a cigar, and remarking, with the air of one grown gray in worldly knowledge, "Enthusiasm—youthful philanthrophy. No doubt it's a case of juniper."

On reaching the miserable being lying there in the snow, stiff, almost frozen, the idea of "juniper" was banished, though the woman was very poorly attired. Kneeling with a gentleness that would have won him Isa's heart if it had not been his already, Edward Chesterton raised the woman's head on his arm, and placed his hand on her wrist.

"I wonder whether we are in time?" he said. "I fear not. She seems to be cold—dying!"

At the words the woman looked up and gazed upon the speaker. She had large, brilliant eyes—larger, more brilliant from contrast with the well- shaped, but pinched, pallid features.

"Dying!" she gasped, almost inaudibly. "Yes! I do not wish to live; but oh! do not let me die like this—a beggar on the road-side! Save me from a pauper's grave!"

The soft voice, though faint, spoke with singular entreaty, while she gazed piteously at Edward Chesterton.

"Be comforted," he said tenderly. "I will take care it shall not be so bad as that."

"Bless you, whoever you are!" murmured the woman, again losing consciousness.

"What a strange dislike these people have to pauper funerals!" said Dick Mortmain.

"Strange!" exclaimed the other sharply. "In so rich a country as England the word pauper should hardly be known. Come Dick, drop the philosopher, and take up your natural self. Help me with this poor thing, while Miss Pomeroy kindly goes in advance and announces our coming."

The girl was off instantly, her red cloak flashing over the snow, and filling Edward Chesterton with admiration.

Despite Dick Mortmain's assumed worldliness, his heart was in the right place, and with every care he assisted the other to raise the wanderer on to his shoulder, when, together, they proceeded to the house.

At the hall door Isa met them. The bed-room was ready. It was Isa's own. The elderly upper servant, part housekeeper, had expostulated in vain. The apartment was the only one with a fire, and Isa persisted.

So the young gentlemen, ascending the stairs with reverend step, entered the pretty bed-chamber, bright with winter flowers, and laid the woman on the snowy-curtained bed, with its dainty white counterpane, against which the poor, dark clothes, wet with melted ice, looked strangely, making dirty patches on its purity.

"Who can tell the life this poor creature has led?" said Dick Mortmain, in a whisper. "That soiled attire and that spotless drapery may be taken typically of herself and Miss Pomeroy."

"Confound your remarks!" exclaimed Edward Chesterton, drawing him from the room. "Dick, it belies your nature, which is generous enough. But if sin has brought the poor creature to this state—and her features as her voice speak of something once better—the presence of death should make us forget everything—death, a greater purifier than the furnace fire."

While the students went to the library—Edward Chesterton to apply himself to that certain portion of Æschylus, and while the Doctor was enjoying a controversial chat with a fellow Cambridge man, at whose house he was spending the evening—Isa busied herself about the poor invalid. She made up the fire until it blazed so fiercely as to put the place in imminent peril. She covered the numbed figure with blankets, chafed the cold hands in hers, so soft and dainty, and administered stimulants, until vitality was quickened, and the sufferer fell into a deep sleep, when, banishing the servant—after a sharp reprimand for an overheard speech that "She didn't care to wait on the likes of that, if her mistress did!"—she seated herself on a low, comfortable chair by the bedside, a book in her hand, waiting the wanderer's waking.

An hour must have elapsed, when, turning, Isa found the woman intently regarding her. Her expression showed reason had come back. Leaning forward, she inquired softly, "Are you better?"

"Thank you, yes," was the faint rejoinder. "I am as well as I ever shall be on earth. But where am I?—how did I come here? I recollect I was walking—cold, cold unto death—then I remembered nothing else."

"You fainted," replied Isa. "Fortunately I found you, and had you brought here. You will soon, now, be well. Drink this, then sleep again if you can. You must, you know, keep quiet."

The woman swallowed the warm negus, then, lying back upon the pillow, said gratefully, "How beautiful you are! you are an angel! Bless you!"

Sighing, she closed her eyes, and appeared again to slumber.

At that instant a gentle tap called Isa to the door. She found, standing outside, Edward Chesterton, his handsome countenance full of sympathy.

"How is she now, dear Isa?" he inquired.

When these young people were alone the prefixes Miss and Mr. were abandoned.

"Better; yet, Edward, I fear. Her features are so wasted. The hand of death seems on them."

"Shall I fetch a doctor? I'll go anywhere or do anything you wish," he remarked affectionately. "Only speak!"

She rewarded him with a smile, and gave him her hand.

"I scarcely think it necessary. Let us wait Uncle's coming home."

"Yes. Perhaps it's as well. I am sure nothing better could be done than what you are doing, dear Isa!"

There was a brief silence; then, yet holding her hand, he whispered, "Isa, dearest, I expect to receive my father's answer to-morrow."

The girl blushed, trembled, and grew restless.

"Oh, Edward," she murmured, "if he refuse? In the world's opinion your position is so—so different to mine!"

"He will not refuse," rejoined the lover, putting his arm round her. "Are you not the doctor's niece—the niece of his dear and valued friend? Oh, Isa, you do not know Lord Arenstane! When he accompanied me here he said you were the prettiest, best little lass he had ever beheld. Do you think, then, that he would have exposed me to such temptation if the natural result could displease him? He will consent, Isa, and so—"

He brought his lips very near the girl's cheek; but laughingly she slid from his grasp.

"It does not give you a right, sir, to be impertinent."

She smiled saucily as she shut the door upon him.

Isa resumed her chair, and also tried to read her book. The woman apparently still slept, yet the young nurse had a vague sensation that she was frequently looking at her; though if she glanced round the eyes were closed, and the labored breathing came through the lips as in slumber.

Near eleven, when the house was quiet, Isa heard the Doctor's key in the hall door: Noiselessly rising, she left the room, and flew down stairs to meet him.

"Well, Rosebud," said the Doctor, rubbing his shoes and pinching the provoking little chin. "Why, how is this? For shame! York and Lancaster have changed sides. It's the white rose to-night!"

"Oh, uncle!" she answered, taking his arm and drawing him into the study, where a little kettle boiled cheerily on the fire, and sugar and a decanter stood on the table, suggestive of elderly gentlemen's night-caps. Such a sad thing has happened—oh, so very sad!"

"Why, Rosebud, what is it?" he inquired, seating himself in the cosy chair by the fire, with the air of a man feeling particularly comfortable.

In a few words she told him, being far too impatient for delay.

"What!" he exclaimed, his brows slightly contracting. "A tramp, dying by the roadside, and is now in possession of your own bed-room, pet? Charity is all very well and amiable my love; but such impulsive charity is rather dangerous. How do you know, my dear, what this woman is? A disreputable tramp, perhaps, who may rend the hand that fosters her."

"I only knew she was dying, uncle, and did not wait to question further."

"You are a good fairy, Rosebud," said the Doctor, kissing her. "The fault was Ned's; he, a man, should have known better."

"He did not, man as he is, Uncle," remarked Isa, with a roguish twinkle; for he promised the poor thing he would see she did not have a pauper's funeral."

"Did anyone hear the like? Why, if he is going to make such promises, he had better turn gratis undertaker at once!"

"Uncle dear," and Isa slipped her arm about his neck, "if you were to see the poor sufferer you would agree with Ed—Mr. Chesterton and me. Uncle, think," and the young voice trembled, "she is dying."

"Tut tut! We won't say that, pet. But there, I will see her. Make me my grog, Rosebud, while I step up; and remember the night is very cold."

"Therefore I am not to forget the water," laughed Isa, as he left the study.

"What perfect children they are," muttered the Doctor. "I pray their hearts may ever be green, bless them! The woman, I do not doubt, is but of her class, and a plainer couch than my Rosebuds' would have suited."

The Doctor, despite his words, was proud of Isa's charity. He mounted the stairs, and softly entered the room. The fire had sunk together in a rich, red glow, while the lamp on the table shed a mellow light on the bed's occupant. The Doctor marked the worn, draggled dress, and reflected, pursing his lips.

"A veritable tramp, that is clear; I wonder what account she can give of herself."

Approaching, he drew back the curtain; then with a face paler than that he looked upon, uttering a cry, reeled, and caught the curtain for support.

"Eleanor!" he gasped.

At the sound the invalid, starting up, leaned forward on her elbow, and fixed her gaze upon the Doctor. Abruptly recognition shone in it, and she exclaimed, "Everard! Merciful power! is it to your house that I have been brought?"

There was a painful silence. Both required some moments to recover composure. Then the Doctor, sitting on the chair Rosebud had used, bent his face on his hands and wept.

"Oh, Eleanor, I thought you dead!" he groaned. "Why, why do I find you thus?"

The thin cheeks flushed as the head sank abashed on the laboring bosom.

"Ah, Everard; I have had cause to repent the past bitterly!" she murmured, mournfully. "Mine is, however, so sad a history that even you will pity me."

"Pity you! I pity you from my soul, without hearing that history, the sadness of which your present aspect but too plainly proclaims. Still, may I not hear it?"

"To tell it you was what brought me into this neighborhood, and—another cause."

The Doctor started and turned away.

"I wished to let you know all from my own lips before I died; for I am dying, Everard. I shall never see another sun."

Before he could answer he caught the sound of Isa's light step upon the stair. Hastily rising, he met her in the passage, and bade her return to the sitting-room, as her patient was awake, and desired to see him alone, to relate why they had found her in so pitiable a condition.

On re-entering the apartment he took the precaution of locking the door; afterwards, resuming his seat, he listened with much pain, sorrow and compassion to the promised recital.

"When it was ended a brief silence ensued. The woman was the first to break it. Leaning forward, she said, eagerly, "And Isa! Oh, Everard—Isa—tell me——"

"In mercy—no, no!" he interrupted. "Eleanor, be merciful to her! To me—to the world—to herself, she is my niece!"

"Your niece! But, Everard—think—of me."

"I do. Yet, Eleanor, in kindness let us both think of her. In pity be self-denying; do not rend the veil, and disclose the wretched past to her. Do not let its weight fall on her soul to burthen it. Let her continue my niece. It is hard to ask it, I know—terrible to grant; but for her—I implore it for her. If you have owed me anything in the past, let your silence now be its payment."

Sinking on his knees he raised his trembling hands in supplication, while the tears flowed down his cheeks.

The patient mutely regarded him. A struggle was evidently taking place within her. She breathed painfully, and pressed her hands to her forehead. Finally she spoke—

"Everard, it is terrible, after all these long, long years. Nevertheless, you are right. It shall be so."

Springing up joyfully the Doctor took the wasted hand and kissed it.

"It is a noble sacrifice, Eleanor," he exclaimed. "Surely it will obliterate the past!"

"Let her come. Let her keep by me—until—until—ah!"

She fell back insensible upon the pillow.

With considerable nervousness the Doctor summoned Isa, also medical advice. The latter brought no hope. The worn-out, weary existence would never behold another dawn.

It was near three in the morning when the dying woman, after gazing eagerly around, rested her glance upon Isa, and whispered—

"Will you kiss me, my child?"

Isa, tears swimming in her bright eyes, bent down, when, with an effort, the woman's arms clasped her tightly to her breast.

"You are an angel?" she murmured. "If anything could have saved me it would have been your presence. But it is impossible. Better it is so. Kiss me again; let my lips touch yours."

Isa, sobbing, complied; then the weary head fell back on her arm. Tenderly she supported it; finally the faint voice murmured the same request, "Kiss me, dear."

"Isa obeyed. When she arose the Doctor's arm was about her, and he led her from the room. The outcast's troubles in this world were over.

. . . . .

Bright and glorious rose the sun the next morning, but its radiance scarcely rivalled that of Edward Chesterton's genial countenance, as an open letter in his hand, he entered Doctor Pomeroy's study, and requested a few moments' private conversation.

"Certainly, Ned—certainly," answered his tutor, drawing his thoughts from the sad event of the previous few hours.

"First, sir, respecting that poor woman," said the pupil. "I made her a promise; I wish to keep it."

The Doctor quickly averted his face.

"We will talk of that afterwards, Ned," he rejoined. "Be assured she shall have no pauper interment. What is the subject which makes you so cheerful this morning?"

Edward Chesterton tried to speak cheerfully, but his pleasant voice would tremble and stumble as the words came forth.

"It is this letter, sir. My father has consented."

"Consented to what?" asked the Doctor, surprised, though the truth began to break in upon him.

"Why, sir, he consents to my asking your permission to address Isa as my future wife.

Doctor Pomeroy's brow clouded, and, before answering he perused the letter.

"It is kind, it is generous of Lord Arenstane," he said. "It is like his old true self. May I ask if Isa is aware of this?"

"Why, yes, sir; I trust I have acted neither wrongly nor

dishonorably; but I chanced to meet her, and could not refrain from telling her the good news," he stammered.

"Much chance about it, I dare say," remarked the Doctor, with a faint smile, as, rising, he began thoughtfully to pace the study, his hands behind his back. "I am sorry—sorry for you both; as it can't be, Ned—I could not permit it."

The young gentleman's countenance fell. He was fairly overwhelmed with surprise. True, he was only a younger son, but the Doctor could scarcely expect a richer suitor for his niece.

"Not permit it, sir?" he exclaimed. "May I ask why?"

For a while the Doctor continued to walk to and fro in silence, then placing his hands on the pupil's shoulders, and looking with much affection into his disappointed countenance, he said, "Ned, I love you as a son—a dear, highly-valued son. You are the child of my oldest, my best friend, whose counterpart you are in all that is honorable. I know, therefore, that I may trust you with the secret of my life; Isa is not my niece. Nay, she bears no relationship even to me."

"Not your niece, sir?" repeated Edward Chesterton, half rising up in his amazement.

"No. Keep your seat. Do not interrupt me, and I will try to explain."

Resuming his perambulation, his eyes bent on the carpet, the Doctor abruptly began, after a moment's silence: "I was just your age, Ned, when I fell in love with one of the handsomest girls I believed I ever beheld. I was young and light-hearted then, and not overmuch given to study, as I am now. I was capable of attending to lesser matters, and I loved passionately, loved once and for ever. The girl, though of good birth, was poor. So was I To strive for her, however, was an incentive to work, and I labored hard, believing she loved me, for she had consented to be mine, when the unexpected death of my father called me to Derby. I shall not touch minutely on these matters; suffice it that when I returned to Cambridge the girl of my heart had eloped with a penniless lieutenant. He was, indeed, worse than penniless. He had been broken in his regiment, dishonored, banished from society. She learned all this too late. I was long recovering the wound. Your father, seeing something was wrong, kindly selected me as his tutor in his continental tour. When I returned, in two years' time, a letter reached me. It was from her by whom I had been deceived. Her husband, from some reason, had been compelled to fly the country at a moment's notice—so hastily that he would not permit her to fetch her child from where it chanced to be staying. The letter was that of a humbled, broken-spirited, ill-treated woman, and she implored me to forget the past, and to watch over her child till she could send for it, if she ever dared. She had no other friend, she wrote, whom she could trust. I did so. When the money sent from abroad ceased, which it soon did, I paid for its maintenance. After a while, however, the woman who kept it died, and her daughters went to America. At the same period your father gave me this living, and I brought the child, then five years' old, here with me as my niece, the child of a dead brother. It was Isa."

There was silence Afterwards, the Doctor, his voice unsteady, said, "Come, Ned, and hear the end of the wretched story."

Followed by Edward Chesterton, he proceeded to an upper room, where lay the remains of a dead woman Carefully he removed the sheet from the still face.

"Ned," he remarked, gravely, and with much agitation, "that was the woman I loved, and Isa's mother."

Edward Chesterton was considerably moved.

"Does Isa know this, sir?" he inquired.

"No; nor ever will if I can prevent it."

"Sir," said his pupil, "I pity, as I honor you a hundred times more, if it be possible, for this deed. I would have wished, certainly, that Isa could have claimed kindred with such an one as you, but in that alone does this sad story make any difference."

"How? Would you, Lord Arenstane of Meutalbin's son, yet wed her?"

"As readily now, sir, as I would when first this morning I entered your presence."

"You are a true, a noble lad, Ned!" exclaimed the Doctor, much moved, as he grasped his hand. "But your father will, I take upon myself without hesitation to affirm, be of my opinion, sir. I shall write to him to-day."

Doctor Pomeroy put back the sheet, touched reverently the fresh winter flowers the daughter had placed on the unknown mother's bier, and led the way from the room.

It appeared Edward Chesterton knew his father perfectly. Lord Arenstane's letter arrived, repeating his consent, and enclosing a kindly missive to the Doctor, full of sympathy and praise.

"My darling," said Edward Chesterton, as he strolled by Isa's side a day later—for they were accepted lovers now—"your good uncle has just made a proposition that we shall all follow to the grave the remains of the unhappy deceased—that we should show her this last token of respect. Will you also be present?"

"If my uncle will permit it, I should wish to, Edward," she replied.

"I do not fancy he will refuse," remarked the lover, well knowing that it was the Doctor's own desire, only he had felt too nervous to suggest it himself.

So the child stood, unconsciously, chief mourner at the mother's grave, listening to the beautiful rite of the dead. They were the orphan's tears that fell so fast, and her hand which dropped flowers before the earth was filled in.

Six months after, blushing and beautiful. Isa was married to Edward Chesterton. Doctor Pomeroy performed the ceremony, and Dick Mortmain, wondering why ever people could possibly trouble themselves with the burden of matrimony, played best man, and gave the bride the heartiest good wishes and the handsomest presents.

As they came down the church path from the porch, Isa stopped with a start.

"See, Edward," she said, drawing his attention to the outcast's grave, on the headstone of which a name had been cut, "Eleanor Pendrel," with the date of her death.

"Yes, dearest," her husband answered "Did not the Doctor tell you? She informed him who she was before she died. In this hour of our supreme happiness, my love, let us prove we yet can feel sympathy for her—thus!"

Taking the flower from his coat he laid it on the grave, already flower-grown and well tended. Bending, Isa placed by it her wedding bouquet.

"Why is that?" asked a stranger of a rustic, as both stood watching the wedding party. "Is it the grave of her mother?"

"Mother! Lor' bless you, no, sir! It be the grave of a poor tramp that wur rescued from dyin' at the roadside, and a pauper's grave, by that young lady, our 'Doctor's Niece.'"

THE END.

Our Own Concession Line.

In these days of mighty movement by the telegraph and train,
When time and distance both are knocked out of all account;
When our roads Macadamized, though certainly a gain
In facilitating traffic, are not thought of much amount—
Although I may be sneered at for my old-fashioned design,
Yet I'll sing a lay of that dear old way, our own Concession Line.

Now hardly sixty years have passed since this place was all a wild—
The settler coming there didn't journey very fast;
But when after many weary days of hardship he had toiled,
He came to the pathway leading to his home at last.
He saw a blaze upon the trees, which was the only sign
That marked out the direction of our own Concession Line.

And when to go to mill we had to underbrush a road
For our sleighs, scarcely wide enough, we gaily jogg'd along;
Although too muddy was the track to bear a heavy load,
Yet we carried what we could, and with the burden of a song
Beguil'd the tedious way, resolving never to repine
While we had a grist to carry on our own Concession Line.

On the corner, by the sideroad, was a building very plain,
Composed of rude materials, which on week days was the place
Where the teacher gave his lessons; and often, not in vain,
An urchin went there daily, "with his smiling morning face."
And on Sundays all assembled, when some eloquent divine
Taught the way to brighter worlds on our own Concession Line.

And though we had no concerts then, with Ole Bull to play,
We were not without music, for a singing school was there,
When the boys in merry groups came on whistling; and you may
Imagine we were not without a sprinkling of the fair;
And when going home together—that secret still is mine—
Well, no matter what was whispered on our own Concession Line.

But it somehow often happened when the days were lengthening fast
That all hands were invited to a party called a Bee,
To raise a house, and then before many weeks were past,
The neighbors were invited to another kind of spree;
For a wedding party then never took the train at nine,
But kept it up till morning on our own Concession Line.

And now that perseverance and industry have reclaimed
A wilderness, and orchards with their golden burdens grace
The farms along that pleasant road—may it be ever fam'd
For keeping up its end in improvement's onward race:
But while heart shall beat I'll ne'er forget, whatever lot be mine,
The happy days I spent upon our own Concession Line.

L. S. B.

Plants and the Electric Light.

A good deal has been said by some of the London horticultural journals respecting the practical application of the electric light for forcing purposes. It now appears that the growth of plants is proved to take place under the influence of the electric light, and although matters are still in their infancy, enough has been definitely gained to show that, in the future at least, the English, if not American gardener, may be able to avail himself with advantage of the electric light, and ultimately set the dark, foggy days of winter at defiance as he does already their low temperature. It was already known in a vague sort of way that the action of the electric light on vegetation was similar to that of the solar ray; but practical proof, such as would carry conviction to the unscientific mind, was wanting. This has now been afforded, and to Dr. Siemens, as we learn from the Gardener's Chronicle of London, is due the credit of being the first to place the matter on a practical basis. At a late meeting of the Royal Society, Dr. Siemens gave orally an account of his preliminary experiments, and exhibited illustrations of the power of this new agent in promoting vegetable growth. The method pursued was to plant quick-growing plants and seeds, such as mustard, carrots, beans, cucumbers and melons, in pots, and these pots were divided into four series, one of which was kept entirely in the dark, one was exposed to the influence of the electric light only, one to the influence of day-light only, and one to day-light and electric light in succession. The electric light was applied for six hours each evening—from five to eleven—and the plants were then left in darkness during the remainder of the night. The general result was that the plants kept entirely in the dark soon died; those exposed to the electric light only or to sunlight only throve about equally; and those exposed to solar light first, and then to electric light after sunset, throve far better than either, the specimens of mustard and of carrots exhibited to the Society showing this difference in a very remarkable way.—[Rural N. Yorker.

The bee is said to be a resident of any climate of the globe. It will prosper in hollow trees in Canada, where mercury will freeze in the open air, as well as at the equator.

Minnie May's Department.

My Dear Nieces,—An accomplishment, of course, is something accomplished—that is, completed or filled up; and the word is now popularly used to designate the more ornamental branches of education. It is the undoubted duty of women to make themselves agreeable, and the wider the range of their accomplishments, the easier it is for them to gain a genial influence over society. But to impose the same round of ornamental branches upon young girls is a great mistake. Why should one who has no eye for form or color be tied down month after month to the pencil and the palette? What an enormous amount of time is wasted in laborious beating of the piano-keys by girls, who, not having the slightest conception of the soul of music, can never be anything more than mechanical performers, no matter how thorough their instruction may be. Where the musical gift has been implanted, let it be thoroughly cultivated; but it is a pity that so many young girls should be compelled to practice several hours a day that which will always be to them nothing but an instrument.

There is a great variety of tastes in the world, and generally every girl has a taste for something, although it may not be painting or music. Every young person whose desire is a good position in society would like to become accomplished, not only in her general style and manners, but also in the more advanced departments of solid culture. It is not to be expected that the majority of girls should become profoundly learned, or be distinguished as popular writers, or travel about to enlighten the public with wisdom. The formal pedant, who seems to look upon society only as a field for the collision of strong minds and the parade of argument, and is always on the watch to start some subtle question of science, philosophy or criticism, is apt to become something of a nuisance. However, this is not so bad as one who has no resources beyond the gossip of the day, and talks of nothing but dress, fashion, the weather, etc.

Minnie May.

Hints to Correspondents.—No attention will be paid to communications unless accompanied by the full address of the writer. Names and addresses of correspondents will not be given to enquirers.

Answers to Inquirers.

Rosie asks for a wash to remove dandruff from the head. Get a lump of quicklime the size of a walnut, drop it into a pint of water, and allow it to stand over night; the water being then poured off from the sediment and mixed with a quarter of a pint of vinegar. forms a good wash. It is applied to the roots of the hair.

Vivette.—A widow's bridal dress, no matter how young and beautiful she be, must not be like that of a young girl. She must not wear diaphanous or pure white robes. She may choose between pearl or cream color, gray, lavender, or lilac. She must not wear orange blossoms nor a veil. She must not have bridesmaids, nor are wedding favors given.

Henriette.—Parrots may be fed on different kinds of grain, seed, and nuts, and occasionally bread soaked in sweet milk. Boiled Indian corn is also good for them if well done and the water strained off. Serve it to the bird when cold. Biscuits and small bits of loaf sugar may be given occasionally, but pastry and animal food never. Clean gravel is indispensable. Glass or earthen ware vessels only should be used for putting the food of a parrot in, never zinc, as it is poisonous, and tin is very little better. Trousseau is pronounced *tru-so*.

C. C.—"What is meant when a visiting card is left with the corner turned down?"—A corner turned down signifies precisely the same as if the whole side is turned, either that the card is left for more than one person, or else that the lady wishes it to be understood that she called in person and did not send the card.

H. M. H.—If there are ladies at the table they should be helped first; but after the ladies have been served, should your host pass you a plate desiring you to retain it for yourself, it is best that you should do so, but should your host not make any remark, you may pass the plates until all at your side of the table have been served, as where there are no servants to wait, it is necessary that guests should pass the plates to each other. When there are servants, you should always retain the plate first brought to you, unless you see that the waiter has made a mistake in serving you before the ladies.

MARY.—Procure one ounce of glycerine, half an ounce of rosemary water and twenty drops of carbolic acid. This mixture is said to be good for eruptive diseases, which are liable to occur in warm weather, known as prickly heat.

DEAR MINNIE MAY,—Would you please tell me where I can obtain the flower called the Clematis, a description of which appeared in your last issue, and oblige. M. C., Durham, N. S.

[You con obtain it at different nurseries; we sent to Ellwanger and Barry, Rochester, N. Y.]

RECIPES.

HOW TO MAKE LEMONADE.

Plain home-made lemonade can be made very cheaply, when lemons are not too dear. The great secret is to use boiling water, and pour it on the pulp of, say three lemons, with a small piece of peel, but not too much, as it will render the lemonade bitter. Add white sugar to taste—of course, children like it sweeter than others. Let it get cold and then strain it. Care should be taken that all the pips are removed from the pulp before the boiling water is added. A great improvement to this kind of lemonade is the addition of a little diluted sulphuric acid, about thirty drops to a quart.

SUMMER BEVERAGE.

The following recipe for making a delicious syrup for a summer beverage, is one that I can recommend, and hope it will be of use to some of your subscribers. JENNIE.

Put a pound of very fine ripe raspberries in a bowl, bruise them well, and pour upon them a quart of the best cider vinegar; next day strain the liquor on a pound of fresh, ripe raspberries, bruise them also, and the following day do the same, but do not squeeze the fruit or it will make it ferment, only drain the liquor as dry as you can from it. The last time pass it through a canvas bag proviously wet with the vinegar, to prevent waste. Put the juice into a stone jar, with a pound of sugar to every pint of juice; the sugar must be broken into lumps; stir it and when melted put the jars into a pan of water; let it simmer a little and then skim it; when cold bottle it. It will be fine and thick when cold and a most excellent syrup for making a wholesome drink.

CURRANT JELLY.

Can any of your correspondents give a recipe for making blackberry, currant or strawberry jelly? MRS. E. J.

Place the fruit in a stone jar; set this in a kettle of tepid water and put it over the fire; let it boil, closely covered, until the fruit is broken in pieces; strain, pressing the bag hard, putting in but a small amount of fruit at one time and between each squeezing turning the bag inside out to relieve it of the pulp and seed. To each pint of juice expressed allow one pound of sugar. Set the juice to boil; if there is a large amount divide it in two or more vessels. While it is warming place the suggar in shallow plates or pans in the oven; stir it occasionally to prevent its burning. Boil the juice exactly twenty minutes from the instant it begins to boil. Then throw in the sugar, which should be quite hot by this time, stirring rapidly all the while. It will soon melt. Let the jelly just come to a boil and remove it from the fire. Roll glasses or cups in hot water and fill with the scalding liquid. If these directions are followed and the fruit is in good condition the jelly will be a success, whether made from currants, blackberries or strawberries. Hence housekeepers unprovided are advised to preserve this recipe for use in time of need. It will put an end to all the annoyance and anxiety attendant on the old-time methods of making jelly.

CANNING RHUBARB.

DEAR MINNIE MAY,—Will some of your readers kindly send good recipes for canning rhubarb, also different ways of preserving it. I should be glad of particulars of canning, as I have never tried it. SUBSCRIBER.

For canning rhubarb you require one-third of a pound of sugar to a pound of rhubarb cut in pieces about an inch long, and if your rhubarb is very thick and large divide it; stew gently until soft, then put in air-tight bottles or stone jars; keep in a cool place. Another way is to take six pounds of rhubarb, add six pounds of sugar, the rhubarb to be cut in pieces an inch long and put in a stone jar with the sugar in layers till the sugar is dissolved. Take the juice or syrup and boil it with the ginger for half an hour, then add the rhubarb and boil another half hour. Put in self-sealing bottles and keep cool.

BEE STINGS.

Any absorbent will give relief. But perhaps nothing is more effectual that lean raw meat. The sting of a bee or wasp may be almost instantly relieved by it. It is said to cure the bite of a rattlesnake, and to relieve erysipelas.

RABBIT SKINS.

Rabbit skins, when cured properly, make very pretty mats. I spread the skins on a board as tightly and smoothly as I can and scrape off all the fatty matter with a blunt knife. Next I dress them every day with bay salt, four ounces; alum, two ounces; and corrosive sublimate, four ounces, mixed with two quarts of boiling water, Then I sew the skins together and line with either red or blue flannel, scalloped on the edge. The flannel should extend a little beyond the fur so as to show the scalloped edge. Mrs. C. F.

TO PREVENT FLIES FROM INJURING PICTURE FRAMES, GLASSES, ETC.

Boil three or four onions in a pint of water; then with a gilding brush do over your glasses and frames, and the flies will not alight on the articles so washed. This may be used without apprehension, as it will not do the least injury to the frames.

HINTS ON COOKING POULTRY.

Steaming is preferable to boiling for tough fowls. Remove the threads before sending roast fowls to the table. In winter kill the poultry three days to a week before cooking. Poultry and game are less nutritious, bnt more digestible than other meats. Singe with alcohol instead of paper—a teaspoonful is sufficient for either a turkey or chicken. Remember, much of the skill of roasting poultry in the best manner depends upon basting faithfully. To roast birds a frothy appearance, dredge, just before they are done, with flour and baste liberally with melted butter. When onions are added to the stuffing, chop them so fine that in eating the mixture one does not detect their presence by biting into a piece. Ladies doing their own marketing will do well to remember that young poultry may be told by the tip of the breast bone being soft and easily bent between the fingers, and when fresh by its bright full eye, pliant feel and soft moist skin.

HINTS ON COOKING VEGETABLES, ETC.

Potatoes, any time of the year, can be made mealy if boiled in salt and water and drained and then covered with a thick towel and left in back of the range five minutes.

To retain the color of any vegetable plunge it into cold water after boiling.

Cooks make the mistake of boiling things too much. After reaching the boiling point meats should simmer. The toughest meats can be made tender by so doing.

When anything is accidentally made too salt it can be counteracted by adding a teaspoonful of vinegar and a tablespoonful of sugar.

Meats of any kind should not be washed, but wiped with a towel to preserve the juices and quality.

TO KEEP EGGS FRESH.

A correspondent says: My plan is to take fresh eggs when they are plenty and cheap, and coat them with lard or any other clean grease. I prefer lard. I put a lump in a saucer or anything convenient to melt; (not boil), then with a small rag grease each egg; it will take but very little grease. I pack in a box or in a keg in wheat bran, or chaff, small end down. Anything like chaff or cut straw will answer. I prefer bran. I have kept eggs 12 months as good as when put away, and have no doubt they can be kept any length of time.

Stock Notes.

An Interesting Case of Bovine Development.

Mr. Richard Hawley has on his farm near Goderich a Durham bull "Beaconsfield" which is phenomenal for early development. He was 3 years old on the 17th of April, and two days before he weighed 2,270 lbs., having gained 410 lbs. since the previous weighing on the 23rd of last September.

During these 6 months and 22 days he gained 8 inches in girth, and now measures round the chest 8 feet, rather more round the loins and 9 feet round the brisket and forward of shoulder. He stands 5 feet 1 inch high at the shoulders, and precisely the same at the loins, and 5 feet 6 inches at the curve of the neck, when standing at ease. He is symmetrical and well formed, and in color is pure white. He is said to have "a wonderful display of milking points." He was awarded the first prize at the western fair at London, Ont., in September, against the Bow Park bull and other competitors in his class. This goes to show that even then he was regarded with unusual favor. He is pronounced fine in all his points. His dam is a pure Bates, while his sire has a few top Booth crosses. We understand that it is probable that he will be exhibited this fall.

Mr. Wilson, of Fitzroy, Ont., has bought from F. W. Stone, Guelph, the pure-bred Shorthorn bull "Mornington" 3310, vol. 18, A.H.B.

From a contemporary we learn that Mr. McLean, of the county of Dundas, Ont., has just shipped 20 horses to Barbadoes, Trinidad. Mr. McLean believes that there is a grand opening for the most profitable exchange of commodities with the West Indies, if the opportunities are taken advantage of.

Mr. S. Day, Yarmouth, has purchased the thoroughbred Durham bull, "Duke of Glen Banner," from Mr. Richard Whetter, of London Township. The animal is sixteen months old, of splendid form, and weighs 1,340 pounds. It was sired by "Earl of Ulster;" dam, "May Rose," and cost $125.

A Prize of $5

Will be given for the best essay on the "Management of Agricultural Exhibitions." The essay that contains the most useful and practical hints on improving their utility and practical efficiency will be awarded the prize. This prize we will allow all to compete for, whether subscribers or not. The essay must be in this office by the 15th of August.

SULPHUR.—A writer in the Wine and Fruit Recorder says he has discovered from practice that sulphur, one ounce to a gallon of water, and sprinkled or syringed over grape vines, just at nightfall, will destroy insects and mildew and leave no bad show afterward. When sifted as a powder it has an unpleasant and oftentimes injurious effect, although it is acknowledged a specific manure of value, even when applied broadcast upon the soil.

MARKETING FRUIT.—Provide all the appliances of quick and proper marketing before the fruit is ready. So much depends upon the appearance of the fruit at the market that neatness and care in so packing it that it will show at its best, will pay. Caution should be given to the pickers that no over-ripe fruit be put into the basket or crates. If the distance to market is considerable the fruit should be in a less mature state than when the market is but a short distance away. Watch the market

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An old teamster says he has never had a case of the galls upon his animals where the following preventive was adopted, namely, to rub the collars inside, every few days, with a little neatsfoot oil, and the moment any dirt is found sticking like wax to wash it off with warm soapsuds and then oil. A yoke from oxen, or collar from a horse, should not be removed when brought into the stable from work, until sweat is entirely dry, and all chafed spots should be oiled.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—When shall we cease to hear the remark from parents, viz, : "I do not see why my boys and girls cannot work at home as willingly as they can for others!" Now we think if parents were to allow their children a little sum per week, even though the amount be trifling, and with the understanding that they have to buy their own clothes with their wages, they would have less cause to complain of negligence and discontent. The children could get little comforts and necessaries when needed, and learn the value of money and how to spend it judiciously; and be as independent as the girl or boy who leaves home for wages. It was always mysterious to me how some farmers had cash in hand or could get it at some specified time to pay hired help; but when the son or daughter asked for a few shillings, they must wait some indefinite time, or not get it, even though the money might be used to purchase some useful garment, or some tool wherewith the boys might work on the farm more expeditiously. To be sure, all the hard work and close economy may go for improvements on the farm, and most likely the children will possess the farm and appurtenances, or a share of it. But what do these young, fiery specimens of humanity care for heaping up wealth now? Is it not better to teach them self-reliance by earning their necessities and laying out their earnings to the best advantage for present and future enjoyments, keeping their own accounts, and giving them privileges and pleasures in youth? UNCLE TOM.

PUZZLES.

50—DIAMOND PUZZLE.

1. A close consonant. 2. A plural verb. 3. Part of the human frame. 4. To turn from the truth. 5. An emigrant. 6. Often a pitiable result. 7. A passage. 8. A mineral. 9. A liquid consonant. The perpendicular letters are the same as the fifth item

AGNES CAROLINE SMITH.

51—TOWNS ENIGMATICALLY EXPRESSED.

1. A tree and a weight.
2. A bird and a sheet of water.
3. A man's name and a piece of land surrounded by water.
4. A young girl and a mineral.
5. To exist, a consonant and a piece of water.
6. A mark and a corporate town.
7. One of the cardinal points, an adverb, and a part of the earth.
8. A male deer, a preposition, a consonant, and one of Noah's sons.
9. A building and a weight.
10. A weapon and a part of the face.
11. An implement of husbandry and an entrance.
12. Animals and an entrance.

HELENA STEVENS.

52—BLANKS.

Fill the following blanks with words pronounced alike, but spelled differently:

1. Will you——me a——?
2. The——sang a plaintive——.
3. ——the men saw the——.
4. ——will read——.
5. They gave——a——to read.
6. ——will——the tree.
7. His——was that of a——man.

H. H. THOMAS.

53—CROSS WORD ENIGMA.

My first is in shadow, but not in storm,
My second in substance, but not in form;
My third is in rain, but not in snow,
My fourth is in reap, but not in mow;
My fifth is in pipe, but not in bowl,
My sixth is in mouse, but not in mole;
My seventh is in bird, but not in cage,
My eighth is in sulky, but not in stage;
My ninth is in bran, but not in meal,
My tenth is in grouse, but not in teal.
And now, if you're patient and clever and witty,
My whole you will discover the name of a city.

JAS. MANN.

54—CHARADA.

My first is a bird whose beautiful voice
Bids all who hear it be glad and rejoice;
As soon as the sun appears in the skies,
Away up towards heaven this little bird flies.
My second the battle steed well doth know,
For oft he is urged by it on towards the foe;
And the poor jaded steed who is longing for rest,
By this little reminder onwards is pressed.
My whole is a flower, its color is blue,
It may be a novelty, reader, to you;
It came from China, 'tis rich and rare,
To flourish well, it needs great care.

JAS. MURREY.

55—LETTER SYNCOPATIONS.

(To syncopate is to shorten a word by taking away from the middle of it a letter, letters, or a syllable.)

1. Syncopate kingly, to leave genuine.
2. " a soldier's reward, and leave a necessary part of every day's living.
3. Syncopate firm, and leave old.
4. " speedy, and leave an invasion.
5. " grim, and leave a substance that oozes out of trees.

Answers to May Puzzles.

41—Loan.
42—Miss-take.
43—Tomato.
44—Love one another.
45—(1.) Theirs, I, it, its, he, her, hers, his, their.
45—(2.) Masts. Grace.
Ashen. Roman.
Share. Amend.
Terse. Canoe.
Sneer. Ended.
46—Idleness is the sepulchre of a living man.
47—Kingfisher, raspberry, pineapple, bakapple, rattlesnake.
48—Ignore, region, brush, shrub, deform, formed, thing, night, three, there.
49—A fault confest is half mended.

Names of Those Who Sent Correct Answers to May Puzzles.

Horace C Wetmore, Eliza and Josie Clarkson, Wm. Morley Adams, Joseph Winner, Jonis Franks, Emily Ferguson, Percy Turner, J L Muir, Mary Beanstalk, Levi Simpson, A C Evans, John Edmunds, Philip McArthur, Joan Freeland, Susan Nellis, Henry Johnson, E A Stevens, Chas Emery, Alex McIntosh, Wm A Shoebottom, Leonard Maznard, Jessie Anderson, Jacob Jocobs, Eliza Millman, Frank Treeman, Jos Webster, Sarah Walker, Ellen W Mercer, V N Norwood, M D Davidson, Paul Smyth, L V Orwood, Francis Orr, Saml Scott, A O Jell, May Beasus, Jane Combs, L E I Netherwood, Arthur Springer, Lucy Cottingham, Emily Woods, S Y Yarrow, Polly Brown, Harry A Woodworth.

HUMOROUS.

Apropos of names. First swell: "I never did like 'May' not nearly so pretty as 'Mary;' wonder they don't change the name of the month to 'Mary.'" Second swell: "Clevah ideaw, bah Jove! make awystaws good to June, you know!"

"Polly, dear," said a loving husband to his spouse, who was several years his junior, "what do you say to settling at the Cape?" "Oh, I'm delighted with the idea! You recollect when Morgan went out there he was as poor as we are, and he died in three years worth two thou and pounds!"

A RED-DY ANSWER.—Very red-haired Passenger. "I say, Guard, why on earth don't the train go on?" Guard: "Good gracious, Sir! put your head in; how can you expect it to go on while that danger signal is out."—[Fun.

"Conductor, why didn't you wake me up, as I asked you? Here I am miles beyond my station." "I did try, sir, but all I could get you to say was, 'All right, Maria; get the children their breakfast, and I'll be down in a minute.'"

WHICH IS THE FASTEST?

[Our recent rebus was too hard, although the motto was a good one, and will bear looking up and impressing on the memory of young and old. Above we reproduce an old question that has not yet been satisfactorily answered.]

56—PUZZLE.

My first is in desk, but not in seat,
My second is in bone, but not in meat;
My third is in cry, but not in laugh,
My fourth is in whole, but not in half;
My fifth is in bud, but not in rose,
My sixth is in friends, but not in foes;
My seventh is in dog, but not in cat,
My eighth is in mouse, but not in rat;
My ninth is in turnip, but not in beet,
My tenth is in barley, but not in wheat.
My whole is good advice.

ELIZA AND JOSIE.

57—A word of one syllable—easy and short,
Reads backward and forward the same;
Expresses the sentiment felt by the heart,
And to beauty lays principal claim.

58—PUZZLE.

My first is in work, but not in play,
My second is in river, but not in bay;
My third is in knot, but not in tie,
My fourth is in story, but not in lie;
My fifth is in veal, but not in meat,
My sixth is in hair, but not in feet;
My seventh is in lion, but not bear,
My eighth is in pistol, but not in spear;
My ninth is in dress, but not in gown,
My whole is a Nova Scotia town.

H. A. W.

After a telegraph pole had fallen on a Savannah negro's head he threw his hands and shouted: Don't hit me again wid your club, Mr. Policeman. It wasn't me that stole der chickens. It was Deacon Henry." Then he looked, saw what hit him and walked off, saying: "Golley, I'se in luck 'dis morning. I spected dat de policeman had me shuah dat time."

"You must not play with that little girl, my dear," said an injudicious parent. "But, ma, I like her; she is a good little girl, and I am sure she dresses as pretty as I do, and she has lots of toys." "I can not help that, my dear," replied the foolish mother; "her father is a shoemaker." "But I don't play with her father, I play with her; she ain't a shoemaker."

"Another old settler gone!" exclaimed the cook when she tossed the egg-shell out of the coffee-pot.

A bright little three-year-old, while her mother was trying to get her to sleep, became interested in some outside noise. She was told it was caused by a cricket when she sagely observed; 'Mamma I think it ought to be oiled."

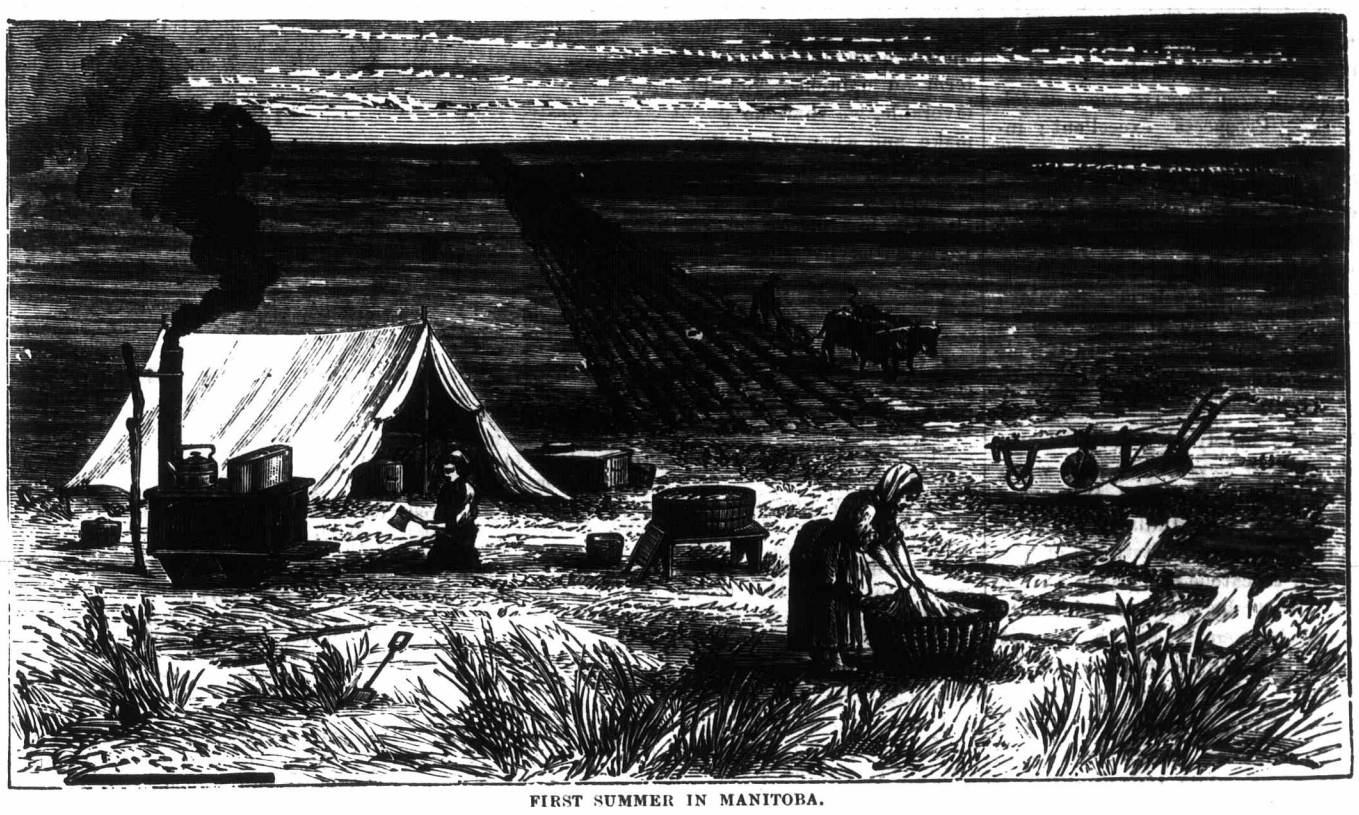
CONUNDRUM.—My first is at every one's door; my second is a kind of grain; my third every one wants, but few have; my whole is one of the united states.—Matrimony.

NO, INDEED, IT'S ALL TOO TRUE.—When an aged father wills all his property to a son, the boy never gets up in court and swears that the old man did not know what he was doing. It is only when the will goes against the good son that the youth feels compelled to prove how weak-minded and idiotic the old man has always been.

On the Wing.

MANITOBA.

The accompanying scene we observed last June when traveling through Dacota on our way to Manitoba. This farmer has the advantage of many settlers on the prairie; he can see the signs of other human beings existing, as a railway train will pass in sight of his house twice each day. But many a settler cannot see another tent but his own on this vast ocean of land. You may observe how the good housewife has hung out her clothes. One would think them safely anchored there, but such is the suddenness and strength of the wind on these prairies that on one occasion we had a good handkerchief blown away; perhaps a greyhound or race-horse might have overtaken it, but we should have no more chance of catching it than if we ran after a hawk. There were several ladies with their families on the train; they were going to join their husbands, who had prepared a home for them. We aided some of them with their luggage at transfer stations. When on the train one lady wished to move from one car to another. We lent her assistance by carrying one of her children. When



FIRST SUMMER IN MANITOBA.

crossing the platform between the cars the wind blew off our hat, which was, of course, a "goner." We took a newspaper, got a needle and thread, and made a paper hat.

Many men have commenced in this style who now own immense farms. New settlers generally have many hardships to pass through that would discourage their children. We must give the Government credit for removing some of the evils that intending settlers complained about when we were there; but one very great one remains unabated, that is, the immense tracts of land that are not available for settlement, and are held by speculators, are not paying anything towards the improvement of Manitoba, or the expenses that the eastern provinces are paying for their railroads and emigration to that country. The increased value of the land by the millions we are paying and must pay, passes directly into the hands of speculators in Manitoba, and comes out of the pockets of Eastern farmers, and will never be repaid to them, but must remain a loan for all time to come. The laws have favored the land speculators to the injury of settlers and to the injury and loss of Eastern farmers. Perhaps we may be wrong in looking into the future. See Manitoba correspondence, page 136.

ADDITIONAL CORRESPONDENCE.

SIR,—To the dwellers by the sea the benefit of salt in preventing decay in timber has always been acknowledged, though, in many cases, not sufficiently appreciated or applied. Every farmer whose land adjoins the sea shore, where the winds and tides cast up the waifs and strays of the ocean, fully realizes its importance. If he can get a well-soaked drift log for a gate-post, he knows he will have no more trouble with it for half a lifetime. A fence-post, rail or stake that has been soaked in salt water will last out at least one and a half that were not. Wood that is exposed to salt water, that is, any structure that the tide covers twice a day, the writer will not pretend to limit. You ask a farmer near the sea how long wood so exposed will last, and in every case he will tell you "it will never rot." The writer has seen the sluices of an old abidian, that, from the best authority, had been there about two hundred years, apparently as sound as when put there. He has seen posts taken out of dyked marsh, after being there thirty years, with the bottoms as sound as the day they were set. Although all this is known and acknowledged by farmers near the sea, very little, beyond anchoring an occasional raft of rails or posts in the salt water for the summer, is done in using salt as a preventative of decay; except among shipbuilders, and how long they have used it the writer cannot say. Their mode of application is to fill in between the inner and outer planking with crude rock salt—tons going into a single ship. There is one thing that will always operate to a certain extent against the use of salt in preserving timber, that is, wherever there is salt there will be dampness, and that will cause iron nails to rust. Nails or spikes exposed to salt water will rust off in a very short time. Salt might be used to a very great advantage with posts, stakes, rails, or anything where iron is not used, but will never be very popular for shingles, fence-boards, etc., unless composition nails are used. As to the mode of applying, probably the simplest and best way would be to make a strong brine with salt and water and soak the timber in it. Salt, when dissolved, will go wherever water will, and no one need feel afraid of the salt not penetrating every part of the wood. J. A. W., King's Co., N.S.

State of Wheat in Oxford Co.

SIR,—Having had occasion to travel through the County of Oxford last fall on business, and taking an interest in the growing of wheat, my attention was called to every field of wheat in the section, and I must say I way really surprised to see how forward it was and how even it looked. In fact, from its growth I would be led to believe that an extra heavy crop would be produced. I visited the same county again this spring, and to my surprise I found grain looked very uneven, and I could scarcely find a perfect, or even fair field, no matter on what kind of soil. There must be a cause for this; would any of the farmers lay that cause to too early sowing? I attribute it to that cause. I shall not on this occasion state any manner of cultivation, or to it being sowed too thin or too thick, but from a peculiar need which will not be found in later sowed grain, or to any grass that helped to smother out the grain, but I will give my reason as to too early sowing. I may state I do not believe in extremely late sowing, but an average of, say, about the 15th of September, or if very heavy clay ground, it might be as profitably sown on the 8th as the 15th September. B——d.

Bee-Swarming.

SIR,—In reply to H. W. W., in last issue, I would say, have movable-comb hives, and as often during the swarming season as queen cells are formed, preparatory to emigration—once a week if necessary—lift out the frames and cut off those cells, and you are master of the situation. Do it before the cells are sealed, or the bees may prove too smart for you. This is, perhaps, the only really reliable way of effecting this object in this climate. Box hives, as ordinarily made, do not admit of access to queen-cells, but when of shallow pattern, where the comb, when built, would be about seven inches deep, swarming may be prevented by smoking the bees out of the way, and removing the queen-cells with a table-fork or some other suitable instrument as often as may be necessary. I. M. H., Sussex, N.B.

SIR,—In reply to H. W. W., of Orwell, I send the following: You can prevent your bees from swarming by shading the hives from the hot rays of the sun, and giving the bees plenty of room inside the hives; and by a liberal use of the honey extractor. When the honey is removed, place the empty combs in the centre of the brood-chamber, and destroy the queen cells once a week, and you will not be troubled with swarming.

—— C. F. D., Nile, Ont.

D. D., Halifax Co.—Your letter respecting "The Ontario Lightning Road Co." of this city, received as we go to press.

The Directors of the above company are men of good reputation, and they may unfortunately have dishonorable agents, and further enquiries will be made. Our advice, so often repeated is, to pay for what you order on receipt, and when it is fully up to sample or promise. Be cautious in signing any paper to be held by a stranger, and on no account sign any blank paper, or allow your signature to be at the mercy of any person, friend or stranger

Commercial.

FARMER'S ADVOCATE OFFICE,
London, May. 27, 1880.

Business on the whole has been quiet, with some improvements in some lines.

WHEAT.

The markets for this article have been in a very peculiar state the past month and very little business done. What little has been done has been confined chiefly to the millers, who are grinding largely for the Lower Province trade, which has been very good the past month. In fact, were it not for this trade many of our millers and shippers would have been very serious losers from the stocks which they held, and which had been bought at high figures.

Although stocks in Great Britain are light, still there is no confidence in present prices for the future, and what business is being done is only of a sort of hand-to-mouth trade.

On the whole the weather has been favourable in England and on the continent for seeding, and the crop prospects are very good. This has a very marked effect on the feelings of those in the trade, and the disposition of the same to do business. The crop reports in Canada are quite flattering. Some of the American crop reports come as follows:—New York—"Prospects exccellent; increased acreage of spring grain." Missouri—"Harvesting of the finest crop ever raised will be commenced this week in the Southwestern counties, advancing northwest until the first of June." Ohio—"Immense harvest of wheat is promised." Wisconsin—"Winter wheat acreage largely increased this year. Damage from bad weather late in winter much less than expected." Southern Illinois and Indiana—"Prospects generally good with an increased acreage."

Short as the domestic supply of grain in Great Britain has become, there never was a time when the supply of food so greatly exceeded the population of other countries. Even India, in spite of the periodical famine to which districts of the country are subjected, threatens to become a large exporter of wheat. Australia is also coming into notice as a wheat growing country, and the harvest there has been a good one, and a portion is now on the way to England.

The United States has not yet attained her maximum production of wheat, though she is in all probability not far from it, while Canada has yet scarcely began to bring under cultivation her most fertile lands in the Northwest. The cost of transportation is also being steadily reduced, and it is the opinion of many that we shall see much cheaper rates of freight on produce. With all these facts staring the English farmer in the face, is it any wonder he feels his situation rather a critical one?

RYE ARD BARLEY.

Canadian rye and barley are attracting a good deal of attention in Belgium. There have been considerable shipments of these grains from Montreal to Antwerp. This trade has been done heretofore entirely by way of New York. Antwerp imports about 10,000,000 bushels of rye annually, and last year 300,000 bushels were taken from Montreal. She also imported last year 6,300,000 bushels of barley, 14,000 bushels of which were Canadian. Good Canadian rye and barley are heavier and of better quality than that grown in the States.

These facts should induce Canadian farmers to pay close attention to the growing of these grains, where the soil is adapted for such, and by all means to try and raise the standard of weight and quality as high as posible.

WOOL.

The market in England keeps up, but that in the States is decidedly weak in tone. Some parties imagine we are going to see fabulous prices for this article, but we cannot see anything to fully warrant any such supposition. In the present state of trade we don't believe dealers are going to load themselves up at any very fancy prices. We all know that 50 to 55 cents is a good price for wool, and one which pays the farmer well. Farmers must bear in mind, that high prices attract the attention of the trade from all quarters of the globe, and the facilities of transportation are now so complete that any deficiency is soon filled up from some part of the world. To all those who have wool to dispose of, take the market price, and put your money in some other investment. If you have no other use for it, give part to your wife to spend as she sees fit. It will make her and yourself much happier.

CHEESE

Has started at a good paying price, and we hope to see a better and steadier trade than last year. The question is very often asked us, "what price do you think cheese will be this season?" To this question we can only answer that so much depends upon the amount produced, that it is very hard to form an opinion. Should the season be very favorable, we shall no doubt have a pretty large make, and when this is the case, we must look for low prices, which is the only incentive to a large consumptive demand, and this is only brought about by low prices. As we have repeatedly said, we again advise all to accept the market price; let your cheese go forward and go into consumption, and so leave the coast clear for the fall make.

BUTTER.

It is rather early yet to form an opinion of how the trade will shape. Butter makers must bear in mind that poor butter will be at a heavy discount. Were it not for the grocers and storekeepers generally throughout the country, who buy butter almost indiscriminately, poor butter makers would have difficulty in getting rid of their butter, except at grease prices. We remember reading an article, not long ago, in which the writer contended that "Oleomargarine was a benefactor." His reasons for taking that ground was, that it would eventually compel all the poor butter makers to turn over a new leaf, or else quit the business.

The aim in the manufacture of Messrs. Tuckett & Billings' "Myrtle Navy" tobacco is to develop and return the natural aroma of the tobacco. This requires great skill and knowledge of very interesting chemical laws, but the results attained are vastly superior to all forms of flavoring extracts.

London Markets.

London, May 29, 1880.

GRAIN.

	Per 100 lbs		Per 100 lbs
Deihl Wheat	$1 80 to 1 97	Barley	80 to 1 10
Treadwell	1 80 to 1 97	Peas	80 to 1 00
Clawson	1 80 to 1 97	Oats	1 05 to 1 07
Red	1 80 to 1 97	Rye	80 to 90
Spring	1 65 to 1 90	Corn	80 to 1 10

PRODUCE.

Butter, crock.	15 to	20	Cheese, lb	11 to	12
do roll	17 to	18	Potatoes, bag.	50 to	55
do keg	15 to	20	Turnips, p bu.	to	25
do inferior	8 to	10	Mutton, lb	7 to	8
Eggs	9 to	10	Lamb	7 to	8
Carrots, p bu	15 to	30	Wool	30 to	32
Onions, bush.	75 to	1 00	Dressed hogs, per 100 lbs.	5 00 to	6 00
Beef, per qr.	3 00 to	5 00	Live hogs, do	3 75 to	4 00
Veal, per lb	4 to	5	Lard	10 to	11
Honey	25		Tallow, rendrd	4	
Cordwood	3 50 to	4 50	Geese, each	40 to	60
Ducks	50 to	55	Turkeys "	75 to	1 00
Chickens, pr.	40 to	60	Milch cows.	26 00 to	40 00

HAY AND STRAW.

Hay, per ton	10 00 to 10 50	Straw, per load	2 00 to 3 00

FLOUR.

Flour, fall wht.	3 25 to 3 50	Oatmeal	2 50 to 3 50
" mixed	3 00 to 3 25	Cornmeal	1 50 to 1 75
" spring	3 00 to 3 50	Bran, per ton	12 00

Liverpool Market.

Liverpool, May 28.

Flour—10s 0d to 12s 6d. Wheat—Spring, 9s 3d to 9s 10d; red winter, 10s 3d to 10s 6d; white, 9s 3d to 10s 1d; club, 10s 0d to 10s 6d. Corn, ctl, 4s 11d to 5s. Oats, ctl, 6s 2d to 6s 3d. Barley, ctl, 5s 3d. Peas, ctl, 7s 0d Pork, 52s. Lard, 36s. Bacon, 34s. Beef, 67s. Tallow, 33s. Cheese, 61s.

Montreal Market.

Montreal, May 28.

Flour—Receipts, 4,000 lbs. Market quiet and steady, at generally unchanged rates; quotations are—Flour—Superior extras $5 85 to $5 90; extra superfine, $5 45 to $5 80; strong bakers', $6 to $50; fine, $4 70 to $4 80; middlings, $4 20 to $4 30; Ontario bags, $2 80 to $290. City grain—Wheat, nominal; Upper Canada spring, at about $1 30 to $1 31 Corn, quiet, quoted at 50c to 51c in bond. Peas, 86c to 87c per 66 lbs. Oats 34c. Rye. 8 c to 85c. Barley, 50c to 60c. Meals, Oatmeal, $4 50. Cornmeal, $2 75. Butter, western, 14c to 16c; Brockville. Morrisburg and Eastern Townships, 16c to 19c. Cheese, 11c to 12c. Pork, mess, $14 50 to $15.

Toronto Market.

Toronto, May 28.

Wheat—Fall, $1 15 to $1 25; spring, $1 17 to $1 25. Barley, 58c to 70c. Oats, 33c to 40c. Peas, 67c to 68c. Rye, 78c to 80c. Oatmeal per 196 lbs, $4 30 to $4 40. Cornmeal, $3 40 to $3 50. Flour, per 196 lbs, $5 45 to $5 80. Dressed hogs, per 000 lbs $6 to $6 50. Beef, hind quarters, $5 to $6. Butter, rolls, 16c to 20c; tub dairy, 15 to 16. Potatoes, per bag, 50c to 60c. Wool, 30c to 32c. Hay, per ton, $9 to $10. Straw, per ton, $6 to $7.

New York Markets.

New York, May 27.—Flour, $3 60 to $4 50; rye flour, $4 75 to $5 25. Wheat—Receipts, 279,000 bush. Sales, 2 8,000 bush. No. 1 white June, $1 25. Rye, 95c to 96c. Corn, 52¾c. to 54c. Barley, no sales reported. Oats, 44c to 50c. Pork, firm, at $11 20. Butter, 16c to 22c. Cheese, 9c to 12¾

Chicago Market.

Chicago, May 28.—Wheat—$1 13¾ for May; $1 03⅝ for June, $1 06¾ for July. Corn 36½c to 37⅝. Oats, 28¾c to 32½c. Rye 8 c. Barley, 76c.