

# FARMER'S ADVOCATE

AND HOME MAGAZINE.

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## The Farmer's Advocate

—AND—  
HOME MAGAZINE.

PUBLISHED MONTHLY BY.....WILLIAM WELLS.  
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Condensed farmers advertisements of agricultural implements, seeds, stock or farms for sale, or farms to let, not to exceed four lines, 50c., prepaid.  
Advertising accounts rendered quarterly.  
Advertisements, to secure insertion and required space, should be in by 20th of each month.  
Letters enclosing remittances, &c., only acknowledged when specially requested. Our correspondence is very heavy and must be abridged as much as possible.

1877 ADIEU!—The past season has been one of the most favorable for Canadian farmers. Peace and plenty now reign supreme; the crops, with but a few exceptions, have been most abundant, and prices highly remunerative. During the past three years many have been ruined, and farmers were obliged to economize and work harder than they would otherwise have done, on account of bad crops and low prices. This season farmers have made money; many will make as much as \$2,000 this year, some much more. The prices of nearly all farm products are now high, and the prospects are that we are not likely to see prices as low as they have been in the past three years. The opening of the markets for live stock in Europe enhances the value of every acre of land in the Dominion. We think the position of the Canadian farmer when he has good land, is quite as good as in any part of this continent. We may expect a larger number of English, Scotch and Irish farmers, with capital, to come to our country than we have yet seen.

THE FARMER'S ADVOCATE FOR 1878.—Our aim is to give the best and cheapest agricultural publication procurable. Great improvement in this journal has taken place every year since its commencement. Every exertion will be made to make the volume for 1878 far superior in every respect to any volume yet published. Every year our circulation has increased; every unprejudiced, enterprising farmer who has once taken it, continues to take it. The more subscribers we get the greater improvements we are enabled to make. We wish every friend of the ADVOCATE to aid us and his fellow farmers, and aid the advancement of our agri-

cultural prosperity by using a little exertion to induce one more farmer to subscribe. Is there any more useful manner in which you could employ a few hours, or even say a few words, than to increase the spread of agricultural information? Let everyone try what they can do; if there is a will there is a way. We would like to see our two handsome presents hanging in every house in the Dominion, namely, the large and handsome pictures, "The Offer" and "Accepted." We will give either of these pictures to any old subscriber who sends us one new subscriber, accompanied with the cash, or the pair for two new subscribers. We have not yet seen such handsome and refined pictures, suitable for the finest parlor or the family cottage.

**TO CORRESPONDENTS.**—Many communications have not been attended to because writers have not signed their names. We must have the right name and address in our office. It is not necessary that the name should be published. If you have a friend or two that you consider the ADVOCATE would benefit, send the names to this office and we will send them a sample copy.

### On the Wing.

When last in Hamilton our curiosity led us to see a clock factory, as one has been established there for about a year. This factory will enable us to have clocks in our houses made in our own country. It gives employment to labor and capital, and will help to build up our country. There are nearly a hundred hands now employed, and the proprietors expect ere long to have one hundred and fifty employed. They find that they are enabled to supply the Canadian trade with clocks which are quite as good and cheaper time-pieces than the American manufacturers can supply.

It is very interesting to see all the hands at work. The wheels are all shaped from long, thin flakes of brass; these appear before being stamped just like pieces of hoop-iron, differing only in color. The pieces are then strung on iron bolts in bunches of one or two hundred; the teeth or cogs are made by passing these bundles below a saw, which cuts out the grooves, leaving the portions forming the cogs.

Perhaps the part of the establishment that appeared to draw our attention the most, should we be ashamed to print it, was that department they call the "Dentistry." Here the fair sex are employed in packing up little short pieces of wire, and making the pinion wheels. Men are employed in fitting up the clocks. The clocks are then all set in motion and run for two days to a week, to be sure that all are right before sending any out. They are then packed and sent to the different wholesale and retail dealers in different parts of the Dominion.

These Canadian made clocks may be seen at Mr. A. S. Murray & Co's jewelry establishment in this city, who are agents for this Western District. This Canadian Clock Company is aiming not only to supply Canadians, but to extend the sales to the other British possessions. We wish all such enterprising prosperity.

### Choice of Seeds.

There is no need of adducing proofs of the benefits to be obtained by the change of seed. Experience has proved beyond the shadow of a doubt that by a judicious change the best results may be obtained. "An exchange of seeds grown on barren or gravelly land for those grown from a limestone soil will, it is claimed, have a good effect. Make an exchange of seeds; get good seeds, and better results will be plainly wrought out." Select the best for the parent grains if you would have the product of the best quality. Seed, perfect of its kind, fully grown, and thoroughly ripened, is an absolute necessity to the obtaining of a crop of superior quality and satisfactory quantity. These three conditions are requisite. Though fully grown and ripened, there cannot be a good quality if the seed be not perfect of its kind; and it is in vain to expect a crop from seed even perfect of its kind if it has not ripened thoroughly. It is well, then, to select our seed grain from such localities as are best adapted, from climate and soil, to bring it to the greatest perfection. But we must also bear in mind that a sudden transition from a temperate climate to one of great extremes cannot be conducive to favorable results. Plants can be acclimatized by time and care only. In maize (Indian corn) we have a well-known instance of the necessity of full growth and thorough ripening. We sometimes see samples of corn that appear in every respect perfect and fit for seed, and yet when they are planted they do not germinate, but rot in the soil. Such seed has not ripened thoroughly; it has been prematurely checked by an extreme lowering of the temperature.

The farther north, within the wheat-bearing region, that wheat is grown, so much the better is the quality of the grain produced. The extremes of temperature render it hardier, and the uninterrupted heat, with almost continued light, cause an early maturity. It has also been proved by repeated trials that seed from high northern regions having a property of early maturing retains for years that precocity of habit, and matures and ripens in a shorter period than that from a more southern and temperate clime. This great precocity of seed from the far north is well known in Europe. Scotland produces the best seed grain for the more temperate regions of England and Ireland. In an article on "Vegetation in High Latitudes," this precocity is well illustrated from the growth of cereals in Norway. In that extreme northern country wheat is raised as far north as our territory around the Hudson's Straits, oats still farther north, and barley within the Arctic Circle. The most striking point is the singular precocity of the native grains and the short period required for perfect ripening. Wheat, for instance, sown in the last week of May is reaped toward the end of August. The native grain indeed has been known to mature in 74 days, but 105 are demanded by the varieties imported from southern

countries. From experiments carried out at Christiania in the case of corn, oats, beans, peas and meadow grass, it has been demonstrated that seed brought from the far north furnished varieties of remarkable procoity, which only lost their advance after several generations, when they gradually became acclimatized. The fact is recognized by the Norwegian farmers, and the cereals of far northern latitudes are in great request throughout Norway for seed, as it is a matter of no little importance in a country where the summers are so short, to produce cereals at the earliest period possible. With barley for seed from Atten, having a very high latitude, barley can be got in earlier twenty or thirty days during the first year of its being sown. It is also of a greatly superior quality than that grown from seed from a more southern and temperate clime.

#### Protection of Young Trees.

The winter of 1876-7 was of extraordinary mildness, reminding us forcibly of the winters of Britain; but we cannot expect many returns of such seasons. We should not be lulled into a forgetfulness of what our Canadian winters really are. We should order our garden and farm operations as if expecting some months of intense cold. Only two years ago many of our fruit trees, and even comparatively hardy evergreens, were injured, and some wholly killed, by the severity of the winter.

How are we to protect our young trees from the severe American winter? Is there a possibility of guarding against a recurrence of similar losses? Let us first enquire what has been the immediate cause of the injury done. It is not so much the low temperature that was the main cause of the injury, as the want of moisture in the soil. This drought prevented the supply and the circulation of the sap that are at all times necessary to preserve life in every part of the tree, and consequently the tender branches, the hardier stem and the partially protected root died.

To guard against similar losses it is necessary in the first place to have our young orchards and plantations protected from cold strong winds, and we must preserve sufficient moisture in the soil. The country has been denuded to such a degree that it is now a difficult matter to save even winter crops from being winter killed.

But an evergreen screen, which forms the best protection from winter storms, cannot be grown in a few months, as a wall may be built to order. Our immediate remedy, then, must be the protection of young trees by mulching. Even if there be protection by shade, mulching will be very beneficial. Many materials may be used for mulching. Litter is very much used for this purpose, more so perhaps than any other material. Fresh cut grass, clover or weeds answer equally well. We have used leaves of trees as mulch more than any other substance; we prefer it as the most natural covering, and when they are decomposed, add greatly to the fertility of the soil. Sods with the grass underneath also serve for mulch. Mulch is applied during the fall and early winter to protect from winter killing. Early in December is a good time, if the season be sufficiently open. It is applied in spring at the commencement of vegetation. This application is more suitable to light dry soils. Mulch is also applied before midsummer as a protection against the extreme heat and too great evaporation. But our present writing has reference especially to winter killing.

Protection is beneficial for more than one purpose. It prevents the excessive drought of the ground, produced by evaporation; it also prevents the frequent freezing and thawing of the ground, that are often of so great injury. In spring mulch-

ing serves to preserve moisture in the ground, and retards a too early vegetation. Mulching is also a valuable agent in preventing the growth of weeds and in keeping up the fertility of the soil.

#### Agricultural Societies.

Our Government has wisely granted money for the encouragement of Agricultural Societies. These societies have the option of expending the money they receive for improvement of stock, procuring new seeds, agricultural publications, agricultural exhibitions and other useful purposes. The principal portion of the money is expended on exhibitions. In some parts of the country there is not sufficient interest taken to enable the inhabitants to obtain their due share of the public money. This lack of unity, or the lack of judicious management on the part of the directors, is sometimes the cause; but most localities now have a good working society, although as a general thing farmers take too little interest in the annual meetings. The business is too often left in the hands of a few. We should try and make the annual meetings of more interest. An hour or two spent in discussion before the election of officers takes place might lead to beneficial results. A good lively contest for the different offices is also beneficial. It is an honor for any young or old farmer to attend an agricultural meeting and show where any improvement in the management might be made. If his views are correct some one will nominate him as a director, and he may become President or Secretary of his society. If he manages that society well he should then be fit to act as one of the directors of the Provincial or Dominion Boards.

There is much room for improvement in every society. If we could awaken as much interest in the management of these societies as there is in our political affairs we might be devoting our time to the most profitable and perhaps the most honorable purposes. The person who complains that justice has not been done him and says that he will not attend the meetings or have anything to do with a society, is not as useful a member of any community as one who sees an error, comes boldly forward at the annual meeting and condemns it, and suggests improvements. Even our Provincial Directors would be improved by a good, strongly contested election for every one who has a voice in the Board. There are good men on the Board, but there are many men out of it that would fill the Directors' chairs better than some of them are filled now. The plan we have heard suggested of fixing the Provincial Exhibition permanently in one locality, we do not approve of; neither do we approve of the plan of having Directors permanent.

The expenditure of four thousand dollars per annum for the maintenance or benefit of the Short-horn class of cattle is far too much in proportion to the expenditures for horses, sheep, grain and all other farm stock, and the expenditure of four thousand dollars of the Exhibition money for a Veterinary College at Guelph and the meagre expenditure for the last Exhibition deserve the attention of every elector. The small encouragement that really valuable cereals receive and the special prizes awarded to Deihl and the Egyptian wheats, should be discussed. The responsibility of bad management or good management rests on every member, unless they let the public know in due time of their disapproval. If any consider they could manage better, they should give publicity to their plans or their objections to existing management. The annual elections for each county or electoral division are held on the third Wednesday in January. The annual township elections are held on the second Wednesday in January. Every farmer should make a note of this.

We hope that in every election a good, strong contest for the honors may take place. It will do old, tried and good servants no harm; it will tend to make dilatory drones awake; it will arouse an aspiring feeling in our young and energetic farmers. In many instances the greatest good that some members could do would be to retire for a season, and thus make a good, lively election, and awaken new energies in the farmers in a section, and after a year or two run again.

We have much pleasure in drawing our readers' attention to the first of a series of articles on veterinary subjects, by Prof. Law, of Ithaca, N. Y.

Prof. Law is well known throughout America as the author of "The Farmers' Veterinary Adviser," and his articles will well repay a most attentive perusal.

#### Callous Tumor on Shoulder.

BY PROF. JAMES LAW.

A subscriber at Waltonburgh asks "what to do with a callous tumor on the shoulder-blade, about ten inches in circumference and two in diameter, caused by one trace being six inches shorter than the other when plowing?"

From the description given and the alleged cause we infer that the swelling is not on the skin and projecting from it, but under the integument, and having the hide more or less movable upon its surface. In such a case it is the result of a bruise injuring the parts between the surface layer of muscles and the bone, and leading to a persistent hard swelling; and yet, though the swelling feels perfectly solid and firm throughout its whole substance, it may be safely assumed that there is a collection of watery fluid in the centre. The yielding and elastic sensation usually caused by the presence of liquid is done away with in this case by the enormous thickening and hardening of the walls of the sack in which it lies, a thickening caused by the repeated bruising and irritation of the injured part by the collar. The first step in treatment is to make an incision with a sharp knife through the thickened mass, and in a direction towards the very centre of the tumor, until the liquid is reached. There may be very little liquid found, but small as it is it must be allowed to escape, seeing its continued imprisonment by the thick, unyielding structures around proves an insuperable obstacle to recovery. The matter having been reached, the wound should be enlarged to an inch or more, to allow a continuous, uninterrupted escape, until the diseased cavity heals out from the bottom. If the sack is found to extend down for some inches below the first opening, it is always desirable to make a second orifice leading from the outside into the very lowest part of the sack, so that the matter may be allowed to drain away as soon as formed. To favor contraction and healing of the sack, the following lotion may be thrown into it with a syringe daily:—Sulphate of zinc, 2 drachms; carbolic acid, 1 drachm; water, 2 pints. Finally, when the wound has healed, any slight enlargement may be painted every other day with tincture of iodine, and the collar must be carefully padded so as to prevent any repetition of the injury. In some cases the thickening of the walls of the sack is so great that an unsightly and troublesome swelling is left after the sack has healed out completely, and in spite of the iodine. For this there is only one resort, namely, to cut out the diseased mass with the knife.

If we are mistaken as to the character of the tumor, and if it is in the substance of the skin, and standing out as a hard and partially raw warty mass, the best way to deal with it is to get a stout cord of India-rubber, say a tape  $\frac{1}{2}$  inch wide, and

pulling the whole diseased mass out with the hand so that the sound skin will form a narrowed neck for it, to tie the rubber cord firmly around the latter, stretching it to less than one-half its thickness, passing it around several times and then fastening it immovably. Once applied this must not be disturbed, but should be left to cut its way through and detach the diseased parts. The slight wound that will be left will heal without trouble if simply kept clean.

#### POLL EVIL.

A subscriber asks how this can be cured before it breaks. The answer will depend very much on the state of the parts involved. Two very different conditions go under the name of *poll evil*. The first, and fortunately the least frequent, is disease of the joint between the head and the first bone of the neck, or of that between the two first bones of the neck, with ulceration and removal of the layer of gristle which forms the yielding surface of the joint, and exposure of the bony substance. A horse suffering from this shows a more or less uniform swelling of the parts behind the ears, which pit on pressure with the fingers, but rarely present that elastic fluctuating sensation which implies the presence of a sack of matter, and almost never burst to form a running sore. There is far more stiffness than with ordinary poll evil, and the animal may groan with pain when the head is raised or depressed, or turned to the right side or the left. For this the subject should be kept still, fed from a manger that requires no effort in elevation or depression of the head to reach it, watered from a bucket placed at a similar height, supplied with nourishing, easily digested food like ground or scalded oats, hay and sliced roots; he should have pure air, and a clean, dry bed, and the parts behind the ears should be fired with a red-hot iron, either in lines half an inch apart or in points at the same distance from each other. This fired surface may be oiled daily, and as the effects disappear a blister composed of 2 drachms cantharides and 1 oz. lard, thoroughly mixed, may be well rubbed in on the same place.

In the second form the swelling is more circumscribed, being often confined to one side of the neck, and it will often be found to fluctuate like a bag of fluid when pressed with two fingers at different points of its surface. The stiffness is usually much less, and though it may continue for months as a simple swelling, yet there is a far greater tendency to break and discharge than in the first kind. In a case of this kind, with a simple swelling, no great stiffness, and no appreciable fluctuation, the animal should be fed from a high rack and manger, and never from a low one, nor from the ground, the poll should be kept covered with cloths wet with some astringent solution (catechu 1 oz., vinegar 3 qts., iodide of potassium 1 oz.), and a dose of four drachms of aloes should be given, to be followed up by a daily dose of 1 drachm of iodide of potassium.

In either form of poll evil the greatest care should be taken to prevent irritation of the parts by a halter or bridle. If the animal must be tied the headstall of the halter must be large and tied back to a girth so that it can come forward within six inches of the tender parts. Even in case of recovery the animal cannot be allowed to go to grass, nor to feed from the ground, nor from a low rack or manger, without the greatest risk of a relapse.

#### Meat Production for Foreign Markets—No. 2.

BY PROF. MANLEY MILES.

How can Eastern farmers best obtain a supply of animals to feed for foreign markets? As our limits will not admit of a full discussion of this question, which involves a consideration of all the details of a system of farm management, we will

confine our attention to a few points that appear to be of the greatest importance. As the foreign demand is for meat of the best quality, it will not pay to feed inferior animals.

The purchase of store stock for feeding, when it can be obtained of good quality, will be found satisfactory in many localities, while under other conditions it may be more profitable to breed and rear a larger proportion of the animals that are to be fattened. The advantages of the latter method will consist in the production of better stock than can be usually purchased in market, and a larger profit arising from the full feeding of the animal from the time of its birth.

It is the common practice, in rearing animals to be sold as "store stock," to keep them in good thriving condition only, so that the best results of feeding up to the time they are sold are not obtained. Such animals may be more profitable to the feeder than those of the same age that are much fatter and heavier, but the greatest possible profit has not been made by the feeder during the first period of growth, when the largest returns may be secured for a given amount of feed.

The rapidity of the growth of very young animals, and the comparatively small cost of their increase in live weight, cannot be generally understood, or the practice of the full feeding of young animals would be more widely prevalent. My experiments in feeding young pigs with milk furnish a striking illustration of the economy of early feeding. During the first week but 7.20 lbs. of milk was required to produce one pound of increase in live weight, while 10.13 lbs. of milk was required during the fourth week. A similar result was obtained also in feeding corn, the pigs under six months requiring less feed for a given increase than those over that age.

The breeders of animals that are to be sold as store stock will promote their own interest by rearing a class of animals that excel in feeding quality, and feeding them liberally from birth. As long as pure-bred animals of the best types command better prices as breeders than as fat stock, the grades of the different breeds will constitute the principal supply for the purposes of the butcher.

It seems to be the opinion of many farmers that the breeding of grades is a simple process that does not require the exercise of any particular skill, or a knowledge of the rules of the art, that is deemed so essential to success in the breeding of pure-bred animals. This is, however, an error that will lead to many disappointments in the attempt to breed animals for the best prices in the market. In breeding grades, the male that is selected should be pure-bred to ensure prepotency in the transmission of his own characters, and he should also possess the characteristics of the family or types which he represents, the most important of which are a symmetrical form, with a good development of the best parts of the carcass and the absence of coarseness, and good feeding quality or the ability to fatten rapidly and give a good return for feed consumed.

Size is not of as much consequence as quality, and the power of transmitting, with uniformity, the inherited good qualities of his ancestors.

If the females with which he is coupled are large, and there is coarseness in the bones and the inferior flesh of the carcass, a male of moderate proportions will be more likely to get good offspring, other conditions being equal, than one that is remarkably large for the breed he represents.

The male should also have a strong constitution, and be free from either acquired or hereditary disease; and he should likewise be free from defects that would diminish his value when fattened for the market.

The extra trouble and expense required to secure

these desirable qualities in the male will be amply repaid in the superior quality of his offspring and the extended period of his usefulness.

In breeding animals for the butcher, a male that possesses all of the characters enumerated may frequently be used to advantage on his own offspring, without any danger of unfavorable results. With an inferior male such practice would be disastrous, and the head of the flock or herd would need to be changed before his own offspring arrived at a suitable age for breeding. On the score of economy the best animal for the purpose will be found the most profitable, notwithstanding the extra price that must be paid at the outset.

The tendency to early maturity and good feeding quality in the offspring will be increased if the breeding females of the flock or herd are kept in good thriving condition by a liberal supply of feed and water, and comfortable shelter from the storms of winter.

It must be remembered that a certain amount of food is required by animals to repair the waste of tissues involved in the very process of living. If the food supplied is only sufficient to replace this waste the animal cannot increase in weight, and if this supply is diminished the animal will lose in weight, the wear and tear of the animal machinery being at the expense of the products stored up from food previously consumed. Many animals are incapable of digesting a larger amount of feed than is required to keep the system in repair, so that there is no surplus to be stored up in the form of fat and flesh. The amount consumed must not be confounded with the amount digested, as it is the latter only that can be made of use in the system.

Animals must then be produced that are capable of digesting a much larger amount of food than is required for the repair of the system, as this excess is the only source of profit.

The subject of manure production as a source of profit in feeding will next require consideration.

In the preceding paper the term "intensive" farming was used instead of high farming, but the types converted the word into "intrusive," which can have no meaning in that connection.

#### International Exhibition for 1878.

The Canadian trophy for the Paris Universal Exposition, of which a photograph is being prepared for submission to the English Commission, will be 99 feet in height from the ground to the top of the flag pole, or 85 feet to the top of the roof. It will contain four stories, with three galleries, and be constructed principally of walnut and pine. The following are its dimensions:—Base, 30 feet; 16 feet 6 inches from the ground to the first gallery, 16 feet to the second, 16 feet to the third, and 11 feet 6 inches thence to the roof; from the base of the roof to the top about 25 feet. The lower story will be filled with cases for small exhibits, there being four cases of eleven sections each, making forty-four sections in all. This story will be decorated with wild flowers. The first gallery will be decorated with goods, and in the verandah are two cases elevated one above the other, with a roof on the top, forming a miniature tower. The cases in the centre of this section will be filled with vials containing geological specimens and specimens of agricultural produce. The gallery above is supported by ornamented brackets, festooned with rope and twine. The second gallery is about twenty-three feet square, and will be decorated with lumbermen's tools, agricultural implements, etc., while moose heads decorate each side. The third gallery will be adorned with a canoe suspended from its side, with fishing nets, spears, tackle, cricket bats and other sporting implements, above being a large buffalo head, and on the side corn brooms. The roof will contain specimens of shingling and slating, while at the top of the tower, on each of the four sides, is the word "Canada." There will be a circular staircase in the interior leading to the different galleries. The trophy promises to be one of the features of the Exhibition.

### The Dominion Farmers' Club.

A NEW INSTITUTION.

It is now proposed to establish a Dominion Farmers' Club, to have a Director in each county, the Directors to appoint their Secretary and President. The propositions for officers are to be made public, the names of those proposed to be publicly submitted through the *ADVOCATE*, and the votes to be taken by mail. Useful suggestions, discussions and questions to be submitted through the *ADVOCATE*. Two pages of the journal may be devoted to this interest. Should the Secretary not be able to select good subjects and good matter from our own county, the space will be filled with selections to correspond with this Club.

Writers must condense their suggestions and remarks to the subject at issue, and avoid all unnecessary introduction. If too long, or if not of sufficient interest, they might not be published.

This plan is suggested because our Clubs and Granges are not working as efficiently as we could wish in spreading information. We extract from the *Elmira Husbandman* and other American journals useful discussions, and hope by this plan to bring forward Canadian discussions. The following communication is from W. B. Kimball, Penn Yan, N. Y.:

The Farmers' Club report in the *Husbandman* of Oct. 10th contains a discussion respecting the best feed for swine. Now, gentlemen, I am no Jew, nor vegetarian, but am one of the few who believe swine raising and eating not only unnecessary, but one of the great evils of the world, notwithstanding all that is said and written in favor of them, and respecting the best breeds, the best feed for them, &c. A great evil, first, because the tendency of fat pork is, notwithstanding all that is said to the contrary, in proportion to the quantity eaten, to produce bilious disorders, and to corrupt the blood, producing scrofula and other eruptions of the skin; and second, because hogs are loathsome, filthy animals, and the most troublesome of any that farmers raise, and the hardest and most dirty work that they do is to kill and dress them. If it were a necessity to raise and eat them, it would be a humiliating one indeed; but there is no such necessity whatever. I think the very looks, habits and smell of swine should be enough to satisfy refined and intelligent people that they are not suitable animals to raise as food. True, people having naturally strong constitutions and plenty of muscular exercise may eat considerable pork and remain apparently healthy, and perhaps live to old age, especially if they have plenty of fruit to eat, and possess cheerful temperaments of mind to counteract the ill effects of it; much on the same principle that they can drink whiskey and use tobacco longer without feeling the evil effects than slender people and those of sedentary pursuits; yet pork eaters are much more liable to take the loathsome and contagious diseases, and to have them much more severely than people whose blood is pure and uncorrupted by pork eating. A large share, also, of all the pork raised is barreled for summer use—just the time when not much carbonaceous food is needed. A little fresh meat, fowl or fish, is all the meat that is needed during the warm part of the year; and for the cold part there is an abundance of carbon in milk, butter, cheese and corn meal, and in other good, wholesome food, to produce all the animal heat in the human system which is necessary. And if people would use more corn meal for their own eating, and feed more to cattle instead of converting it into pork, and raise more calves and have plenty of young and tender beef, it would be much better for their health, if not quite as profitable as raising and packing pork. Money should not always be the highest object with enlightened, moral people. That pork is not needed to impart strength, activity and the capacity for enduring the cold, as many people claim, I think is fairly proved by referring to those qualities possessed by the horse, ox, the deer and buffalo. I believe they all, except the horse, have two stomachs similar to those of man, and their teeth are very similar.

The Scotch people who live in a cold climate are strong, active and healthy, and subsist mainly up-

on potatoes and oat meal porridge; and about the same may be said of the hardy Irish, until they learn swine raising from the English and Americans. I will also refer to the strength, activity and power of endurance possessed by the native Indian who eats no pork. But people usually cling with great tenacity to long established customs and ideas which they were brought up to believe right, however wrong they may be. If it were possible that people could be persuaded to abandon the raising and eating of swine entirely, it would be one of the greatest improvements for the refinement and elevation of society which could take place.

The following was from a lady:—

Seeing in one of the letters to the Farmers' Club in the spring of 1875, the statement that by planting the stem end of potatoes successively, the crop would be improved in quality as also in evenness of size, I cut one Early Rose potato in halves and planted in the garden. The weights of the products were equal, potatoes from the stem end being all of medium size, whilst the eye end produced one very large potato and the remainder very small. In the spring of 1876 I planted the potatoes thus raised, making four "sorts," viz., the stem and eye from those raised from the eye, and the same raised from the stem end, the result showing a perceptible difference in favor of those raised from the stem end. Last spring I planted only the stem ends of those raised successively from stem ends, thus raising the third season, from one-half potato, one bushel, which averaged more than medium size (besides about two quarts that were less in size than a hen's egg), and superior in quality to any others of the same kind raised on the place, although the place where they grew was not considered good for potatoes.

The following letter from Mr. Arba Campbell, of Oswego, N. Y., on an interesting subject, was read:—

I wish to say in answer to E. Johnson's enquiry as to the best plan of plowing, fertilizing and re-seeding an old worn out meadow: Last fall I plowed a meadow of ten acres that had been mown and after-fed for many years, till it did not produce half a ton of hay to the acre. Early in the spring I sowed ten bushels of slaked lime to the acre, and worked it in with a cultivator. I then sowed 200 pounds of superphosphate to the acre, and ten bushels of oats, sowing the oats thin to give the grass seed a better chance after harrowing. I sowed twelve quarts of timothy, and four quarts of clover seed, and cross harrowed. The oats came up and produced a rapid growth, standing full by three feet high, and the one acre which we let get ripe threshed forty-four bushels. The other nine acres we cut with a mower just as a few of the heads began to turn yellow; when dry we raked them up and put them in as hay. As a fodder crop they are worth more than all the hay grown in the same meadow for the three previous years. And as I sell no grain but wheat, except in the form of butter, pork, beef and mutton, we have found this the cheapest and most profitable way of using our oat crop. For horses and sheep I know of no better fodder. Our grass seed took beautifully, and we have now a stand of timothy and clover thickly set and fully six inches high, with every prospect for a good crop of hay the coming year. I will recommend Mr. Johnson to try the same experiment on his soil—and report the result. My soil is a gravelly loam, inclining to clay, with little or no sand in it. I have found but little benefit in plowing and re-seeding old exhausted meadows without using some fertilizers, not only to get the seed to catch, but to supply the wants of the grass in its future growth. And I wish here to say that in buying my timothy seed I always buy that which is not hulled in threshing; hulled seed will grow I doubt not under favorable circumstances, but that which is not hulled will grow under less favorable circumstances, and I think it much cheaper to buy, though costing a little more.

Many of our old subscribers might give us their ideas on the Dominion Club, and might nominate the person they consider that takes the most interest in agricultural affairs in their county or township.

NOTICE.—In remitting money to this office be sure to name the post office to which you wish your paper sent. Do not forget to sign your name.

### Excessive Hay Feeding.

BY L. B. ARNOLD, SEC. OF AMERICAN DAIRYMEN'S ASSOCIATION.

Cows are quite sensitive in respect to the quality of their diet. If different kinds of food are placed before them they are very sure to select the best flavored. In regard to quantity it is different. In respect to the amount for a meal their instincts lead them widely astray. They will partake of any thing they relish as long as they have any room in their capacious maws to store it away, regardless of all consequences. They were evidently designed to roam over plains and forests and to subsist on food but little concentrated. In the hands of man they are in a comparatively unnatural position, and cannot be trusted with the more concentrated foods he prepares for their use. There is no safety in allowing them to help themselves at a pile of fruit, or at a bin of meal or grain, or at the corn crib, as they will be sure to take more than they can digest, and a severe illness, if not death, is the certain consequence. Nor will they eat discreetly even of those coarser foods, such as potatoes, roots, pumpkins, cabbage, green clover, &c., till they come down to provender for which they have very little relish. They are unlike other farm stock in this respect. The healthy, well fed horse may be safely trusted in the apple orchard, or even at the oat bin, though such lenity could not be given to a starved beast, nor to a dyspeptic animal with an abnormal appetite. So with sheep and poultry; and even the hog, with all his hoggishness, is not so much of a glutton as the cow. In feeding cows with any sort of food which is well relished by them, the cowherd must always keep an eye turned carefully to their needs. He must regulate amounts by their necessities, and not by their inclinations. There is often occasion for a very careful discrimination by the feeder in determining just where his judgment may give place to the inclinations of his herd. I class hay among the doubtful articles, notwithstanding most feeders give all their cows will eat, and some, so to speak, crowd it down them. "I give my cows all the good hay I can get down them," is often the boast of the dairyman who would be thought a generous feeder. It is doubtless better to give good hay than poor, but there is a chance for the query whether the man making this boast has not been a little too soon in letting the inclinations of his cows take the place of his judgment—whether cows having free access to all the good hay they can eat will not take in more than is for their benefit and the profit of their owner. There are several circumstances which conspire in leading to the inference that they will. First, when cows are to "come in" in the spring, feeding them during the previous winter with all the hay they can eat so distends their enormous stomachs as to crowd them so hard against the growing fetus, which is now large, as to disturb its envelopes, causing pain and injury, which manifests itself in severity and irregularities of labor. It is a fact which has often attracted my attention, and doubtless the attention of others, that following the winters when cows have been fed freely and exclusively on hay, it being very abundant, there has been the most trouble with them in the spring, and that when hay has been scarce and its place in part supplied with grain, there has been the least difficulty in the spring, and the cows have invariably done better in the summer following. The contrast in results following the different modes of feeding have sometimes been very marked and wide.

Second, it is not economical. The digestive capacity of cows, even though very large, is limited. The gastric juice is not poured out in sufficient quantity to do perfect work with such a very large bulk of food as cows will crowd down when hay is

their only feed, and it is urged upon them. I have seen this indicated in practical results on many occasions. With straw costing nothing and corn \$1 for 60 pounds, I found by trial that I could keep my cows cheaper than I could by hauling common hay at \$10 a ton, and yet the hay fed would have shown by analysis that it contained the greater weight of food elements. The loss in the hay occurred, first, in its imperfect digestion. More nutriment may be got out of a large feeding of hay than a smaller one, though the larger one be not so well digested as the smaller. Hay is not usually, even under favorable circumstances, very well digested by either horses or cows, especially if it was not cut till the seed began to fill. The experiments of L. W. Miller in exclusive meal feeding have demonstrated pretty well the imperfect digestion of hay. He has kept his dairy in the winter from 40 to 100 days on an average of three quarts of cornmeal only per day to each cow—equal to five pounds of meal a day to a cow—the cows keeping up and doing well on it. To keep cows of their size (I should, from their appearance, judge they would average from 900 to 1,000 lbs. apiece) would require not less than 18 to 20 pounds of common hay a day. Average hay yields 50 per cent. in weight of food substance—cornmeal 80 per cent. Five pounds of meal would therefore give 4 pounds of food substance to each cow per day, and 18 pounds of hay would give 9 pounds, which is more than double the weight of digestible food in the cornmeal, and yet when living on the hay the results were no better (Mr. Miller insists they were not as good) than when living on the meal alone. If hay could be ground finely, or scalded, or both ground and cooked, it would doubtless show a digestive result much better than when fed long. Secondly, the economy of feeding hay exclusively is affected by the great weight which it compels the cows to carry. A pound of hay will take up two pounds of water (early cut more than late cut) to soak and soften it and furnish liquid enough to give the mass a pulpy condition in the stomach. As it takes about 2 days for a meal of hay to work its way through all the stomachs of a ruminant, the cow which eats 20 to 25 pounds or upwards of hay a day carries in her paunch a load of 100 to 150 pounds. To carry such a load costs a waste of muscle and vital force which must be supplied from the food consumed, which, to that extent, makes a deduction from its useful effects. In horses which have much exercise to endure, an extra weight in their stomachs tells heavily upon their efficiency. It makes such hard work for them to travel or labor hard that the prudent groom is careful to feed food so concentrated as to avoid it as far as possible. The same effect is produced in cows in proportion to their amount of exercise, besides the debilitating effects of the uncomfortable distention.

Third. The different food substances in May are not in the best proportion for feeding in cold weather. The heat-producing elements are too low. A more perfect diet for cold weather is furnished by mixing with it in a concentrated form some more heat-producing food like meal or oil-cake.

The numerous observations from which the foregoing points have been deduced, lead to the position that the quantity of hay most profitable for a cow to use is the smallest amount that will give her stomach a comfortable distention, certainly not more than she can have ample time to remasticate, and that when more nourishment is required than is thus furnished it will serve her best to supply it in something more concentrated and easy of digestion than common hay.

Cattle when taking in their food do not grind it any more than just enough to enable them to swal-

low it comfortably. They hurry it away into their large storehouse—the paunch—and wait for a more leisure time to pulverize it thoroughly. When crowded with all they can get down it is impossible to remasticate more than a small part of it, and it must go along half prepared for digestion and the digestion but half done.

There is no profit in keeping cows without feeding them not only well, but liberally, but the feeder to reap any profit from his generous feeding should study to give his food of such kind and in such form that his animal machines can work it up economically and without unnecessary waste.

There is a constant tendency among those dairymen who give the closest attention to the results of feeding to depend less on hay and more on very finely ground grain or other concentrated food easy of digestion.

When a large yield of milk is to be produced something besides hay must be fed. It is utterly impossible for cows to digest common hay enough to support the heat and waste of their bodies and supply the material for a large flow of milk. Either the body or the yield of milk must suffer if only hay is fed.

#### The Farmers' Club.

BY HENRY IVES, BATAVIA, N. Y.

As I am a farmer, I take a great interest in agricultural exhibitions and discussions, and in the reports of them which we have in our very useful agricultural journals, and have been particularly interested in attending a few of your Provincial Fairs by seeing the great interest your citizens all take in making these shows successful; and the interest seems to be a genuine agricultural interest, instead of an interest in the horse-trot or side-shows, or even in the drinking and gambling which I regret to say has disgraced some of our fairs. But I have been surprised, after seeing the great interest they take in these annual exhibitions, that I don't hear more of the discussions of these farmers at their Farmers' Club meetings. Such clubs should be formed in every town or district, and regular meetings should be held by them for a free discussion on all matters relating to their particular calling and interest. I believe it to be quite instructive and profitable, besides being very interesting and social, for farmers to have such meetings. As I know that with us there is a lack of interest in organizing such clubs for the discussion of farm topics, and I presume by the lack of reports from such clubs in your agricultural journals, that your farmers are quite as dilatory in this respect, when I should have expected them to be much ahead of us in this matter, judging from the interest taken by them in the annual exhibitions of their products. These two societies, of course, would have mutual interest, but I think the Farmers' Club to be of the most practical benefit to the farmer, for where the other shows us the best samples of grain or roots or stock, and the largest yields attained, at the Farmers' Clubs we can have the way of growing and managing these described, and can question the farmer producing them as to the soil, the fertilizing, the cultivation and everything relating to his management in growing premium crops, so that others may learn how to grow the same. Such products are generally the result of particularly good management, but for them to do others any good (except feasting their eyes on them) we should have their manner of treatment and growth, as they will be given at such discussions. I believe there is rather a false impression prevalent with farmers about the utility of attending such discussions; the best farmers may think it would be of little advantage to them, thinking that they had already learned about all there was to be learned about agriculture, but such men will

be surprised to see how much they may learn at these meetings, even from those they had considered rather poor farmers, but who had either by accident or by some particular management learned an improved way of doing or managing some particular branch of farming, which it would be well for the farmers to imitate. Others would think it would be an advantage to them to attend such discussions, but fearing that they may be called on when they have no speech to make, they would hesitate to go to them; but these men would find when asked to state their way of doing any particular piece of farm work, that they can state it readily enough to their brother farmers, and all attending such meetings would find that they were watching the results of all their farm management closer than they did before, so that if called on to report, they could do it more intelligently; they could see if they had obtained as good returns as another farmer had from the same management as it had been reported to their club.

For the management of the club meetings I believe it best to use very few rules and regulations, only to keep proper order while the farmers have a plain and free discussion on the question that may be before the meeting. The interest in and attendance at such meetings is best through the winter months, held once a week or twice a month for that time, and for the summer months have a committee appointed, or else as a committee of the whole visit the several members of the club on their farms to see the practical working of them, also to criticize or commend as they may find occasion on seeing each one's farm management.

It will also add much to the interest and to the good such discussions will do if the club is fortunate in securing a good Secretary to make out a report of the meeting, which their local paper will be pleased to have for publication, or what is sometimes better, make the editor of such paper an honorary member of the club, and invite him to attend and to make out such a report of the discussions for himself.

#### Caution to Travellers.

At Harrisburg an apparently respectable man approached us, gave his name and address, and said he owned 300 acres of land and a grist mill. He had lost his purse on the cars, and wished to proceed to Toronto. He told a very urgent tale, but thought a few dollars would put him all right, and be returned by the first mail. He used a good name, and was just such a person as would draw money.

We pay a tax to support policemen and detectives. Are they attending to their duty? Even in this city we find such characters too frequently calling. We never can expel all imposters, but more should be done to protect the honest and unwary, and bring rogues to justice.

CANADIANS GOING TO THE STATES.—While we are spending money to bring old country emigrants into Canada, American land agents find not a few of our own people willing to leave for the States. The Hamilton Spectator of a recent date says:—"The Arkansas local agency of Messrs. T. B. Mills & Co. seems to be doing a thriving business. We are informed that Messrs. J. O'Brien and Richard Fitzgerald, of Glenmorris; Mr. A. S. Rollins, of Centralia; and Mr. R. Lyons, of Hamilton; left yesterday morning for Arkansas. Last week Mr. James Fulton, of St. George; Mr. James Atkinson, of Hamilton; Mr. Arthur Kemp, of Bartonville; Mr. A. McKinnon, of Toronto; and Mr. Peter Fraser, of Waterdown, started for the same State. Almost daily parties are going South to take up the lands for sale by Mr. Mills.

TO OUR SUBSCRIBERS.—Should you consider that Agricultural Clubs would be beneficial, we hope you will give us the names and addresses of such persons in your townships as you think would be most suitable for Directors of the Dominion Board; also such as would make suitable members. In writing to this office on agricultural subjects, use separate parts of your letter for separate subjects.

## Dairy.

## The London, Eng., Dairy Show.

From our English exchanges we gather that the second annual exhibition of dairy produce, which opened in the Agricultural Hall, Islington, October 3rd, was one of the largest of the kind yet held. Over 1,000 entries appeared under twelve different departments. More than twenty foreign firms were represented in the cheese classes, and a considerable quantity of foreign butter was entered. Dairy utensils were splendidly represented. Owing to the stringent regulations in force regarding the movement of cattle—more particularly cows—no cows were shown.

As an illustration of the importance of such exhibitions, a London daily paper is responsible for the statement that in the one single district around Frome, where cheese to the value of about a million sterling is made annually, the quality has improved nearly 50 per cent. since the first cheese show was opened in 1870, representing an increased return to the district of not less than £200,000 annually.

The *Agricultural Gazette* has the following with regard to this exhibition:—

In the American or Canadian class, Mr. G. F. Jackson takes the first three prizes for some Cheddars of fine quality, and some which, it is to be hoped, many of our English makers will take care to look at, in order to see what a grand quality of cheese our Canadian cousins can produce. The foreigner, too, is everywhere improving his quality, and our own dairy farmers must jog on with the times. We are second to no country in the world so far as dairy produce is concerned; but other countries are progressing, and we must do the same if we are to maintain our supremacy.

## Shorthorns for the Dairy.

Says the *American Agriculturist*:

The period of excitement which has just passed away, has had the injurious effect of distracting attention from the advantages possessed by the Shorthorn cow for the dairy, and has presented her as a fancy animal. It may be that during the past few years cows of this breed have not been bred so much with a view to the dairy as to their possession of certain points and pedigree; and it has worked injury to them, that in every herd one might see "nurses" of other breeds employed to help bring up the calves. A cow that cannot support her own calf has no excuse for existence, although her pedigree may be long and her form may be all that "fancy painted" it. There are some such Shorthorn cows, but fortunately these are a small minority of the breed. As a rule, however, it must be acknowledged that we rarely ever find farmers' wives prejudiced in favor of the Shorthorns. This is probably because their husbands have been induced to buy "a grand cow," having bulk only to recommend her, and to lose their own judgment as to the proper qualifications of a good milker, in admiration of the proportions of the animal, and in expectation of the fine calves she would raise. But, nevertheless, the pure Shorthorn sometimes, and the grade frequently, are excellent dairy cows, and in addition have the valuable quality of quickly fattening for the market. That the Shorthorn cow has a good record as a milker may be seen by reference to the different volumes of the American Herd Book. Cows are there mentioned which gave 30 quarts, and even more, daily for a length of time; and which made 2 and even 3 pounds of butter per day. There are herds of pure Shorthorns, kept specially for the dairy. One in Herkimer Co., N. Y., owned by the well-known dairyman Harris Lewis, has a wide reputation. One of the largest and most profitable milk dairies near the city of New York, that of Mr. A. W. Powell, of Unionville, N. Y., consists of grade Shorthorns, and we know that the milk of this dairy is unsurpassed by that of any other cows.

To make the Shorthorn popular for the dairy, it only needs that breeders who have neglected the milking quality of their cows should retrace their steps, and that this chief use of a cow should be the first consideration in breeding, for a cow that is a poor milker fails to give the larger portion of the profit she ought to be made to yield. It is no disparagement to any other breed that the Shorthorn should be held first as a milking as well as a beef animal. It has its place to fill, in which no other breed can be so profitable, and the other

breeds find places where the Shorthorns could not be kept with profit. There is no reason why the Shorthorn should not be made to deserve this reputation without exception, as now it only gains it in comparatively few instances. When breeders fully learn, as they are beginning to discover, that they must make their stock popular with farmers and dairymen before they find the best market and make their business the most profitable, then will this be done, but not before.

## Feed and Breed of Dairy Cows.

[Can all this be so and not overcome us, &c.? Let it be accepted as the *Ultima thule* of dairy knowledge—as the quintessence of wisdom.]

Dr. E. L. Sturtevant, of South Framington, Mass., makes the following summary of conclusions at which he had arrived on this subject, after many years of study and practical experiment:

1. The production of butter is largely dependent on breed.
2. There is a structural limit to the production of butter to each cow.
3. That when a cow is fed to this limit, increased food can not increase the product.
4. That the superior cow has this structural limit at a greater distance from ordinary feed, and more ready to respond to stimulants than the inferior cow.
5. That consequently the superior cow is seldom fed to her limit, and as a practical conclusion increased feed with a superior lot of cows, will increase the butter product; but if fed to an inferior lot of cows, waste can be but the result.
6. That the character of the food has some influences on the character of the butter, but even here breed influences more than food.
7. That there is no constant relation between the butter product and the cheese product.
8. That the caseine retains a constant percentage, and that the percentage does not appear to respond to increase of food.
9. That the caseine appears to remain constant without regard to the season.
10. That increase in the quality of milk is followed by an increase of the total amount of caseine.
11. That insufficient food acts directly to check the proportion of butter, and has a tendency to decrease the caseine of the milk and substitute albumen.
12. The best practice of feeding is to regulate the character of the food by the character of the animal fed; feeding superior cows nearer to the limit of their production than inferior cows; feeding, if for butter, more contracted and nutritious foods than for cheese; feeding for cheese product succulent material which will increase the quantity of the milk.—*Scientific Farmer*.

A contractor who keeps a great many cows to make concentrated milk for the navy says moles are of great service; they eat up the worms which eat the grass, and wherever the moles have been, afterwards the grass grows more luxuriantly. When the moles have eaten all the grubs and worms in a certain place they migrate to another, and repeat their gratuitous work. The grass where the moles have been is always the best for the cows. The rooks also help to keep down the wireworms.—*Land and Water*.

A NEW CATTLE PLAGUE IN ILLINOIS.—A terrible cattle disease is reported to have broken out in Fulton and adjoining counties in Central Illinois. This disease, according to the opinion of a number of veterinary surgeons, resembles the Texas fever, but it has so far proved more fatal in its results than that malady was ever known to. It is impossible to estimate the number of deaths that have resulted since the disease broke out. Stock-raisers are greatly alarmed at the spread of the infection, and no remedy for checking its ravages has yet been discovered. This new danger, taken in connection with the hog cholera in Ohio and Indiana, and the cattle disease lately reported from Cleveland, is causing much anxiety among stock-raisers and provision men in the West. The disease still makes great ravages.

## Stock.

## Variety of Diet for Cattle.

Many farmers are accustomed to feed through the winter upon one kind of hay, or, perhaps, upon straw or corn fodder. Our meadows are not composed of as many kinds of grasses as they should be. Timothy is very largely grown alone, and very few farmers add more than clover to it. One strong reason for sowing only timothy is the fact that horse-keepers in cities make it a point to buy only that kind when they can get it. They reject the fine grasses and seek the largest, coarsest timothy, and the farmer tries to supply this demand. If the city horse-keeper fed only hay, he would soon change his opinion of the value of fine grasses, but he only uses hay for bulk and to separate the grain in the stomach. In this view he might about as well use straw as the coarse, ripened timothy, which is only so far better than early-cut and nicely-cured straw as the amount of seed it contains. Its market value has beguiled farmers who live near a good hay market so largely as to raise timothy alone. I would not be understood as undervaluing timothy, for it is one of our most valuable single grasses, and should have a place in every meadow as well as pasture, but I only protest against its being the principal grass raised for stock. The objectionable feature of coarseness is much less when grown with half a dozen other grasses in the same sward. The stalks, then, instead of being large and hollow, will be fine and solid. It is not proper in this place to give a general view of grasses, as our purpose is to offer suggestions in reference to winter feeding with such materials as most farmers have; but the farmer will see the policy of being prepared with as great a variety of cured fodder as possible, and that he should avoid as far as he can the predicament of having in his mow only timothy hay. The motive for raising hay simply for market is now much less, since railroads have destroyed all merely local markets, as the rail offers facilities for bringing hay hundreds of miles, and thus rendering hay raised near a great market of little more value than that 500 miles away. Stubbness necessity is now compelling farmers to raise such crops as will pay the most to feed out upon the farm; and this again will compel them to study the greatest economy and the most prudent use of every crop raised. They will find that by combining the various qualities of food, they may not only save all, but produce a much greater result. Feeders have often observed that horses most carefully provided for, and supposed to be daintily fed, will occasionally eat straw, even their bedding, in preference to the timothy hay in their racks. It is not difficult to account for this. The straw possesses qualities the hay does not, and is a change from the monotonous ration of timothy and oats, so universally fed to the best horses. This ration is excellent—nothing is better, if you can only have one kind of grain and hay—but the horse, like his master, does not like to be confined to two articles of food. When the horse feeds upon the straw, he suggests an important lesson that his owner should learn, that every kind of food raised upon the farm has its value, and should be turned to account. Some years since we tried an experiment in wintering several colts, feeding half of them upon straw and clover hay, mixed in equal bulks of each, and timothy hay alone to the others. The result of four month's feeding showed, in the condition of the colts, that the mixture of straw and clover was quite equal to the timothy. But we have found that a mixture of clover, straw and timothy produced a still better result. This is true of cattle or sheep. Give the greatest variety you possess. If you have three or four kinds of hay, and several kinds of straw, feed one kind of hay mixed with one kind of straw for a few days, and then change to another mixture, going through the whole variety. You will find your efforts appreciated by the stock, and that you grow nothing upon the farm which will not be eaten, with a pleasant recognition of your judgment, if given systematically as a change. Let more than one kind of food be given each day. That plan of feeding the straw out in cold weather alone, and saving the hay till spring, is putting off your variety till the cattle get discouraged, often go into a decline, and are not prepared to appreciate the hay when it comes. The rule should be to combine the most palatable with that least so, having reference also to the nutritive constituents of each, so far as is practicable. For instance, clover is rich in muscle-forming matter, and wheat, oats or barley straw is very poor in that element—

thus the mixture makes a well-balanced food. If a farmer has only timothy hay, and has also pea straw, cut early, let him mix pea straw with oat, wheat or barley straw before mixing with timothy hay, as the pea straw is rich in muscle-building or nitrogenous elements, and the mixed straw is a better food than either alone. Timothy hay has only ten per cent. of nitrogenous food, while clover has sixteen per cent., and common straw has only two per cent. It is easy to combine foods of different quality, so as to make them in better balance. To show the effect of combining different elements, we took bean straw, not in extra condition, and after cutting it short with a straw-cutter, mixed it in equal parts with oat straw and hay, and found it to be eaten more readily than the oat straw and hay. And it is well known that bean straw, in its ordinary state, is not relished by stock. We also found that the mixture of bean and oat straw was eaten more readily than either alone. The straw-cutter is almost indispensable to the complete mixture of different fodders, and the time of cutting with a good machine and power is very short. It mingles leaves and stalks very completely. Indeed, when properly mixed in cutting, we have seldom found any difficulty in getting every kind of fodder eaten by stock without any grain fed upon it, but we do not advise feeding poor qualities of fodder alone except when that is necessary.—*Country Gentleman.*

#### American Shorthorn Breeders' Association.

SIXTH ANNUAL MEETING.

The Association met in Kentucky on Oct. 31st, with only about sixty members present. Canada, New York, Ohio, Iowa, Illinois, Indiana, Kentucky and Tennessee were represented. Hon. D. Christie, Ontario, President; S. F. Lockbridge, Indiana, Secretary.

An address was delivered by the President. He congratulated the members on this their sixth annual meeting, and on their meeting in Lexington, in what has been long the classic ground of American Shorthorns. He congratulated them also that in the face of the most stringent financial year through which the present generation had passed, Shorthorn sales have been reasonably good. A large number of well-bred cattle have been sold at fair prices in the United States and in Canada, while in England some sales of English and Canadian cattle have brought higher averages than ever before. He feared that little good has resulted from undue discussion as to the standard for the record of pedigrees. While a vigilant regard to the purity of blood is a duty incumbent on the Association, we should not be unduly stringent in setting up a higher standard than is meet.

It is cause for wonder that so large a percentage of American cattle are only second-rate, while so many well-bred bulls are almost unsaleable, and while it is certain that the only quality of beef which will pay to export is our best. He doubted if the exportation of any part of the carcass but the hind quarters will be found to be remunerative. It will be better to preserve the fore quarters and to export them salted. His conviction is that the exportation of live cattle to Great Britain is too hazardous and the shrinkage too great to render that a reliable and profitable trade.

He then referred to the statistics of the trade in fresh beef during the past year, stating that the exports of all kinds of meat showed in two years the enormous increase of \$28,071,582.

He referred to his efforts as President of the Association to induce the U. S. Government to take effective measures to prevent the introduction of the "Rinderpest." His efforts were unavailing.

Referring to Canadian exports to Great Britain, the aggregate for live cattle was \$193,100 in 1876, and for live cattle, beef and mutton in 1877 an aggregate of \$695,455, being an increase of \$502,345, or 250 per cent.

Judge Henry Craven, of Indiana, then delivered an address on pedigree. He asked—Are we not blind enough in some cases to follow pedigree without giving individuality the attention it deserves? He did not want to be construed as an enemy to pedigree, as he was a warm advocate of it; no reliability in breeding can be had without it. A good animal with a pedigree tracing to a long line of ancestry of good animals, was a guarantee that to breed from this animal will produce good ones. He denounced the modern idea of obliterating the milking qualities of the Shorthorns, a quality that in former years was highly esteemed, and should

be preserved. He said that the Shorthorns could never strongly commend themselves to the common stock man and farmer without a well developed milking quality, as the general farmer naturally looked upon a cow that gives little or no milk with distrust and suspicion.

Mr. Jones said he would like to call their attention to a later period, the present, and to the undeniable fact that the prices of Shorthorns at present were largely reduced. He asked why was this? He said it could not be attributed to the general depression of times, as it was acknowledged that the general business was better than for years, and it can not be attributed to the fall in price of beef, as it was higher now than it had been for years. He also showed that feeding steers and beef cattle of all kinds were higher than they were when Shorthorns were selling at twice the prices that they are selling for to-day. He said in substance that for two years past the breeders have been cutting their own throats by so severely criticising pedigrees. Such things had frightened the general public and barred the necessary outlet for the surplus. He said that it was high time we abandoned the idea that there was a commercial value in a pedigree alone. He came back to the question of how are we to profitably utilize the vast amount of pure blood, or to infuse this superior blood among the common stock of the country?

Prof. Knap, of Iowa, attributed this to the lack of merit. He said that animals with fancy pedigrees but no individual merit had got through bringing from \$500 to \$5,000 in his State; that cattle of inferior size and quality had been sold at high prices, which had driven the common sense, steady going men out of business, and the speculators have been bolstering each other until they have ruined themselves. He closed by saying that the thousands of farmers and legitimate stock men of Iowa still believed in and had faith in the Shorthorns as the great beef-producing cattle of the world, and also that they believed that they would soon be more popular than ever, but all hoped that the time of severe discrimination and unreasonable fancy prices was obliterated forever.

Mr. L. F. Allen argued that the cause of the depression in Shorthorns was largely due to the deception and chicanery that had been so liberally practised at the numerous public sales, which had destroyed confidence. He also condemned the unwarrantable discrimination that had existed about pedigrees, and scoffed the idea that a drop of the 1817 blood should ruin a good animal. He said the Shorthorn had superior value that never can be obliterated and can not fail to find appreciation from the intelligent American farmer, and that the breeding of this race must and will continue to be both creditable and profitable.

During the second day's sessions rules concerning the registry of pedigrees in the Shorthorn Herd Books were confirmed. Was any one color of Shorthorns any advantage over another? was discussed. It was resolved: That color in Shorthorns is simply a matter of taste, fancy and fashion, not affecting the quality of the animal or the meat or milk; that the public taste preferring red as a color, to the exclusion of other colors, is injurious to the Shorthorn interest.

A discussion on the proper age to breed ensued; it was the general opinion that for milk purposes early breeding was best; for beef, after or near maturity.

#### Fancy Points of the Jersey Cow.

That the Jersey cow has fancy points none will deny. By these points she is readily distinguished from all other varieties of cattle. In addition to those fancy points, the Jersey scale awards nearly 50 points to the hide, udder and escutcheon, and while it may be true that all Jerseys may not have all of these points fully developed, yet the breeder should have this in view in breeding. We regard this first of greater importance than breeding for fancy colors exclusively. While solid colors are desirable, it is a fact worthy of note that some of the best milk and butter cows that have been imported from the islands or bred in this country have been brown and white or fawn and white. As the Jersey cow is a superior only as a producer of rich milk and fine butter, let this be the prominent point in breeding. Take away from her these noble qualities, and she becomes worthless, or only an animal to remind one of the deer.

We are glad to see that the best breeders not only on the islands, but in this country, are giving their attention to the important points above mentioned. But we are sorry to see, as stated in a previous article, that the inferior calves and heifers

are being brought to Kentucky and sold to our people, who suppose that they are getting the best. If any one wishes to satisfy himself on this point, just let him do as the writer has done—send to our best breeders in the Eastern and Northern States for price list of their best Jersey cows, and they will have to pay from \$300 to \$1,000 per head, and on heifers and calves in proportion. One more point: there should be more attention paid to the sire that we breed to. If he is a descendant of inferior stock, then we may expect inferior stock. Calves from our best milk and butter cows should be kept as breeders only.

It is to be hoped that the above suggestions may lead to a little more care in selecting and breeding the pure Jersey cow.—*Kentucky Live Stock Journal.*

A recent case of "splenic apoplexy" quickly followed upon the allowing thriving bullocks to have access to "port-wine-colored water" from a burn contaminated by sewage. The operation of foul water upon the health of cattle and horses merits more attention than it receives.—*English News.*

#### Exports of Meat From America to Europe This Season.

The increased facilities for sending fresh meat to Europe have caused the shipments of beef this year thus far to reach a value of \$8,082,036, against only \$1,755,101 for the same period last year; and of mutton, \$113,500, against none in 1876. The live sheep sent in 1877 are valued at \$61,110; in 1876 at nothing. Live cattle this year at \$2,060,950; in 1876 an insignificantly small quantity. The bulk of these have been sent from New York, although Boston, Portland and Philadelphia have made contributions. The total shipments of butter from Jan. 1 last, to Sept. 29 consisted of 12,250,690 pounds, against only 5,919,073 last year; and of cheese, 89,650,350, against 53,706,530.

#### The Horse.

##### Horse Feed.

The *London Live Stock Journal* says:—Every good groom knows that sound oats and beans and peas, in due proportion, and at least a year old, are the very best food for a galloping horse—the only food on which it is possible to get the very best condition out of a race horse or hunter. It also has recently become known that horses do slow work and get fat on maize, Indian corn, which is frequently one-third cheaper than the best oats. In the East horses are fed on barley, and it is a popular idea with English officers who have lived in Persia and Syria that the change of food from barley to oats often, when imported, produces blindness in Arabian horses. Now, although no men understand better, or so well, how to get blood horses into galloping condition as English grooms, they do not, and few of their masters do, know the reason why oats and beans are the best food for putting muscular flesh on a horse. The agricultural chemist steps in here, makes the matter very plain, and shows that if you want pace, Indian corn, although nominally cheaper, is not cheap at all. When we feed a bullock, a sheep or a pig for sale, after it has passed the store stage, we want to make it fat as quickly and as cheaply as possible; but with a horse for work the object is, give him muscle—in common language, hard flesh. There are times when it is profitable to make a horse fat, as, for instance, when he is going up for sale. For this purpose an addition of about a pound and a half of oil cake to his ordinary food has a good effect. It is especially useful when a horse that has been closely clipped or singed is in a low condition. It helps on the change to the new coat by making him fat. A horse in low condition changes his coat very slowly.

When from any cause there is difficulty in getting a supply of the best oats, an excellent mixture may be made of crushed maize and beans, in the proportion of two-thirds of maize and one of beans, which exactly afford the proportions of flesh-forming and fat-forming food. Bran is a very valuable food in a stable for reducing the inflammatory effects of oats and beans. Made into mashes, it has a cooling and laxative effect, but used in excess, especially in a dry state, it is apt to form stony secretions in the bowels of the horse. Stones produced from the excessive use of bran have been taken out of horses after death weighing many pounds.

### Russian Horses.

The four great breeds of Russian horses are the steppe horse, the mountain horse of Caucasia, the forest horse of the north, and the draught horse, called the Bitjuga. The steppe horses are of various yet kindred descent, and are all noted in greater or less degree for keen sight, swift pace, great endurance and exceeding hardiness. They live out of doors the year round, and are capable of sustaining extreme changes of climate and severe privations of food and drink. The Caucasian breeds are generally spirited, enduring, cautious and surefooted. The northern horses are distinguished for good temper, activity, strength and endurance. The Bitjuga are extremely strong and adapted to hard work as well as quick driving, but the race is said to be nearly extinct.

There are seven Crown studs in Russia, and one in Poland, containing altogether 2,602 brood mares and horses, with twelve Crown stables, having 945 stallions. There are also 2,444 private studs, containing 6,496 stallions, and about 70,000 brood mares, besides upwards of 69,000 stallions and 62,000 brood mares in the copach and steppe "tabures." Three hundred and eighty horse fairs are annually held in Russia; at which about

150,000 animals are sold out of about 263,000 sent to market. The average price per horse is about 60 roubles, making the yearly returns 9,000,000 roubles, or \$6,000,000.

A GOOD COLT 1900 YEARS AGO.—We may prognosticate great things of a colt; if, when running in the pastures, he is ambitious to get before his companions; and if, in coming to a river, he strives to be the first to plunge into it. His head should be small, his limbs clean and compact, his eye bright and sparkling, his nostrils open and large, his ears placed near each other, his mane also strong and full, his chest broad, his shoulders flat and sloping backward, his barrel round and compact, his loins broad and strong, his tail full and bushy, his legs straight and even, his knees broad and well-knit, his hoofs hard and tough, and his veins large and swelling all over his body.—Varro.

### Notes on the Garden and Farm.

We have spoken before of the importance of having a patent dryer in each country neighborhood, so that the surplus fruit that can neither be shipped to advantage nor canned, may be cheaply taken care of by drying. Fruit dried in the dust of a Kansas autumn atmosphere, or in a kitchen to which flies have access, is not desirable; but nicely, cleanly and quickly dried in a drying apparatus it is very palatable in the winter, we think, and really much superior to sloppy canned fruit such as we get from grocery stores. We have heard in Topeka that in some counties in Kansas peaches are rotting on the ground; it seems incredible when we remember that it is only three years since everybody was saying that the grasshoppers had killed every bearing peach tree in the state; but we fear it is true. If these orchards are too

far from market to make it profitable to ship the fruit, why not have a dryer? There is always a market for good dried fruit and there is always a demand for it in a well regulated family that has not a sufficiency of canned fruit, and plenty of one or the other will help very materially to prevent a demand for quinine in the spring. Sweet potatoes, pumpkins, and corn are all much nicer dried in this way than by the old process, and we have eaten apples that were almost equal to green apple sauce, and quite as fair in color.

Who are the successful men?—Young men who have been brought up on a farm and have a long desire to get into business in town should make a note of the following fact:—Mr. Charles H. Hullett, of North Norwich, has sold one of his farms in that township, composed of 100 acres, to Mr. Wm. Nobbs for \$5,000. This is a good price, considering that the buildings upon it are not first-class. Mr. Nobbs 25 years ago was not possessed of a dollar, now he is the owner of two or three farms. Industry and honesty has done it all.

The potato, in its native wild of tropical America, is a rank, running vine, with scarcely the appearance of a tuber on its roots. It is careful cultivation which has so perfected it in our day.

The late heavy frosts have sent most of the snipe and plover off upon their annual journey to the south. Ducks are still numerous, but it is apparent that they are becoming scarcer year by year. Were there a law forbidding the shooting of the birds when on their way to the breeding grounds in the spring, it would be productive of good, as ducks are at that season in but poor condition, and their natural increase would not be interfered with.

The St. Paul Dispatch says choice lots of Manitoba wheat were sold at Winnipeg last week at 7½ cents above the market rate for exportation to Ontario for seed. This suggests the probability that Minnesota wheat can be kept up to its present high standard by occasionally importing seed from Manitoba. The accepted theory is that the small grains come to perfection only near the northern limit of their production.

Russian agents are purchasing horses in Canada.

### Norfolk Red-Polled Cattle.

We now give our readers an illustration of the Norfolk Red-Polled Cattle. It is right that our farmers should know something about the differ-

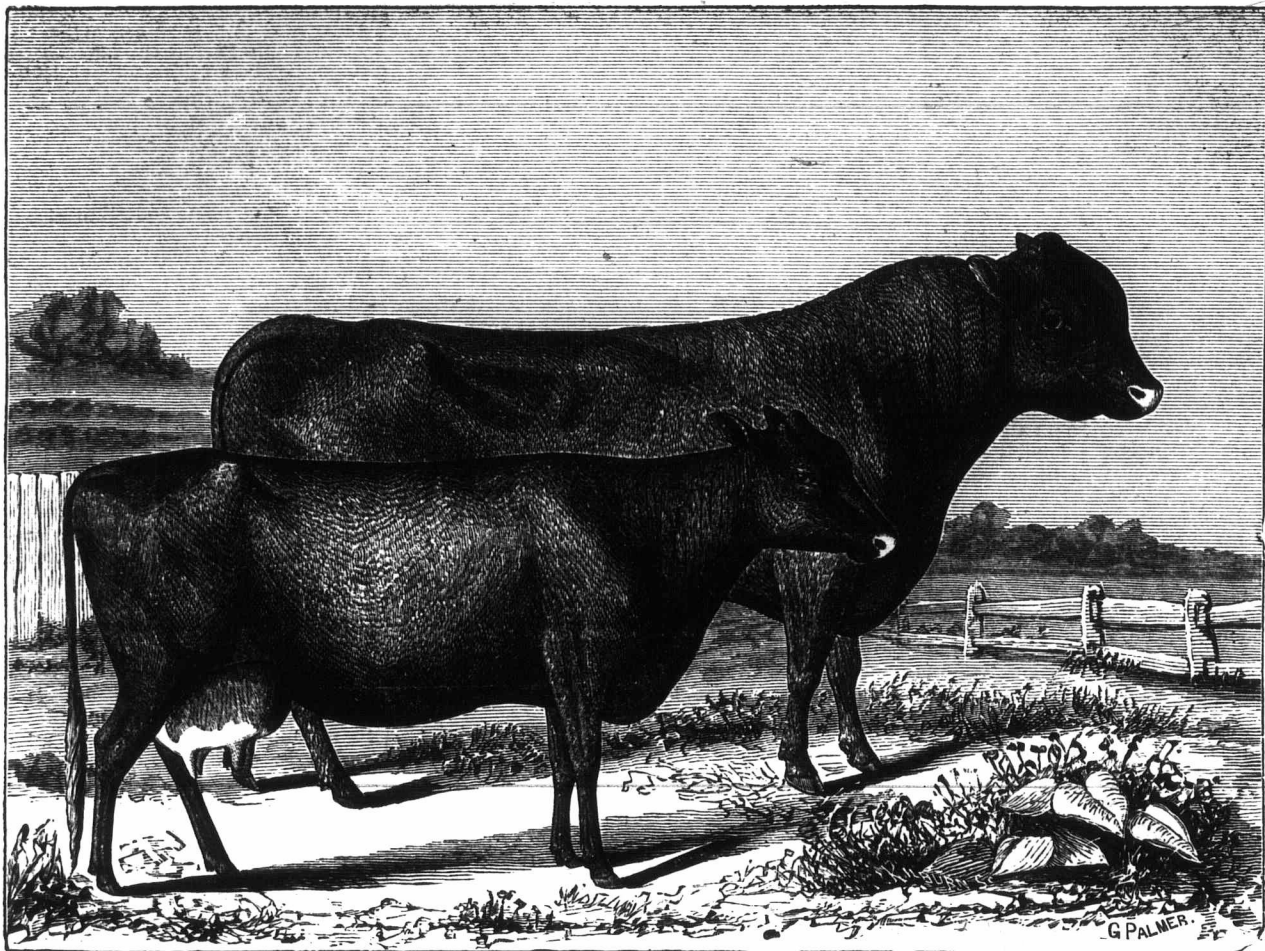
ent breeds of stock. This is a class more adapted for the dairy than for beef. They are between the size of the Durhams and Alderneys.

The following description of them will be read with interest: The Norfolk Red-Polled Cattle as now known, owe some of their peculiar points of excellence to judicious selection of the best animals of the family to breed from. So far back as can be traced with any certainty, the progenitors of the Norfolk Polled were known as a distinct tribe in the counties of Norfolk and Suffolk. Only a few years ago they were known as a much smaller animal than

the Shorthorn—a hornless breed, of great excellence for the dairy. They were then generally of a light red, red and white, or yellowish and white color. During the last fifty years some enterprising breeders of Norfolk have, by judicious selection and careful treatment, effected a great improvement in the breed, and hence we have the better known Norfolk Red cattle. They are usually of a rich red color, of medium size, small bones, good form, particularly clean and stylish about the head and neck. Mr. A. B. Allen says:—They are quick feeders, or, in other words, they mature easily and fatten kindly. Their beef is of the first quality. They are very docile in disposition, and easily handled and herded. The most highly improved are good milkers, equalling in this respect the best Ayrshires. They have deer-like heads and limbs, with smooth well-rounded form. They have fine style, and a dash rivalling that of the Devon.

The sixth and seventh Airdrie Duchesses, aged respectively 14 months and 9½ months, were sold in Michigan recently for \$14,300 each. These precious heifers were started on their way to England shortly afterwards.

At the starch works at Vincennes, Ind., 3,000 head of cattle will be fed.



NORFOLK RED POLLED CATTLE, BEAU AND BELLE, THE PROPERTY OF MR. G. F. TABER, PATTERSON, N. Y.

Many farmers hesitate to join a Club or Grange organization from a diffidence founded on a lack of early schooling, and from a difficulty in expressing their ideas in public meetings. The community at large is singularly ignorant of what education is. Education undoubtedly gives to every man the chance of showing what is in him. Yet, true education is simply one development of what is in a man; it can create nothing, it can only do for the mind what the farmer does for his fruit trees; he cannot make them, but may improve them. So every member of a Club who reads standard books and publications, and reflects on what he reads; who investigates the operations of nature as developed by his daily contact with her forces; who discusses and compares his experience with those of his fellow men; who tests all new theories, implements, methods, with good, sound common sense; who is willing that the world, through the humble organization of his village clubs, should have the benefit of his knowledge—such an individual is daily strengthening himself and improving others; such a one is reaping the true benefits of real education.—Boston Cultivator.

The surplus wheat crop of Manitoba is estimated at half a million bushels.



A veteran farmer told me, a few days ago, of a method of relieving a choking cow, which was new to me, but which he assured me was unfailing. It is worthy of trial at any rate. A round stick, two or three inches in diameter and six or eight inches long, is put into the cow's mouth, like a bit into a horse's mouth. A string is then fastened to each end of the stick, and tied to the horns or up over the head. This forces her to keep her mouth open and allows the gas which forms in the stomach and is the cause of the severe pain and rapid swelling which accompanies choking in a cow, to escape. The effort also of trying to free her mouth of its usual incumbrance is the best help towards freeing the passage of the throat. If the trouble is not removed in this way, the cow may be kept alive until help is obtained for trying other measures for her relief. In such cases time is of great importance. He assured me he had seen his plan tried in many cases, and in none had it failed of a complete cure in less than half an hour.

As an instance of the high reputation Canadian sheep have obtained, we may mention that a buyer from Texas was in the township, of East Wawanosh this summer and purchased several ram lambs from Mr. Potter, of the 2nd concession of that township, which he took direct to the distant State of Texas. We understand he paid \$10 a head for the lambs. The same purchaser also

every animal, and it does not freeze even in front of the cattle. By turning a tap the water can be let on at any time; another tap lets it all off. The buildings are very warmly constructed; the roots are kept at a proper temperature. Proper ventilation is also provided. The stock is fed exactly at stated times. Not only are these buildings deserving of note, but the animals contained in them are patterns and models for most of our breeders to copy. Different families of Ayrshires are kept and bred distinctly, so much so that any good breeder could tell to which stock any animal would belong. Mr. N. S. Whitney is the proprietor of this property, and as an Ayrshire breeder and a gentleman on whom you may rely, we have yet to learn if he has a superior on this continent. We know of no Ayrshire breeder in Canada whose name and stock stand higher.

Perhaps we may get a sketch of some of the interior arrangements of this building for some future number. This mode of watering stock is such that every enterprising farmer who has once seen a good pump properly fixed in the barn must have one, as it would pay for itself in a short time, if time and

The Glasgow *Weekly Herald* of Oct. 20th, noticing the shipment from Montreal of two large flocks of Leicester sheep, says that there is at present a great demand in the Glasgow markets for Canadian mutton.

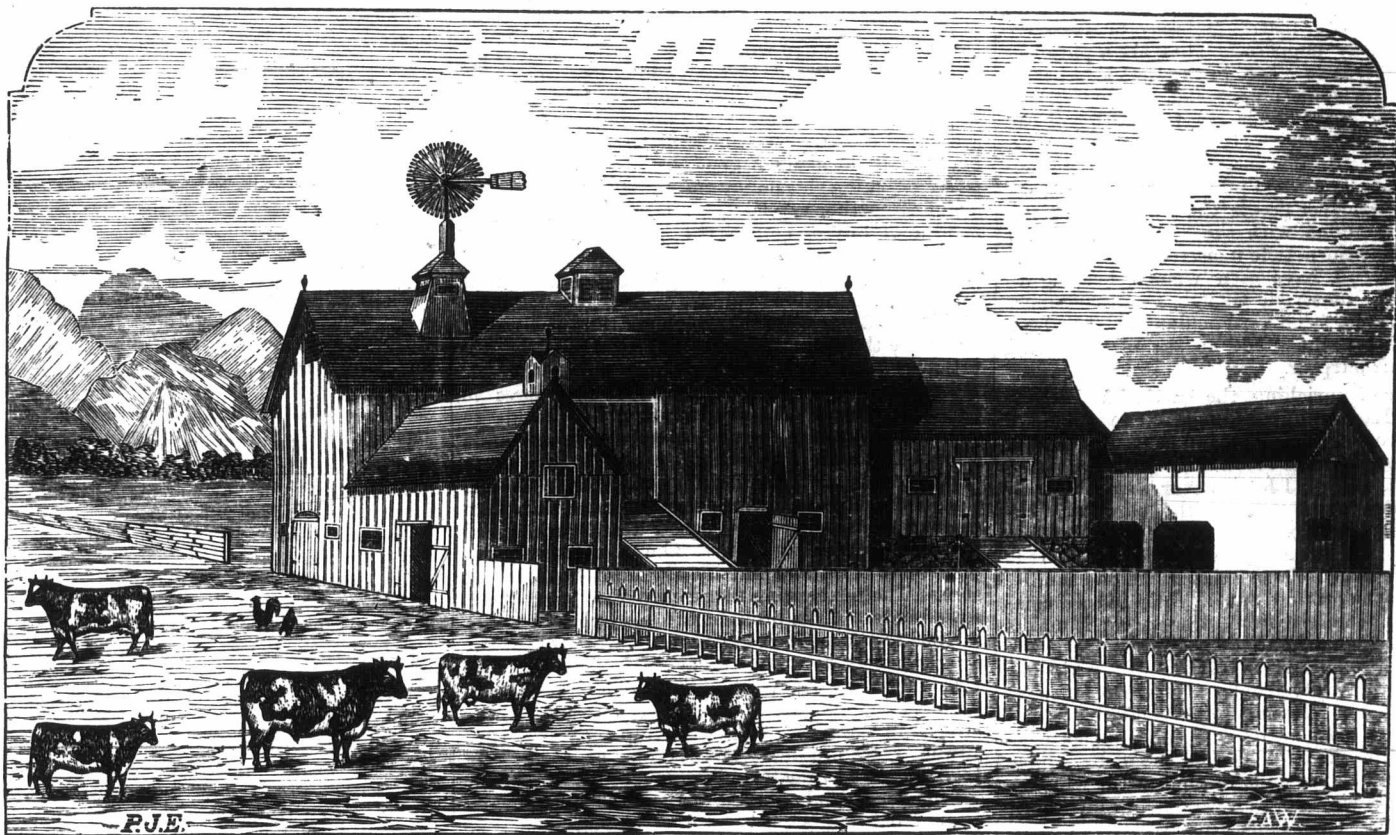
Last week 75 vessels arrived in the port of Buffalo in twenty-four hours, having on board 2,296,000 bushels of grain, which is the largest quantity ever received at any other port in the world during the same period.

The grain shipments from Duluth this fall require an increase of the Lake Superior fleet, and representatives of the railroads have visited Chicago for the purpose of chartering one or more steam barges and consorts.

The steamship Lake Nepigon of the Beaver Line has taken on board 300 barrels of eggs for England, being the first shipment of the kind from Montreal. The barrels average from 55 to 60 dozen each. The same vessel also takes out 500 barrels of apples.

The beet crop turns out remarkably well about New Hamburg. While 600 bushels per acre is usually regarded as a good average yield, this year 800 bushels per acre is quite common, and 1,000 bushels are heard of quite frequently. One farmer gathered 8,000 bushels from six acres. The turnip crop is also large in that section of country.

France reports \$11,000 worth of butter yearly.



BUILDINGS ON THE HILLS FARM, FRELIGHTSBURG, P. Q., PROPERTY OF N. S. WHITNEY ESQ.

bought from Messrs. John Cumming and Thos. Ady, of Hullett.

Regularity in feeding, watering, cleaning, milking, is of prime importance in the results obtained. "Regularity" should be printed on a large card board and hung beneath a clock in some conspicuous place in every farmer's barn.

**The Home of the Ayrshires.**

The above engraving represents the exterior view of the barns and stabling on the Hills Farm, situated in the Parish of St. Armand, in Missisquoi Co., P. Q. The exterior view of the buildings does not show anything particularly striking to any farmer, but your humble servant has been inside of these buildings, and they gave us such an impression of order, neatness and economy that none of the large buildings of the West have eclipsed.

The arrangements for feeding and watering stock, and the conveniences for saving manure, both solid and liquid, are most complete. On the top of the barn you see the sweeps of the windmill pump. A large tank is fixed in one hay mow. Hay is built over and around the tank, so that it never freezes. Water is conducted in pipes to

food are taken into consideration. The pump can be run or stopped at pleasure. This pump was made in the States, but now farmers can procure them at lower rates, as Mr. J. M. Cousins, of London, Ont., manufactures one of the best and cheapest wind pumps made. He can send them to any part of the Dominion.

Considerable interest was manifested at the New York Produce Exchange over a fine specimen of wheat received by President Cole from Manitoba. The wheat was grown in the Winnipeg district, and the berry was plump and hard, and very heavy. The sample was referred by President Cole to the Grain Committee for examination, and they pronounced it equal in every respect to the best grade of spring wheat that comes to the New York market.

We observe the following article in the *Prairie Farmer*: The Executive Board of the Warren County Agricultural Society have been indicted by the grand jury of the county for allowing gambling on the grounds of the Society at the late fair. They were let off by paying a fine of \$100.

There is raised in the States 1,380,000,000 bushels of corn a year—one bushel for every human being on the earth. Of this we eat, feed and waste all but 60,000,000, which goes abroad and is mostly consumed in England.

Mr. E. B. Tole, who has a farm on the Communication Road, south of Blenheim, Ont., sold \$150 worth of turnips last season, the product of one acre, showing clearly that turnip culture is profitable.

On account of increased railroad facilities, beavers of four hundred pounds clear are no longer purchasable in Western Texas at \$8 or \$10 a head, but will command readily and in any number \$18 or \$20 a head.

Returned Chinamen who have learned in California to prefer wheat to rice are introducing a taste for it and the cultivation of it into their native land. For the last three years they have imported the grain considerably, but they will soon have enough and to spare of home production. They cultivate so much more closely than we that forty bushels to the acre is about the lowest yield, and this pays well at twenty-five cents a bushel delivered at Hong Kong. Their sweep of country adapted to wheat exceeds that of the Pacific slope tenfold, and their cost of labor is 75 per cent. less. As a competitor of California, China may very shortly become formidable.

Speculation in phosphate lots in Ottawa County is pretty lively at present. H. Preston & Sons, an American firm, have been buying phosphate lately. Andrew Mann, of Ottawa, has also bought the mining interest in a couple of lots, and several other competitors are preparing to enter the lists. The mining lots so far sold are in Hull, Templeton and Portland.

## Agriculture.

## Agriculture in the Holy Land.

The land of promise is a land without fences. The traveler is glad that this is the case. The view is less interrupted, and in cases where the fields are cultivated, the broad expanse unbroken by a fence is especially pleasing. Occasionally a vineyard has a surrounding of stone, or the low tree known as the prickly pear; but otherwise fences are unknown. American farmers seem to have a rage for fences, for nearly every field is divided and subdivided by a fence oftentimes of a hideous pattern or else sadly out of repair. In England fences are used sparingly, and on the continent they are still less in use. With us it would be better for the general effect if we had fewer fences. They have a very unsocial look. In Palestine the open fields speak to us of the well-known hospitality of the people. A few stones, as in Bible times, serve as boundaries of the land, and these are sacredly regarded and never disturbed. The main reason, doubtless, for the absence of fences is due to the scarcity of timber. With the exception of the Cedars of Lebanon, there are no trees of a large growth in the Holy Land. Persons who have been in Eastern cities, or have seen pictures of them, have observed the dome-shaped roofs of the houses. These domes are not erected as a matter of fancy or taste, as many erroneously suppose. They are a pure necessity. Timber is so scarce in the East that beams long enough for a continuous flat or sloping roof cannot be had. A dome is substituted, for it can be made of short pieces of wood plastered over. Kindling wood for domestic purposes is an unknown luxury. The wood pile, so familiar on New England farms, never greets the eye in the East. The cooking is done with the twigs of trees and with hay. But the article most frequently used is dried manure. I have seen women heating an oven with this material, though I noticed more smoke than flame. This particular fuel has been used for ages, for the Bible speaks of it as being applied to this purpose.

In the way of enriching the earth, but little is done among Eastern husbandmen. The stubble of the fields is reduced to ashes, and the ashes plowed in. In Bible times the blood of animals was used as a fertilizer, though I have never seen it placed on land in these days. As to the plow, it is exactly the same kind spoken of in the Bible, and no improvement over those used centuries ago. It is scarcely more than a sharp stick with one handle, and turns up the ground but slightly indeed compared with the modern iron plow-share; it makes nothing more than a scratch on the surface of the earth. Even so simple an article as a whip has not invaded the Holy Land. I have often seen Arab husbandmen plowing with their oxen, and urging them on with an ox-goad, a long stick with a sharp point on the end. When the modern plow has gone nearly to the ends of the earth, why has it not found its way to Palestine? In answer it may be said that the people are extremely opposed to innovations, and perhaps superstitiously so. Another reason is that the soil is very light, and does not require the deep plowing needful elsewhere. In some cases the seed is scattered over the ground and then plowed in afterwards.

Sickles are familiar to the tillers of the soil in Palestine, but they are in ignorance as far as use is concerned of the modern reaping machines. In some quarters the old-time way is still adhered to of plucking the grain by the roots. When the sheaves are gathered they are taken to the threshing floor—a hard spot of earth where the sheaves are trampled upon by cattle. The threshing floor in all its simple appointments has not changed since the days of the patriarchs. The old way of winnowing prevails, that of throwing the chaff up against the wind, giving the chaff a chance to blow away. To make it thoroughly clean it is submitted a second time to the wind. As in ancient times, sheep raising is one of the chief occupations of Palestine and Syria, and the source of considerable profit to those thus engaged. Mutton is about the only meat used by the people during the winter season. They have a way of preserving it in pots, so that it can be taken upon long journeys. The fat from the sheep is converted into a pasty substance, and made by many a substitute for butter. The sheep are the broad-tailed breed common to the land. A flock of sheep, as they wander out for the food of the day, are always accompanied by a shepherd. He goes before them and they follow him. It is the custom to give names

to sheep, and by these they are called. "They know not the voice of a stranger." The rich valleys and hill-sides in the region of the Sea of Galilee are especially rich for sheep grazing.

As I saw in this locality the black tents of the shepherds and the sheep near by, I was reminded of Solomon's reference to the black tents of Kedar, and thought that even the color of the tents had not changed in this stereotyped land. How much longer the old customs of the East will remain unchanged it is difficult to say. Should the present war be decided against the Turks, and should they be driven from the Holy Land, great changes will doubtless take place, and many of the antique and biblical customs will naturally pass away. The day may be near when a railway will connect Joppa with Jerusalem, and Damascus with Beyrouth. The time may not be far off when the clanking of an American mowing machine may be heard on the fertile and fragrant plains of Sharon. For myself, I am thankful that I had the unspeakable pleasure of visiting the Holy Land at a time when I saw it as it must have appeared in its manners and customs, and at least in its general features, to the sacred characters of the Bible, who by their lives have consecrated it above all other lands on earth.—*Cor. Scientific Farmer.*

## What Clover Will Do.

EXPERIENCE OF A WISCONSIN FARMER.

Several years ago we became painfully conscious of a gradual decrease in the yield of our crops. To remedy matters, we commenced to feed stock—cattle, sheep and hogs. We not only fed all the grain and coarse feed the farm produced, but we bought a great deal of corn from our neighbors. After pursuing this policy for a few years we found it not altogether satisfactory. We could not depend upon buying corn that left no profit in feeding it, and what was worse, with all our feeding we could not get manure enough to keep our land up to the productive standard we wanted it. We next turned our attention to clover, and the result has more than equalled our most sanguine expectations.

In the spring of 1869 we sowed twenty acres to clover, sowing it with oats, putting ten pounds to the acre. After the grain was cut the clover made a remarkable growth; it headed nicely, and much of the seed matured sufficiently to grow. On the 15th of October following we commenced to turn the clover under; it took good teams and good plows to go through it. The next spring we planted to corn, and harvested sixty bushels per acre. The next spring we plowed the ground and sowed oats. This brought the seed plowed under in 1869 to the surface. The result was we had the ground nicely set to clover again. The oat crop was as good as we ever handled. The next season we cut two bouncing crops of hay, then plowed the ground in the fall. The two following years, 1873 and 1874, we produced large crops of corn. In 1875 we sowed to oats and again seeded to clover, sowing ten pounds of seed per acre, raising a heavy crop of oats and a good stand of clover. In 1876 we cut a heavy crop of hay the latter part of June; also secured four bushels of seed to the acre later in the season. We are all satisfied that that 20 acres is all right, and in condition to cut a hay and seed crop from next season.

On the first day of June, 1872, we turned eighty good young hogs, averaging 150 pounds, on fifteen acres of that clover that was sown the spring before. On the 15th day of September following, the hogs averaged a fraction over 250 pounds, a gain of 100 pounds each, or 600 pounds for each acre pastured.

On the 25th day of May, 1874, we turned 120 shoats (mostly small pigs) that averaged 100 pounds, on twenty acres of clover sown the spring before. On the 20th of September they weighed 194½ pounds each, or 567 pounds gain to the acre of clover.

June 1st, 1865, we turned 95 head of shoats, that averaged 126 pounds, on the same twenty acres of clover. On the 1st of October they averaged 250 pounds, a gain of 487½ pounds per acre. We then plowed up the pasture, and it was about as effectually dressed with hog manure as one could desire.

Last spring (1876) we planted to corn, commencing May 4th. It came up quick, and grew from the word "go," and produced the largest crop of corn, for a field crop, we ever grew in Wisconsin; as near as could be estimated, 82 bushels per acre.

In the spring of 1876 we turned 120 fair shoats on twenty acres of clover. The value of clover

had become so well established with us that we neglected to weigh them, consequently are not able to speak certainly as to definite results; but they would not differ materially from the preceding years. The hogs were never fed any grain from the time they were turned on the clover until taken off and weighed before feeding for market. Another thing that pleased us was the rapid gain of the hogs when put on feed. They seemed to be just in the right condition to eat heavily, digest properly and assimilate perfectly.

In 1871 we fed 45 days, and our hogs then weighed 365 pounds, having gained a fraction over 2½ pounds per day while eating corn.

In 1874 we fed 42 days, the hogs weighing 315 pounds at commencement, gaining three pounds per day.

In 1875 we fed 37 days. They weighed 326 pounds at commencement, and gained within a small fraction of three pounds per day.

In regard to plowing under green clover for a fertilizer, we prefer to pasture it off with hogs. Think the benefit to the land is as great or greater, and you will get paid for the clover; besides, would prefer to pasture the same land when possible two years in succession.

Our experience in this direction has not been so extensive as it has in feeding green. So far it has averaged as follows: An early crop of hay, cut by the 25th of June, worth \$10 per acre; three bushels of seed secured in the fall, at \$7; threshed straw, \$3; total \$34, from which deduct cost of harvesting and threshing, \$9, leaving \$25 net. We do not think the benefit to land nearly so great as when the land is pastured.

In conclusion we would say, if you want to clear your land of weeds, sow clover and sow it thick. If you want to grow big corn crops, grow clover and pasture off with hogs. Plow up the land the last of September or first of October, and the corn crop following will make you feel happy. If you want to make rich farms and make money, and not at the same time worry about railroad freights and railroad laws, grow clover, corn and hogs.—*From Wis. Ag'l Report.*

## Enriching the Farm.

There is probably not a farm which might not be regularly and thoroughly fertilized and renovated by a systematic use of the manures and other enriching material produced upon it. If there be a low swamp filled with decaying leaves and muck, it may be converted into a mine of wealth. Where the horses, cows and swine are stabled or penned, a little attention to their droppings will prevent ammonia from escaping, which ought to be intermingled with the soils. Haul leaves from the woods in large quantities in November, soon after the foliage has fallen from the trees, pack them in a bed, saturate them with stable and dung-heap drainings, suds from the wash-house, etc., and cover it with fresh manure. Mix them thoroughly after a time, always keeping them moist to facilitate decomposition. Quicklime deposited through the heap in moderate quantities will help much. Leaves of all the soft woods, so called, are good. Every pains should be taken to keep the fertilizing salts from escaping, and if you keep adding to your compost heap during the winter, you will have a "heap" of enriching substance in the spring to intermingle with your tilled land, which will be worth gold after harvest.

## Top-Dressing Grass Lands.

It is now generally conceded that the best time to apply a top-dressing to grass lands is just before the fall of the first winter snow, say in the latter part of November or first weeks of December. If snow comes on soon after the manure is spread, and remains on till spring, the soil will get the full benefit of the application. But if the snow fails to come on to cover the manure, or goes off and leaves it uncovered, much of it is wasted by evaporation; and for this reason the more strawy the manure the better. But in spring, before the grass begins to grow, the straw should be raked off the surface, and the rakings put in the pig-sty to be further pulverized and used as an absorbent. If the manure is not spread before the first snow, then it may be spread on the snow and let the next cover it. Or if the snow goes off in mid-winter it may be spread at that time with perfect safety and managed in the same manner as if spread in the fall.

The next best time to spread manure is late in April or the first week of May, when the grass is just starting and the roots ready to take in and

appropriate the fertilizing qualities of the manure ; but at this time care should be taken that it is more free from straw and other coarse matter, and it should be thoroughly pulverized so as not to be in the way of the mower, tedder and rake. Another good time to top-dress, is just after the first crop is mown, but in this case it must be a fine compost, free from straw, and it would be well to go over it with a rake or bush in a day or two after it is spread to pulverize the lumps and spread it more evenly. If a rain falls at the time so much the better. But the spreading of manure, like all other work of the farmer, is subject to the action of the elements and weather, over which the farmer has no control, and hence no fixed rule can be laid down when or how to apply top-dressing, any more than any other work of the farm.

Let the farmer learn what he can from reading and observation, and then be governed by his enlightened judgment.

Farm-Yard Manure.

The results of preparing farm-yard manure in covered courts has been described by Lord Kinaird. He observes :—" I have no hesitation in recommending, as the result of a large practical experience, the adoption of covered courts in every point of view, whether for feeding in winter or soiling cattle in summer." He then gives the result of the trials with covered, and with uncovered prepared dung, on a field of 20 acres—a rich loam. Potatoes grown with uncovered dung—

Table with 3 columns: Tons, cwt, lbs. Rows show 1 acre produced with and without covered dung.

The next year with wheat, the season wet, the produce was as follows, the stones being 22 lbs. each. The wheat with uncovered dung—

Table with 3 columns: Grain, Straw, Tons. Rows show 1 acre 41 and 42 bushels with and without covered dung.

What Liquid Manure has Done.

The Husbandman gives the following instance of the fertilizing power of liquid manure :—

Mr. John D. Miller, of Southport, raised this year 4,500 pounds of mangel wurzels from a little plot of ground exactly four and a half rods in extent. The best English crops are reported at 80 tons to the acre. It will be seen that the yield obtained by Mr. Miller is 82½ tons. It was really something more, for in weighing the crop he made no account of the odd pounds above 75 bushels at 60 pounds each, the reported yield. There was enough excess to make, when multiplied by thirty-five and five-ninths to bring it up to the acre, 83 tons. Full credence may be given to Mr. Miller's statement, for he does not merely use estimates—he gives the figures just as he finds them.

The treatment of the land is the chief point of interest in this case. In September, Mr. Miller had in his barn-yard a pool of liquid manure, which he very properly regarded as too good to be wasted; so he had it run on the small plot in mangels, with the result stated. The enormous yield was plainly due to that single application of liquid manure. The question now is—Will the yield on larger fields justify the expense of similar applications? Every farmer can decide the matter for himself. The lesson is worthy of careful thought, especially because Mr. Miller's statement is entirely reliable. It may be added that the variety of mangels was the ovoid, although it is not doubted that any other variety would feel the stimulus just as much.

At the Annual Meeting of the Ontario Manufacturers' Association, held 25th and 26th of October, the following resolution was carried :—That the great agricultural interest of Canada suffers grievously wrong through the present one-sided system of allowing American produce to enter our market duty free, while our produce has to pay heavy toll when entering the American market, and that justice to ourselves requires that we meet duties exacted on the other side of the border with equal duties on our side, no more and no less; also that the same measure of justice should be extended to our milling and mining interests.

Flax vs. Corn, Oats and Wheat.

We call the special attention of our readers to the article below, from our friend, Mr. Watson. His figures can be relied upon, and show that our farmers are neglectful of their own interests by overstocking the market in cereals, not half as remunerative as flax, and allowing foreign growers to get away with \$25,000,000 of our hard money annually, for this production alone, though almost every part of the country is well adapted to its successful cultivation.

The last U. S. Agricultural Report shows that in 1876 the entire United States raised :—Corn, 1,283,827,500 bushels, averaging 26.1 bushels per acre, at 37 cents per bushel or \$9.69 per acre; Oats, 320,884,000 bushels, averaging 24 bushels per acre, at 35.1 cents per bushel or \$8.44 per acre; and Wheat, 289,356,500 bushels, averaging 10.4 bushels per acre, at \$1.03.7 per bushel or \$10.86 per acre.

Flax, which grows well on corn, oat and wheat lands (says the Columbus Flax Society), " is the best crop raised in Morrow county, Ohio, yielding \$27.08 per acre." Were flax as profitable in other counties as above, it would give double of wheat and thrice as much as corn and oats, annually adding millions to the country's resources.

The United States annually imports about twenty-five million dollars flax and its manufactures. When will these baneful imports cease?—Advocate, N. Y.

Clover on Grass.

I gave an account last year of my success in seeding a piece of sod to clover, the object being to fertilize the undersoil, and also as an experiment. The sod was a good one, made so by top-dressing, the land originally being very poor, so much so that, without aid, the grass would run out. I will here repeat what I then said. The clover was sown early, the usual quantity, and the roller passed over. In due time it sprouted and formed its leaves. But the grass, having the start, was too much for it and threatened to smother it, which it would have done without aid, as has often been demonstrated where old meadows are resown. At this crisis the mower was passed over, cutting close to the ground. This took the grass, but left the little clover just discernible, which, now that the sun and air had full access to it, came right forward, added as it was by plaster, which affected the grass less. The grass, however, which was the stronger, required the second cutting, being a pretty dense crop. After this the clover had the field, though in one place where the grass was very strong and thick, it was neck to neck which should get the better. And this continued with some advantage to the clover throughout the season. In the fall a heavy growth was left for protection.

And now for the present season. In the spring there was a fair start, the clover having the advantage, though the weather was unfavorable early, there being a lack of moisture and warmth, old meadows particularly suffering, not altogether from the unpropitious spring, but also from close feeding in the fall. I should have stated that I gave the sod with its coat of aftermath a dressing of road-dust late in the fall, which benefited it the present season. But it was not until after the first cutting, and a dressing of plaster freshly ground and of excellent quality was given, aided by timely showers and warm weather, that the growth really set in, and now there is a cloud of clover smothering the grass and the few weeds that strive for existence. Nothing can be finer than this—so acknowledged by all who see it—the roots of the clover penetrating the soil below. The clover is headed out, and I shall let it mature, so as to die out, giving the grass the benefit. I shall resow with grass early in the spring.

The success of the experiment is so great, so decided, that I cannot refrain from recommending it. The soil was of the poorest, the grass kept on by repeated feeding, so that any land may be treated, the expense to establish the clover being the seed, rolling the land (so as to have the seed catch), and passing the mower over it; this last may be repeated if the grass is heavy and threatens to smother the young plant. If the ground is poor and the grass badly run out, a little manure will be required, to be harrowed in. This should be done in the fall, so as to have the ground ready early in the spring. I should have mentioned that the spot where the grass was heaviest, a mass of grass and roots resisting with some success the clover last year, is now to the eye all clover.

Nothing, it seems, can resist this vigorous plant if favored by plaster and good growing weather; the most obstinate quack has been subdued by it. There is another thing; clover thus introduced will have a lighter stem, being crowded, and with the grass mixed with it improves decidedly the hay made with it, as also the pasture. Who will give it a fair trial and report?—Country Gentleman.

Canadian Produce.

The London Telegraph, noticing some statistics of the export trade of Canada for 1876, says:—" Though for several years universal mercantile depression has operated in materially reducing imports to Canada, her staple exports appear to have augmented in a notable ratio. The proportion of the latter sent to this country was 52.78 per cent., to the United States 36.95 per cent., and to all other countries 10.27 per cent. The culture of cereals progresses satisfactorily in the Dominion, and the total value of breadstuffs exported in 1876 amounted to \$19,804,331, showing a large increase on 1875. When the boundless prairies of the Saskatchewan valley are brought under cultivation, the supply of wheat, corn, peas, oats, and barley from that region together with Manitoba and the provinces bordering on the St. Lawrence, will be practically unlimited. The record of exports of dairy produce indicates a state of marked prosperity. The principal customer of Canadian butter is Great Britain, which imported from the Dominion last year 9,571,177 lbs, and there was an increase of about 33 per cent. over the shipment of the same article in 1875. Of cheese 36,787,566 lbs. were exported to this country, and the shipment of the same commodity last year amounted to 14,19 per cent. more than those of the previous year. One of the enterprises of the future in the Dominion is cattle, in which an increase is shown of 1,484 head; and it is expected that 1877 will witness an extension of the meat trade on a scale greatly in advance of any preceeding period. When we take into account the unrivalled physical advantages of Canada in rich and varied resources, and vast natural and artificial waterways stretching into the remote interior, and her situation in the line of shortest route from England to Japan and China, a brilliant destiny may be regarded as assured to her.

AGRICULTURE OF ENGLAND.—At the Provincial Agricultural Exhibition of Nova Scotia the Hon. P. C. Hill thus spoke of the agriculture of Britain:—" He held that agriculture was the basis of all civilization, and a measure of its progress. England, while supplying half the globe with manufactures, still, notwithstanding her limited area, stands foremost in the value of her agricultural products, the annual value of which is ten millions sterling (nearly \$15,000,000), double that of her textile fabrics, treble that of her fisheries, and four or five times that of her mines. He urged high farming, so far as regards fruit and grain growing, as essential to our progress, repeating a statement of the late Dr. Forester's, that Scotland owed her wonderful agricultural progress to the growth of turnips.

Practical Farmer on Phosphates.

We used to get phosphates in the East which were made of bones, but now some of them seem to have very little bone in them. We value them more for a quick start of the crop; but when we want a fertilizer that will give good present, and at the same time long-continued results, we want either bone or else a phosphate that is made out of bone. In our former discussions here over our experience in using fertilizers we have settled down to about this conclusion: That the farmer who is settled on his own land had better use the best raw material he can get to put into his land, and let the elements in his land do the manufacturing of his phosphate or superphosphate, as you prefer to call it. In conclusion I would say to my brother farmers—buy good goods only and there will be less disappointment. My observation is that the fertilizers which are sold at the lowest prices per ton are in fact the poorest bargain. For my part I do not want to encourage adulteration in fertilizers by buying articles which are offered at less price than pure, honest goods can be furnished at. We had better buy a little of what we really need than large amounts of something our land or crops cannot use. I should have said that if bone is applied broadcast it should be sown on the rough land before harrowing, so when harrowed the bone would be as deep in the soil as possible. If sown after first harrowing the effect would be to push the grass more than the wheat.

### Erin Farmers Club: "Problem of Agriculture in Canada."

Under this heading Mr. Johnson, President of the Ontario Agricultural College, delivered the inaugural lecture of the winter series of meetings of the club. We omit his introductory remarks, wherein he explained the title given to his lecture. The distinction between production and exchange was shown and the equation of demand and supply making a market explained.

The foreign market was then brought under consideration. The costs of our imports was to be judged by two variables—the quantity of our commodities given for them, and the cost to us of those commodities. Our exported agricultural commodities were arranged under the heads of Live Stock, Dead Meat, Dairy Produce, Skins, Field Products, and Breadstuffs, and the lecturer gave by careful compilation and calculation from the latest returns the quantity with value of each of those classes, and showed the cost to us of those commodities. From the consideration of the problem in this respect it was clearly proved in the first place that it was to our advantage to trade as far as possible with Great Britain and the West Indies; that whatever might be the present benefit of trade with the United States, we were by it diminishing our competing power in the common market of the world; enhancing the cost of our own commodities—because in trade as well as in treaties, it was shown that they got the advantage; and that by sending such a large proportion to them of field productions in the shape of barley and rye, we were really exporting our power of future production, owing to the operation of the law diminishing return from an impoverished soil. And in the second place it was shown that our advantage lay in exporting less of raw material, and far more of animals and other produce.

The lecturer then proceeded to consider the subject as a problem of production, and stated it somewhat as follows:—How shall we increase the aggregate of our surplus produce for the support of a non-agricultural population at a proportionately less cost of production? The factors entering on the one side were three fold—a decreased fertility of soil, a change of climate, and the operation of the law of diminishing return. This law was explained as meaning that after a certain stage the application of increased capital and labour to the soil did not result in a proportionate increase of produce thus placing agriculturists at a disadvantage with all other industries in which an increase of capital and labour was applied. The great factor on the other side of the problem was shown to be the progress of agricultural knowledge, skill, and improvements. And the result of their progress was shown to be two fold, in the first place diminishing the cost of production by diminishing the labour and expense requisite therein; and in the second place enabling the land to yield a greater absolute produce without an equivalent increase of labour. Under the former was classed the value of the improved construction of tools, the introduction of all implements saving manual labor, improved means of transport, and improved processes of manufacture. Under the latter was shown the value of all elements in better farming, such as disuse of fallows, improved seeds, good rotation, application of better fertilizers, under draining, improvements in breeding and feeding cattle and experiments in agriculture. Here the great value of our new Live Stock trade came in as a factor in the problem of production by feeding the soil. And finally, the value of the individual was dwelt on as the last factor in this aspect of the question, showing the vast importance of greater energy of labor, greater skill and knowledge, superior intelligence and moral trustworthiness of the individual producer.

### The Toad.

The whirligig of time brings about strange reverses, and among them may be noted the recent accession into favor of the long-despised and much-maligned toad. For centuries these harmless animals have been persecuted and reviled till their very name has passed into a by-word descriptive of disgust and loathing. At last, however, their unobtrusive virtues are obtaining recognition, and the value of the unsightly toad as an insect destroyer is now generally admitted. At the present time a "toad market" is held regularly in Paris, once a week, on an open space of ground in the Rue Geoffrey St. Hilarie, at the back of the Jardin des Plantes, whither the dealers in this novel article of commerce bring their wares, carefully assorted according to their strength and size, and packed by the hundred in baskets of damp

moss. Whence the supply may be derived is as yet a mystery, but it seems clear that they are not over-abundant, since those of moderate size find ready purchasers at prices ranging from seventy-five to eighty francs per hundred. By far the greater portion of them are bought up for the use of English market gardeners, and it is stated that orders are to hand at Paris for the purchase, at current rates, of every basketful sent to market. *London Farmer.*

### Pedigree Seed.

Mr. F. F. Hallett, of England, the originator of the famous pedigree wheat, in describing his process of selection, says: "During these investigations no single circumstance has struck me as more forcibly illustrating the necessity for repeated selection than the fact, of the grains in the same ear, one is proved to excel all the others in vital power. Thus the original two ears contained together 87 grains, which were all planted singly. One of them produced ten ears containing 688 grains, and not only could the produce of no other single grain compare with them, but the finest ten ears which could be collected from the produce of the other 86 grains contained only 598 grains." That this process of selection need not deter any one from using it, from the slowness of the results, it is stated that Mr. Hallett had one field of seven acres sowed with the produce of a single grain planted two years before; but Mr. Hallett in his seed growing plants thin, in one case planting at the rate of but 10½ pints per acre.

Who will give the American farmer a pedigree wheat which can be depended upon to double the crop? The thought is a reasonable one, and the man who first succeeds will reap success for himself and others.

GOOD THINGS ABOUT RYE.—A writer in the *Chicago Times* says: "Rye will grow and produce fine crops far north of the degree of latitude where wheat will fail. It is, indeed, one of the most hardy crops that is cultivated. In regions where fall-sown wheat is almost sure to be killed, fall-sown rye is almost sure to survive and do well. Throughout the prairie region of Illinois very little wheat went through last winter without injury, but rye came out all right and generally produced good crops. In many places where wheat was ploughed up last spring, rye yielded twenty-five or thirty bushels to the acre. Rye will grow and produce very fair crops on soil so poor that little else will yield enough to pay for harvesting. It delights in dry, sandy soils, and will yield a return for the labor and seed on land that will produce little but white beans. There are many thousands of acres of land in different parts of the West, that yield hardly anything, that would produce paying crops of rye if it was sowed. Southwest of this city rye is grown on land that will produce no paying crop of any other grains. Rye is one of the best grains to sow where it is desired to seed the land down to timothy, clover, or other grasses. It has little foliage as compared with oats and wheat, and accordingly does not shade the ground so much. It allows sufficient sunshine to reach the soil to cause the young grass to grow very well. After the crop of rye is harvested the young grass is not likely to be burned up, as is the case when wheat and oats are cut. The change is too violent when wheat and oats are cut, and often the young grass is entirely lost."

The fields under fall crops, in stubble and in grass, will need to be ditched wherever water would remain on them. Standing water kills vegetation, running water enlivens it, and in running water should be included the rapidly percolating rainfall. Fields that are not tile-drained must be surface-drained by plow furrows made in such a way that the water is carried off gently and without such rapidity as would cause washing of the soil. Tile drained fields may be greatly benefited by occasional furrows from low spots between the drains leading to the surface over the drains where the water will rapidly sink away. These furrows should incline gently, in the form known as "hering-bones," from the head to the foot. Upon a hillside the furrows should pass diagonally down the slope, with very little fall, and the bottom of each furrow should be sloped back towards the hill, so that the water may not flow over the edge of one furrow and, running directly down the slope to the next furrow, cause that to overflow, and finally a "wash-out" be made, which will cost some labor to fill. In this a very little care may prevent a great damage.—*N. Y. Times.*

An English correspondent, writing on the 20th ult., remarks that the food trade between the Dominion and England is growing rapidly. He describes the shipments by that week's Dominion steamer as being one of the most varied and extensive "food" cargoes that has yet arrived in the Mersey.

The benefits derived from the labor of some insects should not be overlooked; some species feed only on noxious weeds, and others prey on still more noxious insects. One of the greatest friends of the agriculturist is the family of ichneumon flies, which lay their eggs in the bodies of living caterpillars, in which they are hatched, thus destroying them.—*London Times.*

REMARKABLE FERTILIZERS.—The agricultural experiment station at New Haven has just published a synopsis of its work from July 1st to October 1st. During that time it has examined and analyzed thirty-one different fertilizers, and among other interesting results, has discovered that two kinds of patent manures, which had been largely sold by a certain firm for \$32 per ton, cost but 90 cents and \$1.03, respectively, to manufacture. These "fertilizers" consisted chiefly of mud, which was dug up from the seashore at low tide at little or no cost.

CARTS.—We often wonder why farmers in this country do not use the cart more; it is far more handy for loading and dumping manure, soil, roots, etc., than the wagon, being more easy to load, and especially to unload. A cart can be quickly loaded and dumped, and only requires one good horse to draw it. In England carts are in constant use, being very popular in the harvest field. We are glad to see that dumping wagons are employed on many of our farms. This loading manure from a barnyard and hauling it by wagon a few hundred yards, to be unloaded fork-full by fork-full, is a waste of time and labor of both man and beast.

THE SOUTH AFRICAN INTERNATIONAL EXHIBITION.—Preparations for this exhibition, to be opened at Cape Town, on the 15th of February, 1878, are progressing. To intending colonial exhibitors it may be of advantage to state that the charges for space, per square foot, or fraction of a foot, in the main building, are as follows: Floor space, 30s.; wall space, 15s.; but the minimum chargeable to each exhibitor is fixed at £10 10s., how small soever the space actually occupied. The square foot only gives the right to one foot of frontage. All applications must specify the number of feet required in frontage and depth. The rates charged for space are based upon the expenditure involved in organizing and conducting the exhibition, as well as the cost of construction in England, and transmission and erection at the Cape of the building itself.—*Port Natal paper.*

SENSIBLE GRANGES.—An interesting debate took place at Wallacetown on the evening of the 15th inst., between the members of the Iona and Wallacetown Granges. The subject chosen was:—"Resolved, That it pays the farmer better to use his surplus means in underdraining his land than in laying it out at 20 per cent. interest." The subject was thoroughly discussed by the leading men of both Granges, and was decided in favor of the affirmative, taken by the Wallacetownians.

DELIVERING GOODS.—The Manitoulin *Enterprise*, published in Gore Bay, says:—"Mr. Pontey, of the firm of Pontey & Taylor, St. James' Park Nurseries, London Ontario, has been on the Island for the past month delivering fruit trees. He delivered at this place several hundred trees, which gave entire satisfaction."

The superlative quality of our barley is becoming to be of universal celebrity, and its importance to the agricultural interests of this country has been heretofore considerably under-estimated. Not only in the United States is Canada barley preferred for malting purposes, but also in Great Britain, where it is beginning to be quite a favorite with some of the leading malsters and brewers of the United Kingdom. We have seen a private letter from Burton-on-the-Trent, England, which states that malt made from Canada barley has been used in a prominent brewery there, and has given such good satisfaction that in its subsequent brewing this article has alone been used. In New York to-day No. 1 Canada barley is worth from 15c to 20c per bushel more than the best six-rowed State. Last Tuesday 10,000 bushels of fancy Canadian sold in New York at \$1.05 per bushel. There has been considerable activity in barley at Toronto within the last few days, where it has advanced fully 8c per bushel, and the business in car and cargo lots continues at the advance.—*Morning Star.*

## Correspondence.

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

SIR,—Inquiry is made through the columns of the ADVOCATE about the feeding qualities of Aberdeen yellow turnips. In my experience with feeding cattle from 1838 to 1853, in Scotland, no other kind was used there from the month of September till the month of March, after that the Swede was used for the feeding of stock. All store cattle and milch cows were fed on the yellow till the grass. If your enquirer has plenty of them to give to his cattle, with plenty of cut straw, with a little chopped grain, he need not be afraid to turn them out to any fair for sale. In my time at home amongst them I never saw one pound of hay fed to feeding stock, nor any other stock, nor grain of any kind. Oil cake was used when turnips were scarce. The yellow, if the right kind is got, will keep good till grass, in this country of ours, Canada. I have had them on my farm here for the last twenty years and have had no difficulty with keeping them, but the difficulty I find with them here, we can not get the real turnip. When I first settled in the bush, in the year 1855, I got a few pounds of the real Aberdeen yellow seed from Mr. Stone, of Guelph; I have kept myself from that ever since, but I have run them out. I have purchased seed now for two years, but I have got all kinds for them—this year they are purple on the top and bottom too. But for feeding cattle the Swede is the best for that purpose. But they are not so good for milch cows as the real yellow. Young stock will do well on them if they get plenty of them, but in my neighborhood they get very few of any kind—the strawstack is their feed and their bed as well. BRUCE FARMER.

P. S.—I must state to you about the three-quarters of a pound of the Silver Chaff fall wheat I got from you two years ago this fall. Last fall I had nine pounds of it on my first sowing. I sowed the nine pounds and took good care of it. This fall I threshed 4½ bushels from the 9 pounds. I sowed 2 acres this fall, and gave some of my neighbors of it. There has been no appearance of rust on it this past two years with me. The straw was very white and the berry this year was good. It is a very early wheat. B. F.

[The yellow Aberdeen turnip is so little used for feeding stock in England that it is not mentioned in such a work as the *Farmers' Calendar*. However, it is a good turnip for early feeding—during the winter months; but it does not retain its good feeding qualities throughout the spring. It is good for feeding from September till March—not as good as the Swedes, but it has the advantage that it may be sowed later, and it is sowed after what is called a stolen crop, and sometimes on ground where the Swede has been cut off by the fly, or failed from drought. For milch cows and store cattle it is better than for fattening, for which is never accounted of much value. For fattening, Swedes with good hay will put on good beef, though to finish beeves for the shambles the best feeders use a richer food. We have already said that straw cut at the proper time and well saved is at least as good fodder as inferior hay.]

SIR,—I wish you would in the next number of the ADVOCATE give me information respecting the gang plow, as they appear to be coming much into use in Ontario. Of what are they made, wood or iron? How are they operated? Has it handles like a common plow, and will it plow any depth required? Will it plow sod? Would it work on the prairie to break up with? How much will it plow in a day of ten hours? Is it hard to guide? What team is required to draw it? What maker is considered the best? How much do they weigh? By answering the foregoing and giving any other information you can respecting their advantages over other plows, with their price, you will oblige. SUBSCRIBER, Manitoba.

[The common gang plow would be useless on sod. After the ground has been plowed and well rotted, a good span of horses may plow from four to eight acres per day. They are made of iron and steel;

some kinds have some wood about them. They hardly require to be touched by hand, when properly adjusted. We cannot tell the weight; perhaps some of the manufacturers may send you catalogues.]

## Honey Locust.

SIR,—Have you Honey Locust seed? Let me know the price per pound, and how much it will take for 70 rods. I intend to set out a hedge next spring. I have 10 rods of Honey Locust and Peppage Locust about 2 ft. high. Would I be safe in cutting the Honey Locusts off near the ground next spring? Will they grow if cut? They were plants set out last spring, and have grown wild this summer. I wish to try them as they will be cheaper; the ground will be got ready for the seed this fall. I intend to sow thorn seed among them; also some Mountain Ash, and would like to try some evergreens, such as Cedar and Norway Spruce, if I can get the seed. Does the seed need to be set in the fall to get the frost, or will they do to be put in layers in sand in a box, and put out doors? Your opinion and advice are respectfully asked for in regard to the above.

W. M., Forest.

[The young Locusts may be safely cut down, and by so doing they will form a closer and better hedge. We find them quite hardy, having them growing on our ground for some time. To be sown in the fall the seed should have been in the ground before we received your letter. Locust seed often grows where it falls from the tree, if covered by leaves or earth. If seed be preserved during the winter in sand in a box in the cellar, it will grow when sown in spring. Spring is the safest time generally for sowing seeds of trees, but nuts, acorns, peach-stones and such seeds have been found to do best by fall planting.]

## Muskoka.

SIR,—In the numbers of your useful and interesting paper for February and April last I read with pleasure what appeared to be at the time a practical description of Muskoka and its "Free Grant Lands," by Mr. James Aspdin, of Aspdin, Muskoka. Like many other persons, I was anxious to know something of the Free Grant Lands of Ontario, and I decided, after reading the accounts to which I have alluded, to see Muskoka. Accordingly, I left Wallaceburg, in the County of Kent, in September, with a span of horses and a waggon, driving through the whole distance to Muskoka, something like 300 miles. After reaching the Township of Stisted, I examined the land and found it to be much the same as described by Mr. Aspdin. The surface of the country is rolling and the bush is principally hardwood. The appearance of the country is totally different to the district around Wallaceburg, not being so flat, and the soil, instead of a heavy clay, is a rich sandy loam, upon which excellent crops are raised. Muskoka abounds in good water, and is extremely healthy, no fever and ague, which is so painfully prevalent in the counties of Lambton and Kent.

After selecting a lot of land, I commenced building operations, and have now got a house and stable built upon it, and am just settled for the winter. I like Muskoka very well indeed, and am of the opinion that a man can do well here. To those who live on rented or mortgaged farms, and find it hard to make a comfortable living, I would say, come to Muskoka and get land of your own; then you will have the good of any improvements you make, and have something to fall back on in your old age. If any of the readers of the ADVOCATE would like to make further inquiries about the Free Grant Lands of Muskoka, and will write to me, enclosing a stamp for reply, I shall be pleased to give them any information in my power. THOMAS TRAXLER.

Aspdin, Muskoka, Nov. 12th, 1877.

## Prince Edward Island.

SIR,—The hay crop is very light this year; the wheat crop is very good; potato crop is poor, perhaps not more than half of last year's crop; the oat crop will be one-fourth, possibly one-third, less than last year. Shippers pay about 40 cents per bushel, and a very slow sale at that; potatoes sell for 22 cents per bushel.

J. B. S., Southport, P. E. I.

[Mr. S. differs not a little from the reports that we have had of the potato crop of the Island, but there may be great difference in different sections of the country. Here we cannot conceive how potatoes are sold so low as 22 cents, if the crop be a poor one, but the Islanders are accustomed to heavy crops of the tubers.]

## A Farmer's Garden.

Mr. J. F. Otwell, St. Mary's, Ontario, an experienced market gardener, cultivator of fifteen acres of summer and winter vegetables and small fruit, and also cultivator of a farm, writes:—

Many farmers might save fully one hundred dollars a year if they would adopt the following: most of farmers give the whole of their attention to the farm, so much so that they overlook the importance of endeavoring to provide themselves with abundance of vegetables and fruit. Every farmer should have a garden, and as convenient to the house as possible; and I will propose that about one acre of land be fenced in exclusively for a garden. In spring, even though he is much driven in getting in his crop, but very little time would be spent now and then in sowing and planting seeds, vegetables, &c., as would be useful and a saving throughout the summer and following winter. Z.

## To Prepare Home-Made Superphosphate.

SIR,—I notice in the ADVOCATE a discussion on home-made superphosphates, and it may perhaps be useful to publish a personal experience in one branch of the manufacture extending over more than ten years.

I place side by side two old flour barrels, in one of which I put whatever bones come to hand. In the other I put a bucketful of wood ashes from the house stoves; well moisten them and scatter a few bones on the top. The process is repeated as the bones and the ashes are produced, and at the end of a year some five or six barrels are the result. The mixture should be kept well moistened without being wet enough to allow any drainage, and in about eighteen months the small bones will have disappeared altogether and the large ones will have become soft enough to be easily crushed with the shovel while mixing the compost. The result is a manure which is far too powerful to use without mixing it with at least ten times its bulk of muck, or some fertilizing earth, and which can then be applied with excellent effect, especially to turnip land. I am of opinion that it is almost, if not quite, as valuable as many of the purchased superphosphates, and the plan is worth adopting if it were only to get rid of dangerous ashes and unsightly bones. A. B.

## In-Breeding of Swine.

TO MR. H. N., HEMMINGFORD, P. Q.—In-and-in breeding has been practised by the most successful breeders, as, for instance, Mr. Groom, of Kentucky, who is well known not only in the United States, but also in the Dominion. It is said that by this means the peculiar points for which the animals are so much prized are perpetuated. On the other hand, it is said that a long continuance of in-and-in breeding has a tendency to debilitate the progeny. However, we would have no objection to the close breeding referred to in your letter.

## The Benefits From Agricultural Literature.

SIR,—I am well pleased with the paper. Young and old long for its coming, and a regular scuffle ensues as to who will get hold of it first. It would be well for farmers if they would devote more of their spare time and hard-earned dimes to agricultural matters, and less to politics. If farmers would profit by their calling, they must study its principles more closely, invoke the aid of scientific truths, and where can they find the assistance they need more readily than in the investigations of those noble old pioneers of the past, whose untiring efforts, skill and forethought have made the once frowning wilderness teem with agricultural life and verdure? If there is a man upon earth who can look around him and say in confidence—"I am monarch of all I survey," it is the thrifty farmer, and in order to be able to so say he must live less for public show or for a train attendant, and more for the glorious privilege of being independent. One dollar per year for the ADVOCATE is money at good interest. R. V. K., Warburton.

SIR,—I would suggest that the time has arrived when it is necessary to have some competent person appointed to the charge of the Herd Books, as it is quite impossible for the Secretary to make the registrations of stock at the time the Exhibition work is going on. The ordinary work in the office is now heavy enough to warrant an assistant being appointed. DELAY, York.

## Garden, Orchard and Forest.

## Coal Ashes in the Garden.

That coal ashes are accounted of little value as fertilizers or improvers of the soil is, in part at least, owing to the works of scientific men. They have analyzed coal ashes, and proved by their analyses that the fertilizing matter they contained was but a very low percentage of their complement, and from the result of these analyses large quantities of ashes from thousands of coal fires have been cast aside as worthless. People have not borne in mind that the most careful analysis of bodies does not always give their full values for industrial and other purposes. Of coal ashes in the garden the *Country Gentleman* says:—

It has been long known that coal ashes have the effect of mellowing the soil, particularly clay. A rigid clay may thus be greatly improved in its texture. It has been held that the fertilizing properties of coal ashes are small—repeated analyses have shown this. Yet, used as they have been here in gardens, without other manure, the effect has been such as to lead irresistibly to the conclusion that they develop in some way a considerable amount of fertility. All cannot be accounted for by the mechanical improvement, as in cases where this is not lacking the effect is still present, and apparently undiminished, if not sometimes increased—in this case acting seemingly as wood ashes do, requiring other (organic) fertility to aid, if full results would be obtained.

I was surprised, early in the season, on seeing unusually thrifty tomatoes and beans, to learn that the only manure used was coal ashes, scattered in the garden to get them out of the way. This was practised for several years, and no manure other than this had been used. I was shown another garden recently which was treated exactly in the same way, the only dressing being coal ashes. Here the growth seemed all that it could be. I was shown a potato grown here that weighed one pound eleven ounces and a half. It was the Early Vermont, a variety not noted, I believe, for its large specimens. But they were all large, averaging from half a pound to a pound; no small ones among them, and many exceeding a pound. They were planted fifteen inches apart in the rows, a small potato dropped in each hill. The owner of this garden lays the success to the coal ashes, and says there can hardly be any mistake about it. This is the opinion of others also. My own experience is confirmatory. But the effect I find is not immediate. It is more tardy than with wood ashes, whose potash and soda act promptly.

I would advise by all means that coal ashes, instead of being thrown away, be used in our gardens, removing the coarser parts; also on potato ground, always mixing well with the soil, and as early as the ground will admit; and to be repeated yearly, thus giving time for effect upon the soil. I find the best success where the ashes have been applied for several years. The second year is sure to tell, even when thrown upon the ground and left to lie there undisturbed, as I have abundant evidence. But the place for full action is in the soil.

I should have stated that in the second garden mentioned, where the ashes were omitted, as was the case with a small space, there was a uniform lack in the growth, both in the size of the vines and the tubers. About a quarter of the soil of this garden was composed of ashes. In places where the proportion of ashes was greatest the largest tubers were raised. There is no doubt of the general benefit of coal ashes in a garden, and their decided effect upon the tomato and potato family. They doubtless affect more or less favorably all plants, in the improved texture of the soil, which most of our old cultivated fields need. Add to this their known manurial properties which science has pointed out, little though they be, and there is no reason why coal ashes should not be used on our land, to say nothing of what may seem an occult influence when they are put in union with the fertility of the soil, resulting thus, as appears to me, in an increased growth. I have faith in the discarded coal ashes, and I am using them to advantage.

## Ontario Fruit Growers' Annual Meeting.

(Continued from November No.)

The only successful fight that can be made against the enemy is "jarring." A curculio catcher is a simple but efficient instrument, consisting of a sheet stretched by a frame-work on a common hand-barrow, without the sides, leaving a space in front at the wheel for the admission of the trunk of the tree. A ball of rubber, or rags, and a wooden mallet, complete the outfit, and the cultivator is ready to make his approaches. A sudden stroke with the mallet on the rubber laid on the trunk brings down the curculio in an apparently dead state, during which he is readily captured.

Black knot of late years has become a serious evil to the plum-grower. Some years ago it was unknown in Western Canada; now it is everywhere common, except in a few favored localities, such as Owen Sound and Meaford. It is understood to be formed by a fungus, which appears as a vegetable *goitre*, and to save the tree requires immediate application of the knife. No particular plum tree is proof against black knot. On the common blue plum it is singularly abundant. What a melancholy sight it is for one to see certain fruit-growers preparing a rod to pickle for themselves by allowing the black-knotted trees to stand in their orchards year after year, without the least attempt to rid themselves of the evil! Fungoid forms are produced from spores; these spores ripen every season just as regularly as other seed-bearing plants, and warmth, winds and rains disseminate the germs, which being deposited in convenient resting places, are ready next season to develop and run over again their destructive course. Cut out unsparingly black knot whenever it appears, and burn with all convenient speed.

## ROT

is another difficulty with which the plum-grower has to contend. No truly philosophical or reasonable account has been presented of its origin. Conditions of rot have been amply described, but no certainty as regards its true origin has ever been presented. Speculations are rife. Horticulture is an ample field for speculation. The only remedy known to us is to thin out the affected specimens and destroy them. Leaving the injured fruit on the tree, or on the ground, almost equals the folly of allowing black knot to develop and shed its propagating spores.

## INSECTS INJURIOUS TO THE PEACH.

Foremost is the peach borer. This insect is not unlike a wasp—the markings are similar. It is unnecessary, however, to be very particular in the description of the perfect insect, as I know of no means to entrap him for his destruction. The only effectual means of destroying this pest is to use the knife, when he is doing the damage under cover of the protecting bark. The eggs are deposited generally between wind and water, just at the neck of the tree. These deposits are made at the end of July and beginning of August. The pupa state lasts in warm summer weather about three weeks. Their whereabouts is easily seen by their feces, and the exudation of gum from the injured part. Having carefully removed the larvae, if any, by means of the knife, wrap around the neck of the tree a piece of cotton cloth, covering the trunk to the extent of three or four inches, and reaching closely to the ground. Better still would this appliance be if made from the period the tree is planted, and anterior to the deposition of the eggs in the tender bark.

For trial by our peach culturists, I may mention a plan successfully pursued by growers on the other side of the lines, viz., the mounding system, in which a bank of earth is made around each tree, for three successive years, to the height of about a foot each year, the mound averaging a width of about six feet.

## INSECTS AFFECTING THE VINE.

The list of the many insect foes which attack the foliage and fruit of the vine, as given by Mr. Saunders, London, is most alarming. The green grape-vine sphinx, the beautiful wood nymph, the pearl wood nymph, the grape-vine leaf roller, the grape-vine plume moth, the grape cidaria, the common yellow woolly bear, the spotted pelidnota, the grape-vine flea beetle, the grape-seed insect, the thrips, the grape-leaf gall house, the free cricket, and last, not least, the honey bee. We spare you, gentlemen, in not giving the jaw-breaking technical terms of these depredators—the vernacular is enough, and after giving them are ready to draw a long breath.

## THE GREEN GRAPE-VINE SPHINX

caterpillar is a determined enemy of the vine, and is easily recognized by a horn on his hinder extremity. The moths of the grape-vine sphinx appear about the 20th of May, and begin in a few days to deposit their eggs upon the leaves. They are developed in about a week. The caterpillar is most ravenous, and in an incredibly short time destroys the leaves. The remedy is to hand-pick and destroy them. If allowed to remain and develop, they descend the vine and bind a few leaves together with their filthy cords, and there remain in their chrysalid state till they change into a beautiful green moth, large and powerful on the wing. It enters on its destructive work, like other evil workers, in the dark.

## THE GRAPE-VINE LEAF ROLLER

is well-known to all grape growers. This moth is double brooded, and first appear in June and August, and secondly in July and September. The eggs are deposited on the leaves, and whenever they develop they roll the leaf as one would a bit of paper into a match, and make it their hiding place. It requires no little dexterity to catch them, being exceedingly active, they are apt to escape by one end of the rolled leaf before the searcher is aware of it.

## THE GRAPE-VINE FLEA BEETLE

has been very destructive of late years in Essex. They penetrate and suck the fruit buds and render the grape entirely barren. These beetles appear in April and continue their evil habits till May. Their orange-colored eggs are deposited under the leaves, which hatch in a few days, and pierce the leaves with innumerable small holes. In June they descend into the ground, burrow, and there make their change into chrysalids. No definite plan has yet been discovered to get rid of these pests.

The THRIPS are the best known of the vine pests. The eggs are deposited on the leaves in June, and when hatched puncture the leaves and suck the sap. The yellow spot on the leaves speedily testify to their diligence, and the destruction of the crop is the consequence. The remedy in and around Cincinnati, and at Stoney Creek, is to shake the vines in the stillness of a summer night, and walk up and down the rows with lighted torches. The complete removal of all leaves, or other roughness, in the neighborhood of the vines, either late in the fall or early spring, will also lessen their numbers, as the survivors are destroyed by exposure to the cold.

## THE PHYLLOXERA OR ROOT LOUSE.

This creature attacks the roots of the vines. In France whole vineyards have been destroyed throughout large districts by these hostile pests, and much attention is now bestowed on its ravages, both in Europe and America.

The winged insects appear in July, August and September, but the work of destruction proceeds with unabated pace from early spring till late autumn. The root-louse, as the phylloxera is sometimes called, punctures the tips of the rootlets, and thus cuts off the regular supply of sap needful for the plant. No remedy has been yet proposed which meets the urgency of the case. Soot mixed with the soil has been thought of benefit, but vine growers have been more indebted to predaceous parasites than to any artificial means of destruction yet discovered for the annihilation of these pests.

## INSECTS INJURIOUS TO THE PEAR AND APPLE—THE CODLING MOTH.

This is perhaps the most pernicious of all the injurious insects with which the fruit culturist has to contend. Its ravages have become so clamant that the united efforts of horticulturists everywhere should be put forth for its diminution.

It would tend greatly to enhance the law of compensation if the small apple crop of the present season should amply repay apple growers for their present anxiety for the shortness of the apple crop, by its proving the ruin of the codling moth. It may prove a simple, but natural way, of stamping out its ravages. The loss of fruit buds ensures the loss of the eggs of the codling moth. Next season we may be comparatively free from this pest.

The codling moth appears as a winged insect just as the apple blossoms begin to open. She deposits her egg in the calyx of the apple, and the larva grow with its growth; their presence always prematurely ripens the apple, and the same may be said of the pear.

We are persuaded that the best and easiest way to overcome this evil is to turn the pigs into the orchard. Mr. Ritchie, of Bayfield, has done this for years, and has almost ceased to fear the ravages of the codling moth.

Mr. Springer, Wellington Square, employs bands of empty salt bags, tied around the trunks, and examines the bands once or twice a week for the pupæ and unchanged larvæ. He has almost got rid of this destructive pest.

#### CANKER WORMS.

We are not concerned about the different kinds of canker worms—it is enough for us that we and others have to lament their cruel ravages. Lately, at the State Fair at Rochester, in conversation with a veteran horticulturist, he declared that a fresh tar band around the apple tree trunks effectually checked the larvæ. The female is wingless, and if the tarry band is freshened with repeated applications, a stop is put to the depredation. These bands should be applied after the apple crop is secured in the fall, and kept up till the month of June.

#### THE "AMERICANA SYLVATICA."

The ravages of this caterpillar have been most destructive over a large portion of Ontario during the present season. Had a fire passed through our orchards it could not have left our apple trees under more barren poles. The eggs of this pest are dexterously glued to the terminal branches of the trees in the months of August and September, and continue there till the 15th or 20th of May. At the first approach of genial weather they develop into perfect caterpillars, and commence the work of destruction. At night they congregate in a crotch or fork, and can easily be destroyed by an application of the spirits of ammonia. This may be done by means of a sponge, or other convenient appliance.

#### THE PEAR TREE LEAF SLUG.

This offensive pest may be destroyed with a home-made sand or dry earth pepper-box. A thorough application once or twice in spring, and again in September, when the second brood appear, will effectually rid the orchard of this pest.

#### BLIGHT ON THE APPLE AND PEAR TREE.

For some years this disease has been very prevalent throughout Ontario, and in some of the Northern States of the Union. Its characteristics this season have been entirely different from those of former years. It has attacked the tips of the young apple trees, the fruit buds of the pear, and has generally ceased its ravages after penetrating the branches a few inches beyond the first affected parts. We may truthfully affirm that most people are in entire ignorance of the causes of this disease. We are inclined to lay the burden of the offence on Boreas. His cold winds injure the tender stems, disorganize the sap vessels, and leave the limbs a blighted mass. If proof were needed, it might be found in the double blightness of the past spring, accompanying two frosty nights. *Fungus* may be a philosophical word, and men may use it philosophically enough, but to me it would seem when the vital organisms of the apple and pear are injured by the cold, that the matter of which the branches are composed assumes other shapes, develops other organisms, and appears to our inspection as *fungoid* excrescences, which, for want of better terms, we call *fungus*.

I have again greatly trespassed on your patience and forbearance by my lengthened address. My only apology is a desire to further the interests of horticulture, not so much among the members of the F. G. A. of Ontario now present, who are intimately acquainted with these matters, as among a large and increasing class in our Province, who are acquiring town and country lots, to whom the pleasures and profits of horticulture are little known and less appreciated. If any of you think it a queer way to do this by exhibiting the difficulties attaching to fruit culture, I merely answer, to be forewarned is to be forearmed. Difficulties overcome add to the zest of the pleasures realized. There are few valuable and pleasurable occupations without corresponding drawbacks.

Pursue, gentlemen, your laudable and successful efforts for the furtherance of fruit interests, and your self-denying labors will in the end be crowned with the plaudits of an enriched, happy and contented people. Flag not, until you have diffused the civilizing influences of Pomona throughout the length and breadth of our land; remit no effort to bring horticulture into favorable repute, until every farmer and possessor of land derives the advan-

tages which you so fully estimate, and which are to be so successfully obtained from the cultivation of fruit and fruit-trees. Many portions of our Province have as yet scarcely heard of your efforts. Cease not to agitate horticultural questions and interests until every township has its show, and at every Provincial Exhibition the tables groan with the rich and luscious products of Pomona.

The address was listened to most attentively. At its close,

Mr. Wm. Saunders, of London, moved a hearty vote of thanks to the chairman, and spoke very highly of its general excellence. He also added the request that the report be furnished the Secretary, and published in the annual proceedings of the Association.

Mr. H. M. Switzer, of Palermo, seconded the motion, which was unanimously passed.

Mr. Legg, of Stratford, gave his experience as to the eradication of caterpillars, saying in his district they were the greatest pests in July, and if overcome then they were easily got the better of.

#### ELECTION OF OFFICE-BEARERS.

Mr. Mackenzie-Bowell, M.P., proposed the re-election of Dr. Burnett, complimenting him highly on his abilities.

Mr. Mackenzie Ross, of Chatham, seconded, and the motion was carried unanimously.

Mr. Wm. Saunders moved, and it was seconded, the election of Mr. Wm. Haskins as Vice-President. Carried.

The following Directors were elected:—No. 1 District, John Croyle, Aultsville; No. 2, P. E. Bucke, Ottawa; No. 3, F. H. Hora, Glen Lawrence; No. 4, P. C. Dempsey, Aldbury; No. 5, G. B. Salter, Port Hope; No. 6, Geo. Leslie, jr., Toronto; No. 7, Oliver Springer, Wellington Square; No. 8, A. M. Smith, Drummondville; No. 9, Chas. Arnold, Paris; No. 10, Wm. Roy, Owen Sound; No. 11, Wm. Saunders, London; No. 12, Mackenzie Ross, Chatham; No. 13, H. Robinson, Collingwood.

These directors, who represent the thirteen electoral districts of the Province, subsequently met, and re-elected D. W. Beadle, of St. Catharines, as Secretary-Treasurer.

#### Plum Culture in Canada.

At the meeting at Stratford of the Ontario Fruit Growers' Association, the President, introduced the subject of "Plum Culture—Can it be made Profitable in Ontario, and What are the Best Sorts?"

Mr. Street thought the soil and climate were well adapted for plum culture, and that they could be profitably raised. He had grown very fine plums from wild stock. He cultivated several kinds, but considered the Lombard the best.

Mr. Jarvis had been very successful except within the past few years, since the curculio had made its appearance. The quantity of the fruit was equal to any he had ever seen. He believed the curculio was not so bad in the country districts, where they still raised large crops. He had tried every method of exterminating the curculio, but had found none so effective as putting sheets under the trees, then dislodging the insects by jarring them, when they were easily killed. He preferred the English Green Gage.

Mr. Buchan recommended the Lombard as a sure grower.

Chief Johnson cultivated principally the Washington, Lombard and Victoria, and had a large crop this year. His trees were watched every day, and every plum that fell was gathered and burned. The ashes, fresh from the stove, were put at the foot of the trees. This year he had mixed slaked lime and ashes, and scattered them over the trees early in the morning with good results.

Mr. Freed said the practice in Hamilton was to shake the trees, and allow the fowls to pick them up.

Mr. S. H. Mitchell had found plum raising very profitable a few years ago, but it was not so now on account of the curculio. He thought he had wasted more time killing the insect than the fruit was worth; it didn't pay to keep old trees; twelve years was long enough; he had not suffered much from the black knot, but recommended growers to get rid of the common blue plum, which was the most affected by this disease. He raised the Washington, Gen. Hand, Imperial Gage, Reine, Claude de Bavay, the latter of which he considered a very fine variety, pretty free from curculio, but the Lombard was preferable for profit.

Mr. Legge preferred the common blue plum.

Mr. A. Smith, Shakespeare, thought blue plums very liable to black knot; he considered plums a profitable crop.

Col. Roy grew all kinds of plums; in the neighborhood of Owen Sound there were no curculio, and the crops were very large. He thought as soon as a plum tree began to fail, another should be planted alongside it.

Col. Magill grew about twenty-four varieties, the most profitable being Lombard, Yellow Egg, Bradshaw and Duane's purple; the English Gage was also good. He allowed the curculio to have its own way.

Mr. Gray considered that dark plums were the most affected with the black knot.

Mr. Saunders described the black knot, which was a plant growth, and disseminated spores from which other knots grew. Size and color were wanted for market; he would favor the growing of large handsome fruit; the Bradshaw was an early fruit and always sold well. He thought the curculio could be fought successfully. The rotting of the fruit was, in his opinion, due to atmospheric causes.

Rev. Mr. Campbell said a great many plums of the commoner varieties had been planted in the Niagara district within the last few years, as it was found they were the best for market. The black knot had disappeared, though it was destructive a few years ago.

Mr. Kettlewell was satisfied plums could be made profitable. He considered that the curculio might be kept down, and the result paid for the work.

Mr. Clarke had banished the blue plum, and with it the black knot had disappeared. In his opinion plum culture was very profitable. He favored Blecker's Yellow Gage after the Lombard. It was a heavy crop.

Mr. Buck said that in the Ottawa district only wild plums could be cultivated, the frost killed the tame varieties.

Mr. Arnold thought it was doubtful whether destroying curculios paid for the trouble. Pond's Seedlings paid him best. He thought nothing of the Wild Goose plum or the Italian. The cause of plums rotting on the branches was probably fermentation.

The President urged all farmers to destroy their blue plums to avoid the knot.

#### Fall Setting.

As to fall setting of raspberries and blackberries, the *Fruit Recorder* says:—

Last year we urged upon our readers the importance of setting these in the fall; another year's trial has more fully convinced us of its importance. Last fall we set out about two acres, hilling up the plants well when set, and the past spring we set as many more. To-day those set in the fall are fully double the size of those set in the spring, and the failures to grow will number four times as many in the spring planting as in the fall; besides, there is so much more time in the fall than in spring, to do the work.

By setting in the fall, and a small quantity of manure thrown over each hill, the soakings from this going to the roots of the plants gives them double the start next spring.

One important point in the growing of small fruits, for either family use or market, is to get as large a growth as possible on the plant or vine the first year, for in proportion to their growth, so will they yield.

Mr. Charles Downing, Newburg, N. Y., writes as follows about fire-blight in pear and apple:—

Your friend seems very dependent about his blighted trees—and I am sorry to say that no remedy that I am aware of has been given. I have tried all the cures without avail. When it first appeared here, more than sixty years since, it was very severe, and, as near as I recollect, nearly every pear tree in this town died with it. My father kept cutting as fast as the blight appeared, until he cut down every tree on the place. I remember one stump, 3 feet high and 8 inches in diameter, was left, which sprouted and made a fine bearing tree. My father then had no nurseries, but twenty years after, when the blight came again, he had a good stock of nursery trees, half of which, with one-third of his bearing trees, died with the blight. The third visitation of blight was much

less destructive; only about one-fourth died. Each time the blight continued two to four years, and the intervals were eighteen or twenty years. It is now twenty-four or twenty-five years since we have had any blight on the grounds where I live, but three or four miles north and south of us it has been quite bad. As to any cause or cure, I know of none, although I have heard all the theories and seen them all fail, and I suppose your friend will have the same experience. There is only one thing I can say about it, and that is, that the wild, hardy pear trees seldom have any blight.

**TANNING A WOODCHUCK SKIN.**—Put the skin in an old pail and cover thoroughly with wet ashes; let it lie one week; this will take off the hair. Then dip it into a pail of soft soap and let it remain from twenty to thirty days; then wash or rub off the soap and work it with the hands in a warm place, either in the sun or near a warm stove, until it becomes soft and dry.

Hedgehog raising is encouraged in England because they are formidable enemies to all vermin.

A shipment of tomatoes has been made direct from Oshawa to Liverpool.

### Poultry Yard.

#### Fattening Turkeys.

While ducks, geese and chickens, especially the latter, can readily be fattened in confinement, and in fact, fatten more readily that way, turkeys seldom, if ever, do well when cooped up for that purpose; and, in many cases, they grow poorer daily, instead of gaining in fat and flesh. We know of a party who had an extra-fine bronze gobbler, weighing some forty seven pounds, and twenty-five dollars was offered for him if he would draw fifty pound by Christmas, then about three weeks distant. He was at once put into a roomy enclosure—an old corn-crib—and fed liberally on the and most wholesome food. But when he was put on the scales, about four or five days before Christmas, he pulled but thirty-two pounds. Had he been fed outside, and given full liberty, we believe he would have readily gained the extra three pounds, instead of lowering his weight so materially.

The best way to fatten turkeys is to keep them growing rapidly from the start by feeding liberally, often and at regular intervals. Let them have their liberty, so they can get their accustomed feed of bugs, worms and grass, and give them, morning and night, liberal feeds of mush, made by boiling or scalding coarse corn-meal. Keep also a trough in some convenient place, in the shade, in which put daily supplies of thick (clabbered) milk.

#### Shelter for Poultry.

At this season of the year the nights are chilly, and summer-grown chickens should gradually be taught to give up their summer haunts and begin to establish themselves in winter quarters, as far as roosting is concerned; pullets especially, if they are expected to furnish eggs for the coming season. They should be slowly invited under roofs of buildings at night. Hens that are late in moulting suffer much, and it is beneficial to provide war n shelter, free from exposure either to storm or wind. Good, healthy fowls, if well fed, pass over the moulting season with little difficulty, if the weather be favorable. The non sitters usually suffer most. The great drain of egg production during the warm months exhausts the system, and the fowls suffer when the feathers drop out suddenly, leaving the body naked, literally speaking, or only covered with green, juicy pin-feathers, that require all the remaining strength the bird has to spare to ripen and unfold from the sheath. Such birds should be fed on strong, hearty, soft feed, and be given something in the shape of a tonic once or twice a week. Usually the best layers drop their feathers suddenly.

With a flock of fowls, the moulting season generally commences about the 1st of August, and extends well into the winter before all the birds have donned their new coat of feathers. For this reason it has become necessary to provide comfortable houses for their benefit. It requires often some two or three weeks more nursing and feeding to bring the already moulted hens to laying once more. The length of time differs greatly with the different breeds, but it is a generally conceded opinion at the present date that good, comfortable

houses must be provided in our northern latitudes, if any great amount of eggs be expected during the winter season, when they are the most profitable. During the moulting season, sitters are rather easier managed. The period of incubation, during which many of the organs are at rest, acts as a tonic to the vitals, and the system has repose and ample time to recruit before the feathers drop. Indeed, the moult comes so gradually that it is hardly observed.

For the combed varieties houses should be made warm with every crack and crevice stopped, else when the mercury falls below zero the large, handsome combs will suffer. At present it may seem needless, but cold weather will soon come and then it is too late to make extensive preparations; now while the days are warm and sunny is the time to guard against cold. Boards are apt to warp in the hot summer sun, and the boards shrink, leaving cracks perhaps not more than a hair's breadth in width, but that crack, when the mercury marks zero, admits a fine draught, that may play directly on a large comb belonging to a fine cock, and before morning in the long wintry night the bird's beauty and most valuable exhibition points is ruined. All such openings should be attended to now, and tightly caulked with cotton or tow. Where buildings are lathed and plastered this danger is avoided. In cold weather a larger quantity of fowls may be massed, where they are accustomed to running together, but strangers should not be herded in a small compass. The Asiatics require more room than the Europeans. It is not so necessary to guard against the cold with the Asiatics. An open shed, with a sunny exposure, is quite sufficient. Such a run is beneficial for all breeds during the day, but the Brahmas do not suffer at night. Their bodies are large and warm, and thickly covered with a soft, downy mat of feathers. Light Brahmas are good winter layers, requiring more feed and less care than the non-sitters.

Poultry houses should be thoroughly cleaned before the fowls go into winter quarters, and if not provided with a board floor, should have good drainage and be protected by banking on the outside. Dust boxes should be furnished, and renewed with fresh, dry earth; gravel and oyster shells should be provided for the coming season. Every one accustomed to the production of winter eggs knows the regular routine of daily business to be performed. Water, and feed, and greens, several times a day, and for days and weeks in succession, before hunting for eggs. The hens must be fed for the labor. Patience and perseverance will bring about many charming results. The southern exposure of winter houses should be of glass, and now is the time to supply all broken or cracked panes with new ones. The perches should be arranged in the warmer portion of the building, and be so situated, or protected, that the droppings will escape without falling on the birds' underneath, as some birds desire to roost a good portion of the day, and others are abroad early.—*Country Gentleman.*

Last fall we visited an orchard in which fowls were kept; the owner of which told us that before the fowls were confined in it, the trees made little or no growth, and only a corresponding amount of fruit was obtained. But what a change was evident now. The grass was kept down, the weeds killed, and the trees presented an appearance of thrift, which the most enthusiastic horticulturist could not but admire and envy. The growth of the trees was most vigorous, and the foliage remarkably luxuriant. The fruit was abundant, of large size, and free from worm and other imperfections. This excellence was accounted for by the proprietor, who remarked that the hens ate all the worms and curculio in their reach, even the canker worm. He found less trouble with their roosting in trees than he expected, and that a picket fence six feet high kept them within bounds. His orchard was divided into three sections, and the fowls were changed from one to another, as the condition of the fowls or the orchard section seemed to require.—*Poultry World.*

A Davenport firm shipped nine thousand dozen of eggs one day recently.

There were 4,915 barrels of flour shipped from Minneapolis on one day recently.

It is reported that a starch factory is about to be established at Fort Erie.

A rich deposit of mica is being worked at L'Ange Gardien, near Quebec.

There was good sleighing in parts of Iowa and Minnesota on Nov. 16.

### Canadian Agricultural Notes.

#### Ontario.

##### DISTRICT OF ALGOMA.

The vast district known by the name Algoma has been looked upon as of very little, if any, value for agricultural purposes. A rocky, sterile land, wholly unfit to support any who might be unfortunate enough to select it as a home, was the character it bore. But it is becoming better known. Some townships in it are filling up and the settlers are prospering. The *Sarnia Observer* gives a very favorable report of the country, obtained from Mr. Proctor, who had charge of Government road-making on the north shore of Lake Huron. While the land in the vicinity of the Bruce Mines is of a rocky and forbidding character, it is different with several of the townships to the rear and on the east and west thereof. In the township of Lefroy, on the north shore of the lake, there is a large quantity of excellent land, the greater portion of which is taken up, and some of it has been several years in cultivation, producing all the cereals, roots and vegetables usually grown in Ontario. The same remarks apply to the adjoining townships of Plummer and Rose. Thessaly is now open for settlement; it contains a large proportion of good land, and through it runs the river Thessalon. St. Joseph's Island also contains very good land, and a great deal of it is occupied by thrifty farmers, who are prosperous and becoming independent. The want of a road was till now the great drawback to agricultural improvement, but during the past season leading roads have been made, and access afforded to the rear portion of the settlement, giving to those residing at a distance from the shore an opportunity of communication with other places and of bringing their surplus produce to Sault Ste. Marie, where there is a good market. The reports from the townships named are very favorable. Occasionally ridges of rocks are met with running east and west, but on crossing the ridges we find miles in depth of table-land, having deep, rich soil, and though in some instances broken and rough, there is in every quarter sections of sufficiently good land to make good farms. The land to the rear of those townships is reported to be equally good, the timber being principally maple and black birch, with here and there a black pine.

Mr. P. brought down with him several samples of wheat grown there this season. The first is of the Fife variety, grown by Mr. McCrae, who had 350 bushels of it from 8½ acres. The second sample is of the Red Chaff sort, the yield of which was 25 bushels to the acre. The third was fall wheat, which produced 28 bushels to the acre, the quality of all being equal to the average run of wheat grown in Ontario. A neighbor of Mr. McCrae's sowed two bushels and a peck of seed, and had 78 bushels therefrom. Of the settlers, one raised 310 bushels of black oats from three acres, and 178 bushels of white oats from the same quantity of land. Fine crops of barley and peas were also grown in the settlement this season, the barley being especially clear and bright. It is also an excellent place for raising potatoes, three hills commonly producing a bushel, and these, too, of excellent quality. The whole of their crops ripened early and quite evenly, and the frost in June last did not touch them. The yield of grain above referred to was not obtained from an odd settler here and there, but all were alike good.

A good many settlers have gone into this settlement during the past summer—as many as sixty families within the past six weeks. Lumber for building purposes can be got at Diamond's Saw Mill, at the mouth of the Thessalon, in sufficient quantities to supply all the local demand, and at very low rates.

#### Col. Laurie's Suggestions to the Farmers.

At the opening of the Agricultural Exhibition in Kentville, N. S., Col. Laurie, President of the Central Board of Agriculture, delivered an address which is of general interest, and replete with suggestions which only a practical farmer could make. We can only give some extracts.

The late large shipments of cattle from Canada to England have to a large extent dispelled the idea that the Dominion is a region of perpetual snow and ice, devoted to sleighing and skating; and it is now recognized as a great farming country. With their attention thus turned to Canada,



numberless persons are seeking in every direction the fullest information as to the price of land, the best locality in which to settle, and other knowledge it is important they should obtain before making such a thoroughly fresh start in life.

On my recent visit to England, as soon as it was known I was from Canada, I became a sort of enquiry and intelligence office; and a good deal of my time was thus taken up in answering enquiries and furnishing information.

Of course, all who go from the Lower Provinces patriotically style themselves Canadians; but to most people in England Canada still means the two Upper Provinces; and I could almost always discern in my enquiries a feeling of disappointment when, in reply to their question how far I lived from Toronto, I explained that Nova Scotia, where I came from, was more than a thousand miles away. It was of little use to assure them that we also had a grand farming country; that our seasons were less extreme; our summers cooler; our winters milder; they had heard of Nova Zembla, and were not that place and Nova Scotia almost if not quite identical? To Ontario and the eastern townships most would go, and if they were prejudiced against Nova Scotia, it was at any rate a good thing that they should come to Canada, so I made a point of giving all such every encouragement.

MACAULAY,

in describing the state of agriculture in England at the close of the seventeenth century, says: "The rotation of crops was very imperfectly understood; it was known, indeed, that some vegetables lately introduced, particularly the turnip, afforded excellent nutriment in winter to sheep and oxen, but it was not yet the practice to feed cattle in this manner. It was, therefore, by no means easy to keep them alive during the season when the grass was scanty. They were killed and salted in great numbers at the beginning of the cold weather, during several months, even the gentry tasted scarcely any animal food except game and river fish, which were consequently much more important articles in housekeeping than at present; and about the beginning of November families laid in their stock of salt provisions, then called Martias beef."

Upland, if laid down to hay, must be regularly manured; the produce of about twelve acres of hay when fed to cattle will furnish manure enough to top-dress one acre of grass land; that is to say, grass land depending on itself for support can be manured over in every twelve years; every farmer knows that, under such conditions, the land will soon run out.

I have always believed and urged on our farmers that they should devote their energies to stock rather than to grain growing, and I still hold to that view, but to do this successfully they must raise and feed roots on a much larger scale than heretofore, and to raise roots means to expend a much larger amount on labor than our old style of farming required; all this labor must be paid for; some crop must therefore be raised that can be converted into cash to meet this outlay, whilst at the same time a cheaper food than hay is required, which will give body and bulk to the roots and grains fed to the cattle. I can find no other solution to this problem than to grow grain, the grain itself being turned into money, and the straw cut and steamed, and mixed with the richer food, given to the stock. Our present system, or the want of it, offers no inducement to the capitalist to invest money in farming; there is no cash return commensurate with the outlay; by adopting a regular rotation such as we find in the old country, our upland farmers will require a larger capital, but by making a business of farming they will, I feel sure, obtain a large return. We find the farmers of Ontario are able, with disadvantage of a warmer, drier summer, which must tell against their pasturage, to raise, and sell beef which can be shipped to our market and sold below the price at which we can afford to sell. I believe it is to a large extent because we have continued making beef from hay, whilst they have long since practised feeding the straw; from their climate they have the advantage in growing grain, we in raising cattle. We must not be left behind in the race, but must find out the weak points in our system and must amend them, and I am now free to confess that to raise stock profitably we must grow grain.

With us I believe the opposite system to be necessary; we must have the grain to bring on the cattle, and to farm profitably I hardly see how we can feed the one without raising the other; holding these views, at which I have not arrived

without much thought, and somewhat of a departure from my preconceived views, I am especially glad to see that the subject for discussion at the general meeting to-morrow evening is "Grain-Growing." There is yet one point on which I may remark: It is often asked why Nova Scotia does not take her share in the export of live cattle to England, which has already attained such extensive proportions; and it is asked are there no live men amongst us to take hold of this; I have already given as a very strong reason that we do not make our meat as cheaply as is done in Ontario, and this, I trust, we shall soon alter; but there is still a better opening which I still hope may be taken advantage of when our produce justifies it.

#### New Brunswick.

SILVER ISLAND, ST. GEORGE, N. B.—At St. George, that place of marvels, a discovery which may be of much importance has lately been made. A short distance below the village there is an island in the river in which there was found a vein said to carry copper, lead and silver—of the latter metal a notable amount, sufficient to induce some intelligent citizens of the United States to secure it. They have been at work for some time, and have got out probably two tons of ore, each barrel of which is said to be worth \$500 for the silver which it contains. A short time, however, will demonstrate the fact as to the paying qualities of the lode. The people of St. George are getting excited over the discovery, and the neighboring country is being thoroughly searched for the precious metal.—*St. John Telegraph.*

Capt. Whittier and Mr. D. F. George shipped from Gibson recently for South Carolina a schooner load of potatoes, which were raised in Aroostook County. An impression is gaining ground among the Aroostook people that the market for their produce is in the Southern States and the West Indies, and consequently Fredericton, or rather Gibson, the proper outlet.

NEW BRUNSWICK POTATOES FOR ENGLAND.—The Bathurst notes of a St. John paper has this item, which will be interesting to our farmers and exporters:—

"Mr. O'Brien is now loading his new vessel with potatoes for Liverpool. Up to Tuesday evening over three thousand barrels had been put on board, and it is expected that the full cargo of nine thousand barrels will all be on board by the end of next week. The prices paid are from 70 to 80 cents per barrel, and the farmers of the district are much pleased to find a cash customer at those prices. Two of the great drawbacks in this part of the province are that the farmers have not a market where they can dispose of their produce at once and in any quantity, and that payments are seldom made in cash. In no part of the province is the potato crop more abundant or are the potatoes of a better quality. It will probably pay well to send potatoes to England this year, as the English crop has been almost a total failure. Great care has been taken to provide sufficient ventilation. The vessel is divided into compartments, between which are open spaces from top to bottom. A floor was laid over the keelson and an air chamber constructed next the ceiling. These precautions will probably ensure the landing of the potatoes in England in good condition."

#### Quebec.

Mr. Cleveland, of Barnston, has gathered from one crab-apple tree 14 bushels of apples.

Mr. O'Brien, of Vitsey, laid on the table of the Sherbrooke *News* fully-grown and ripe delicious raspberries, fresh pulled from his place. The *News* hears of ripe apples and blossoms on the same bough and an unlimited growth and ripening of tomatoes.

PHOSPHATE DEPOSITS OF THE LOWER OTTAWA.—Valuable discoveries of extensive deposits of phosphate of lime have recently been made in Ottawa county, Quebec. The extent of these phosphate deposits, says Mr. H. G. Vennor of the Dominion Geological Survey, is far beyond that of any other of the same mineral ever known in the world. Between the Gatineau river in the western part of the country, and the Livre river on the eastern side, is a vast belt of apatite, which at its outer edges lies close to the surface and can be easily and cheaply got to market. The value mineral phosphate as a fertilizer makes this discovery one of vast importance in an economic point of view. In England the demand for phosphate is fast increasing every year, owing to the pressing requirements of high farming. In Prussia, it is true a valuable

discovery of "kaolin," or fertilizing clay, has been made by an English company; but, in order to produce one of the most valuable fertilizers of the present day, phosphate must be obtained to mix with the kaolin.

OUR EXPORT TRADE IN PHOSPHATES. In the Merchant's Exchange Court are several large specimens of phosphates from the Ottawa District, about to be sent to the Paris Exhibition by our enterprising citizen, Mr. F. W. Henshaw. They were excavated from the Mines of Messrs. Millar and Henshaw at Templeton; these with the mines of the Buckingham Mining Company turning out the largest quantities in the North Ottawa district. The point from which the phosphates are shipped is Gatineau Point, which is fourteen miles from the mines. Mr. Henshaw has shipped this year no less than 2,050 tons, or more than the total exports for the country during last year, and next season he expects to ship at least three times this quantity. Reports of the wealth of the mines here have reached European trade centres, and we learn that several English capitalists, and one from Germany as well, will shortly engage in the export trade. This year the exports will amount to about 4,000 tons at an average value at this port of from \$15 to \$16 per ton, and next year the exports will at least amount to twice as much. The quality of Canadian phosphates is decidedly superior to any found outside of this country, 90 per cent. of pure phosphate of lime from the mineral being little if anything above the average yield. To produce the pure phosphate prepared for agricultural purposes the mineral is ground to powder and then mixed with sulphuric acid in equal parts, when it is reduced to a very little powder like flower in appearance. The three specimens to be sent to Paris were taken out in one block, weighing 2½ tons, but has it was found impossible to bring it over the rough roads to Gatineau Point it was broken into the three pieces. After a while a tramway will be built to the Gatineau, which will facilitate operations very much.—*Witness.*

#### The Proposed Beet-Sugar Factory.

A largely attended meeting of those interested in the establishment of a beet-sugar factory in Quebec, was held at the Board of Trade rooms. The Mayor of Quebec occupied the chair. He explained the object of the meeting, and also the many advantages that must accrue from the projected factory. He also alluded to the bonus of \$70,000, offered by the Government to the first factory that is successfully established in this Province, and argued the desirability of securing that amount for Quebec. The enterprise would also be free of excise duty for seven years, in accordance with an agreement made by the Dominion Government. Mr. Barnard made a practical and good speech in favor of the proposed undertaking, explaining its work, and also gave his experience of beet-sugar factories. He then went through the analysis of the beet raised in this Province, and showed that there was more saccharine matter in them than in the beet raised in European countries. In the County of Quebec alone, Mr. Barnard was convinced that enough beet-root might be raised to supply ten factories. Several other gentlemen addressed the meeting, including Hon. P. Garneau, who stated that the Government was loyal to the enterprise of manufacturing sugar from beet. A good deal of discussion took place, all the speakers warmly supporting the project. The desirability of obtaining the Government grant of \$70,000 at the commencement of the enterprise, instead of at the rate of \$10,000 per annum, was discussed, and three resolutions adopted by the meeting. The first one sets forth the advantages to Quebec of a beet-sugar factory, and the second looks to the presentation to Government of a petition asking at once for the payment of the bonus of \$70,000. Copies of this petition were produced and extensively signed at the meeting, and are now in circulation for signatures. The third and last resolution adopted by the meeting, appointed a Provisional Committee, to attend to and ensure the success of the enterprise, and make arrangements for receiving subscriptions to the capital stock of the undertaking. This committee consists of Major Murphy, Mr. Barnard, Sir Narcisse Belleau, Hon. I. Thibaudeau, and Messrs. James G. Ross, John L. Gibb, Beaudet, S. Lessage, P. V. Valin, Joseph Whitehead, David Bell, etc. We understand that this committee will at once print and distribute prospectuses giving information on the matter, and soliciting stock subscriptions. It is hoped that the first beet factory in the city of Quebec will be in active operation before the commencing of another winter.—*Quebec Chronicle.*

### Prince Edward Island.

The farther north wheat is grown, within the wheat-growing latitude, so much the better is the grain; so it is that for each cereal, root or other product of the soil there is soil or climate more suitable than others. The potato can be grown in a greater variety of soil and under more diverse circumstances of climate than many other products, and in all produce large crops; but the potatoes of one province differ much from those of other provinces in quality, and for producing potatoes of the very best quality our Maritime Provinces are well known. We have no doubt this is in part owing to their maritime position. The air and vapor from the salt sea add no little to their flavor. The exportations from these provinces are great; take an example: A correspondent writes to the *Patriot*, P. E. I., from Montague:—

As I was passing through Montague to-day and observing the life and activity in the shipping department, the idea struck me that I ought to send you a synopsis of the business in that line this season, and I forthwith repaired to the Custom Department, and obtained from the obliging officer, Manoah Rowe, Esq., the following:—

Since the 1st of October fifty-three vessels cleared from this port, forty-nine of which were loaded with farm produce, consisting of about 57,000 bushels of potatoes, 24,000 bushels of turnips and 6,500 bushels of oats, purchased for \$17,500. The prices are 22, 20 and 40 cents respectively. The vessels that arrived here this season, up to the present, were generally small, loading chiefly for the Newfoundland and Nova Scotia ports.

The oat trade for Britain has not yet reached its culminating point. The farmers are waiting for higher prices.

At present there are ten vessels loading here, notable among which are the brigantines Wakeford and Shamrock. The Wakeford is owned by John LeBrocq, Esq., Georgetown, and chartered by A. C. McDonald & Bros., to load with oats for the home market. She will carry about twenty thousand bushels. Owen Connolly, Esq., owns the Shamrock, and is loading her with oats and potatoes for England. She will require about 8,000 bushels of the former and 4,000 of the latter. The Wakeford lies by the bridge, a circumstance which causes considerable inconvenience to the public as well as to the shippers, and shows clearly that the shipping accommodations are not adequate to the requirements of the place.

The farmers of P. E. I. are rejoicing over the largest crops ever raised and safely housed by them. All the crops are good, but the yield of wheat and oats is much above the average. Potatoes are, as usual, very fine in quality, and as to quantity there is no room for complaint. As late as the 1st of November D. Stewart finished loading the Mariner with oats, potatoes and turnips for exportation, oats being 40 cents per bushel, potatoes 22 cents and turnips 18 cents.

### British Columbia.

**DYKING THE FRASER—A PRACTICAL SCHEME AT LAST.**—For the past six weeks a gentleman named D. L. Derby, a civil engineer from Napance, Ont., has been engaged in examining and surveying lands subject to overflow in the Sumas and Chilliwack sections of Fraser Valley, with the object of reclaiming and settling upon them a colony of Canadians from Ontario. Mr. Derby is of opinion that 10,000 acres now submerged may be reclaimed, and another 20,000 acres protected from overflow by backwater, at a comparatively small expense. He has laid his plan before the Local Government, and his views have been met in every particular. Hon. Mr. Vernon accompanies Mr. Derby to New Westminster, where they will be met by Hon. E. Brown, and the three gentlemen will proceed to Sumas to inspect the ground proposed to be dyked. We learn from Mr. Derby, who has lately completed extensive dyking enterprises in California, and has a high opinion of the richness of Fraser Valley, that a colony of ninety-six persons, who will bring with them at least \$100,000, are prepared to settle on the reclaimed lands, which it is proposed to have drained and ready for settlement next year. The precise nature of the terms arranged with the Government has not transpired, but it is understood that no aid in the form of money is asked. It is pleasant to know from all sides that so much attention is being drawn to the agricultural lands of the Province, and that through the encouragement given by the present

progressive Government there is every prospect that in the course of a very few years British Columbia, from being a large importer of wheat, will become a large exporter.—*Victoria Colonist*.

### Manitoba.

The settlers in Manitoba are not content with growing cereals and roots of such superior quality. We learn from the *Manitoba Free Press* that they are experimenting in the growth of sugar cane:

We have been shown samples of Early Amber sugar cane raised in this Province by Mr. Chantler, of Westbourne. The seed was procured from Minnesota, where its growth has been successfully tested, through Mr. Keith, by whom about thirty persons here were supplied. Very unfortunately the heavy rains in the early part of the season drowned out nearly all that was planted, there being only two or three exceptions. The cane shown by Mr. Chantler is not of very large growth, but this is stated to be owing to the seed not having been sown till very late—10th June—while it should have been put in in April. The syrup made from the cane elsewhere is spoken of in high terms; but that shown us has not evidently been produced by the proper process, with which, by the way, Mr. Chantler states he is unacquainted.

### Nova Scotia.

In a few days the Cole Harbor Dyke project will assume a definite shape, and if the calculations of the engineer are successful, some 5,000 acres of splendid land, rich in phosphates, will be reclaimed from the domain of old Neptune. An immense crib some two hundred feet long has been constructed, which, when launched, will effectually close out the sea. Gates, sluices, &c., have all been constructed on the crib, so that when it is sunk in its place it will operate at once. Representatives of the company, accompanied by an eminent engineer, have just inspected the works, and pronounce them satisfactory. We understand it is the intention of the proprietors to place the whole tract under cultivation, with a view of cutting it up into farms at no distant date. If this first operation is successful, similar projects will be commenced on other salt water flats and marshes to the eastward of Halifax, so that in a few years the Atlantic coast of Nova Scotia may have some dyke lands fully equal to the Grand Pre.

*Correspondence—Continued.*

### Fruit for Name.

SIR,—I hope you will oblige me by finding out the names of the two apples I now send. I had them exhibited at the Northern Exhibition, but the judges could not decide whether the yellow one was the Holland Pippin or Fall Pippin. There were only two entries of Holland Pippins, and being on the stand away from the Fall Pippins, they were overlooked, which threw me out of a prize. It was not the amount of the prize I cared for, but the name of the apple; have had it now 17 years as the Holland Pippin. I notified the judges of the oversight, but they held that it was a Fall Pippin, because they had awarded prizes to Leslie & Son for Fall Pippins.

The green apple, which I call the Green Alexander, I got from Goderich 15 years ago. The judges say there is no Green Alexander. Well, then, if there is no Green Alexander, why is there the Red Alexander, which I see in some catalogues? The "Red" is the distinguishing word.

I think it is unfair to allow nursery men of long experience to compete with farmers in this northern country, where we are only beginning to raise fruit. Please give the information in the next number of your paper.

M. B. COUCH, Walkerton.

In reference to the two apples handed me, with a communication from Mr. M. B. Couch, Walkerton, I should certainly say the yellow apple was the Holland Pippin; it has all the characteristics of that variety, the very hollow crown which this specimen possesses being a decided feature of the Holland Pippin. The apple may have been a little too well matured for the Holland Pippin, and consequently resembling the Fall Pippin somewhat on that account, but that may have been caused by its early picking for exhibition purposes. I have never heard of but one Alexander, and that I have never seen designated as Red Alexander; leaving out the want of color and size, I should have said at once the other specimen was an Alexander grown in the shade.

Your correspondent's hints about farmers competing in exhibitions of fruits with professional nurserymen I think are worthy of note, and should be considered by those who have the management of local exhibitions. At the exhibits of the Provincial Association, professional nurserymen are in a class by themselves, and are excluded from competing with any one else. In England, at the smaller exhibitions, the competitors are divided into nurserymen, amateurs, gentlemen's gardeners and cottagers. How far this system could be carried out here is a question open for discussion. It does not take a very great stretch of the mind to imagine what an exhibition, say in Walkerton, for instance, would come to if the prizes for fruit are all to be carried off by professional men, with every convenience at hand and every inducement to make as good a display as possible. The local stimulus which these displays are disposed to give to fruit growing would be entirely done away with in a very short time. The very fact of a farmer having taken the trouble to exhibit fruit and communicate his ideas relative to the method of awarding the prizes to you, shows, however, that there is the right class of men in that northern locality to look after their own interests, either at exhibitions of fruit or elsewhere.

### Agriculture and Arts Association.

When going to press we received the following from the Secretary of the A. & A. Association, of Ontario:—

SIR,—I beg to call your attention to the "Agricultural and Arts Act," 40 Vic., Chap. 27, Sections 20 and 21, in accordance with which, the retiring members of the Council of the Agricultural and Arts Association, for the thirteen Agricultural Divisions of Ontario are elected.

The members of the Council who retire from office at the end of the current year, and the Divisions they represent are the following, viz:—

- No. 9. Elgin, Brant, Oxford and Norfolk—HON. D. CHRISTIE, Paris.
- No. 10. Huron, Bruce and Grey—ROBERT GIBBONS, Goderich.
- No. 11. Perth, Middlesex and City of London—L. E. SHIPLEY, Greystead.
- No. 12. Essex, Kent and Lambton—STEPHEN WHITE, Charing Cross.
- No. 13. Algoma, Simcoe, Muskoka and Parry Sound—NEW MEMBER.

The Electoral District Societies in each of the above Divisions will have, at their annual meetings on the third Wednesday in January, 1878, to elect a delegate to represent such Society at a meeting to be subsequently held, of all the delegates of the above Divisions; and it will be the duty of the delegates of such meeting to elect the Member of Council for such Division.

You will, therefore, see that under the amended statute, the retiring members of the Council are not now, as hitherto, elected directly by such Electoral Division Society, but indirectly through the delegates whom they appoint.

You will be careful to inform officially the Hon. Commissioner of Agriculture of the name and post office address of the person whom your Society may elect as its delegate, within six days after the election.

JOHN R. CRAIG, Secretary.

SUBSCRIBER, EAST LAMBERTON.—We have received no correspondence in reply to your questions in last issue. The Secretary of the Association kindly sent us the Act marked, showing the number of officers to be elected, and how the others are appointed. See clause 10 and clause 22 in Agricultural and Arts Association Act of 1877. Perhaps the Secretary would forward Act on application.

SIR,—You would oblige if you would give the following information in your next issue:—

1st. What has been done with the money that Col. R. L. Denison has paid into the hands of the Provincial Agricultural and Art Association?

2nd. How much money has been gained or lost by the Association when the Provincial was last held at the following places, namely:—at Kingston, Ottawa, Toronto, Hamilton and London?

READER, Dorchester.

[We enquired of the Secretary, and he informed us that the report will be out in a few days, from which we can gather the last year's statistics; but some of the questions would require time to ascertain. Mr. L. E. Shipley, the President, informs us the money has been placed with the funds of the Association, and that Mr. Graham, the Treasurer, would furnish the other informa-

tion asked for. We shall be pleased to publish the figures if the Treasurer or Secretary would oblige by forwarding them to us.]

Durham, Nova Scotia, Nov. 26, 1877.  
I am very anxious to procure some plants of Prickly Comfrey, or seed. Can you give me the address of any one in Canada that grows it.  
T. A. M., Durham, Nova Scotia.  
[Perhaps some of our subscribers will answer inquiry.]

SIR,—In your exhibition issue I noticed your well placed remarks under the head of "Canadian Butter," respecting salt. The best salt that can be used for butter and cheese is the Cheshire Dairy Salt, specially made in the celebrated dairy county of Cheshire, England. Or if parties will not go to the expense of purchasing the above, let them get salt which is specially made for that purpose, viz.:—Butter Salt, commonly used in Ireland; or Marine Salt, which is extensively used in Scotland for butter and cheese purposes. Coarse-grained salt is only intended by the salt manufacturers to salt beef, pork and bacon with, not butter and cheese. A fine and rich quality of salt is manufactured in Ireland, at Dundalk, Drogheda, Newry, Bally Criggan, Cork, Ringsend (near Dublin), Waterford, &c., from Cheshire rock salt.

If any of the Canadian farmers use the above manufactured salt, it would wonderfully improve the flavor and keeping of their butter. Cheshire Lump Rock Salt should also be kept in the fields and barns of the Canadian farmer. Trusting these suggestions may be acted upon, I remain, yours,  
CHESTRIAN, Napanee.

SIR,—There is a complaint among cattle in this country that generally proves fatal sooner or later. It commences by a swelling on the jaw bone, either above or below. It continues to grow, and forms a porous, bony substance, and after a time it breaks out and discharges a thick matter. After a time they cannot eat, and gradually reduce in condition. If you, or some of your numerous correspondents, could give a cure for it through your valuable paper, you would oblige a subscriber. I should like to know the name of the complaint. You will please give the matter your consideration, as I am anxious, for I have lost several head of cattle by the same complaint, and have another commencing to get bad.

JOHN N. POOLE, Newboro.  
[The disease is called Ostea Sarcoma, and will sometimes break out in different localities. When one beast is affected, other cases are likely to show themselves. We know of no cure. The best way is to fatten the animal and kill. They have been treated with caustic blisters but to no good effect.]  
RUDD & TENNENT, Veterinary Surgeons, London.

REPLY TO J. MCNEISH.—Mr. Neil Currie, of Toronto, makes a specialty of purchasing and repairing old boilers. Second-hand boilers, as good as new ones, can be had there at from 20 to 40 per cent. less than new ones.

**Eldorado or Egyptian Wheat.**

SIR,—Please to let me know in your next issue how the Eldorado or Egyptian spring wheat has yielded this year, and the price it can be bought for. Persons are going around trying to sell it for \$6 per bushel, and say they will give \$2 per pound for the produce, or \$12 and sell it altogether.

They say it is no more liable to rust than the Scotch or Fife wheat, and is adapted for the same kind of ground. Give me all the information you can about it, and oblige.

J. W. H., South Monaghan.  
[We do not know a single farmer within a hundred miles of this office who is satisfied with it this year. It has rusted badly. When first introduced we thought it might prove to be of value to our country. It is not a safe wheat to sow; there is plenty of shrivelled wheat of this variety that is only fit for hen feed. Near Collingwood there has been some good samples raised, but the best farmers there have now grown enough of it, and will prefer other varieties. Leave it alone would be our advice.]

Many careful subscribers may have the past 11 numbers of this paper saved; by taking them with this number, to any book-binder, you can get them neatly bound for 30 to 40 cents, and by so doing you will have a useful work for future reference.

**The Paris Exposition.**

The exhibit from the "Ayr Agricultural Works" is now under weigh for Paris, France, and I think I may safely assert that it is far the best of the kind that has ever left Canada. The display comprises a Royce Reaper, Humming-bird Mower, 4 horse Pitts' Power, Grain Drill, Power Straw Cutter with carriers attached, "Canadian" Hand Straw Cutter, Groove Roller Chopping Mill, Victor Chopper, Self-dumping Sulky Hay Rake, Turnip Drill, Gardner's Root Cutter, Jack for Horse Power, and a Hill Plough—thirteen articles in all finished up I need hardly say, in the very finest, and most substantial style of workmanship. The various woods used in his machines have been selected especially with a view to an exhibition of themselves as well as the articles into whose construction they enter. These are Hickory, bird's eye maple, curly maple, ash, elm, oak, cherry, light and dark walnut, basswood and pine. The wood-work in each particular instance is varnished only, thus bringing into full prominence the peculiar grain of the respective samples, and manner in which the different kind, have been blended together, frequently in the same machine, is strikingly pleasing and artistic. On each sample likewise Mr. W. has had its distinctive name painted in French, so that Parisians may look and read, and reading, understand what they see. The iron work throughout is quite in keeping with the wood-work, and, when not painted, is burnished like mirrors.

At the Paris Exhibition there will be distributed 1,000 gold, 4,000 silver and 8,000 bronze medals. It is also intended to award 8,000 honorable mentions, besides 100 grand prizes and exceptional silver prizes.

The keeping of a vicious dog near a public highway, in such a way as to endanger the travelling public, is a nuisance and renders the person knowingly keeping it there liable to an action by any person injured thereby. One instance of aggression may be sufficient evidence of a vicious propensity on the part of the dog, and if it can be proven that the owner had information of this first case he may be held liable for a subsequent offence of a like nature. The habit of running out and frightening horses will after the owner has had due notice of at least one offence hold the owner liable to a suit for any damage which may occur.

WINTER FEEDING OF COWS.—The most profitable feed for dairy cows is that which is cheapest. The object of the dairyman who makes butter and cheese is to produce the richest milk, and for this purpose he must be guided by the cost of the food in his vicinity. When corn is as low as at present, he will undoubtedly feed that grain in its natural state throughout the great corn producing districts; but where, through the cost of transportation, it acquires a value of forty cents and over, it will pay to grind, and as the price is still enhanced, recourse is had to cooking. When bran can be obtained at reasonable rates, it is one of the best divisors of corn meal known. Three or four pounds of corn meal mixed with six or eight pounds of bran, is one of the best feeds that can be given to milch cows, and if this can be cooked with cut hay, its value will be increased about one-fifth.

Messrs. Tucket & Billings, of Hamilton, manufacturers of the celebrated Myrtle Navy Tobacco, pay a tax of \$150,000 to \$180,000 per annum.

The President of the Pictou, Nova Scotia, Agricultural Society inquires of us for Shropshire sheep. If any one has any to dispose off they might furnish the information at this office, or communicate direct with the Secretary.

St. Hyacinthe threatens to forestall Quebec in the establishment of a beet sugar manufactory, notice of application for the incorporation of a company being given.

A man in Pittsburg, Penn., advertised for a book-keeper, and within 24 hours had 113 applicants for the position. Subsequently he advertised for a man to work on his farm, and eight men responded.

Complaints are numerous of sheep being killed by dogs. It would be well if councilmen would pass a law that no payment for sheep killed by dogs should be made unless one or more bells were found in the flock.

**The Carpet Bug.**

The *Country Gentleman* publishes a detailed description of the carpet bug (*Anthren scrophalarie*), which is rapidly increasing of late years, and makes a very unwelcome addition to household pests. At this season it is in its larval state, and infests the edges of carpets, near the spots where the tacks hold the carpet close to the floor. On taking up the tack and quickly turning back the edge, he may be seen gliding rapidly away to the base boards. He is a small, oval, dark brown, hairy creature, about 3-16 of an inch long. He should be killed at once with the tack hammer. The perfect beetle begins to appear in the fall, and continues through the winter. He is 1-8 of an inch long by 1-12 broad, oval in form, rounded back; the edges of the wings are bordered red, making a red stripe in the back as they come together, with the transverse red stripes partly across the back. The foundation of the wings is black, with the white spots on each side near the outer edge. In this State the insect not only infests carpets, but is frequently found on window casing, and may be easily captured and killed. The best known remedy is to stuff the cracks under the base boards with rags saturated with kerosene, during the early fall, when the larvae are dormant. The oil is fatal to them.

Mr. Coombs, of London Township, lost eleven good sheep in a few days. Messrs. Rudd & Tennent, of this city, went to his farm to ascertain the cause; they opened some of the sheep, found no infectious disease, and pronounced the deaths to have been caused by the sheep eating turnip tops that were unsound.

They appear to raise good corn crops in Cumberland Co., Pennsylvania. An exchange says in an article on the subject:—"Among the most remarkable of large yields during the past year is that of Joseph Bosler, who obtained from twenty-six acres, twenty-seven hundred and thirty bushels of shell corn, or an average of one hundred and five bushels to the acre. The field was allowed to lie in clover for one year without pasturing. The large growth of clover was then turned under, and two hundred and fifty bushels of lime to the acre applied. The ground was then cultivated and harrowed twice, and the corn put in with a planter on the 2nd and 3rd of May. After the crop was up, the cultivator was again called into use, and afterwards, at the proper intervals during the season, the plows were run through it three times, and the corn harvested measured two thousand seven hundred and thirty bushels of shelled corn. So much for green manuring."

G. B. Mills & Co., of Arkansas, have an office in Hamilton, Ont., in which they have specimens of the productions of that State that show favorably of its productions. Corn is shown that is eight feet in length from the root to the top of the ear, and an apple 14 inches in circumference. Samples of different grains, woods, wool, cotton and tobaccos. We hear that many Canadian farmers have already gone there. Some have returned, having purchased land there, and speak very favorably of the country.

Obtain one new subscriber, and send the dollar with your own, and gain one of our handsome Lithographs or Chromos. We are quite sure you will be pleased with either.

The late Mrs. Jane W— was equally remarkable for kindness of heart and absence of mind. One day she was accosted by a beggar, whose stout and healthy appearance startled her into a momentary doubt of the needfulness of charity in this instance.

"Why," exclaimed the good old lady, "you look well able to work."

"Yes," replied the supplicant, "but I have been deaf and dumb these seven years."

"Poor man, what a heavy affliction!" exclaimed Mrs. W—, at the same time giving him relief with a liberal hand.

On returning home she mentioned the fact, remarking—"What a dreadful thing it is to be deprived of such precious faculties!"

"But how," asked her sister, "did you know that the poor man had been deaf and dumb for seven years?"

"Why," was the quiet and unconscious answer, "he told me so."



knobs of the great yellow house; crape and white ribbons at the windows. Its owner was going slowly down the walk, his head bent, his hands behind him, and a white weed on his hat. He never noticed his little girl, who stood in the doorway with a scared, mystified look in her face.

Edna shut the window, dropped down on her knees beside her little bed, and asked God to forgive her for calling that dead woman names, and for planning such a miserable day for herself, when she had more to be thankful for than the saddened man opposite—making up her mind she would be cheerful after that.

But the days dragged some, after all. They were all just alike. Grinby & Son ground the workmen, lowered their wages when possible, kept them on half fires till Edna's little feet were like lumps of ice.

Then the foreman swore more and more at the state of affairs, and Edna's types would pl, and her letters would be set upside down; she grew too weak to stand all day, and bought herself a high stool to sit on; she began to grow white and thin with crying nights in her cold room, alone with God, and saying over and over again, in her broken words, "I needed Fred so much—so much!" And Christ, who had been on earth himself, unloved, heard and understood her prayer, but gave her no answer yet.

Finally, soft April airs began to blow in the dreary pineries, and April leaves and April suns, and April skies appeared, and Edna, going to and fro in the spring sunshine, met the banker, with the wide weed in his hat, and he always said, "God-morning" kindly, and asked her how she did.

Long before he knew it, he began to grow glad when he saw her coming, and took comfort in looking at her girlish face. No rich man's daughter on the avenue had a more joyous heart than she.

He began to notice that even her hair had a merry way of kinking up all over her head, that there was always a smile in her eyes, that there were fun-dimples in the corners of her mouth; but he did not know how much of the gladness in that little face was due to his kind "Good-morning."

Edna began to wonder what made her daily walks so pleasant, why she walked with such a spring in her step, why her cheeks grew red at the sound of quick feet on the walk behind her, why she was wearing out her Sunday dress every day, why she grew glad of rainy days, though she did not own an umbrella, and her heart began to beat when Banker Lansing offered her part of his. She, thinking he was her good angel just dropped from the skies, trudged along beside him in a state of beatification, and took the shelter of his umbrella in all security and goodwill.

Old women put on their glasses and looked out at "that girl." Men looked at each other knowingly, and said how deeply trapped the banker was.

But the women were the worst. It is seldom that men will condescend to the little, men suppositions about the opposite sex that women will of their own.

I should consider that I had lived to some purpose, and were ready to die, if only the women who read this story would never breathe ill of their poor, hard-working sisters till they were positively convinced of their guilt—women in safe and happy homes, with rich fathers and husbands, condemning some poor, over-worked girl, passing through more temptation daily than their milk-and-water natures could withstand in a year.

Simple Edna, brought up among Latin grammars and crocuses, what did she know about a town bubbling over with gossip?

Hard work many times keeps the mind sound, the heart pure and sweet; so she went on unwittingly walking over coals, singing to herself in the office.

The summer faded into autumn, and autumn into winter imperceptibly, and Edna had a new source of wonderment, for the banker ceased to walk with her. He took no pains now to leave his office at about the time she did hers, and she knew he took pains to avoid her. He was often hurrying on the opposite side of the street, and never stopped to speak to her now. He was nowhere to be seen on rainy days. Edna dragged through them alone.

"Just as I knew it would be all the time," she said to herself, though, to tell the truth, she had not even thought of it, but had accepted it all, as she did the sunshine, with a grateful heart.

On Christmas Day she rose slower than ever, and the light from the rat-hole showed a very heavy countenance. She had had a hard winter of it. She had been sick with a fever, had gone to work before she was able, and the state of her finances was unpromising, and she had but a few sticks of firewood left.

She warmed her numbed hands over the pine blaze she had kindled—the little hands that she used to fold in her lap and look at, not out of sheer vanity, as her stepmother suggested, but because Fred had admired them, and she liked to think them pretty for his sake.

Now there was a grime on them that would not wash out, and the delicate finger-ends were swollen and burst with the constant handling of lead. She did not care to look at them now, but put on her bonnet and went down into the yard for a pail of water.

When she had filled the pail, and nearly drenched herself (an aggravating way that pump had on breezy days), she looked up to see Prince Goldenheart standing close by her—the veritable Prince Goldenheart, such as they have in novels, for he told her he loved her, and asked her to marry him all in the same breath.

"People talked about my liking to be with you, Edna, and so I kept away from you; but I thought to-day was Christmas, the day that Christ and love came into the world, and I had waited long enough, and had a right to speak."

"But I'm so poor, and Fred wouldn't marry me, and there are so many handsome girls in the world," said Edna, twisting her shawl.

"Yes, but there is but one Edna," and taking the pail of water from her hand, he carried it up stairs for her, stopping a little on every step, looking to make sure the little figure was climbing beside him.

He opened the door of the dim Eden that no man's foot had crossed, and looked at the rag-mat, the little bed, the cook-stove, the Maltona, and sitting down in Edna's one chair, with the nail on the floor beside him, he took the shabby child in his lap, and held her close without a word.

Edna searched his face with large eyes that were so hungry for the love they had never yet found, and, seeing something

there that satisfied her, accepted the first kiss she had given or received since that memorable night she parted with Fred, then said, meekly:—

"I guess I will get down; the fire is all out, and my feet are both in the pail of water."

I close my story, thinking sadly how many Ednas there are in the world who will never find Banker Lansings, though the watching Father upon the throne keeps a high place for them among His angels.

I was glad Edna's Christmas Day had such a happy ending, and that on New Year's (her bridal day) she looked as pretty as other girls—her hair arranged a la Nilsson, twinkling pendants in her ears, twinkling pendants on her winsome little wrists, with a flush on her cheek and a light in her eye that had never been there before.

Minnie May's Department.

MY DEAR NIECES.—The good old time of Xmas is drawing near, and the question naturally arises, What shall I make this time, for father, husband, brother, sister, friend? is the query that now puzzles many an inquiring mind, and an answer to which would be gladly received. Whatever one needs in a mild or intense way, is most acceptable. Indeed, it is rather difficult to choose gifts for the "lords of creation," as they do not value little articles of adornment as much as we do.

The time, the money, the ingenuity, the devotion, spent on these tokens of affection, is well spent. As the patient fingers work hour after hour, with silks of glowing tints, Berlin wools of exquisite shades, delicate crocheting, tatting point lace and fine needlework, the love cherished for the intended recipient warms and brightens in the heart of the worker, and no doubt will be received by father or brother very heartily. There are many little things that are quite inexpensive, and that make very pretty presents. The other day we saw a lovely little frame made of perforated silver card-board. The central was out, and a bright-colored bouquet of flowers in a spandrel inserted. The edge of the board around the inside oval was embroidered with blue worsted. Patterns of the same made the corners lovely, and around the outer edge a quilting of narrow pearl-edged blue satin ribbon gave a graceful finish to the frame. The article when complete cost perhaps thirty cents, and in a carefully-kept room would be an ornament for a long time. Brackets and frames of scroll-work make very pretty presents. Even a paste-board box covered with tinted cambric and lace, or muslin, will make a tasteful receptacle for gloves, or comb and brush. A cigar-box covered and lined with quilted silk of agreeable tint, is both pretty and useful, and costs but little. Very pretty frames may be made of fresh leaves of bright tints fastened to a foundation frame, and ornamented with red berries. These hints are given merely suggestive, to those who have not yet settled in their minds what to make for Christmas presents. Hoping, my dear nieces, you will succeed in making some little gift for your loved friends (in remembrance of that memorable day), which no doubt will be received with gratitude, and that will repay you. We will now wish you a merry Christmas, begging you all to accept our sincere thanks for the numerous receipts which you so kindly have sent us, trusting you will continue to do so in the following year.

M. M.

Perhaps some of our nephews and nieces might kindly aid the ADVOCATE by introducing it to their friends. We shall be willing to remunerate any one who sends us even one new subscriber. We will send you either a handsome lithograph engraving or a chromo, or some new flower bulbs, which you may prefer, for a single name; or a free copy if you send us four new subscribers, accompanied with the cash; or will give you a good cash commission if you send us a list. Some ladies make excellent canvassers and make very high salaries by canvassing. Should any wish for terms to agents they can be supplied.

The Five Peaches—The Father and his Children.

Farmer Day brought, a few days since, five peaches from the city, the finest that were to be found. But this was the first time that the children had seen any fruit of the kind. So they admired and greatly rejoiced over the beautiful peaches with red cheeks and soft pulps. The father gave one to each of his four sons, and the fifth to their mother.

In the evening, as the children were about to retire to sleep, their father inquired, "Well, boys, how did the peaches taste?"

"Excellent, dear father," said the eldest. "It is a beautiful fruit, so juicy and so pleasant. I have carefully preserved the stone, and will cultivate a tree for myself."

"Well done," said the father. "This is husbandry, to provide for the future, and is becoming to a farmer."

"I ate mine," exclaimed the youngest, "and threw away the stone, and mother gave me half of hers. Oh, that tasted so sweet, and melted in my mouth!"

"You," said the farmer, "have not acted very prudently, but in a natural and child-like manner. There is still time enough, in your life, to practice wisdom."

Then the second began—"I picked up the stone which my little brother threw away, and cracked it open; it contained a kernel that tasted as good as a nut. And my peach I sold, and got for it money enough to buy twelve when I go to the city."

The farmer patted him on the head, saying, "That was indeed prudent, but was it natural for a child? May Heaven preserve you from being a merchant!"

"And you, Edmund?" inquired the father. Frankly and ingenuously Edmund replied: "I carried my peach to George, the son of our neighbor, who is sick with fever. He refused to take it; but I laid it on the bed and came away."

"Now," said the father, "who has made the best use of his peach?"

All exclaimed: "Brother Edmund." But Edmund was silent, and his mother embraced him with a tear standing in her eye.

RECIPES.

RUSSIAN CREAM.

One quart milk, three eggs, one cup sugar, half package Cox's gelatine, vanilla or lemon flavoring; if cinnamon is preferred, boil a few sticks in the milk. Dissolve the gelatin in half a pint tepid water; bring it to a warm temperature but not scalding. Beat the yolks of the eggs and sugar together. Bring the milk to a boil; then add the dissolved gelatin, eggs and sugar, and let it just come to a boiling point, but no more, or it will be too stiff. Beat the whites, and, removing the mixture from the stove, add them to it, flavor, and pour into moulds. If wanted for dinner, prepare the day before, as it requires to stand longer than wine jelly.

PARSNIP FRITTERS.

Many consider this the best way of cooking parsnips. Boil tender and mash very smooth, removing carefully the strings or woody portions. For three or four parsnips allow two beaten eggs, three tablespoonfuls of cream, one tablespoonful of melted butter, and a tablespoonful of salt. Stir in a very little flour and fry either as fritters or griddle cakes. For mashed parsnips, which is a favorite dish with lovers of the vegetable, proceed as you would for potatoes, the secret of success being in mashing very smooth, removing the fibres, and seasoning plentifully with butter, cream and pepper. Be less lavish with the salt.

MUSHROOM SAUCE.

Put a teaspoonful of butter into a small saucepan, and when it melts add a teaspoonful of flour; beat until well cooked; stir a cupful of strong soup stock and half as much juice from the can of mushrooms. After simmering for a few minutes add about a quarter of a can of mushrooms, pepper, salt and a little lemon juice. Let it heat slowly to a boil and pour over the meat. This is an excellent sauce for breakfast or boiled chicken, and may be made cheaply with canned mushrooms. Use the remainder of the can for stewing, or, if you have a gridiron with small bars, they may be broiled.

## RUSSIAN CREAM.

One quart milk, three eggs, one cup sugar, half package Cox's gelatin vanilla or lemon flavoring; if cinnamon is preferred, boil a few sticks in the milk. Dissolve the gelatin in half a pint tepid water; bring it to a warm temperature, but not scalding. Beat the yolks of the eggs and sugar together. Bring the milk to a boil; then add the dissolved gelatin, eggs and sugar, and let it just come to a boiling point, but no more, or it will be too stiff. Beat the whites, and, removing the mixture from the stove, add them to it, flavor, and pour into moulds. If wanted for dinner, prepare the day before, as it requires to stand longer than wine jelly.

## TO MAKE ROLLY POLY PUDDING.

Make a good paste, but not too rich; roll thin; spread over with tomato preserve, a small portion at a time, until all is rolled and spread; fasten the ends very securely, so that the preserve will not searh its way out. Then tie securely in your pudding cloth, and boil well. Serve with sweet sauce or cream.

## WHITENING IVORY.

Sue L. Gosser has had a present of an organ, and wants to know how to whiten the keys, which are growing yellow. I dare say—Susie—that you have been so careful with that new organ that you have always shut the lid carefully to keep out the dust. In so doing you have shut out the light, and that is why the keys are turning yellow. There are plenty of recipes for whitening ivory, one of which is to wash it with alum-water that has been boiled and allowed to cool. But when I have wanted to bleach any small ivory articles, I have put them into a glass jar and placed the jar in some sunny window, or out on a shed, indefinitely, until the ivory had become white; and I should think if you let the sun shine on your keys occasionally, that it would bleach them.

## RAISINS.

The best raisins, and the most of them, come from Spain, Malaga and Valencia being the principal places of export. You know, no doubt, that raisins are dried grapes, and of the finest, largest and sweetest kinds. Our common grapes will not make good raisins, as they dry up all to seeds and skins. The grapes sometimes dry into raisins on the vines, but usually they are picked and dried in part in the sun, and in part by fire heat. Sultana raisins come from Turkey; they are made from a small grape that has no seeds. The same kinds of grapes that grow in Spain grow in the wonderful climate of California, and already large quantities of raisins are made in that State.

## PRESERVING CAULIFLOWERS.

A useful hint may occasionally be derived from humble sources; and we lately noticed a plan in a cottager's dwelling of keeping cauliflowers which is not known or practised by every gardener in the country. The owner of the cottage was desirous of having cauliflower for Christmas, and five weeks before cut some close heads, which remained as fresh as ever. These are suspended in a cool pantry, with their stalks or cut parts upwards. The stalks are hollowed out by scooping away the pith, and the cavity in each is filled with water. As this is absorbed or evaporated it is replenished, and the result is that the heads remain as fresh and firm as when cut from the garden. The owner says he has thus preserved cauliflowers for more than two months.

## TO PREVENT STARCH FROM STICKING.

For preventing starch from sticking we have found nothing equal to coal oil. One large teaspoonful to a pint of starch is sufficient, but be sure and add before the boiling water is put in, for it is never safe to use an oil-can near the stove. Coal oil is also most excellent for cleaning paint. Rub on with a soft cloth and then go over it with a cloth wet in warm, soapy water. The dirt is easily removed, and the paint left as good as new.

## "COUNTRY SAUSAGES."

I send a recipe that I have used for forty years: An equal quantity of fat and lean pork, cut about an inch square. To 10 pounds of meat, 3½ ounces of salt and 1 ounce of pepper; mix well with the meat; then grind it twice through a sausage-grinder. I use whole pepper, and grind it myself, being much better than the ground pepper you buy.

R. G. E.

For 60 pounds of sausage meat, cut fine, add 30 ounces of fine salt, 7 teaspoonfuls of fine ground black pepper, and 2 teacupfuls of finely-sifted Eage.

Here is a recipe that has been proved a long time, and is just as good as can be made: For 30 pounds of chopped meat, add 12 ounces of fine salt, 6 ounces of pulverized sage, 4 ounces of black pepper, and 2 ounces of mustard. If you fancy summer savory or sweet marjoram, add it. The mustard prevents the sausage from rising or broiling in the stomach. This makes a seasoning plenty high, and the sausage meat will keep perfectly sweet. For 60 or more pounds of meat, you can double or quadruple the amount of the seasoning in like proportion. I have used this recipe for thirty years, and do not wish for a better one; neither do I believe better can be found.

FARMER'S WIFE.

## HORSE RADISH SAUCE.

Grate a quantity of horse-radish, add a pinch of salt and two or three tablespoonfuls of vinegar, then stir in a gill of cream, beaten up with the yolk of an egg.

## GRATED APPLE PIE.

Grate four large apples, add one egg and one-half tablespoonful of melted butter, one-half cup of milk, sugar to taste, salt and nutmeg. No upper crust. If desired, the whites of the eggs may be saved for meringue.—Mrs. J. L. H. E.

## BROILED SALMON.

Slices from a fresh salmon, well scalded, cleansed and wiped; two ounces of butter, melted; one teaspoonful of flour; one saltspoonful of salt. Melt the butter smoothly, thicken it with flour, add the salt, and roll the salmon well in it; make a very clear fire, take a perfectly clean gridiron, and broil carefully. Time, ten minutes.

## GRAHAM PUDDING.

One and one-half coffee cups of Graham flour, one-half cup of molasses, one cup of chopped suet, one-half cup sweet milk, one egg, one even teaspoonful soda, one-half cup stoned raisins, one-half cup currants, one teaspoonful cloves, one teaspoonful cinnamon, one-quarter of a nutmeg. Steam two and a half hours.—Mrs. J. L. H. E.

## GINGERBREAD.

Mix thoroughly with five cups of flour three heaping teaspoonfuls of Baking Powder, add two cups molasses, one cup butter, one cup sugar, one cup sweet milk, four eggs, two tablespoonfuls ground ginger, the same of cinnamon and cloves, one nutmeg. Bake immediately after mixing.

## ROUND STEAK STUFFED.

Take a steak weighing two or three pounds, spread over it a layer of stuffing made of bread crumbs and beef suet, in equal quantities, seasoned with sweet herbs, and mixed together with a couple of eggs. Roll this up and tie it, sprinkle salt over the top and bake it, basting often. Serve with tomato sauce around it. Make a gravy of the drippings, season well, and pour it over the meat when served. Carve by slicing neatly of the end of the roll.

THE SECRET OF BEAUTY.—The secret of beauty is health. Those who desire to be beautiful should do all they can to restore their health if they have lost it, or to keep it if they have it still. No one can lay down specific rules for other people in these matters. The work which one may do, the rest he must take, his baths, his diet, his exercise, are matters for individual consideration, but they must be carefully thought of and never neglected. As a rule, when a person feels well he looks well, and when he looks ill he feels ill. There are times when one can guess, without looking in the glass, that the eyes are dull and the skin is mottled. This is not a case for something in a pretty bottle from the perfumer's, or for a lotion that advertisements praise so highly. To have a fresh complexion and bright eyes, even to have white hands and a graceful figure, you must be well. Health and the happiness which comes with it are the true secrets of beauty.

BAD MANAGEMENT.—More housekeepers injure themselves by bad management of their work than by the work itself. For example, many hurt themselves unnecessarily by lifting wash-tubs or wash-boilers half full of water. It takes longer, of course, to dip water out of a tub than to carry it away, but it pays in the long run; and what kind of forethought is there in setting a wash-boiler on the floor, filling it with water and then lifting it on the stove? One such exertion of strength hurts a person more than a week's steady work.

## Canaries.

Says a writer:—In this way I answer the question of "How I had such luck with birds?" Simply by allowing the birds to attend to their own affairs, and by letting them understand that their mistress would never harm them. Also by accustoming them to plenty of light, and air, and company, rather than, as recommended in books, keeping the cage in a dark room, for fear of frightening the birds. Make just half the fuss directed in bird-books over the matter, and you will have double the success in raising birds. Never give sugar, but all the red pepper they want. It is the best thing for them. And if your bird feels hoarse at any time put a piece of fat salt pork in the cage, and see how the little fellow will enjoy it, and listen for the result. Give him flax seed once in a while, and if he appears dumpe occasionally, give a diet of bread and butter, with red pepper sprinkled in.

## Keep Borax in the House.

Having long used borax for various domestic and hygienic purposes, I have come to regard it as a necessity. Housekeepers who do not use it have something yet to learn concerning a very convenient and useful article. In the laundry it is economical, as it saves both labor and soap, and is really cheaper than the latter. For blankets and other large articles it is especially valuable, and in all cases the use of a little borax will save half the labor when articles are much soiled. It is perfectly effectual in driving away red ants, cockroaches, etc., if sprinkled around on pantry shelves, or put in small quantities on paper and placed in the runways of the insects.

Borax is also of great value for toilet uses. For removing dandruff and cleansing the hair it is unequalled. It is also a good remedy for rough face and chapped hands. Its application to wounds, sores, bruises, sprains, etc., proves very salutary, and is often the only remedy required, even in severe cases. Indeed, borax is one of the best remedies for many ailments in our whole hygiene, and for that reason alone should be kept ready for use when wanted.

There are many other uses for borax which I need not specify, but those I have mentioned are alone enough to satisfy any family of the value of the article, and to all such, as well as those who do not understand its properties, I repeat, "Keep borax in the house."—A HOUSEKEEPER, in N. Y. Advocate.

## Pumpkin Pies.

We generally have them made of squash at our house, but always call them pumpkin; it sounds so much better. Squash is a dreadful name, and the man who invented it ought to have had big Hubbard hurled at his head, as Ichabod Crane was served with a pumpkin in the Legend of Sleepy Hollow. But pumpkin is altogether a different word, whether it adorns a bill of fare, is woven into poetry, as Whittier did it in the charming verses which we published a few weeks ago, or is flattened into "pu-n-n-kin," as genial Robert Collyer does it. It is one of the old-fashioned vegetables, that held its own among upstart rivals for a hundred years. Precious little help has the pumpkin had from the propagating gardeners who are so intent on improving nature's production in other fields! The pumpkin is the same honest homespun, self-made sort of vegetable vagabond it was when it struggled through the corn-fields and dotted the autumn landscape with spots of golden color, in the pioneer days when luxuries were not necessities and wants were few. They pretend to say that the quality has deteriorated, like some strains of blood in men whose heads this useful vegetable has most uncharitably been made to symbolize, and that the flesh is white and poor compared with what it was in former years. Yet this may be merely the croak of the old-time worshippers.

But whether made true to name, or of sq—sh, a pumpkin pie, if rightly made, is a thing of beauty and a joy—while it lasts. We know there is an attempt made by certain super-civilized writers—of the sort who order for dinner, "a little tea-ah and toast, waitah, and a chicken's wing"—to make abstinence from pie a test of refinement. Some of them haven't gastric juice enough to digest anything but a weak wash of some sort; but others are just putting on airs. We wouldn't trust some of the fellows who make a virtue of abhorring pie alone with a whole one behind the kitchen door—even at eleven o'clock at night.

But to return to our pies. As we have said be-

fore, we scorn to make a cook-book of these columns, with our present supply of technical knowledge. But we do know that for a good pumpkin pie, you want plenty of milk, just enough eggs, not too much pumpkin, a lump of butter, and a judicious sprinkling of spices—principally cinnamon and ginger. The concoction, when ready for the oven, should be about the consistency of good thick cream. Pies that cut out only a little less firm than a pine board, those that will "wobble" without breaking, like a piece of leather, and those that run around loose on your plate are alike to be avoided. About an inch strikes us as a good depth for the filling; two inches is better than the miserable thin plasters one sometimes sees at boarding-houses, that look, for all the world, like pumpkin flap-jacks. The expressive phrase "too thin" must have come from such lean parodies on pumpkin pies. With pastry light, tender, and not too rich, and a generous filling of smooth, spiced sweetness—a little "tremble" as to consistency, and delicately browned on top—a perfect pumpkin pie, eaten before the life has gone out of it (say three hours after baking), is one of the real additions made by American cookery to the good things of the world. We have our opinion of the man who could get up dissatisfied or cross from a dinner topped off with a quarter section of such a pie.

For the first pumpkin pie of the season, flanked by a liberal cut of creamy cheese, and a glass of cider fresh from the press, we prefer to sit down, as the French gourmand said about his boiled turkey—"with just two of us; myself and the turkey!" Company is apt to distract the attention—and subtract from the pie.—*Golden Rule.*

#### Home-Made Ornaments.

A lady says in the *Floral Cabinet* that inexpensive articles of home manufacture, if neatly made and tastefully arranged, impart an air of refinement, even elegance, to our rooms, are admired by everybody, and are within the reach of all.

Wreaths, crosses, and anchors, made of red cedar, are pretty to tack under pictures, or attach to the cords above. These cost nothing, and give our rooms an air of warmth when all is bleak and drear outside. Cedar retains its color a long time, and does not fall to pieces when it becomes dry, as others evergreens are prone to do.

Cut your designs from pasteboard; sew on in little bunches till it is covered. A few bright autumn leaves heighten the effect. Wax leaves are very pretty for this, as they do not lose their color, and are easily fastened in any position by their wire stems.

Wax leaves are so pretty and so easily made that it is surprising there are not more of them made. If the brass molds are used the work will be much more satisfactory than if made from cutting patterns of natural leaves. Dip the mold in water, slightly warm to the hand, before pressing on the wax; lay on the wire stem already wound with wax; press on another sheet of wax; press all firmly together, breaking the wax carefully away from the edge. Use dry paint, and imitate natural leaves in painting as far as possible.

A few of these bright leaves, with two or three tiny pressed ferns, gracefully arranged in a small glass vase, is a lovely ornament for a bracket.

I wish to say a word in favor of decalcomanie. This, if neatly done, is really beautiful. Choose a cluster of moss-rose buds, or purple pansies, or any design that may please you; transfer to a pane of clear glass, then paint the other side of the glass white, using great care that it shall not present a streaked appearance, and you will have a picture that cannot fail to please.

Make your own tinted passe-partout of thick pasteboard, or a thin board and tinted wall paper. Cut an opening in the pasteboard to suit the size and shape of picture, a corresponding one on the paper; paste the paper very smoothly over the pasteboard, and very smoothly and carefully paste a narrow strip of gilt paper around the opening. If the picture is the same size of the board, you have only to bind the outer edge with a very narrow strip of the tinted paper, and your work is done. Velvet frames can be made in the same way, with the exception of the binding; have the velvet large enough to lap over on the back, and paste smoothly down. An elegant picture for such a frame is made by transferring decalcomanie on a large sheet of white wax.

For cabinet size photographs straw frames are very pretty, made in the following manner: Place on each side of the picture two straws, about one inch and a half apart; they should be three inches longer than the picture, both at top and bottom;

place two across the top and the bottom in the same way. Fasten where they cross with very small pins. Proceed in this manner, each time bringing the straw a little nearer together, until you finish off all around with one.

Small frames are nice made of small branches of Norway spruce. Short branches that have many buds are prettiest. Placed in warm oven for a short time the leaves will fall off at the slightest touch. Fasten by sewing.

#### The Habits of Ferns.

Ferns delight in warmth, moisture and shade. Though they love warmth, they avoid the sun; and when accidentally exposed to its full influence, their delicate fronds become shriveled and discolored. Yet these beautiful plants do occasionally coquet with the tiny sunbeam which may perchance find its way through some crevice in their cool rocky home, or through the thick foliage of the hedgerow under whose darkest shade they love to grow. But even the ferns are changeable in their moods, and fickle in their habits, differing from one another in their habits and modes of growth. Some members of the lovely family will boldly grow in situations where, perched on rocky corners, away from the cool shelter overhanging shrubs, they are exposed to the full blaze of the sun, and roughly blown upon by the full force of the wild winds. Others only seek to bathe the tips of their delicate fronds in sunshine, hiding all beside under damp masses of foliage. Others, again, will bear the sunlight if they can just find a refuge for their roots in the damp hedgebank, in the moist crevices of walls and ruins, or amidst the interlaced branches of trees. There are others still which hide where not even the tiniest ray of sunlight can pierce the dark retreat which they choose, and where they can revel in soft and humid warmth. But all ferns—even the sunniest of the modest family—love moisture and shade the best; and though they will sometimes grow in the light, become developed into their mature forms in cool and shady situations.—*The Fern Paradise. By Francis Geo. Heath.*

#### Economy in Little Things.

It often happens that economy in large matters leads to the neglect of many smaller things. True economy is the gathering up of the fragments—the little things—so that nothing will be lost. Nothing should be thrown away that possesses the least value—for, trifling and valueless as it may seem to be at the moment, a little thought and reflection will enable one to put it to some good use. A good way to acquire the important habit of saving in little matters is to procure a book and keep an exact account of all your expenses. At the expiration of three months, or the close of the quarter, see how much you have expended, in nickels and dimes, for things you would have been just as well off without as with them, and which could have been dispensed with.

I am sure if the men folks would adopt this plan also, there would be less said about expensive bonnets, dresses, etc. I know they pay out a nickel here, and a dime there, and spend many dollars in the course of the year, and never think of it; and the aggregate sum expended by them would make, at the end of the year, a sum that would far exceed the amount that they supposed had been expended.

It is a good plan to see, at the close of each quarter, just the amount of expenses incurred in purchasing these little things. True economy lies in saving, for "mony a little makes a muckle."

TEN RULES (never to be observed at church).—

1. Never open your pew door to a stranger wanting a seat; he may have designs upon your purse.
2. If the sexton brings a stranger to your door, look daggers at him, and make him just as uncomfortable as you can.
3. Take out your watch several times during the sermon, and if it has a hunting case, shut it up with a sharp snap; it may hurry the preacher.
4. When you return your hymn-book to the rack, let it go down with a bang; it enlivens the service.
5. Wear the most stylish dress you have; it shows you don't care for the proprieties.
6. Rush to the pew door on the instant of the last amen; you are glad it's over.
7. Stop in the aisle to salute all your friends, and turn about, if possible, in the crowd; it makes you conspicuous.
8. Tread on as many dresses of the ladies as you can, and make them look round.
9. In the door stand still and have a chat, so as to hinder all behind you from getting out.
10. Then light your cigar and go.

#### At a Russian Dinner-Table.

Russia presents to the traveler no institution more worthy of critical study than its dinners. Underlying the repast one sees the delight which the inhabitants of that country, in common with all northern races, take in raw food and startling contrasts. By way of introduction you have a long list of relishes which are to be washed down with strong liquors. You may take caviar, raw herring, raw smoked salmon, raw dried sturgeon, raw smoked goose, cheese, butter or radishes. Then follows cold iced soup of "kvas"—a beverage made of fermented rye. In this soup float pieces of herring, cucumber and meat. Or you may choose another cold soup of a green color, or fish soup, or "stchi," a cabbage soup eaten with sour cream. The next course is fish, and you will do well to select either Rastigai patties, strongly resembling muffins with fish, or a dish composed of fish and cabbage, which goes under the name of "solianka." Then comes "porosionok pod khrenom," or cold boiled sucking-pig with horse-radish sauce. After this the diner-out is recommended to try chicken or veal cutlets and roast mutton stuffed with buckwheat, and to pass on to "capercailzie," "riabchick" (a kind of grouse), or double snipe, with a salad composed of salted cucumbers, and various sweet dishes, including Nesselrode pudding in the land of its birth. The demands of digestion may now require a return to cheese and caviar. During the meal you ought to be drinking the wines of the Crimea, the Caucasus or Don; "but," says one authority: "you will not find it easy to get them unless you pay for them under the names of Bordeaux, Burgundy or Champagne." It is better to try cider,erry, or raspberry kvas, or the cool Lompopo. The repast is wound up by coffee, yellow tea, liqueurs, and cigarettes, and one may then turn one's steps homewards, meditating on the peculiar nature of a Russian banquet.

#### The Duty of Being Happy.

There is no duty we so much underrate as the duty of being happy. By being happy we sow anonymous benefits upon the world, which remain unknown even to ourselves, or when they are disclosed, surprise nobody so much as the benefactor. The other day, a ragged, bare-footed boy ran down the street after a marble, with so jolly an air that he set every one he passed into a good humor; one of these persons, who had been delivered from more than usually black thoughts, stopped the little fellow and gave him some money, with this remark:—"You see what sometimes comes of looking pleased." If he had looked pleased before, he had now to look both pleased and mystified. For my part, I justify this encouragement of smiling, rather than tearful children; I do not wish to pay for tears anywhere but upon the stage; but I am prepared to deal largely in the opposite commodity. A happy man or woman is a better thing to find than a five-pound note. He or she is a radiating focus of good will, and their entrance into a room is as though another candle had been lighted. We need not care whether they could prove the forty-seventh proposition; they do a better thing than that, they practically demonstrate the great Theorem of Liveableness of Life. Consequently, if a person cannot be happy without remaining idle, idle he should remain. It is a revolutionary precept; but thanks to hunger and the workhouse, one not easily to be abused, and within practical limits, it is one of the most incontestable truths in the whole Body of Morality. Look at one of your industrious fellows for a moment, I beseech you. He sows hurry and reaps indigestion; he puts a vast deal of activity out to interest, and receives a large measure of nervous derangement in return. Either he absents himself entirely from all fellowship, and lives a recluse in a garret, with carpet slippers and a leaden ink-pot; or he comes among people swiftly and bitterly, in a contraction with his whole nervous system, to discharge some temper before he returns to work. I do not care how much or how well he works, this fellow is an evil feature in other people's lives. They would be happier if he were dead. They could easier do without his services in the Circumlocution Office than they can tolerate his fractious spirits. He poisons life at the well head. It is better to be beggared out of hand by a scapegrace nephew, than daily hag-ridden by a peevish uncle.—*Cornhill Magazine.*

Never rake out a fire until a few minutes after you have added fresh coal, as it will save lots of fuel.

**Uncle Tom's Department.**

MY DEAR NEPHEWS AND NIECES,—There is no need, I am sure, of telling you that scarcely a month remains to prepare for Christmas—that season of rejoicing. From this time till the morning of that "blessed day" many of you, no doubt, will be devising and making your gifts for loved ones. What real and true pleasure it affords one to give little presents, even if ever so small; it is not the value of the articles given which is treasured, but the kindness in the act.

How happy are those little children whose parents remember them at that season with some little donation. It is an old custom, which has undoubtedly given a great source of pleasure, and one, we hope, that will always prevail and creep into each parental heart.—We remember, when a child, the anticipation of Christmas was quite exciting. We used to get the longest and largest sock in our possession, and suspend very securely in the most conspicuous place for the good old

**PUZZLES.**

148—CROSS-WORD ENIGMA.

My first is in street, but not in lane,  
My second is in wild, but not in tame;  
My third is in iron, but not in gold,  
My fourth is in hot, but not in cold;  
My fifth is in zebra, but not in bear,  
My sixth is in nest, but not in lair;  
My seventh is in merry, but not in gay,  
My eighth is in tell, but not in say;  
My ninth is in acre, but not in rod,  
My tenth is in strange, but not in odd;  
My eleventh is in David, but not in Amos.  
My whole is the name of a county.

G. H. MATTHEWS.

149—NUMERICAL ENIGMA.

I am composed of 11 letters :  
My 5, 10, 6, 8 is a noisy crowd.  
My 7, 10, 4 is a small house.  
My 7, 1, 8, 5, 10, 2 is a fruit.  
My 3, 6, 9, 4 is to please.  
My 11, 1, 8 produces an insect.  
My whole should be taken from the occurrences of every-day life, and the more of it a farmer has the more successful he will be.

J. M. JACKSON.

Listen, dna isto, adn lows,  
Eeddssnc eth wosn.

Y B FOOLLWENG.

Denur Tonum Anet eh slei—  
Ti si bumsre, ti si ont hated,  
Rof eh ssgguret ta mites ot slare,  
Dan vobea mih eth urdil ekiss  
Ear tho hiwt sih yerif hetarb.

WOONEFLGILL.

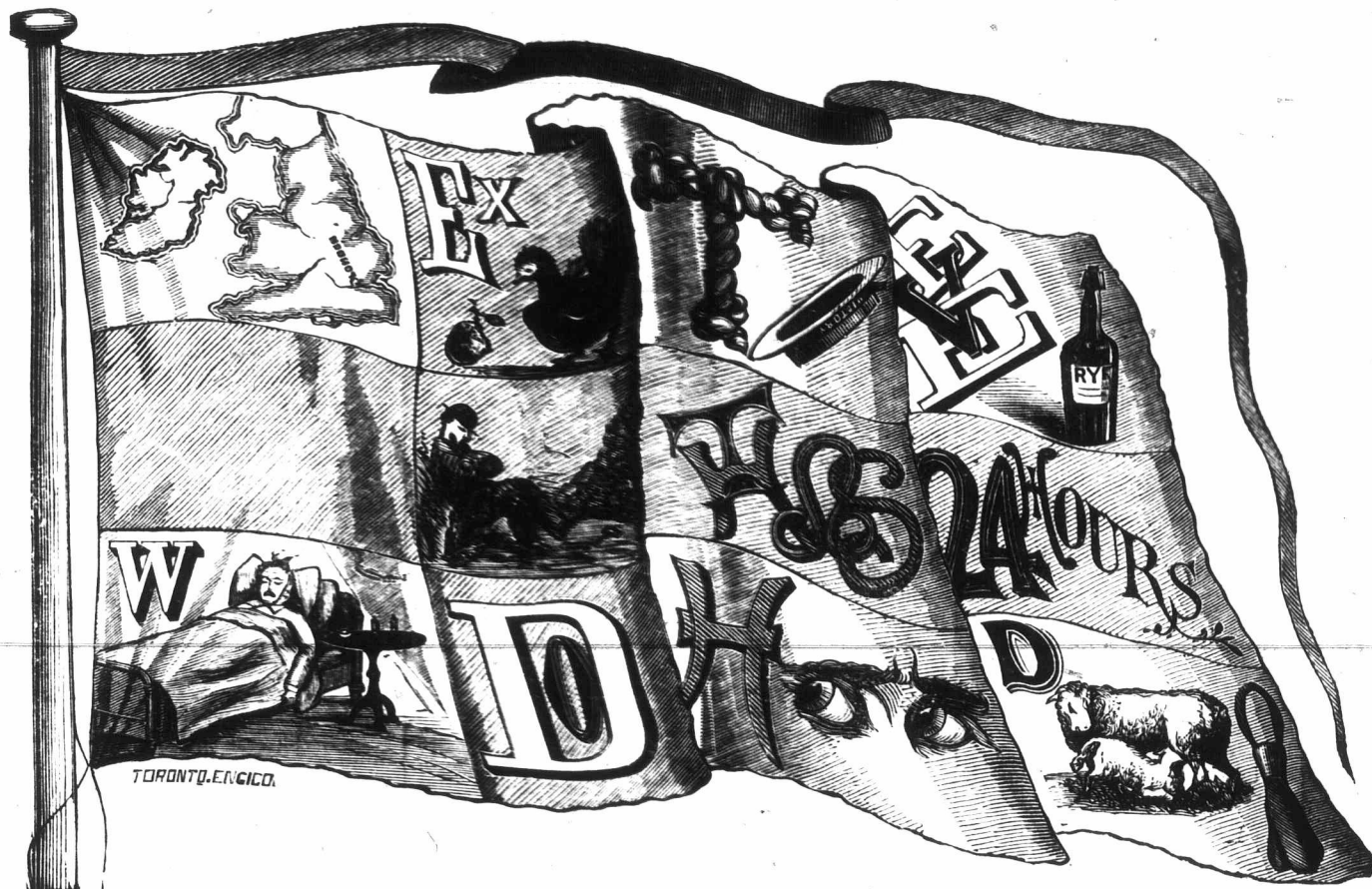
153—ENIGMA.

I am welcome to all from cottage to throne,  
There's scarce a condition where I am unknown;  
I strive to do good, and I scarce can do harm,  
Even music without me must give up a charm.  
I'm the joy of the weary, the hope of the sick,  
And fain would I visit where sorrows are thick;  
I'm a friend to the peaceful, a foe to all strife,  
My presence is needful to keep you in life.  
By chance you may find me as far off you roam,  
But I ever am purest and sweetest at home.  
When life is all over, and troubles all past,  
May I be your portion for ever to last.

NERO.

154—PUZZLE.

Take half of a bird, two-thirds of a cat, three-quarters of a lion, half of a bear, and quarter of a yard, and make a book.



150—ILLUSTRATED REBUS.

A glorious motto that every man, woman, and child in Canada should know and act upon. The most exalted stations of honor, the largest fortunes and the greatest happiness depend on it. We might give a handsome picture to every one of our subscribers, of 16 years of age or upwards, who will find out the answer and write us conscientiously that they have done it this day. They must not exceed it. Answers to be in this office by December 15th.

151—NUMERICAL ENIGMA.

I am composed of 11 letters :  
My 5, 6, 9, 8, 9, 10, 11 is an island in Europe.  
My 9, 1, 3, 9 is a name of a continent.  
My 11, 6, 8, 9, 2, 9, 7, 6 is one of the Northern States.  
My 2, 6, 10, 6, 7 is a lake in Europe.  
My 8, 6, 10, 9 is a river in Asia.  
My 1, 3, 11, 7, 9 is a gulf in Africa.  
My 4, 7, 6, 10, 4 is a river in Ontario.  
My 6, 7, 3, 6 is a lake in Ontario.  
My whole is one of the political divisions of Europe.

JENNIE BELL.

152—ANAGRAMS, 1.

Tou fo eth sobow of het Ria,  
Uot fo teh ducol-doslf fo rne mnargets haknes,  
Roef het oodwisanl wnrob nad abre,  
Evro eth vsreht-deliis kasfrone,

155—ENIGMATICAL BOUQUET.

1—A perennial and a wine. 2—A metal cane or sitck. 3—A boy's name and something connected with most birds. 4—The fountain of contentment. 5—The head, covering of a certain man. 6—Two things often seen on the breakfast table.

NINA JUDSON.

156—CONCEALED PROVERB.

That is a long time ago, O Dan. Villains do especially congregat in that den; I saw a knot of them come to grief early this morning. Their respectable appearance is all a sham, mere humbug.

157—PI.

A tonforape krame yass hatt folaldurtufaceman nights sopire brea het stoblen tharcrace inces heyt reaclifdesasi sa begin drang ripling dan quears.

158—PUZZLE.

No vegetable mineral or animal am I,  
I'm neither male nor female, but between the two;  
I'm grownd, strange to say, from two to six feet high,  
Am named in the Old Testament, commanded in the New.

Santa Claus to fill; and daybreak would scarcely appear when we would so happily search for the contents. Strange to say, Santa Claus never forgot us, no matter how very cold and stormy the night might be; likewise, my dear nephews, and nieces, may he visit each one of you this Xmas and each succeeding one.

And now, my dears, keep your eyes wide open and senses alert to enjoy the coming delights of the season, hoping all those who attend school will pass successful examinations, and will return to their duties, after the expiration of holiday time, with cheerful spirits and renewed energy, to begin the new year.

And now I must thank you all for the lively and constant interest you have taken in our department. We especially thank those who have favored us with so many good puzzles, and for the particularly pleasant and complimenting letters. Hoping to make our column more interesting in the ensuing year, with your acceptable assistance, we now heartily wish you all a Merry Xmas and Happy New Year.

UNCLE TOM.



159—BURIED JEWELS.

1. Will you kindly pass that pear, Lillie? It looks a very nice one from here.
2. If you thoroughly wash it, and then give it a good rub, you will soon find it will come clean.
3. I dare say Eric or Alfred will go to the post for you if you ask them.

160—HALF-SQUARE WORD.

- 1—A kind of fish.
- 2—Places of exhibition.
- 3—To wash by filtering.
- 4—A measure of space.
- 5—A cry made by sheep.
- 6—A personal pronoun.
- 7—A popular beverage.

JAS. LOWERY.

161—RHOMBOID PUZZLE.

Across—1, Harmony; 2, a harbor; 3, to tarry; 4, a mark. Down—1, a consonant; 2, a preposition; 3, an adverb of time; 4, a long period of time; 5, extremity; 6, a preposition; 7, not coffee.

162—CHARADES, I.

My first is equality.  
My second is the whole.  
My third is a letter of the alphabet, and also an old measure of length.  
My whole is what the two tracks of a railroad are.

2.

My first is a demon.  
My second is a form of the verb to be.  
My third is (in sound) an auxiliary used with the future tense.  
My whole, omitting one letter, is what judges ought to be.

SIGMA.

Answers to November Puzzles.

- 137—A shoe.
- 138—Belochistan.
- 139—Mountains.
- 14—Harriet Beecher Stowe.
- 141—On, no go, og, Don mood, doom, rats, star, time, emit.
- 142—Walkerton.
- 143—Cod.
- 144—An ear of wheat.
- 145—Sweet briar rose.
- 146—Straight, idiocy.
- 147—Star, tyro, arts, rose.

Names of Those Who Have Sent Correct Answers to November Puzzles.

Jno. H. Werner, Nina, Annie McCree, J. W. S. Richardson, J. C. Fritch, Jas. C. Howell, James M. Jackson, Minnie Barber, Janet Davidson, Jane Bell, Joan Bell, S. Clayton, John T. Sallows, Amelia Strawbel, Lizzie McKinnon, Minnie Hyde, Lucy Priddis, Eleanor North, Lucy Mills, John Williams, Mary Webster, Susan Willis, Jennie McKay, E. Routledge, John Clair, George Mason, Edwin Hall, Francis Barton, S. J. Hammond, Joseph Smith, Theo. Muir, Henry Rogers, Charles Fitzgerald, M. Y. McKnap, Florence West, Minnie Crack.

Humorous.

GONE AND THAWED.

The boy stood on a sunken shaft,  
And bitter tears he shed.  
We eyed the youngster fore and aft—  
His hair and nose were red.

He looked the picture of distress,  
The very type of woe.  
We asked why his unhappiness;  
His voice came sad and low.

And while the lad in tears relates  
The story, we are awed;  
Said he: "I bought a pair of skates,  
And now its gone and thawed."

A man noted for his close-fisted propensities was showing an old coin to a neighbor, when the latter asked, "Where did you get it?" "I dug it out of my garden," was the reply. "It is a pity you didn't find it in the cemetery," said the neighbor. "Why so?" asked the coin-owner. "Because you could have saved the hole to be buried in," was the somewhat unexpected reply.

"At what age were you married?" asked she, inquisitively. But the other lady was equal to the emergency, and quietly responded, "At the parsonage."

They are trying to kiss by telephone in New York and New Jersey. The sensation must be something like starting out for a clam-bake dinner and getting nothing but fog.

"Don't you think," said a husband, in a mild form of rebuke to his wife, "that women are possessed by the devil?" "Yes," was the reply, "as soon as they are married."

A young lady, residing in a border town, was heard to remark, in regard to her father's snoring, that "the neighbors all set out their washtubs, thinking that a thunderstorm was coming up."

A Saginaw schoolma'am speaks of Spotted Tail as "Freckled Finale, the aboriginal chieftain."

A woman who makes a practice of borrowing a quart of milk generally makes a pint of returning it.

Never borro ennything that yu are able to buy. Borrowing will demoralize a man almost as fast as stealing.—*Josh Billings.*

A lady stopped the milkman as he was passing the house the other day, and inquired the price of milk by the quart, putting up her ear-trumpet to catch the reply. The milkman drew a quart of milk and emptied it into the trumpet, and the result has been that he has to go a mile out of his way to keep out of sight of the lady, who sits on the front porch with a shot-gun, watching for him to pass.

A visit was a short time ago paid by a Government inspector to a Welsh village school, and among the questions put was, "Who brought the children of Israel out of Egypt?" The question was put somewhat imperiously, and, of course, in the Saxon tongue, which to a certain extent intimidated the youthful "Ancient Britons." A little hesitation followed, and the school-master, who rejoiced in the name of Moses Griffiths, having his reputation at stake, caught the eye of one of his rustic flock, and quietly whispered in Welsh, "The same name as myself." Nothing daunted, and with heroic confidence, a village youngster, addressing the inspector, gravely answered, "Moses Griffiths, sir!"

"The point is just this," says the Sublime Porte, "I am Turkey, and Russia wants to do the gobbling."

A woman at eighteen wants five trunks when she travels. At fifty she can get along with a bottle of cold tea.

"Madam," said a gentleman to his wife, "let me tell you, facts are stubborn things." "Dearie me, you don't say so," quoth the lady; "what a fact you must be!"

A little girl, who was visiting the family of a neighbor, heard them speak of her father as a widower, and on her return home, said, "Pa, are you a widower?" "Yes, my child; don't you know that your mother is dead?" "Why, yes, I know that mother is dead; but then you always told me you were a New Yorker!"

A resident who reached home by the noon train, after an absence of two weeks, was met at the station by his eight-year-old son, who loudly welcomed him.

"And is everybody well, Willie?" asked his father.

"The wellest kind," replied the boy, "and nothing has happened?"

"Nothing at all. I've been good, Jennie's been, and I never saw ma behave herself so well as she has this time."

"You seem to know all the gossip of the neighborhood, Parker."

"Yes, ma'am. My young man is a postman, and he reads me all the postal cards."

"What is the matter with you?" inquired a gentleman who had been called to see his neighbor, a German, of Chicago.

"Vell, I don't know—it is de gout; but vy should I have him?"

"Perhaps," suggested his friend, "it is hereditary."

"I tink it is hereditary; I remember my wife's uncle have him."

Mr. Gudgeon.—"Oh, I say, now, Miss Ada, you are fishing for a compliment."

Miss M'Angle.—"Oh dear, no; I never fish in shallow waters."

"Then, Adelgitha, you will be mine?"

"Yes, Ferdinand, if pa is willing. I always do what he wants me to."

"But will he give his consent?"

"He will. Pa always does what I want him to."

Mamma.—"You're a very naughty boy, Tommy, and I shall have to buy a whip and give you a good whipping. Now will you be good?"

Tommy (with hesitation), "Shall I be allowed to keep the whip afterward, mammy?"

Useful to Know.—A gentleman of considerable experience, writes to say, that to thoroughly enjoy a roasted goose, there should only be two in the company—the goose and the goose-eater.

Eating Song.

Oh! carve me yet another slice,  
O help me to more gravy still,  
There's naught so sure as something nice  
To conquer care, or grief to kill.

I always loved a bit of beef,  
When Youth and Bliss and Hope were mine;  
And now it gives my heart relief  
In sorrow's darksome hour—to dine.  
—Punch.

Friends.

Most of us can probably count our friends on our fingers, and fortunate are we if there are not some digits to spare after the reckoning is made. We do not merely mean, in speaking of friends, those with whom we are intimately acquainted; with whom we go shopping or sight-seeing; who visit us often; who worship under the same creed, and contribute to the same missions; who send us jellies when we are ill, and tell us our faults with a frankness which might be lovely in the abstract; who are always using the rod for our good, and who never hear an unflattering comment upon us or ours but they hasten to refresh us with the sweet morsel. We are apt to denominate as friends those who are something more than mere acquaintances, who are connected with us by marriage or association, without reflecting that friendship signifies something more than the interchange of pleasant civilities and costly gifts, something beyond similarity of tastes and ambitions. The real friend is he who accepts you with all your imperfections on your head—who entertains, in truth, an affection for these same imperfections as component parts of yourself, without which you would not be you. He is never ready to prove his superiority of judgment or his pre-eminence in any respect, preferring rather to believe in equality; never seeks to gain the advantage; encourages without flattery; never dreams of placing himself in competition with you; rejoices in your successes, mourns over your failures. Perhaps the reason why friends are so scarce is because the requirements of friendship are so great; few people are unselfish enough to meet them. Though "some men," we read, "are born for friendship," it can not exist without burning incense before some shrine; there are many others almost incapable of the sentiment, who call one and another by the name of friend because they happen to fancy the same clergyman, to agree respecting certain orthodox or heterodox opinions, are next-door neighbors, afford the same luxuries, dote on the same authors, but who criticize these friends with unsparing zeal, and whom any change of fortune or opinion would render frigid with indifference, while one of the fundamental demands of friendship is that our regard shall be able to survive disagreement. We love our friend not for what he thinks, or knows, or believes, but for what he is; and there must be something more vital in the matter than the same respect for fashion, concurrence in the method of pickling mangoes, or an interest in the same Bethel societies, if it would outlive the touch-stone of familiarity. One should be allowed, moreover, to choose one's friends, and not have them thrust upon one; neither is it well to rush into friendship like a gushing school-girl, for, like every other growth, there is first the germ, then the shoot, and last of all, after patient discipline of sunshine and rain, arrives the perfect blossom.

The True Gentleman.

"He is above a low act. He cannot stoop to commit a fraud. He invades no secret in the keeping of another. He takes selfish advantage of no man's mistakes. He is ashamed of innuendoes. He uses no ignoble weapons in controversy. He never stabs in the dark. He is not one thing to a man's face, and another to his back. If by accident he comes into possession of his neighbor's counsels, he passes them into instant oblivion. He bears sealed packages without tampering with the wax. Papers not meant for his eye, whether they flutter in at the window, or lie open before him in unregarded exposure, are secret to him. He profanes no privacy of another, however the sentry sleeps. Bolts and bars, locks and keys, bonds and securities, notices to trespassers, are not for him. He may be trusted out of sight—near the thinnest

partition—anywhere. He buys no office, he sells none, he intrigues for none. He would rather fail of his rights than win them through dishonor. He will eat honest bread. He tramples on no sensitive feelings. He insults no man. If he has a rebuke for another he is straightforward, open and manly. He cannot descend to scurrillity. Billingsgate does not lie on his track. Of woman, and to her, he speaks with decency and respect. In short, whatever he judges honorable he practices toward every one. He is not always dressed in broadcloth. 'Some people,' says a distinguished bishop, 'think a gentleman means a man of independent fortune—a man who fares sumptuously every day; a man who need not labor for his daily bread. None of these makes a gentleman—not one of them—not all of them together. I have known men of the roughest exterior who had been used all their lives to follow the plow and to look after horses, as thorough gentlemen in heart as any nobleman who ever wore a ducal coronet. I mean, I have known them as unselfish, I have known them as truthful, I have known them as sympathizing; and all these qualities go to make what I understand by the term 'a gentleman.'

"It is a noble privilege which has been sadly prostituted; and what I want to tell you is, that the humblest man who has the coarsest work to do, yet if his heart be tender, and pure, and true, can be, in the most emphatic sense of the word, 'a gentleman.'"—*The Christian Statesman.*

#### Ponto's Christ-mas.

BY LITTLE FLOY.

"I wis' evvy body could have a Quismas, mamma."

Little Nan was counting her "white pennies." She always asked papa for silver money. "Cause, papa, white pennies buy more than red pennies do."

"Well," said mamma, "don't everybody?"

"I know one never did," said Nan. "And it's my Ponto. He never had a Quismas. He don't know Quismas from any day. He might dess as well be a heathen's dog."

"Well, dear, how would you make a Christmas for Ponto?"

"Why, dess as you do for folks—cook him a booful dinner, and give him a present. If Ponto had a waost of beef all hisself, and a wide blue ribbon on his neck, and pum cake, I know he'd know 'twas some day."

Mamma thought how good the dinner would be for a poor child; but she concluded to feed the child with her own "white pennies," and let Nan make the funny little feast for Ponto.

So Nan tried to make a Christmas for her doggie. She tied the blue ribbon on him Christmas morn, and it was so pretty in his shaggy black curls that she gave him a big hug.

"O, Ponto!" she cried, "you is folks to-day."

Nan saw to the "waost" herself. That is, she opened and shut the oven door forty times in two minutes; and she made a paper table-cloth, and put rose-buds all round the platter.

But Ponto stepped on the table-cloth, and he took big mouthfuls, and growled, and at last he dragged the roast off on the floor, and ran with it into the coal cellar.

"O, Ponto, you isn't folks!" said Nan, sadly.

Never dress in a cold room in the morning, even if you have to make some one else get up to build a fire.

Have you expended \$1 during the past year that has given you and your family more pleasure or profit than the dollar sent for the FARMERS' ADVOCATE?

Don't on any account sleep in a room that has not sunlight and air direct from out of doors. Half, nay, three-fourths of the modern flats are spoiled from this unsanitary defect. Better live in a shanty than in a darkened room. Light is life—and it is no wonder some nations worshipped it.

Too much care cannot be taken to close up all cracks, and see that windows and doors are tight, and do not admit the air too freely. This is the true way to save fuel. See that your bath-room windows are tight, and you will thus avoid having your water-pipes frozen.

#### Christmas.

BY MRS. L. C. WHITON.

"Mamma, what is Christmas?" How can I say?  
I will try to answer you "true as true."  
It is just the loveliest, lovely day,

That is steeped in rose-color all the way through!  
When miniature toy-shops in stockings are found,  
That are left in chambers without a sound;  
And papa gives gifts with a tender cheer;  
And brother "hurrahs for the top of the year";  
And sister looks on with her wistful eyes,  
With a soft, sweet smile at every surprise;  
And Christmas means this:  
A little child's bliss,  
And the love of the dear Christ felt like a kiss.

And a piled-up glory is hard to express;  
And "What is Christmas?" is wonder for all.  
It is when the earth puts on holiday dress,  
Made spotlessly fair with snowflakes that fall;

When hearts are lavish with treasures of love,  
And the pale, pure stars shine brighter above;  
And the dancing firelight seems to play  
In the most mysterious, haunting way;  
And the house fairies wander from sweet to sweet,  
With an unexplored kingdom laid at their feet;  
And Christmas means this:  
A little child's bliss,  
And the love of the dear Christ felt like a kiss.

And still "What is Christmas?" Darling, come here.

It is meant for the birthday, "true as true,"  
Of a beautiful child that was born in Judea,  
That His mother loved, as I love you;  
That grew up to teach you how you should seek  
To be in your spirit "lowly and meek,"  
And onward higher and higher to go,  
Till you changed to an angel, whiter than snow;  
And offered freely (that all might take)  
The gift of Himself for the whole world's sake!  
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#### Commercial.

##### London Market.

FARMERS' ADVOCATE OFFICE,  
London, Dec. 3, 1877

Deihl wheat.....	\$ 2 00 to \$ 2 10
Treadwell.....	1 95 to 2 05
Red.....	1 95 to 2 05
Spring.....	1 50 to 1 50
Barley.....	90 to 1 10
Peas.....	90 to 1 05
Oats.....	90 to 1 00
Rye.....	1 00 to 1 00
Buckwheat.....	00 to 00
Corn.....	00 to 00
Beans.....	1 00 to 1 37
Sheepskins.....	50 to 1 25
Hides.....	7 to 8
Eggs, per dozen, fresh.....	18 to 20
" " " packed.....	13 to 15
Roll Butter, fresh.....	20 to 22
Tub Butter.....	15 to 18
Cheese, factory.....	8 to 8
Tomatoes, per bushel.....	40 to 50
Hay, per ton.....	10 00 to 11 00
Straw, per load.....	2 00 to 4 00
Turnips.....	25 to 25
Carrots.....	25 to 30
Potatoes.....	60 to 65
Onions, per bushel.....	60 to 70
Cordwood, dry.....	3 50 to 3 75
Tallow.....	44 to 74
" rough.....	14 to 14
Lard, per lb.....	12 to 13
Wool.....	39 to 31
Flour, XXX, per hundred.....	3 50 to 3 75
Fall Wheat Flour.....	3 25 to 3 50
Spring Wheat do.....	3 00 to 3 25
Coarse Shorts, per hundred.....	70 to 80
Brain, per hundred.....	80 to 1 00
Beef.....	50 to 60
Lamb, per lb.....	6 to 7
Mutton.....	6 to 7
Dressed Hogs.....	4 50 to 5 00
Hogs, live weight.....	4 00 to 4 50
Apples, per bushel.....	60 to 1 12

##### Toronto Market.

Toronto, Ont., Dec. 3, 1877.

Superior Extra Flour.....	\$ 5 75 to \$ 5 80
Extra.....	5 45 to 5 50
Fancy.....	5 20 to 5 25
Strong Bakers.....	5 20
Spring Wheat, Extra.....	5 00
Brain, per ton.....	11 00 to 11 50
Middlings, per ton.....	15 00 to 16 00
Shorts.....	12 00
Oatmeal.....	4 00 to 4 15
Cornmeal.....	3 00
Fall Wheat, No. 1.....	1 30
" No. 2.....	1 14
" No. 3.....	1 11
Spring Wheat, No. 1.....	1 05
" No. 2.....	1 05
" No. 3.....	1 05
Red winter.....	1 05 to 1 06
Treadwell.....	1 18 to 1 25
Deihl.....	1 20 to 1 21
Oats.....	33 to 34
Barley, No. 1.....	63 to 70
" No. 2.....	55 to 55
" No. 3.....	45
Peas, No. 1.....	66
" No. 2.....	60

##### English Grain Markets.

The tone of the foreign wheat trade has for some weeks been slightly firmer. This is attributed to the fact that the English yield is turning out bad in quality and condition, for the enormous shipments from America and the large quantity from other sources of supply would under other circumstances restrict the demand. The enquiry has been brisker, although with the large supplies pouring in it is not expected that prices will be much affected by the increased demand. The imports now arriving are much in excess of immediate requirements, but from the firmness in the trade for some time, it is evident that the active demand is not likely to fall off for some time. Much, however, depends on the solution of the question of the Turkish war, as a return of peace would set free the accumulation of grain in the ports of the Black Sea, and be the means of lowering prices in the English markets.

There is, however, greater demand for Canadian barley, with a slight improvement in prices. The best samples of it are more enquired for, and its maling qualities are more appreciated. With fair arrivals at port of call, the floating cargo of wheat has ruled steady at an improvement of about 6d per quarter. Maize has advanced to a similar extent. Barley is firm.

## THE GREAT DEVONSHIRE CATTLE FOOD

May be relied on as containing no copperas or other metallic substance, and is unquestionably the only scientific combination to produce a healthy, saleable and working condition in horses, and fattening cattle to a degree produced by no other feeder, shown by the successful exportation of cattle to England fed with the GREAT DEVONSHIRE FOOD.

ASK FOR THE DEVONSHIRE AND TAKE NO OTHER. \$1.00 per Box.  
Beware of Worthless Imitations. Sole Manufacturer,  
John Lumbers, 101 Adelaide St. East, Toronto.

Liverpool Market.

Liverpool, Nov. 30. Flour, 26s 6d to 32s; wheat, spring, 10s to 11s; red winter, 10s 9d to 11s 6d; white, 12s 7d to 12s 11d; club, 12s 9d to 13s 3d; corn, 29s; oats, 3s; peas, 37s; barley, 3s 6d; pork, 57s; cheese, 64s; bacon, 40s.

New York Market.

Wheat, half to one and a half cents lower; receipts, 467,000 bushels; sales, 104,000 bushels at \$1.25 to \$1.30 for No. 2 spring. Rye, dull, 75c to 77c. Corn, half cent lower; sales, 150,000 bushels, at 60c to 64c. Barley slightly in buyers' favor. Oats dull; receipts, 123,000 bushels. Flour in buyers' favor; receipts, 28,000 bbls.

Cheese Markets.

NEW YORK.—We note a fair export demand for strictly choice goods on a basis of 12 1/2 to 13c. The off grades have also received some attention from shippers. The home trade has been brisk and some sales have been made at 12 1/2c. This price is only obtainable on fancy lots, however, the majority of the stocks on hand only bringing from 12 1/2 to 13c. The receipts for the week have been very large, aggregating over 100,000 pkgs.

Table with columns for State, factory, fancy, home trade, Fancy, shippers, Prime to choice, Fair to good, Skims, Farm dairies, good to prime, Poor to fair, Western, factory, fancy, shippers, Choice to fancy, jobbers, Good to prime, Fair, Ordinary. Prices range from 5 to 13 1/2.

LITTLE FALLS, N. Y., Nov. 26.—The cheese market was brisk to-day, but not particularly active above last week's quotations; 3,500 boxes factory cheese sold at 11 1/2c to 12 1/2c, mostly 12c; 220 boxes dairies went at 10 1/2c to 12c, only 60 boxes getting the latter figure.

UTICA, N. Y., Nov. 26.—8,000 boxes of cheese offered to-day, a falling off of 2,500; 1,157 boxes sold on commission, 1,469 boxes directly; the highest for Septembers was 12c; leading factory prices and extremes for Octobers 11 1/2c; average for all grades 11 1/2c. Market duller.

Stock Notes.

Mr. Edward Jeffs, of Bondhead, County of Simcoe, Ont., gained the first prize for best herd of Shorthorn cattle in that county. There were four other herds competed, none of which were at the Provincial Exhibition. This must show how widely this class of cattle are now spread in Ontario, when four herds compete in Simcoe. We hear Mr. Jeffs has some fine animals to dispose of at reasonable rates.

A sale of Shorthorn cattle took place on the 23rd October, at her Majesty's farm, Windsor Castle. The sale comprised forty shorthorn cows and heifers, which realised 1,304 guineas, four shorthorn bulls averaging 30 guineas. This stock comprised a dozen specimens of the Knightly blood, part of them being of the favorite Coldcream tribe. Five lots were of the graceful family descended from Mr. Arbuthnot's celebrated breed with which Fawcley was so closely allied. The whole sale, which included Jersey heifers, Clydesdale colts and fillies, realised 2,100.

It is said that Hon. Mr. Cochrane, of Compton, P. Q., has sold another of his Duchess Shorthorn heifers, 10 months old, for \$12,000, to Cannon, of Burlington. A good story is told of stock to England. The valuable cargo was in charge of Beatty the well-known stock man, and when the vessel was nearing the coast of England, a valuable steer worth \$2,000 took sick. Beatty, fearing that the animal's sickness might cause the whole lot to be quarantined, asked the Captain to be allowed to throw the responsibility of throwing over such a valuable animal. Beatty watched his opportunity, and when the Captain was down at dinner, he struck the sick steer with a hammer and killed it, and with the assistance of his men threw the carcass overboard before the Captain came back. Beatty's presence of mind saved Mr. Cochrane about \$40,000 on his venture.

Messrs. J. & W. Peters, of London, Ont., have sold their prize Devon bull to Mr. Samuel Wood, of Islington, Ont.

Mr. John Liddell, of Iona, Ont., has purchased the Suffolk boar "Windsor Lad," from Messrs. Wright & Butterfield, of Sandwich, and the Berkshire boar "Earl of Balmoral," from A. A. McArthur, of Lobo. Both animals took first prizes at the Provincial Exhibition this year.

The North British Agriculturist of Oct. 31st says:—A consignment of 350 mixed bred white-faced sheep from Canada were sold by the Messrs. Swan in the Edinburgh market yesterday. The animals seem to be crosses from Leicester and Cotswold types, principally the former; and though a little high on leg and rough in bone, they had been pretty well fed, and stood the long journey wonderfully well. Their diet on board ship consisted chiefly of hay and Indian corn. The lot included ewes, gimmers and wethers, and were bought by butchers yesterday at prices ranging from 35s to 47s a head. In common with almost all kinds of stock, they experienced a bad trade, and sold "big for the money."

Mrs. Whitfield, the owner of the cattle mentioned in last number as detained by the Government in consequence of the Prohibition Proclamation, and now on a barge anchored at Grosse Ile, has obtained permission from the Government to land them at St. John's, Newfoundland, instead of again having to send them home. The steamship Valetta is to take them to St. John's.

At a late sale of Shorthorns in Kentucky, the Canada West Farm Stock Association of Bow Park, Brantford, Ont., purchased 2nd Duchess of Kirklevington for \$1,225, 3rd Duchess of Kirklevington for \$1,225, Hilda Duchess 2nd for \$500, and Rosebud 8th for \$1,250.

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It is to be hoped our members will take advantage of the leisure term during the coming winter for improving their minds, through the medium of the Grange, which affords them an opportunity by frequent meetings for intellectual cultivation. Discussions upon farm topics, grain and stock raising, the making of butter and cheese, the improvement of our farms, the beautifying of our homes, and other kindred subjects command our attention, and are matters of interest to us. In the experience of the past year, each one must have gained some knowledge, which, if made known, will be of advantage to others. At our Grange meetings is the place to make it known. Farmers and their families are then gathered together for the purpose of mutual benefit, and I would that more attention were given to this feature of the Order: the social and intellectual feature, striving to become better farmers, looking for financial benefits through a better and more intelligent system of farming, rather than through the mere purchase of a few articles of supplies at a reduced rate. W. P. PAGE, Sec. D. G.

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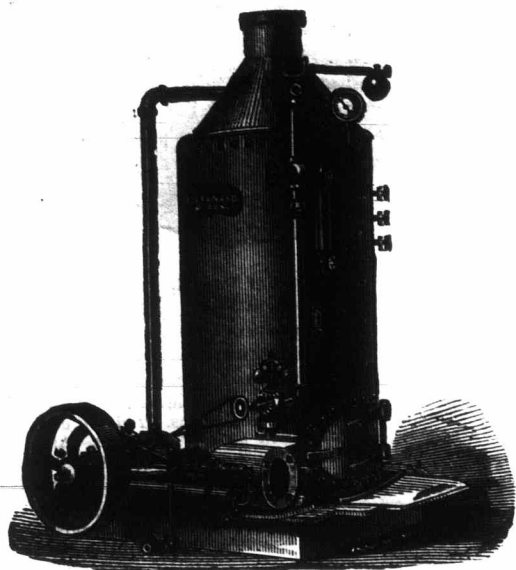
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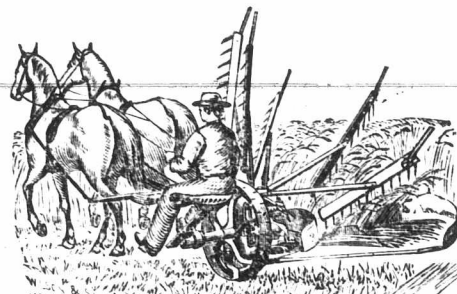
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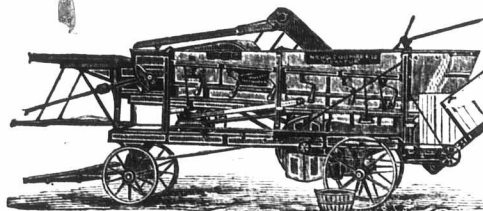
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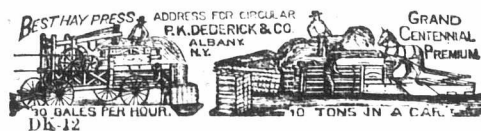
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EDITORIAL—

Absence from exhibitions of breeds of cattle... 250
A bull of the Longhorn Dishley breed... 200
A Canadian home... 218
A Canadian International Exhibition... 26
Adieu... 273
Agricultural College... 99
Agricultural and Arts Association—
The Provincial Fair of 1877... 32
Agricultural societies... 274
A home plant... 105
Amusements... 241
A Model Farm for Nova Scotia... 99
American beef for Europe... 251
A new Agricultural Act... 28
An honorable employment... 241
An Agricultural College... 98
A nut for Canadian farmers to crack... 196
A worthy example... 257
Bait the hook again... 51
"Balmoreal Farm" Lobo, the property of Mr. Alex. McArthur... 8
Barley dull... 3
Beet Sugar... 50
Beef for Europe... 121
Board of Agriculture and Arts... 28
Bone dust... 123
Breadstuffs for England... 99
Buckwheat—its cultivation... 122
Callous tumor on shoulder... 274
Canadians going to the States... 277
Caution to travellers... 277
Choice of seeds... 273
Canadian butter... 221
Canada... 50
Canadian butter... 197
Canada, past and future... 73
Canada at the exhibition in New South Wales... 75
Competition with the dairymen... 124
Convention of live-stock dealers... 174
Converting bones into a fertilizer... 171
Crop prospects... 123
Crossing the buffalo with milch cows... 3
Culture of the turnip crop... 124
Cyclamen Pericum Giganteum... 224
Dairymen's Association of Ontario... 31
Dairymen's Convention... 9
Danger ahead—Winter wheat... 171
Deep subsoil culture... 219
Does feeding pigs pay?... 30
Double the circulation... 24
Drainage works... 51
Drainage in the valley of the Thames... 3
Draining—Is there any profit from it?... 219
Emigrants and Immigrants... 123
Entomology—Birds and insects... 27
Experiments with fertilizers... 276
Excessive hay feeding... 171
Fill up the ranks... 98
Flax straw for feed... 98
Free grant and other lands in Manitoba... 53
Fringed dragon and Flying dragon... 128
Farmers' Clubs... 287
Grasshopper trap... 177
Ground bones as a fertilizer... 220
Grumblers' wheat... 49
Hard times for farmers... 4
Hamilton or Central Exhibition... 218
Hessian fly... 177
Hints to dairymen, 4, 29, 52, 75, 100, 125, 147... 220
Home industry... 222
Horticulture at the Centennial Exhibition... 222
Imports and exports of agricultural commodities... 2
Injurious insects... 170
Interior of Mr. McArthur's piggery... 9
January, 1877... 1
Large or small farms... 195
Manitoba Provincial Agricultural and Industrial Society... 64
Marketing produce... 250
Meat production for foreign markets... 250
Meat production for foreign markets... 275
Midland Central Fair... 241
Milk Globules... 230
Millet for soiling and hay... 99
Mules on the farm—Reply to inquirer... 76
Muskoka District Fall Show... 241
New Brunswick... 1

One reason why farmers do not prosper... 52
Onions—Their culture... 75
Ontario Notes... 5
Ontario... 32
Ontario School of Agriculture... 5
On the Wing, 121, 145, 169, 193, 219, 249... 197
On farm gardens... 197
Orchard Harness... 32
Our Correspondents' Department—
Flax... 98
Our floral friends... 29
Packing fruit trees at St. James' Park Nurseries... 256
Paris green for potato bugs... 171
Pinus Austriaca, the Australian Pine (Illustrated)... 80
Planting fruit trees... 74
Potatoes... 81
Potato-bug catcher... 201
Potato-bug machine... 125
Prince Edward Island... 5
Prize Jersey cattle... 176
Planting forest trees... 78
Progress of the draining season... 173
Restoring the fertility of the worn-out farm... 99
Review—Manitoba and the North-West Dominions... 26
Rye for soiling... 51
Salt as a fertilizer—What quantity to be applied... 195
Scotch Commissioners in America on the Wheat Culture... 147
Seeding clover... 75
Seed wheat... 28
Settling in Manitoba... 171
Shall we discontinue growing wheat?... 27
Soiling cattle... 98
Sowing rye for soiling... 195
Spring crops—Oats... 74
Spring crops—Peas... 75
State of the crops... 97
Straw as fodder... 194
Surplus of capital... 123
The Agricultural Investment and Savings Society... 49
The Agr. Mutual Ass'n of Canada... 52
The American dairymen... 25
The Canadian Entomological Soc'y... 122
The Canadian winter port... 3
The codling moth... 148
The cultivation of out-door grapes... 219
The Egyptian or Eldorado wheat... 49
The Dominion Farmers' Club... 276
The Farmers' Advocate... 273
The farmers produce market... 122
The fruit garden... 50
The garden... 28
The great shorthorn sale of 1877... 146, 197
The Hessian fly... 240
The kitchen garden... 196
The locust... 196
The legislature of Massachusetts and the Agricultural College... 99
The month... 25
The new Agricultural Act... 28
The new forage plant... 74
The Ontario School of Agriculture... 100
The orchard—wind belts or not... 76
The potato bug on its march... 74
The prospects for supply of food in the future... 2
The Provincial Exhibition for 1877, 97, 217... 147
The School of Agriculture... 29
The shorthorn sale... 123
The sowing of wheat... 57
The tent caterpillar... 147
The union churn... 29
The wheat crop of 1876 & its lesson... 27
Thick or thin seeding... 221
To a young orchardist... 123
To correspondents... 29
Township agricultural exhibitions... 250
Trade between Minnesota & Manitoba... 27
Trials of Implements... 124
Wheat crops, etc... 196
AGRICULTURE—
Agriculture in the Holy Land... 282
A Dominion Board of Agriculture... 112
Agricultural education... 39
" notes from Paris... 62
American agriculture—fertilizing soil... 63
An American opinion of Canadian agriculture... 10
An Amherst farm... 39
Another new plant—new and extraordinary... 132

Another trial of dynamite... 203
Applying bone dust... 204
A prize English farmer... 226
Are there disease-resisting potatoes... 179
A wire worm... 111
Buckwheat—its cultivation... 132
Canadian Produce... 283
Clover on Grass... 284
Cabbage as a field crop... 112
Canada thistles... 202
Capacity of land for keeping stock... 203
Cheap and easy drainage... 227
Cheese making versus the fertility of the soil... 38
Clawson wheat and flour... 258
Clover Hay... 111
Clover—its value to the farmers... 202
Co-operation in farming... 11
Corn for soiling... 111
Cremation in California... 179
Crops in Michigan—Do varieties run out?... 39
Cultivation of corn... 112
Erin Farmers' Club... 284
Flax vs. corn oats and wheat... 283
Excess of humus in soil... 203
Exhibition grounds... 132
Fall plowing and drainage... 258
Fancy farmers... 179
Farmers' review... 155
Farming in England... 130
Farms are made enduring by keeping stock... 155
Fence posts—top end down... 179
Food value of beef... 11
Foreign farm and stock notes... 77
Foxtail and pigs... 154
General items interesting to farmers... 132
Good times for the farmers... 178
Grasses, clover and corn for soiling... 76
Great Britain—its diminished wheat growing... 110
Green manuring... 62
How to farm in Canada... 259
How to save clover seed... 203
Hungarian grass... 130
Idle capital... 154
Improvement of pastures... 179
Indian corn culture... 130
Inoculating arable land... 11, 226
Items... 132
Lime as a constituent of soils and plants... 227
Liquid manure... 110, 226
Make the farm rich... 62
Maximum crops... 155
Miscellaneous... 204, 258
Muck on sandy soils... 130, 178
New rules for the barley trade... 227
No more land to sell... 226
Oats for hay... 178
Ontario Fruit Growers' annual meeting... 260
Pasturing hogs on clover... 38
Preservation of potatoes... 228
Prize farms of the Royal Agricultural Society... 131
Produce the best... 77
Rape as a honey plant... 112
Raw and cooked roots... 261
Relative values of food... 203
Remarkable fertilizers... 284
Reports on various machines by committee of Royal Agricultural Soc'y... 38
Rotation of crops—clover... 202
Roving farmers... 227
Salt as a fertilizer... 178
Salt as manure... 77
Salt in Canada... 111
Scientific agriculture in Germany... 110
Seeds for next year's planting... 259
Selecting seeds... 77
Small farms... 132
Sowing salt on wheat... 110
Spare the quails... 11
Systematic farming... 154
The British crop reports... 228
" corn crop of Illinois for 1876... 10
" Colorado potato bug... 112
" culture of chicory... 110
" farmer of the West... 204
" farmers of the West in their glory... 259
The food supply of Great Britain... 63

golden millet... 112
growing of roots in Canada... 112
Hessian fly... 177
mangel wurzel... 196
position of the American farmer... 203
potato starch industry... 202
results of hoeing wheat... 226
Royal Agricultural Society of England as reviewed by an American agriculturist... 76
The seventeen-year locusts... 204
wheat crops of Texas... 155
" trade of the west... 63
Tomato culture... 131
Turbing lawns by inoculation... 62
Underdraining with gravel... 227
Western wheat crop... 226
What is the most profitable... 77
Wheat in the North-western States... 204
STOCK AND DAIRY—
A bull of the Longhorn Dishley breed... 200
American beef in England... 102
American Dairymen's Association of Ontario... 30
American Shorthorn breeders' association... 279
An English horse shoe... 151
A new cattle plague in Illinois... 278
Animal food in Great Britain... 254
A slight let-back... 175
Ayrshire cows... 86
Balmoreal farm, Lobo, the property of Mr. A. McArthur... 8
Beans for horses... 198
Bran for horses... 174
Breeding a uniform type for cattle... 198
Breeding instead of purchasing cows... 136
Butter in France... 9
Canadian sheep in England... 9
Canadian monthly cattle fairs... 152
Care of ewes... 255
Cattle food... 102, 135
Caution to dairymen... 152
Cheese product of 1876... 7
Cheese... 225
Convention of the International Association of Shorthorn Breeders... 6
Cow peas as a foreign plant... 150
Cow-milking machine... 198
Crushed oats... 101
Dairy Association of Ontario... 31, 56
Dairy and beef combined... 55
Dairy convention... 9
Different kinds of wool... 198
Diseases of farm stock... 174
Early maturity of beef... 154
Exports from America to Europe... 279
Fancy points of the Jersey cow... 279
Fashion in breeding... 8
Fat sheep for heavy fleece... 7
Feed and breed of dairy cows... 278
Feeding and care of stock... 254
Feeding value of oats, beans, maize and bran... 54
Foot rot in sheep... 102
Garget in cows... 136
Good fences essential for sheep husbandry... 175
Grubs in the heads of sheep... 198
Handle the colts... 199
Horses and mules eating dirt... 174
" in Europe... 57
" in England... 100
" in the States... 101
Horses' food... 101
How I thoroughly break in horses... 151
How often should cows be milked... 31
How to cure ham and bacon... 7
Important shipment of cattle and horses to England... 101
In-and-in breeding... 231
Interior of McArthur's piggery... 9
Is there any profit in shorthorn breeding... 135
Judging wool... 86
Jersey cattle... 152
Keep the animals warm... 255
Keep the lambs growing, etc... 136
Kindness in milking... 55
Length of the milking season... 150
Let the horse be unblinded... 199
Lung Power in horses... 54
Liquid Excrement... 254
Management of dairy stock... 56
Mange in horses... 151

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facts about b...
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THE STORY—

Brian Taaf's Will.....265

How Percy Bingham Caught his Trout.....137, 161

I Came to Ask.....17, 70

Nettie's Fortune.....186

Prince Goldenheart.....292

Scenes from my School Life.....113

Three Times.....41

The Fatal Test.....22

“ Ship's Doctor.....211, 242

UNCLE TOM'S DEPARTMENT—

Puzzle pages, 20, 44, 67, 92, 117, 118, 140, 141, 162, 189, 212, 245, 269, 296.

Humorous Pages, 21, 45, 68, 93, 118, 141, 163, 189, 213, 269, 297.

About the Fly.....213

A brave regiment.....164

Ancient and modern travelling.....119

A Scotch story.....93

A wedding incident.....141

Beauty.....163

British Arctic Expedition.....21

Built on the sand.....20

Dinner table hints.....246

Don't talk about your aches.....246

Don't lose a minute.....142

Encouraging hints.....119

Fretting.....246

Friends.....297

How to get along.....93

“ to have a lovin' wife.....270

“ they got ready.....163

“ to be a gentleman.....164

Is your note good?.....119

Little by little.....119

Masculine Selfishness.....270

Mud.....119

No place.....212

Reading.....164

School dress.....245

Smothering in bed.....190

Strong men.....270

The European plan.....245

“ honest customer.....45

“ talkative person.....246

“ two apprentices.....270

“ past winter.....270

To break off bad habits.....93

Trying to live without work.....213

Two rules for young husbands correlative with two rules for young wives.....119

The True Gentleman.....297

POETRY.

Christmas.....298

Eating Song.....297

Gone and Thawed.....297

Hunting the eggs.....246

How a paper is made.....246

Only.....163

School days.....246

Take the papers.....246

The boy for the times.....44

“ old school book.....163

“ seasons.....68

Tones.....216

To our readers.....262

What the wind brings.....270

MINNIE MAY'S DEPARTMENT—

RECIPES.

A bachelor's pudding.....214

A Danish dish.....19

A good way to keep apples one year.....243

A home-made carpet.....19

Almond Icing.....19

Ammonia.....115

A novel way of making jelly cake.....266

Aunt Susannah's molasses pie.....19

Apple custard.....243

Apple fritters.....19

Apple Meningue pie.....266

Arrowroot pudding.....115

Arrowroot.....138

A remedy for ivy poison.....214

A recipe for sore lips and eyes.....266

Asparagus.....115

A tack in season.....115

Baked Indian-meal pudding.....266

Baking large cakes.....243

Baked beans.....68

Beef liver.....187

Beef tongue.....68

Black ants.....187

Black silk.....266

Black calicoes.....165

Blanc-mange.....68

Bologna sausage.....19

Borax for colds.....187

Bread jelly for the sick.....165

Batter, or Yorkshire pudding.....19

Broiled Salmon.....294

Carpets.....115

Carbolic acid.....165

Care of straw matting.....187

Carrot pudding.....43

Care of fruit-cans.....138

Cayenne pepper.....165

Canning green corn.....165

Christmas mince-meat.....266

Chillblains.....266

Chicken fricassee.....214

Cider pudding.....266

Cleaning paint.....187

Cold chicken.....266

Cold stew.....68

Cracked wheat pudding.....115

Corn starch pie.....19

Cure for cold in the head.....165

Custard cake.....115

Delicious brown bread.....266

Dressing for lettuce salad.....165

Duke, or Devon cake.....43

Egg sauce.....187

Feather Adam.....68

Fly paper.....187

For sprains and bruises.....187

French Tricain pudding.....43

Furniture polish.....115

Graham crackers.....43

Graham muffins.....214

Graham, or rye gems.....43

Green corn pudding.....214

Green corn fritters.....165

Grated Apple Pie.....294

Ham pie.....68

Hasty pudding.....187

Home-made cream candy.....266

How to keep prints nice.....138

How to put an egg in a small bottle.....243

Horse Radish Sauce.....294

Icing that will not break.....266

Ink on carpets.....214

Kentucky potatoes.....138

Keeping hams and dried beef.....43

Lemon Sauce.....187

Lemonade for the sick.....165

Lime in refrigerators.....187

Meingue (very fine).....214

Marble cake.....43

Making cottage cheese.....214

Measure and weight.....187

Meat croquets.....214

Mother Eve's pudding.....19

Moths.....138

Neuralgia and rheumatism.....187

Oyster pie.....43, 266

Parsnips.....266

Plum pudding.....43

Preserving corn.....187

Puff paste.....243

Pumpkin Pies.....294

Raspberry vinegar.....165

Removing stains from hands.....214

Rice cream.....243

Rock Rice.....115

Russian Cream.....294

Short puff paste for tarts.....243

Sour milk and soda.....138

Spanish cream.....19

Spirits of ammonia.....165

Spiced meat.....115

Stains.....138

Stair carpets.....138

Sugar icing.....19

Skin on the hands.....187

Table of weights and measures.....68

Tapioca cream.....46, 243

To boil a turkey.....19

To clean the wood-work around doors.....138

To clean oil-cloth.....115

To clean brushes.....266

To cure a felon.....138

To destroy cockroaches, ants and insects.....214

To preserve corn.....214

“ milk.....115

To remove spots from carpets.....187

“ warts.....165

To stuff a leg of yeal or other fleshy meat.....68

To take rust out of steel.....138

To make coffee.....243

To make blueing.....214

To remove stains.....68

To measure corn in the crib.....165

To make pickled gherkins, French beans, peas and radishes.....165

To make bureau drawers work easily.....115

To make stale bread fresh.....115

To keep hams.....115

To wash corsets.....187

To fry calf liver.....115

Transparent puddings.....138

Vegetable marrow preserve.....43

Washing cambrics.....187

Washing colored fabrics.....138

Washing vegetables.....138

Water-proof bleaching.....243

White sponge cake.....187

READING MATTER.

A cure for stammering.....188

About dress.....69

A good garden.....188

A love letter.....268

A matrimonial hint.....166

A murderous sea flower.....277

A plea for boys.....91

A pleasing machine.....188

A sermon to girls on cooking.....266

Arrangement of flowers.....166

Arranging cut flowers.....214

A Russian Dinner Table.....295

Beautify your home.....188

Be employed.....18

Behaving at a party.....19

Be neat.....215

Canaries.....166

Care of the nails.....188

Content and discontent.....116

Courtship in Bulgaria.....188

Country Sausage.....295

Dancing.....18

Doing up shirts.....188

Family matters.....92

Flowers and flower gardens.....140

Food for cold weather.....42

Geraniums.....267

Good advice.....117

Good sense.....116

Good nature.....139

Health on the farm.....69

Hints about letter writing.....166

“ to callers.....268

Helping mother.....165

Home interests.....139

How to choose a wife.....244

How to prepare feathers for use.....267

How to make children happy.....267

How to keep prints nice.....138

How kid gloves are made.....139

Habits of Ferns.....294

Home-made Ornaments.....295

It is better.....19

I'll pay you for that.....140

Keeping out the flies.....244

Love letters.....91

Matrimonial superstitions.....117

Mind and health.....18

Origin of pin money.....139

Preserving cut flowers.....188

Poor girls.....267

Remove the flowers.....188

Small talk.....116

Sour milk and soda.....138

Spring cleaning.....138

Suggestions for the fireside.....268

Sunny rooms make sunny lives.....69

Sunshine and sleep.....266

The care of the hair.....19

“ Chinese New Year.....19

“ farmers' tea.....166

“ modern novel.....18

“ story of a hotel bill.....117

“ Turkish bath.....268

“ uses of lemon.....243

“ woman who has the claim of neatness.....166

“ value of time.....117

Tell-tale lips.....267

Treat your boys well.....140

Traces for women.....140

The Duty of Being Happy.....294

The Secret of Beauty.....295

Ten Rules.....295

Use of music.....244

Vegetables in the farmer's family.....91

Weddings.....188

When not to laugh.....91

Why and when lamps explode.....92

Words for the girls.....19

POETRY.

Answered prayers.....166

Don't forget the old folks.....166

Hope.....267

May memories.....267

Super idem.....244

The hen and honey bee.....139

“ farmer's wife.....139, 244

Which loved best.....244

CANADIAN AGRICULTURAL NOTES—

Agricultural and Arts Association.....32

British Columbia.....109

Course of sap.....64

Manitoba.....88

“ Provincial Agricultural Society.....64

“ Agricultural Exhibition.....264

Miscellaneous.....264

New Brunswick.....64, 152

Nova Scotia.....64

“ Provincial Exhibition.....264

Ontario.....5, 88

Out of the way parts of New Brunswick.....109

Prince Edward Island.....5, 64, 108, 153

Quebec.....5, 88, 109

The North-west.....109

“ as a farming country.....153

“ Provincial Fair of 1877.....32