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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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FOUNDED 1869

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

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VOL. XXVIII.

LONDON, ONT., AND WINNIPEG, MAN., APRIL 15, 1893.

No. 332.



THE IMPORTED HACKNEY STALLION, OTTAWA,
THE PROPERTY OF MESSRS. ROBT. BEITH & CO., BOWMANVILLE, ONT.

EDITORIAL.

The spring is the most critical time of the year with most farm stock, coming out of a long winter on dry feed and still waiting for the first appearance of new grass. Calving time, too, is at hand. Of course much of the success of this season's calf crop depends on how the dam was cared for during the past winter; if she has been well wintered, there is little danger of her going wrong at calving time. Linseed cake will be found of great value if fed in moderate quantities to coming-in cows, regulating the bowels and keeping the system cool. Mr. John Boyd, a noted American breeder of Jerseys, has been very successful in the use of linseed meal as indicated. His treatment is as follows:—"Three weeks before the cow is due to calve commence to feed one handful of pure linseed meal in each regular feed, gradually increasing the amount until she gets about twice or three times as much the day or day before calving. As soon as the calf is dropped and before the cow 'cleans,' give a warm mash, very thin, nearly as thin as gruel, made as follows: Four quarts coarse bran, half pint linseed meal, one tablespoonful of salt, one tablespoonful of arnica, warm water to suit. If the cow does not clean readily, give her from four to six quarts of whole oats, dry."

After the calf arrives on the scene, care must be given it if good results are expected. We quote the following excellent advice from the Farming World:—"A prime requisite in successful calf-raising is regularity; let the calves be fed at the same time and in the same order every day. Next to regularity, regard the amount of milk fed; while 15 lbs. to 18 lbs. of full milk is a ration, with skim milk from 18 lbs. to 24 lbs. may be fed, depending upon the ability of the calf to assimilate its food. More calves are killed by overfeeding than underfeeding. Milk should be fed at blood temperature, say 98° to 100° F., and a thermometer should be used to see that it is right. The feeding pail is often neglected; it should receive a daily scalding, and be kept always scrupulously clean. Scouring, the bane of calf rearing, usually indicates indigestion, and is often brought on by overfeeding, irregular feeding, giving the feed too cold, or the animal getting chilled or wet. To check indigestion, a tablespoonful of lime water in each feed is very satisfactory. Successful management of the calf lies at the very foundation of the live stock business, and calls for regularity of attendance and watchfulness, discerning at once all the little wants of the animal, and a general disposition to supply every need as soon as apparent."

Every breeder, whether of cattle, horses, sheep or pigs, will sometimes be called upon to assist at the birth of the young, although generally speaking all animals get along better when left to themselves, unless something is radically wrong; when it is deemed necessary to assist in these cases, the operator should exercise the greatest care to have hands and arms perfectly clean and well smeared with carbolized oil (which can be procured at any drug store at small cost); the floor should be well covered with clean, fresh bedding. Many seemingly unaccountable deaths occur from blood-poisoning, carried into the system of the dam from the dirty hand of the careless operator, or absorbed into the system of the young animal through the navel cord coming in contact with the same dirty hand or a foul stable floor.

By the time this issue reaches our readers seeding will be well underway, and as a larger area of land was plowed last fall than usual, doubtless the work will be completed in good time. Owing to the heavy snowfall throughout Canada and the heavy rains of last autumn, the land should be well supplied with moisture. Now it remains for each farmer to do his part, and if he uses the best seed he can procure, of the varieties that have proved suitable to his locality, treats his seed wheat with bluestone, sows with a drill, and sows all spring plowing the same day it is plowed—doing all his work thoroughly, even should he not cover as much ground as usual, he will at least have the satisfaction of knowing that he did his best, and can look forward pretty confidently to a profitable return for his labor.

The Secretary of the Southdown Breeders' Association of Great Britain has kindly sent us a copy of the Constitution and By-laws which govern this society. This data we print in another column. Canadian and American breeders and importers of Southdowns will do well to carefully read and digest these rules. Many Canadian buyers of imported stock of all sorts seem satisfied if their purchases have simply crossed the Atlantic. Something more than this is needed. It would be better if all other British Live Stock Associations would take similar steps. Well conducted records are a benefit to the country at large, preventing the unexperienced buyer from being imposed upon, and preventing unscrupulous dealers and feeders from stealing the trade that justly belongs to reliable and experienced live stock men.

Messrs. Robt. Beith & Co.'s Stud of Hackneys.

Now that high stepping street and park horses are in such demand to horse the many fashionable vehicles by which men of pleasure about town seek to show their taste for display, more attention has to be paid to the breeding of the horse required for luxury. It is not surprising that in this race for the fittest, the Hackney has come in for a greater share of attention than at any previous time. As a proof of this, at the late London Show there were no less than two hundred and thirty-five entries of stallions and one hundred and forty-eight mares.

The demand for Hackneys from the continent of Europe, together with their increasing popularity since their introduction within the last few years in the United States, has stimulated breeding operations throughout Yorkshire and Norfolk, as well as other parts of England. The prices that are now paid quite eclipse anything ever heard of, except among the choicest strains of racing blood, and Hackney breeding has, therefore, become a leading industry in horse production.

Among those who were first identified with the introduction of this valuable breed were Messrs. Beith & Co., Bowmanville, Ont., and the stallions which they first brought over, together with their proved excellence for crossing with the mares of this country, have not only added to their popularity among horse breeders, but induced the firm to invest in a choice stud of the most fashionable breeding. In our front page illustration for this issue is portrayed the Hackney stallion Ottawa. He was bred by Mr. W. Martin, Scoreby Grange, Gate Hemsley, Yorkshire, England; sired by Lord Derwent 2nd, a horse much used in this excellent stud, and one of the most successful breeding horses of the day, which should be expected when we take the trouble to analyze his blood lines. Sired by Denmark 177, than whom no more successful sire can be pointed to in stud book, which is borne out by his numerous sons, such as Danegelt, Connaught, and his grandson Ganymede, and a score of other good ones, forming an array of winners not eclipsed by any other line of breeding, while Lady May, the dam of Lord Derwent 2nd, herself won no less than one hundred and eighty-one first prizes, and he himself has repeatedly carried winnings.

Lord Derwent 2nd was chosen by the Irish district board for the season of 1892, previous to which he stood at the head of one of the choicest studs in Yorkshire.

Ottawa's dam is Mayflower, a mare of wonderful beauty and true Hackney type, with which she combines more size than is usually found in this sort. She was sired by Highflyer 1618; dam Maid, by Performer.

Ottawa won first in his class at the recent Toronto Spring Stallion Show, also beating his stable companion Jubilee Chief in the sweepstakes, which he won. He is a colt of wonderful promise, and is doubtless as likely for future honors as any horse we know of. Imported in his dam, Mayflower, he was considered backward in development until the last few months, but has made a remarkable improvement, and is evidently growing the right way. In action he moves with free elastic step, with a brilliancy at the knee, and with the addition of a little education he will go equally well all round.

Among the many good ones in the Messrs. Beith's stud is Jubilee Chief 2122, which has been at the head of their stud of very excellent mares since these were first got together. Jubilee Chief was sired by Pilot 1323, by Lord Derwent, another son of the famous Denmark 177. The dam of Jubilee Chief is Queen of the Forest, a famous Hackney mare by Triffith's Fireaway 219, a line of breeding extremely hard to excel. Jubilee Chief is a horse of great substance, and has well high perfect action at knee and hock. He has distinguished himself by winning first in his class on several occasions, notably at the Industrial Show in 1891.

The mares in this stud are of truest Hackney type, and comprise the highest breeding combined with great quality and beautiful action.

The mare Mayflower, whose breeding and description are both given in the mention we have made of her son Ottawa, is one of the plums of the stud, but a number of others closely contesting her in point of merit are to be found here.

The beautiful mare Lizette also deserves more than a passing notice at our hands. She is doubtless one of the handsomest mares ever brought over the water; her true Hackney form and brilliant action form a combination that is sought after by the leading breeders of the day.

Monas Queen is a young mare also out of Mayflower, the dam of Ottawa. She is promising, and last year produced the colt South Park Jean, by Jubilee Chief, a weanling that already shows more than ordinary merit. Monas Queen won second in a class of five aged mares in her three-year-old form at the last Industrial Show. She was sired by Dictator 1471, he by Lord Derwent 2nd, described above, and bred by Mr. Wm. Martin, Scoreby Grange.

Another good breeding mare is Florence, a bay mare by Randolph 1123, also bred by Mr. Martin.

A handsome pair of fillies, rising three, are Lady Aberdeen and Winnifred. The former is a brown of great beauty, with all the freedom and brilliancy in action that is the marked feature of the breed, and although she is in our opinion a better mare than her mate Winnifred, still the latter beat her at the Industrial Show last autumn, which shows that she is also a good one.

Lady Aberdeen was sired by Lord Derwent 2nd, and is therefore half brother to Ottawa, while Winnifred was sired by Wildfire, one of the best sires of the day, he by Phenomenon; dam by Triffith's Fireaway.

It will therefore be observed that the best strains of blood have been drawn upon in breeding up the individuals which comprised this stud of Hackneys, and we must hope to hear of the production of a lot of winners at our future shows from the admirable mares of which this stud is composed.

At present the mares are all in foal to Jubilee Chief, and are in the most profitable shape imaginable. We congratulate the Messrs. Beith on having so good a selection on hand.

Report of the Experts on Live Stock for the Chicago Exposition.

The Manitoba Government, acting upon a request made by the Provincial Live Stock Breeders, appointed Messrs. McGregor, of Winnipeg, and Leslie Smith, of Wanwanesa, both thoroughly competent men, to make an inspection of the live stock of the Province, with a view to making a selection for the Columbian Exposition. Following is their report to the Provincial Minister of Agriculture:—

Acting under instructions from your department, and guided by a memorandum giving names of owners of stock of all kinds who had applied to exhibit same at World's Fair, we have been engaged for the past two weeks examining such stock, and have much pleasure in submitting the following report:

In Winnipeg and vicinity we have examined the stock owned by the Arctic Ice Company, Sir Donald A. Smith, W. L. Puxley and W. S. Lister, and found some individual animals that were a credit to the Province, but very many were not in a condition for exhibition purposes, although well bred.

In the Wanwanesa district we visited J. B. Chambers and Smith & Stevenson, and found three very promising stallions, worthy of exhibition at any fair.

In the Brandon district we visited Jno. E. Smith, J. D. McGregor & Co., and J. S. McMillan. Almost a full line of the various kinds of horses, cattle, sheep and swine were found here, all imported stock. Many of these animals have been well selected, and they are in good condition.

We also visited Mr. Musk, near Souris; J. H. Proctor, near Virden; D. McCaig, near Douglas; A. Colquhoun, near Douglas; Mr. Shanks and Mr. Rae, near Rapid City; Mr. Darroch, near Minnedosa; Mr. Farney, near Gladstone. Among these we found a variety of horses, cattle, sheep and swine. A few were good, many could not be recommended; while sheep and swine are not up to exhibition requirements.

In Portage la Prairie district we visited Messrs. Glennie, Bray, McKenzie and Simpson. Here we found some fine herds of Jerseys and Holsteins, and the best province-bred Clyde colt we have met.

We found it impossible to reach a number of points on the list on account of snow. An extra fine Yorkshire coach stallion is owned by a Mr. Knittle, of Boissevain. We are satisfied a selection could be made that would include all kinds of horses, sheep, cattle, etc., which, if kept together at Chicago, would be a credit to the province, but we are aware they would be separated to their respective stables, and by that means Manitoba's exhibit would be lost sight of. From our experience in stock it appears doubtful if a good selection of competing animals for the different classes could be made from those we have inspected. It is hardly necessary to say further that, looking at the matter in every light, we do not at present see our way clear to advise the Government to go on with the exhibit.

We understand the Government intends acting upon the report of the experts, and consequently there will be no exhibit of live stock sent from Manitoba to the World's Fair.

Don't be in a hurry to get your stock out to grass in the spring, under the impression that all the feed that is eaten now is just so much waste. What more forlorn sight can be imagined than that of a herd of lean, hungry cattle, and a few thin sheep with their wool hanging in shreds from their backs, out in the middle of some bleak, wind-swept pasture field, trying to fill themselves with last year's frozen, half rotten grass? Yet how often in driving through the country at this time of year is this sad sight presented to our eyes. No matter how short of feed a man is, he should let nothing tempt him to turn the stock out to grass before there is sufficient nutriment in it to support them. If he cannot afford to buy feed, let him sell some of the animals, and with the money thus obtained buy feed for those which are left. For the little that is gained by turning out early, much more will be lost in flesh, milk and wool, not only at present, but also in the value of the pasture later on in the summer. There is little growth and less nourishment in the pasture at this time of the year; while the animals, in their vain endeavor to get something to stay their cravings of hunger, tear up the grass, roots and all, thus permanently destroying the pasture, and at no gain to themselves, but rather a loss, for this wet, frozen grass is liable to cause disease, and in not a few cases death. The young shoots depend upon the plant food which was stored up in the roots of the grasses the previous fall for their start in the spring; but as soon as the plant has attained any size it obtains a large amount of its nourishment from the air, while the roots gain strength and push out in all directions and down into the subsoil in search of food and moisture, and are thus enabled to withstand the continual cropping of the grazing season. But if the stock nip off the shoots as fast as they appear in the spring, the plant soon becomes stunted, the roots are short and sickly, so that when the dry months come the pasture has no substance and is soon all burned up.

In the spring, before the ground dries, stock will do much damage to pasture land by tramping it into holes, and if the land is at all of a clayey nature it will be puddled so that when the dry weather comes it will bake so hard that nothing will grow, and it may, perhaps, take years to undo the harm thus occasioned.

"Whatever is worth doing at all is worth doing well" is an old adage, but just as true of to-day as of times gone by, and, perhaps, in no business is the truth of this precept more apparent than in that of the farmer. The season for the preparation of the soil is so short that there is a great temptation to hurry over the work, and to say that "it will do," and let the field go; but careless work in putting in the seed is sure to bring its own reward of poor crops at harvest. The nearer the soil of our fields approaches that of a garden the larger will be the return which we will receive from the land. The soil should not only be turned over, but well pulverized, so that every seed will count; if this was done, one-half the amount of seed that is now needed would give abundant crops. But these results cannot be expected unless, in the first place, the seed is very carefully selected and tested, so that we know that every grain will grow if the conditions are favorable; then, in the second place, do all that can be done to render the conditions favorable. Different soils require different methods of treatment, but they might all be summed up in the one general rule, that if you would have good crops you must work the land thoroughly. Who has not seen grain sown on land so lumpy that it was quite impossible to cover the seed properly, or to expect that which was covered to force its way through the heavy clods? These fields would have well repaid the extra work of rolling, harrowing and cultivating until the soil was pulverized sufficiently to form a fine seed bed.

In plowing, the depth will depend upon the nature of the soil, time of the year, and the variety of crops; but, as a general rule, the deeper a field is plowed the better the crop. But where the surface soil rests upon a poorer subsoil, the plowing should be shallower, so that the best soil will not be buried under the poorer. In any case, only a thin layer of the subsoil should be brought to the surface at a time, so that the raw material may be reduced to an available condition by frosts and rains before a crop is grown. Therefore, deep plowing is not advisable in the spring, because the warm, prepared soil would be turned under, and its place taken by the raw, cold subsoil. Also, deep plowing in the spring leaves the land in a very loose condition, and not firm enough to form a good seed bed, and liable, for this reason, to suffer from drought in the dry months.

It will be readily seen that the better practice on land which has been plowed in the fall is not to turn the soil with a plow, but to cultivate by stirring the soil thoroughly, so that the warm earth, which is left in the best possible form by the moldering action of the winter's frosts, will remain near the surface ready for the use of the young plant, thus giving an earlier and stronger start to the crop. As less time is consumed by this method of doing the work, the seeding will be finished much earlier in the spring, which is another very important advantage to be gained, for, one year with another, crops which are sown early are sure to give the best returns. The harrow pulverizes the soil, breaks the lumps, and levels the field. Where it is necessary to plow land in the spring, this implement should follow immediately after the plow, for when the soil is turned it begins to dry rapidly, and if at all adhesive dries up into clods, which are almost impossible to break up; but where the land is harrowed at once, the moist soil is easily and quickly reduced to a fine tilth, and if well worked will not dry out, even if the sowing is delayed, for the fine-surface acts as mulch. Besides being used in the preparation of the seed bed, the harrows are very useful in loosening up the soil where the surface has become encrusted, and thus prevents undue evaporation, mellows the surface, and destroys weeds. For instance, the harrow is used with advantage in the spring on fall wheat, on corn, when from two to four inches high; on potatoes as they are coming through the soil; also on newly sown grains where the surface has been crusted by heavy rains, while old pastures will often be greatly benefitted by a harrowing in the spring.

The roller pulverizes the soil by breaking up the clods and lumps which may be left on the field; compresses the moist surface soil close enough to resist and to retain a requisite amount of moisture within reach of the plant, thus placing it in the best possible condition for growth; renders more compact soils which are too loose and porous; levels and smoothes the surface, thus enabling harvesting machinery to be driven over the field with much less labor. Land should never be rolled when wet, for more harm will be done than years of good management will repair. An exception to this rule is where a light and porous soil is rolled to make it more compact, which can be more easily accomplished when the land is damp. Grain should be rolled as soon as sown, which will help to cover and press the soil tightly around it, thus retaining the moisture. Clover and fall wheat should be rolled as soon as the land is dry enough to bear the team. The roller will press the roots which have been partially heaved by the frost back into the earth, thus giving them a better chance of starting.

Some people find it hard to understand why land is rolled to keep the moisture in, and at the same time cultivation is recommended to keep the land loose and prevent evaporation. These two apparently contradictory statements will appear quite clear when the reasons for the operations are perfectly understood. The soil is full of minute spaces, which form what are called the capillary tubes, and they serve to pump and conduct moisture from the subsoil to the surface, just as a sponge will absorb and fill with moisture when set in a shallow dish of water. If the land is too hard and firm, the tubes are filled up and cannot act; on the other hand, after the soil has been plowed these tubes are broken off, so that they cannot pump water within reach of the roots of the young plants, while the very loose condition of soil gives too free access of air. In rowing and rolling the land is rendered firm, thus restoring the condition necessary for the action of the capillary tubes, and moisture is brought to the surface within reach of the young plant.

In cultivating to prevent drought, the water is brought to within a few inches of the soil by the capillary tubes, and the freshly cultivated soil acts as a mulch and holds the moisture, preventing evaporation. In the sowing of small seeds it is not practical to give this surface cultivation, because the seeds are so near the surface; but in case of those sown deeper, an almost perfect treatment would be to roll the land after sowing, and then harrow the surface lightly. Here you would have the action of the capillary tubes broken at the surface by the cultivator, which prevents evaporation, and therefore the water would be deposited just where it is needed for the young plant.

The value of the harrow and roller in preparing the soil is often slighted by the farmer, who forgets that a good harrowing constitutes one-half the farming, and also another old saying, but no less true as regards the results, "that tillage is manure." One acre well prepared will often produce more than two acres which have only been run over. The great secret of the success of our best farmers is that they work their farms thoroughly with good implements. The crops on these farms neither burn up in dry weather or drown out in wet. More thorough work in seeding time will be found one of the best remedies for the present wide-spread depression.

Poland-China.

The Poland-China is a distinctively American hog, having originated in the rich valley of the Miami, in the counties of Butler and Warren, in the south-western part of Ohio. The question is often heard, What is the origin of this large breed of hogs which have of late years become so popular in the Western States? but nothing very definite or satisfactory can be given in answer. Little is known regarding their formation, and that little is involved in obscurity.

It is altogether certain that a number of breeds have been used in this work, as Butler and Warren counties were early noted for their different breeds of hogs. The great uncertainty as to their origin is shown by the following different names under which they have been known:—Butler County, Warren County, Dick's Creek, Gregory Creek, Magie, Miami Valley, Great Western, Shaker, Union Village, Moore, Poland, Poland and China. The name finally adopted in 1872 by the Swine Breeders' Convention for this many-named breed was the Poland-China, and thus put an end to the discussion.

Hon. J. M. Millikin, of Butler county, Ohio, in a prize essay upon this breed, says:—

"No counties of the United States have produced so many hogs of a superior quality as the counties of Butler and Warren. The first information of a reliable character gives us to understand that as early as 1820 improved breeds were obtained for use upon the common hog of the county; among others the Poland and Byefield, which were exceedingly large hogs of great length, coarse bone and deficient in fattening qualities. Afterwards more desirable qualities were sought, and this strain of hogs underwent valuable modification by being bred with a more esteemed breed, the Big China; they possessed many important qualities which were lacking in the other breeds. Afterwards the Irish Grazier was used, which gave them firmness of bone and good fattening qualities. The Berkshires were also used about the same time. The result of these crosses was highly advantageous in the formation of a hog which combined in itself all the most desirable qualities. They have been bred so long with good judgment, that they may be confidently relied upon as possessing such an identity and fixity of character as a distinct breed, that, although of recent origin, they may be regarded as thoroughly and permanently established."

The foundation appears to have been the Poland or, as some say, the Russian and the Byefield, both large, whitish pigs, which were used on the common stock about 1820. Little is known about the above two breeds. Some authorities say that the Poland or Podolian was imported from Poland by emigrants; others that they were so called from a man of that name, and therefore were no new breed.

The Byefields were a large, white pig with sandy spots, supposed to have come from Africa, but were first heard of at Newbury, Mass.

The Big China was a strain of the Chinese, and this cross was useful in reducing the size of the bone and for imparting a readiness to fatten and quietness of disposition. Later the Irish Grazier and also the Bedford cross was introduced. The Berkshires were used about 1835. They were useful in giving strength to the limbs, improved symmetry, and the dark color. It is known that for some years previous, breeders in Butler and Warren counties put upon their advertising cards that the Poland-China were a composition of Poland, Big China, Byefield and Irish Grazier, and this was generally accepted as an undisputed fact by the breeders of the Miami Valley.

The following is taken from the report of the committee of 1872, which has been already quoted:

"We have a breed, thoroughly established, of fixed characteristics, of fine style, and of unquestioned good qualities and character. The best specimens have good length, short legs, deep sides, flanking down well on the leg, very broad, full, square hams and shoulders; are hardy, vigorous and prolific, and, when fat, are perfect models all over, pre-eminently combining the excellence of both large and small breeds."

There are five associations guarding the interests of this breed:—The Central Poland-China Association, organized in 1880, at Indianapolis; the Ohio Poland-China Record Co., established at Dayton, Ohio, in 1878; also the National North, Western and the Standard.

They are perhaps the most popular breed in the United States, and this is especially true of the central and western corn states. They are a large breed, docile, easily fattened, as a corn-eater and fat-producer are unexcelled, their flesh is of good quality, and they give a good return for the food fed to them.

DETAILED DESCRIPTION.

Head short, broad between the eyes; face slightly disked; ear small, thin, soft, pointing forward, the forward half drooping; wide, deep, short neck; jowl large and firm, carrying fullness well back; long, strong, well sprung ribs; back broad, even, slightly arched, medium length; sides full, firm and deep; ham broad, full, long and running well down to the back; coat fine, straight, smooth, laying close to body; color black, with a very few small, clean, white spots. Vigorous and graceful action, quiet and gentle in disposition.

An Act to Further Amend the Pharmacy Act.

The above is the title of a Bill the druggists of Ontario are pushing in the halls of the Ontario Legislature. Its provisions, if passed, make possible one of the worst combines from which Canadians have ever suffered. None but a qualified druggist will then be allowed to sell medicines of any kind, not even the most simple, such as castor oil, salts, senna, turpentine, patent medicines, horse medicine, and many other household articles that have been sold in country stores ever since the country was first settled. The general store-keeper is just as capable of selling such medicines as any druggist. The people are not asking for legislation, or any change; they are perfectly satisfied with the protection they now enjoy. The change is not for the benefit of the masses, but for the enrichment of a few who wish for a monopoly.

There are only about 125 druggists in business in Ontario, outside of cities, towns and incorporated villages, while in the same territory there are about 3300 general stores and groceries, in nearly all of which medicines are sold.

Now, this Bill would place in the hands of the druggists, once for all, the power to annihilate a business and ruin any trade inimical to their interests. Could anything more unfair be conceived, or more prejudicial to the interests of others?

Farmers will suffer much inconvenience and be made to pay higher prices for many articles, such as Paris green, etc., if this Act becomes law.

In a recent issue of the Toronto Saturday Night, the editor among other things said: "No matter what we may say about the gentlemen who manufacture binder twine and control the output of anthracite coal, it has remained for the Ontario College of Pharmacy to propose the most bald-headed bill yet presented to the public. People like gall and admire colossal nerve, but I am quite sure that this Act which the Legislature is to be asked to pass will be really too strong a dose for anybody who does not keep a drug store. The druggist has a good deal of protection now, and many of them make considerable more money selling whisky than the majority of people give them credit for. I am not complaining that they charge five or six hundred per cent. profit, for I know that they have rent and many expenses to bear, and the amount sold is not very large and the responsibility of compounding medicines not inconsiderable. He can put up a job with the family doctor, and can afford to pay a commission on all prescriptions sent to him, unless the family doctor happens to be too conscientious. In fact, the druggist who is smart enough to build up a business is smart enough to make a great deal of money, and has unexampled opportunities of doing it. In some countries when you send a prescription to a drug store the druggist must copy the prescription and send the original one back to you, so that you can go to some other shop and get the next mixture if you so desire. In some countries he would be put in jail if he charged as much as he does in this country. In some countries *aqua ad* is never permitted in the prescription; the bottle must go to the purchaser containing nothing but medicine, and the customer can *aqua ad* just as he pleases or according to directions. In this way the public are never deceived by getting five cents' worth of drugs and ninety-five cents' worth of water in a pint bottle. Nobody has clamored for these regulations, many of which would be of benefit to the Canadian consumer.

Listen to the substance of some of the paragraphs of this brazen attempt to corner the medicine business:—(1) Nobody but a registered druggist can sell medicine of any kind. In fact, nobody but a druggist can sell Paris green or London purple within five miles of a drug store conducted by a registered druggist, and nobody can buy it unless he is identified under the Poisons Act and goes through all the performance of buying a deadly drug. (2) Nobody can sell patent medicines anywhere, except a druggist. This strikes at every country store and cross-road postoffice in the province, and is intended to feed the druggist and the doctor. If man, woman or child has a cough he or she cannot buy the well-known remedies without going to a drug store. If a child has cramps in the night, no countryman can buy one of the old reliable liniments or pain killers at the nearest store. He must go for a doctor, or ride until he finds a drug store. (3) When he gets to the drug store he must be identified, if the medicine he wants has any poison in it, no matter how small a quantity it may be; if his purchase is nothing but a pain killer or a soothing syrup it must be labeled "Poison," and he must go through as much performance as if he were buying strychnine. Of course this is intended to kill the patent medicine dealer and give the druggist a chance to make up a prescription of his own, which is more apt to be poisonous and less apt to be carefully proportioned than the stuff that is made in big factories. If a farmer wants to buy Paris green to kill potato bugs he will have to be pranced through the Poison Act, and if he is within five miles of a drug store he must go to it for his material, though a corner grocery is situated on his own farm. (4) A doctor cannot keep a drug store unless he is registered under the Pharmacy Act. In fact, it seems to me that he cannot dispense his own medicines, but must send his prescription to a druggist in all incorporated cities and towns.

Now this whole business is intended to work hardship on the purchasing public and to benefit the druggist. If the Legislature of Ontario has not more sense than to pass it, it will prove itself the

colossal aggregation of asses on this continent." The number of druggists in any neighborhood is very limited, so they would have the power to combine, and fix the prices of necessary goods at excessive rates. They are now seeking this power; if they obtain it, they will no doubt exercise their privilege to the fullest extent. Agriculturists should everywhere protest to their local members; Granges and Patrons' lodges should take the question up in a vigorous manner. The farmers will be the chief sufferers if this Act passes.

Ontario Veterinary College.

The closing exercises of session 1892-'93 of the Ontario Veterinary College, were held in the lecture hall of the College, Temperance Street, Toronto, on Friday, March the 24th.

The Principal, Prof. A. Smith, occupied the chair, and among those on the platform with him were:—Lieut.-Gov. Kirkpatrick, Sir Cassimir Gzowski, Hon. John Dryden, Minister of Agriculture, J. J. Withrow, Esq., D. R. Wilkie, Esq., G. B. Smith, Esq., M. P. P., Dr. Ryerson, M. P. P., J. L. Hughes, Esq., School Inspector, and several other prominent gentlemen. After the reading of the prize and honor list, and the list of graduates for the year, several of the gentlemen present addressed the audience, giving words of congratulation and advice to the students and recent graduates, which were received with frequent bursts of applause. At the conclusion of the ceremonies Prof. A. Smith was presented with a magnificent picture of the graduating class by Mr. H. D. Martin, of Buffalo, on behalf of the class. Prof. Smith, in thanking the students for their gift, spoke eloquently of the kindly feeling which always existed between the students and the different professors.

Building with Concrete—Errata.

To the Editor of the FARMER'S ADVOCATE.

In "Building Concrete" your compositor has made a mistake, which I hasten to correct, as it is a very material one. My formula is, one-tenth lime, fresh slacked, to nine-tenths gravel, not one-quarter to three-quarters, or, as I put it, one shovel of lime to ten of gravel.

Yours truly,
G. A. LACEY.

Questions Asked and Answered.

I wish to inform "Thorah Farmer" that the two-horse tread-power is sufficient to drive the ensilage cutter with twenty-four feet carrier, and also drive a provender grinder. The price of all here is about \$255, each article guaranteed and of the latest and best make. As for wind-mills, I have no faith in them for above purposes.

J. B. ABBOTT, Ottawa, Ont.

In reply to Thorah Farmer's enquiry regarding tread-powers and wind-mills, Mr. A. R. Yuill, of Carleton Place, Ont., writes us as follows:—"We have a sixteen-foot wheel, and it chops all the grain and cuts the feed and bedding for 75 head of cattle and eight horses, but we could do the work easier if our wheel was at least two feet larger. The size of the wheel will depend upon the number of cattle kept." Mr. Yuill prefers the Halliday Standard Windmill, for the reason that it is the only one which gives satisfaction in his neighborhood.

RECOMMENDS TREAD-POWER THRESHING MACHINES

In answer to a Manitoba farmer, I would say I purchased a two-horse tread-power threshing outfit last June, and find it a profitable investment. I have threshed over 3,000 bushels of wheat up to date. Its capacity when properly run is about 250 bushels wheat or 500 bushels of oats; it will thresh all kinds of grain. To run it to its full capacity requires three men and two boys and two teams of horses, to thresh from the stook—one man to pitch on, and one to fork to the machine, and one to feed; one boy to take the straw away with the aid of a hay rake, the other to put grain in bags. My experience is that threshing can be done in about the same time it would require to stack with the same help, at a total cost in cash of not more than \$15 per thousand bushels. The two teams should be low, blocky type, and trained to work on power; change off every two and a-half hours. Use the basket racks that require no loading, and two wagons. If "A Farmer" will communicate with me, I will give him all the information he will require.

Yours truly,
N. W. DAWSON, Whitewater, Man.

AN ENQUIRY ABOUT BLUESTONE.

A subscriber, "Sandy," writing from Suthwyn, enquires if bluestoned wheat would be safe feed for cattle or hogs; if it is dangerous, and if salt pickle would not answer the purpose as well.

[Bluestone (sulphate of copper) is sometimes used as a medicine in small quantities, acting as a tonic and astringent, but is a deadly poison in large doses, and great care should be taken that wheat which has been treated with bluestone is not allowed to be eaten by any animal. Salt brine is a preventive for smut in wheat, but as the seed requires to be soaked for some time in the solution and then dried before it can be sown with a drill, it entails much more labor than treating wheat with bluestone, which only requires thorough sprinkling and is ready for sowing almost immediately, and is generally considered a more certain preventive.—EDITOR.]

STOCK.**Leaner Swine Wanted.**

BY WM. DAVIES.

We are indebted to you in the past for the publicity you have given to our views on the hog question in its various phases, and we again ask for space for the same purpose.

We think it will be conceded that the question of farmers raising hogs is of equal importance with the raising and feeding of cattle. Agriculturists know full well that unless they produce and feed cattle fit for export, they cannot obtain the highest prices. This rule has not been applied to hogs nearly as strictly as to cattle, but every year brings us nearer to a close discrimination. We have pointed out forcibly and frequently in the press that the day is past for consumers eating fat pork; every day makes this more apparent. We do probably the largest business in the Dominion with consumers direct in our retail stores, where we find it simply impossible to sell fat bacon and hams. It is not so absolutely impossible to sell this description in England, but we have to take a reduced price, varying from 3c. to 1c. per pound on the live hogs. At the present time a large proportion of the hogs arriving, though of desirable weights, have been fed so liberally that they are entirely unsuitable for the English or the retail trade, hence they are made into a second-class article which sells at a low figure. We are informed that this has arisen from two or three causes—the abundant supply of food, a scarcity of store hogs, and last, but not least, the fact that many drovers have contracted the hogs at high prices, and the market having declined they have induced the farmers to keep them on for a while.

We again press upon all concerned that to attain the highest price they must produce the animal wanted—a long, lean pig, fairly fatted, weighing from 160 to 220 pounds alive. We are not asking the farmers to do anything against their own interest; so far from that, it has been shown at our experimental stations in Canada, and at similar institutions in the U. S., that it takes less food to make a pound of pork before the animal reaches 200 pounds than after. We are quite aware that this is not the generally received opinion; but facts are stubborn things, and those farmers who have adopted the plan of selling off their hogs at about 180 pounds, and having others to replace them, have told us that they are well satisfied with the results.

Value of Malt Sprouts.

Would you please give me directions for feeding malt sprouts or malt screenings. I have never used them, but always have heard of their being very nitrogenous, and to be fed with caution and in small quantities.

A. B. CROSS,
Brookfield, N. S.

In the preparation of malt, barley is sprouted and afterwards dried, the sprouts are removed, and constitute what is known as malt sprouts or malt dust. This substance is in reality very young barley plants, and, as a rule, the younger a plant is the more protein it contains, and malt sprouts are no exception to the rule, as they contain about 24 per cent. of protein, and have a nutritive ratio of 1 to 2.2. In localities where they can be obtained conveniently they will be found a very valuable food for all kinds of stock, but owing to their high percentage of albuminoids they will be found especially valuable for young animals and milking cows, but should not be fed dry; because of their dry, brittle nature they must be softened either by mixing with watery feed or soaking. Some steep them in water, and then pour over other feed. They are very sweet, and give other feeds an agreeable taste, thus rendering them more palatable. Mr. Cross is quite right in stating that they are a very nitrogenous food, and only to be fed with caution and in small quantities. The digestible nutrients of malt sprouts are as follows:—Albuminoids, 20.8; carbohydrates, 43.7; fat, 0.9; nutritive ratio, 2.2; value per hundred pounds, \$1.33. As compared with oats: Albuminoids, 9.0; carbohydrates, 43.3; fat, 4.7; nutritive ratio, 6.1; value per hundred pounds, 98 cents.

By the above analysis it will be readily seen that malt sprouts serve excellently to bring up the albuminoids of a ration composed of poorer materials to a desired standard.

Swift & Company, one of the largest packing houses in America, have recently decided on increasing their capital from \$7,500,000 to \$15,000,000. They, along with Armour & Co. and Nelson Morris & Co., compose the "Big Three," and virtually control the meat-packing trade of the United States. "The \$15,000,000 corporation of to-day," say the Drovers' Journal, "is the outgrowth of a cattle-shipping business begun by Gustavus F. Swift, which has come into prominence within a dozen years. In 1885 the firm's business was incorporated, with a capital of \$300,000, as an experiment, it was said. A year and a-half later the capital stock was increased to \$3,000,000. In June, 1888, the capital was made \$5,000,000. In August, 1890, the stockholders voted to raise the stock to \$7,500,000, and to place bonds to the extent of \$2,500,000 on the property. At that time a surplus dividend of 32 per cent. on the outstanding \$5,000,000 of stock was declared. This amounted to \$1,600,000. The surplus dividend declared yesterday is on \$7,500,000, and amounts to \$1,725,000.

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONT., and WINNIPEG, MAN.

JOHN WELD, Manager. F. W. HODSON, Editor.

The Farmer's Advocate is published on the first and fifteenth of each month.

It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

Terms of Subscription—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, 6s. or \$1.50. New subscriptions can commence with any month.

Advertising Rates—Single insertion, 30 cents per line. Contract rates furnished on application.

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Manuring Orchards.

BY JOHN CRAIG, HORTICULTURIST, CENTRAL EXPERIMENTAL FARM

The question is often asked, Would you manure just around the tree, or the whole surface of the ground? The most approved practice is to manure the whole surface of the ground. It has been found that potash is one of the constituents that our fruit trees draw most heavily from the soil, and we must, therefore, in order to keep the balance even, return this to the soil in larger quantities than other fertilizers. The most convenient and cheapest way of applying this element is in the form of wood ashes, in a bushel of which there are about three pounds of potash, worth 4 cents per pound, or 12 cents for the bushel. Then we have about one pound of phosphoric acid, worth 4 cents, which will give us a total of 16 cents for these two constituents alone. Both of these are very valuable agents for orchard use. Besides these, in wood ashes are lime, magnesia and iron, also important fertilizers. This makes a very valuable and almost complete fertilizer for orchards; but in addition, we need nitrogen, and this can be supplied by a dressing of barnyard manure every second year. That gives a complete fertilizer for the orchard.

A good artificial fertilizer, according to Prof. James, for an acre of ground, would be as follows:—Wood ashes, forty bushels; crushed bones, to give phosphoric acid, 100 pounds; and sulphate of ammonia, to give us the nitrogen, 100 pounds. This would cost about \$8.50 an acre, and be a very complete fertilizer indeed. I would not advise that this should be used at once, but spread over the first part of the growing season in two or three applications.

Chatty Letter from the States.

(From our Chicago Correspondent.)

Some good people over here are inclined to take exception to what Messrs. Wm. Davies & Co. said about Canadian pork being far superior to States grown pork. The facts seem to be largely with Messrs. Davies. However, April started in with a \$2 lurch in hog prices from the top of the season; but reaction took place, and a well-known hog dealer said: "Hogs are hogs again, and packers will consider them cheap at \$7 before the month is out; farmers have gotten over the panicky time and are now 'standing pat' for higher prices, which have to come, especially if supply and demand have anything to do with the course of values. Receipts for the next six or eight months will be very light, and before the end of next August prices will go very high." The above words had not been uttered forty-eight hours when hogs were again selling at \$7.00 @ \$7.50. Prices bounded upward 75c. in three days' time.

Receipts of cattle thus far this year exhibit 75,000 decrease compared with a year ago, and 27,900 increase compared with two years ago. Receipts of hogs thus far this year have decreased nearly 1,000,000 compared with a year ago, and nearly 1,500,000 compared with two years ago. Sheep increased 149,400 compared with a year ago, and 63,000 compared with two years ago.

Forty-five head of 1,166 @ 1,321-lb. feeding cattle sold to an Ohio man at \$1.75 @ \$1.90, the highest feeders have sold for here in over two years. The country seems to have considerable confidence in the future market for fat cattle. Good beef makers realize that to make really prime beefs on high-priced land it is better to buy cattle that have breeding and considerable flesh to start with. There is a very good prospect for the market for desirable fat cattle. Winter-fed Texas cattle will soon be all in. Grass Texas cattle promise to be very good, if the ranges get a little rain soon. The weather is too dry over large areas. Cattle dealers report a very weak demand for meats in eastern markets. Cattle prices are \$1.50 higher than a year ago. The marketing of calves goes merrily on. The demand for veal has been very great. There are fewer thick, fat, heavy cattle marketed than there used to be. The improvement in the best cattle market is already having an appreciable effect upon the demand for well-bred cattle. Away with the scrubs. A prominent Illinois Hereford cattle breeder says there is more inquiry for choice young breeding cattle than there has been before in five years. Buyers do not want to pay liberal prices, but they are willing to try to trade.

While farmers are so rushed with spring work, an advance in hog prices is more likely to check than to augment the marketing of hogs.

Sheep are good property, and are making money for feeders. The high price of pork stimulates the demand for mutton.

Ayrshires and Their Uses.

[A paper read before the Ayrshire Breeders' Association by Mr. O. Nichol.]

Ayrshires have been an established breed for over one hundred years, and although they have never been boomed by speculators, as is the case with other breeds, their reputation for usefulness has now become fairly well known. The demand for Ayrshires at present is far in excess of what it has ever been. No doubt this is chiefly because the milk of the Ayrshires, being rich in cream, is peculiarly adapted for the production of cheese, which is a leading branch of our agricultural industries.

Fortunate it was for this country and people that dairymen's associations were formed at a time when agricultural pursuits had become depressed, and much of the land has been impoverished by continuous overcropping; and the scarcity and high price of skilled labor, along with the low price of many farm products, has made grain farming less profitable. A revolution in farming operations had become actually necessary, and now the great majority of Ontario farmers are devoting special attention to the manufacture of first-class cheese, the demand for which seems to be almost unlimited, while at the same time the land is resting and gaining in fertility.

The selling of milk in towns and cities has developed into an enormous business, and for this purpose the Ayrshires seem to be particularly well suited, because they give milk which gives general satisfaction to consumers. Analysts and physicians pronounce it nearly a complete food for children, invalids and aged persons; hence the ever-increasing demand for it. As regards the butter made from the milk of Ayrshires, I find a demand for much more than I can supply at 25c. per pound. When the travelling dairy was operating in our locality last fall, the milk of our cow Virginia showed by their Babcock test five and a-half per cent. butter fat. She was then giving 48 lbs. per day.

I heard a dairyman say he would like to procure a breed of cows which would produce a large quantity of rich milk on a small quantity of poor food. We have now about a dozen different breeds of dairy cattle, each breed celebrated for some peculiarity, and all having their admirers. It is, however, hardly probable we shall ever possess a breed which will in itself have all the good qualities and peculiar advantages which this individual desired.

When in Shropshire, England, a few years ago, I was told by a large estate overseer, noted for wisdom and for extensive experience with the different breeds of dairy cattle, that in point of economy he had found none equal to the West Highlanders. Another

dairyman said he could get more quarts of good milk out of a ton of hay fed to the little Kerry cows than with any other breed.

I was not prepared to gainsay their statements, but I do know that in the Ayrshires we have a compactly built, industrious, hardy, economical business cow, which has the faculty of assimilating her food and converting it into good milk, and that in the milk pail she shows how readily she responds to the liberal treatment.

I also know that in some breeds, and even among the common cows of the country, there are to be found phenomenal animals which can be crammed to produce immensely, but at the same time a large proportion of them are poor producers. For we must remember that the accomplishments of a few extraordinary cows of any breed does not by any means decide the superiority of the whole.

One of the chief characteristics of the Ayrshire breed is that they are more uniform in productiveness, and that there are fewer culls or scrubs among them than is generally found among other breeds of dairy cattle; and I doubt whether there is any breed better adapted to the needs of the dairymen of Ontario.

Although we have gained a reputation for producing cheese of the very best quality, there is still much room for improvement in the butter industry. I believe there is more fine butter made now than formerly, yet there is a great deal produced which is not so good as it might be. No doubt much of the offensively odoriferous trash is made from cream kept too long without regard to temperature, but a great deal of it results from the want of cleanliness in the manipulation of the milk from which butter is made.

We seldom hear of witches now, yet some allege they are not altogether extinct, and that there is still a mystical virtue in the horseshoe. Before dairy thermometers were much in use, I was once called upon to help a neighbor at churning. The husband and wife had been taking turn about at the dash churn all forenoon, and had come to the conclusion that the cream was bewitched. After dinner I worked at it more than an hour, but could not keep the frothy stuff from overflowing; then it became a question whether I also was not bewitched. A red-hot horseshoe was dropped into the churn, and after a few minutes' agitation the butter came. Perhaps some warm water would have answered the purpose fully as well, but I have no doubt that while that man and woman lived they believed the horseshoe drove the devil out of the churn. In several farming houses I have seen a horseshoe hanging over the kitchen door, but only in one instance have I seen that of a mule or an ass placed in such position.

I heard a person enquiring in Kingston market for servant's butter; he said it lasted longer than the finely flavored delicacy. And I could tell you of a gentleman who procured a tub of butter for family use, which soon became so rancid that even the servants would not eat it.

A generous-hearted farmer in an adjoining county, having heard of the advantages to be derived from the use of the thermometer, brought home to his wife one of the best make. She put it into the churn along with the cream, set away for the night, removed it in the morning, churned as usual, and said she did not see that it made much difference.

The travelling dairy delegation last fall in our locality imparted much valuable information to an appreciative audience; strange, however, many more might have been greatly benefitted who did not avail themselves of the opportunity freely offered on that occasion. It may well be said, "There are none so blind as they who will not see."

I have seen butter being made by persons of untidy appearance—others having seen the like stopped eating butter; and I know of some on whom the very sight of butter acted somewhat like an emetic; consequently, there is not nearly so much consumed as there would be, were our reputation for cleanliness above suspicion.

I have good hope in the rising generation, because I think the time is probably not far distant when this useful art will be taught in every common school throughout the country.

We have much absurd talk about the drudgery of dairy work; for my own part I cannot think of any occupation in which a woman could be engaged than in making delicious butter. Moreover, the healthiest, happiest and prettiest women I have ever seen were dairymaids.

It is encouraging to notice that women are now invited to the dairy school in connection with the Ontario Agricultural College. A good sign of progress will be when many farmers' daughters are taking a short course at that institution. Wise young farmers will marry educated dairymaids; superstition will be dispelled, and our character for butter-making will be exalted, enabling us to compete favorably in the best butter markets.

Sheep Notes.

G. C. of Wapella, writes us that he is well pleased with the ADVOCATE, and was much interested in the articles recently published on Sheep Raising; but he takes exception to the theory advanced by "Practical," in March 6th issue, of raising three and four lambs from each ewe by careful selection and mating. G. C. claims considerable experience in sheep raising, both in Scotland and Ontario, and in United States, and says he never knew of a flock having more than fifty per cent. of twins or five per cent. of triplets; and even if they had more, they could not furnish milk for more than two lambs each.

FARM.

Forestry.

BY AVONBANK.

In regard to windbreaks, there has been very little done in this direction. There are a few farmers who have planted shade trees on the roadsides, but there are a great many, probably 50 per cent. of them, who have given no attention whatever to tree planting even in the smallest degree. Some lines of fine maple are to be seen, but they are not many. Soft maple is used altogether in some sections, because most convenient to be had and surer to live. As a general rule, they are in a thrifty condition where any care has been bestowed on them. The greatest cause of loss, more especially during the last two seasons, is by drought. The ground has become so hard and dry that a great many trees have died. Mulching with sawdust or coarse straw manure has been resorted to, and proven very efficient in retaining the moisture about the roots. Planting for ornament alone has not been done to any extent, ornamental trees being thought too expensive. Every planter seems to have a different method both in planting and pruning, and until information in forestry is more generally diffused, results not satisfactory may be expected.

To my knowledge there have been no plantations of young trees of any size set out as yet, but it is my opinion that it would be attended by very good results if done here. There are many places on most farms that do not yield a good return, which, if planted with trees, would in a few years become a source of profit to the owner for timber, as well as protection to stock and grain, and an ornament to the farm. It is a deplorable fact that many of our farmers left themselves so scant of woods that they have to buy from those who have been more careful a supply of fire wood, and if they are building timber for the same, and as time goes on more and more are finding themselves in this position. In some cases the cattle are fenced out from small patches of forest, and generally with good results, more especially in hard wood or on high land; on low swamp or soft wood the results are not so good, as it is generally the poorer species of timber that gain the ascendancy. It seems to be reasonable to desire as heavy a crop of timber off a given piece of land as it is to desire a heavy crop of grain. The method to obtain this is by excluding cattle; there are groves of small sugar maple in Ontario, which were fenced from cattle some twenty-five years ago, yielding an annual supply of sap for sugar-making purposes; in fact, they yield more sap with less injury to the tree than the larger ones.

But, as a rule, I am sorry to say that there are many very thin woods which are hardly worth leaving, which if fenced would soon become thick and are not. It would seem in this, as in some other things, people are very short sighted.

In regard to climate, in the east every one is ready to admit that there has been a decided change during the last twenty years, during which the country has been denuded of much of the forest. The older men tell us of the time when it was not known for the streams to be dry in midsummer, when no such thunderstorms as we have now were endured, when they could grow from thirty to forty bushels of fall wheat per acre, while we are only able to harvest from fifteen to twenty-five. Some will say that drainage has the effect of drying up the streams, and that the land is becoming exhausted so that it will not produce so much; but, in the case of the wheat on virgin soil, to-day the results are the same if not worse than on older lands.

There can not be any doubt but that the forest has a very salutary influence over the rainfall, as it is seen that there is a more general diffusion of moisture on areas which are covered with forest than where there is none, as here one shower of rain follows another over the same tract, leaving portions near by parched by drought.

A wide circulation of literature bearing on the subject, and instruction to a limited extent in the rural public schools, would be good methods of promoting the information required, while exemption of taxes or part on land under good native forest, or on good plantations, would encourage many to give it more attention. Our government is doing a good work in this direction, if it would continue a step further and furnish seedlings, and directions how to care for, to all who would embrace the opportunity. I believe that there are many eastern farmers who have laid out enough money in buying large trees—for instance, "Norway spruce"—from nurseries, had it been invested in seedlings and cultivated in a nursery on their own farm, to have given stronger, more thrifty trees, besides a great many more in number, so that many who have a few trees might have had a line of trees that would have been of general utility as a windbreak and ornament. Farmers in many parts of Ontario, and probably other parts of the Dominion, are adopting the honey locust hedge as a barrier against stock. And while one of the greatest obstacles in the way of planting lines of evergreens is that the stock destroy them before they grow to a sufficient size to be out of reach, and as the hedge put up by the Ontario Hedge Company requires to be protected and cultivated for four years, would not such be an excellent opportunity to plant a line of small evergreens for the purpose of a windbreak. It is my opinion that county and township councils should do more in the way of promoting the planting of trees and the preservation of the native forest than they do. Our own council do nothing whatever in this direction.

Weeds.

BY J. HOYES PANTON, M. A., F. G. S.
ASCLEPIADACEÆ (Milkweed Family).

The plants in this family have a milky juice, which exudes from any portion broken or torn.

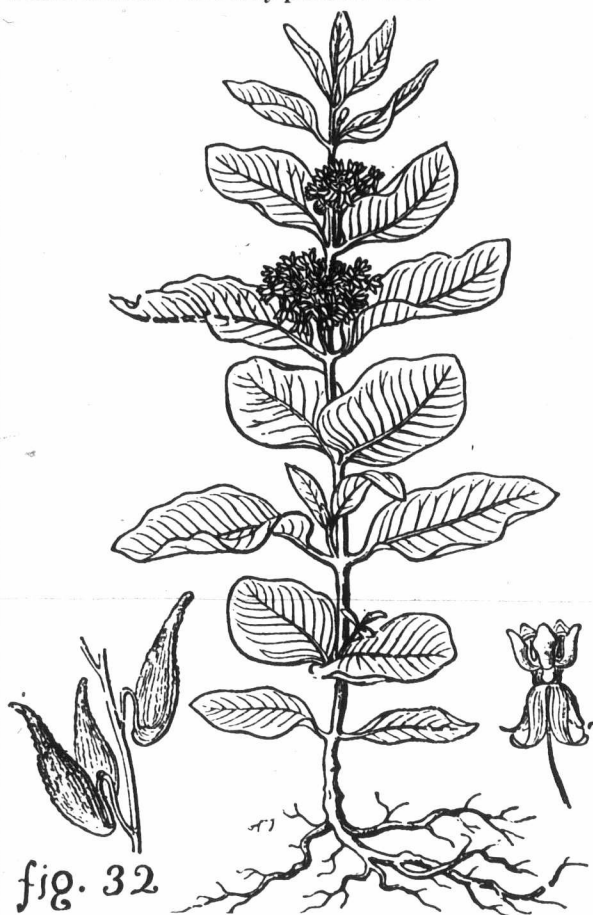


fig. 32. *Asclepias Cornuti* (Common Milkweed). Fig. 32.

This weed frequently grows in groups by the wayside; sometimes appears in fields and becomes quite difficult to overcome. The stem is 3 to 4 feet high, bears oval leaves 5 to 7 inches long, arranged in pairs; the purplish flowers are in clusters at the axis of the leaves, and from them arise very peculiar-looking pods, filled with seeds imbedded in a cotton-like substance. When any part of the plant is cut, a thick, milky juice passes out. If well established in a fertile soil, its long, deep perennial roots are difficult to kill. In such cases continual thorough cultivation becomes necessary.

A. tuberosa (Butterfly-weed).

This species is very attractive, and by some has been introduced into gardens. It is quite common along the railway south of Galt and in the Niagara district. The stem is erect, very leafy, branching at the summit; leaves somewhat linear, and with little or no stalk. The flowers are a bright orange, and the plant has a beautiful appearance when in full bloom. Though sometimes along the wayside and in the fields, yet it is not viewed as troublesome a weed as the former species.



fig. 33

PLANTAGINACEÆ (Plantain Family).

The leaves of plants in this group have usually well-defined veins.

Plantago major (Common Plantain).

This common plant, growing about the back doors and in the barnyards, can scarcely be considered a serious weed. It is readily known by its large, roundish leaves lying close to the ground, and with well-marked veins. About the time it flowers it sends up a stalk about eight inches high, along which the minute flowers are arranged in the form of a spike.

P. lanceolata (Rib-grass). Fig. 33.

In this the leaves are much longer and narrower; the flower spike short, thick and dense. The leaves are 3 to 5-ribbed. The seed of this plant is often sown in grass mixtures, and by some has been called sheep-grass; but escaping from the fields it has found its way to places where it is not desired. Though both these species are perennial, they are seldom troublesome where thorough cultivation is practised.

CHENOPODIACEÆ (Goose-foot Family).

Chenopodium album (Lambs' Quarters).

This very common weed around old dwellings and neglected places is well known by its leaves, on the under surface, presenting a mealy-like appearance. This annual produces a great many seeds, but seldom proves a nuisance except to the careless.



fig. 34

Blitum capitatum (Strawberry Blite).

Few seem to know this weed by name, though comparatively common. The stem is about a foot long, and the leaves somewhat triangular. When ripe, the fruit appears in clusters along the stem something like strawberries arranged along the axis. However, an examination soon shows very little resemblance to that berry. A reddish juice can be pressed out of the fruit; this has been used by the Indians for painting themselves and staining basket work. It is seldom that complaint is made against this plant.

AMARANTHACEÆ (Amaranth Family).

Some very interesting and attractive plants are found in this order, such as cockscomb, iresine, prince's feather and globe amaranth, but we notice it for one large, unsightly coarse annual.

Amaranthus retroflexus (Common Pigweed). Fig. 34.

This is the true pigweed, a name often improperly applied to lambs' quarters. This coarse plant grows 2 to 5 feet high and branches considerably; the greenish flowers are unattractive, appearing in the form of spikes crowded in a stiff panicle or dense clusters; the root presents a reddish appearance. This plant is so coarse that it is readily seen in a field, and should at once be pulled. It seldom finds its way where careful farming is observed, and can readily be put under by a little industry and care. It flourishes in rich spots, and sometimes has such a firm root-hold that it tries one's strength to pull it up.

Different Varieties of Red Clover.

BY W. A. HALE, SHERBROOKE, Q.

As clover growing is rapidly increasing in popularity year by year, two points of great interest present themselves to us; first, what varieties are best suited to our soils, climate and requirements, and second, where can we be sure of procuring clean, fresh, unmixed seed free from other varieties. Of alsike and white Dutch clover, their uses for hay and pasture are so well known and their seeds usually so little mixed that they need not now be considered. Of sanfoin, lucerne or alfalfa, as substitutes for clover, not being suited to the soils nor climate of Canada, I believe we need never trouble ourselves, especially as such good results can be obtained from red clover; crimson clover also, though no doubt very valuable in more southern latitudes, is of no use to us. Red clover therefore seems to be the staple variety upon which we must principally depend, and its importance in nearly every class of farming, gardening and fruit growing can hardly be overestimated. As to the danger of overdoing it and rendering our land liable to clover sickness, if we are judicious enough to keep our hard wood ashes at home and apply them as the main fertilizer of red clover, we need have no fear upon this score; and while upon this subject I would like to call the attention of all intelligent clover growers to the fact that hard wood ashes are to-day advertised for sale in Philadelphia at \$2.50 per barrel, while we can buy them here for 25 cents! and yet we send them away by train loads. Two things at present seem to tend towards making clover growing unpopular with those who are not familiar with its many good points; one is the supposed difficulty of curing it properly for hay, and the other is the confusion into which many of our seedsmen have thrown the distinguishing names of the different varieties of the common red clover. Your correspondent, Mr. J. Hoyes Panton, on page 30 of the FARMER'S ADVOCATE, has, I believe, very correctly described the *Trifolium Medium* as cow-grass or zigzag clover, but is he right in also calling it Mammoth? *Trifolium Medium* is spoken of by Henry Stephens in his admirable Farmers' Guide, written over forty years ago, as follows:—I suspect that this true cow-clover has been confounded with the perennial variety of red clover, otherwise so worthless a weed would never have been recommended as a valuable constituent for our permanent pastures on light soils, where it never fails, by its obtrusive character, to destroy the more valuable pasture plants around it. The *Trifolium Medium* is inadmissible in alternate husbandry, on account of its creeping roots, constituting what in arable land is termed twitch." Dr. Stebler, director of the seed station of Zurich, says: "In agriculture two varieties (of red clover) are distinguished:—1. Wild clover or cow-grass, *Trifolium Pratense Percune*. 2. Cultivated red clover, *Trifolium Pratense* var. *Sativum*. The height of the first is less, the root much branched and very fibrous, the stem is usually more hairy and full of pith (not hollow), and it has the following points of advantage over the other variety:—It lasts longer (for two or three years), is less sensitive to soil and climate; the crop is more certain and hay making easier. Cultivated red clover, the second variety, is a larger plant than the former, and can only be used for a single year; the tap root branches little and produces few fibres; the stem is longer and usually hollow, and the flower generally lighter in colour. This variety is produced by cultivation, as is easily proved experimentally. If genuine seed is collected from wild cow-grass and sown for several generations, plants are obtained which cannot be distinguished from the variety *Sativum*. Also when both varieties are planted together for a few years the plants become similar in their mode of growth and properties, and of equal value." Dr. Stebler then goes on to describe red clovers of this same variety from seven different countries, each with different characteristic properties, so that we may naturally infer that we have in this country at least two different strains of the *Trifolium Pratense* or common red clover:—1st. What is known under the various names of "Western," "Common," "June," etc.; and 2nd, under the names of "Mammoth," "Peavine," "Long Vermont," etc., while the modern or improved cow-grass, *Trifolium Pratense Percune*, is, I believe, a distinct variety, and has come originally from the *Trifolium Medium* or wild cow-grass, so strongly condemned by Mr. Stephens as "a worthless weed." Mr. Jenner Fusk, manager of the Journal of Agriculture, an excellent authority upon all such subjects, gives it as his opinion that "the real cow-grass, *Trifolium Pratense Percune*, is from a cross between *T. Medium* or wild cow-grass and *T. Pratense* or common red clover. In the illustrated dictionary of gardening by George Nicholson, curator Royal Botanic Gardens, Kew., he simply describes under the head of red clover, "*T. Medium*, cow-grass, meadow or zigzag clover, and *T. Pratense*, red or broad leaved clover." In the Province of Quebec we have for many years, in describing red clovers, employed the following names:—1st. June or Western; 2nd. Raw-

don, and 3rd, Long Vermont. The first, being ten days to a fortnight earlier than the others, was not considered a good mixture to put with timothy in seeding down, as it ripened before the grass and so became woody and apt to turn dark when cured with the hay, and to this fact may be attributed much of the prejudice which some have against clover growing. This variety ripens more in season with Orchard grass, and is therefore being employed as a mixture with it. The second, Rawdon, is larger than the Western, and being later is far more suited to seeding with timothy and is said to be harder than the third, Long Vermont, between which and the Rawdon there seems to be very little difference; lately, however, we have been getting this third variety as Long Vermont, Cow-grass, Mammoth, Giant, Peavine, etc. etc., and I cannot help thinking that these names do not represent what we used to know as Long Vermont. I am now making a test of the matter, but do not expect to decide any definite results till the different plots have blossomed next season, and it is in such important matters as this that our Experimental Farm could so clearly decide and define, not only the comparative good points of these different strains, but the names under which each should be sold as well. In the Country Gentleman of Aug. 4th there appears a complaint from Colorado against the "Giant" clover, saying that "it is not *Trifolium Pratense*, that it produces one crop and then dies as completely as a crop of wheat or rye;" while during the past season there was a warning note sounded in the same periodical about the Peavine clover as being very liable to lodge and so succulent as to be extremely difficult to cure, and far more suited for ensilage than for hay. And, from my past season's experience with making hay from the larger growing varieties, I would say to those who are accustomed to the old Western or June clover, go cautiously at first with the "Peavines," the "Mammoths," and the "Giants," till you are more familiar with their peculiarities.

Feed Your Land.

BY J. E. RICHARDSON, PRINCETON, ONT.

In Ontario there are few farmers that raise enough barnyard manure to keep their farms up, still less to improve the condition of the soil. This is an acknowledged fact. Yet, how many farmers are there that know this, and still do not try any other way of manuring their land?

Every farmer should be very careful to see that his land is improving in quality. As there are so many ways of enriching the soil, there is no reason why our farm lands should fail in raising good crops. Clover should be sown more than it is. A good crop of clover plowed under in June, the land worked thoroughly on top till the end of August, then let it be gang-plowed, and it will be in first-rate order for wheat, and on light land especially it will raise just as good a sample, and as much, if not more, grain to the acre than on a bare summerfallow with a good coating of barnyard manure.

For oats, a second crop of clover can be plowed under to advantage. Cut the first crop of clover as soon as possible, so as to let the second crop get a good start. Some farmers sow land plaster after the first crop has been taken off, so as to make the second crop as heavy as possible, which is a good plan. Even if clover is not plowed under it leaves the land richer, as it draws so much nitrogen into the soil. As clover is a high price now, no doubt many farmers will not sow much, if any; but even if it costs ten dollars a bushel and you sow say twelve pounds to the acre and plow it under, it is really very cheap for manure, as the twelve pounds you sow to the acre only cost two dollars, and then there is so very little work connected with it.

There is a short but very good article in the editorial column of the FARMER'S ADVOCATE for March 15th, re clover seed, which is concise and to the point, and with which I thoroughly agree. It should be read carefully by every farmer.

Then, there are wood ashes. Ashes should be kept under cover, and will be found very beneficial to wheat, peas, grasses, potatoes, etc., especially on light land, as they contain potash.

Then, again, there are fertilizers, such as bone and potash, nitrate of soda (which comes from South America), Peruvian guano (which is the excrementitious deposit of certain sea fowl, which is found on the coast of Peru and islands off the coast). No doubt soluble fertilizers, if properly applied, are a great help to the crop; but, as the prices are so high, great care must be taken, for although more grain may be raised where the fertilizer has been applied, yet it is quite possible that there will not be a sufficient increase in the yield of the crop to pay for the outlay on the fertilizer. I would advise farmers most certainly to try some fertilizer, but on a small scale at first, and then if they are found to be a paying investment continue to apply them in larger quantities. I have used nitrate of soda on light land to advantage. One thing is very important, and that is, do not sow a fertilizer unless your land is clean. It would be well also if land was well worked and free from foul weeds before manure of any kind was applied.

In conclusion, I would recommend all who go in for mixed farming to feed all their coarse grain, and not sell hay, straw or turnips. The old adage is very true: "Feed your land, and it will feed you."

GARDEN AND ORCHARD.

Spring Time in the Orchard.

BY G. C. CASTON.

The season is now approaching for planting and grafting and other work in the orchard, and a few hints at this time may be helpful to some who contemplate improving their orchards or planting new ones. As to filling up gaps where trees have died, it is not much use unless the tree has died while young, for where a tree has grown to or near bearing age and then dies, a new one planted in its place will not thrive, unless one goes to the trouble of digging out the soil nearly as far as the roots extend and replacing it with fresh soil. This has been my experience; but changing the variety of fruit is an advantage in such cases. For instance, I have found that a plum tree will do fairly well planted where an apple tree has grown by giving it a liberal dose of manure.

Now is the time to select scions for grafting; they should be cut before any growth has started, and when there is no frost in the wood; they should be selected from young, thrifty bearing trees that are making a good annual growth of wood; they should be tied in bunches, each kind by itself, labelled and packed in sawdust till wanted. There are many trees growing through the orchards that are not profitable, which, if taken in hand while young and thrifty, might soon be entirely changed into a profitable variety. There are also many vigorous seedlings that would make the very best of stock upon which to work some of the best varieties.

I regard this as a very important matter, for I am convinced from my own experience that this is the very best way of growing some of our best market apples, and extending the culture of many varieties to localities where they could not be grown in any other way. It will improve the bearing qualities of some of the varieties that, though high-priced in the markets, are faulty in productiveness and also in hardness.

Among the highest-priced apples sent from Canada to Britain are the King, truly a fine apple, clean skinned, but tender and a shy bearer. I think the same may be said of the Blenheim Orange Pippin, a magnificent apple, and one about which there has been considerable controversy among Ontario fruit growers as to its merits. I have no doubt both these varieties could be made profitable by top grafting upon hardy, healthy stock.

The Spy, which has the fault of being a long time in coming into bearing, would be brought into fruitfulness early by this plan, and thereby rendered more profitable. The Baldwin and Ribston Pippin in many localities would succeed better by the same treatment.

Although much has been said and written on the subject of grafting, yet a few general directions may not be amiss here. What is known as cleft grafting is usually practised for top working, which is performed as follows:—In May, just as the buds are beginning to push out, saw off the limb to be grafted where it is about three-quarters or an inch in diameter; trim the stub edges smooth, and split horizontally through the centre of the limb to a depth of about four inches, not more. When the scion is prepared ready for setting, it should comprise three buds; the lower end is cut wedge-shaped to fit into the slit, and on one side of the wedge part should be left one of the three buds; this will be the outer side of the scion, and should be a trifle thicker than the inner side. When the scion is set in position this lower bud will be pretty well down in the cleft, and will likely be covered with the wax, but being nearer the source of nourishment will likely make the most vigorous growth and soon push through the wax. Great care must be exercised in placing the scion in position (this is the most important point of all), the *inner surface* of its bark must *match* the *inner bark* of the stub; then the whole must be waxed over so as to keep the sap in and the air out, and leave no crack exposed. Two pounds resin with one of beeswax and a half-pound of tallow make an excellent wax for this and all other purposes for which it is required. As soon as melted, pour into cold water and pull and work it with the hands till nearly white, first greasing the hands with tallow to prevent it from sticking. An important point is to graft while the stock is young and vigorous; after trees have passed their prime it is little use; they will not succeed well. Take about one-third of the top at a time, so that a new top is formed in three operations. This will keep up a balance and will not check the growth severely, as it would by cutting off the whole top at once, as is sometimes done, but which I consider a bad practice and endangers the life of the tree.

Concerning the root-grafted varieties from nurseries, I would like to say a few words in favor of a variety that has been much maligned, but which I consider one of the best suited to the greater part of our province, and, if handled properly, one of the most profitable. I refer to the American Golden Russet. It is a hardy tree, lives to a good old age, and one of the most regular bearers. As to profit, I need only refer to the fact that few varieties reach the Old Country in such good order as it does, and that during February it was quoted in the British markets at twenty-two shillings a barrel. But the mistake is often made of sending this apple forward too soon. It should be stored in cool, dry storage in barrels lightly pressed so as not to bruise it, and then repacked and forwarded after the rush of fall

and early winter shipping is over. It should be put on the British market between that time and the arrival of the Tasmanian apples in the spring. It is less subject to fungus and codling moth than almost any other variety, and taken altogether I regard it as one of our most valuable sorts.

I am satisfied that if farmers would bestow the same care, skill and attention on their orchards as they do upon their stock (I mean, of course, the successful ones especially), cheese production and other kindred branches, they would find it just as profitable and pleasant as any branch of the noble art of agriculture.

Co-operative Experiments in Horticulture.

BY H. L. HUTT, B. S. A., SOUTHBEND.

In a late issue of the *ADVOCATE* appeared an interesting article by A. M. Smith, St. Catharines, entitled, "Experimenting with New Fruits." Mr. Smith speaks of the great loss to the country annually from the planting of new and worthless varieties of fruits, and, as a remedy, recommends the establishment of experiment stations in the fruit growing districts. We agree with him as to the seriousness of the trouble, but have a remedy to suggest which is less expensive, and, we think, would be more effective. It is this: That the fruit growers of the Province co-operate in carrying on experiments in horticulture in the same way that the farmers are carrying on co-operative experiments in agriculture.

The farmers of the Province are not asking the Government to further assist them by establishing experiment stations, because this system of co-operative experiments is meeting their requirements more effectively than a dozen new experiment stations could do.

The work was first taken up by a few of the graduates of the Agricultural College, who formed what is known as the Ontario Agricultural and Experimental Union. Farmers interested in the work were invited to join them, with the result that last year there were reports received from successful experimenters in every county in the Province, with the single exception of the county of Russell; upwards of 5,000 plots being devoted to these co-operative tests.

This work is under the direction of the committee on agricultural experiments. Co-operative experiments are also being carried on in apiculture and horticulture. The reason why the work in horticulture has not assumed such proportions as that in agriculture, is due to the fact that the committee on horticultural experiments has not been so long in operation, and probably also that there are considerably fewer graduates of the College interested in horticulture compared with those interested in agriculture.

The experiments taken up by the horticultural committee so far have been principally with new varieties of potatoes and different methods of planting these. This year it is intended to extend the work. In addition to the experiments with potatoes, it has been arranged to undertake experiments with a few new varieties of strawberries and raspberries and different methods of cultivating these. To the fruit growers of the Province interested in any of these experiments we extend an invitation to join us. Mr. Elmer Lick, Oshawa, is Secretary of the Horticultural Committee, and will be pleased to receive applications from those wishing to carry on any one or more of the experiments. The plants and potatoes are sent free, postage or expressage paid. The supply being limited, it is furnished in the order in which the applications are received until it is exhausted. The extent to which the demand exceeds the supply will strengthen our request to the Government for an increased grant next year to carry on this work. Thus the fruit growers have it in their power to say to what extent and how soon this system of horticultural experimenting shall be developed, for the Government, appreciating the value of this work, has always shown a willingness to assist by increased grants as soon as the increased application for experiments has required it.

At the beginning I claimed for this system of experimenting that it is a cheaper and more effective way of obtaining the same results which Mr. Smith hopes to obtain by the establishment of experiment stations. I will try and substantiate these claims. That it is cheaper readily appears from the fact that the only cost connected with it is the purchase and distribution of the plants, and the publishing of results of experiments, all the work being done gratuitously. That it is more effective appears in many ways. In the first place, the co-operative system is a reality already in operation, and can easily be developed in a very short time. Experiment stations are merely a possibility over which the Government might deliberate for years before we, as fruit growers, would begin to realize any of our hopes. Nor could we blame the Government, for it would be a long time before public sentiment could be educated to support them in such an outlay. One station would probably have to be established at a time. Then there would probably be a wrangle about which district should have it first, while the others would have to wait for years till their turn came. By the co-operative plan, all districts may receive the benefits at once, and as soon as they apply for them. But, supposing we had an experiment station in each of the principal fruit districts of the Province, by the co-operative plan we might have a hundred, if not several hundred, experimenters in the same district, each experimenting with those fruits in which he is most particularly

interested. And a hundred experiments conducted by individual fruit growers would be of far greater value to any district than the same number of similar experiments conducted at an experiment station. There is that tendency in human nature to profit more by our own experience than by the experience of others. This co-operative system of experiment begets a spirit of experiment in the people instead of leaving such to the Government. And when such a spirit takes hold of a people, we find them discarding unprofitable methods and worthless varieties.

The Experimental Union is also one of the most effective means of distributing new varieties. The free distribution of material has always been an inducement to enlist experimenters. The Union has done more towards the introduction of improved varieties of grains, roots and fodders throughout the Province than all the other agencies combined. And what has been done in agriculture can be done in horticulture. Let us, then, avail ourselves of what the Government is already doing for us, then may we, with better grace, ask it to do more.

The Farmer's Garden.

BY ROBERT BARCLAY, BALMORAL, MAN.

Peas.—There are many varieties of this famous and most delicious vegetable. Every seedsman has what may be called his catalogue specialty, which very often takes the eye of many intending purchasers, and leads them astray as to what kind is most suitable for the climate, soil and seasons in their district. Now, what I want to say is this: Beware of adopting the advice contained in the many catalogues which are distributed all over, as there is not one in a hundred written with reference to this north-west country. After many years' trial of different kinds, I find Bliss' American Wonder beyond all comparison the best for either family or market purposes; it is far ahead of its much praised sister, Bliss' Everbearing; it is a surer and much heavier cropper, and really continues in bearing longer, carrying blossoms and pods right through the season until sharp frost sets in. It has many advantages over other sorts, being strong and thick in the stem, rarely, if ever, exceeding nine or ten inches in height, stools and branches out more than any other, matures, or is ready for the pot, under favorable weather, in six weeks from planting, and produces a fine sized, sweet, wrinkled pea which cannot be beat. The ground should be deeply tilled in the fall, and the best of well-rotted, short manure forked in; use no green or new dung, as it will invariably produce rust on the vines and ruin your crop, and will also encourage depredating insects. If you cannot get this done in the fall, top-dress your land and plow in the manure in the spring, harrow and rake the soil down finely. Sow the seed thinly, that is to say, two to three inches separate in rows one and a-half inches deep, and fifteen inches apart, and keep the Dutch hoe and rake at work between the drills, so as to cultivate and keep down the weeds until the plants meet each other. If the land is prepared in the fall, the first sowing should be done as soon as the thaw will admit of the drills being drawn, and successive ones every fortnight until first week in August; in this way I had magnificent peas in the end of last September, when prices were at their highest. If you must prepare the land in spring, get at it without delay, so soon as the frost leaves it sufficiently to get the plough in.

Kidney or Wax Beans.—The best soil for this class is undoubtedly a rich or loamy one, well cultivated and supplied with the oldest of good, short, stable manure, thoroughly dug in and well covered, as this plant suffers more easily from drought than many others. In sowing, cultivation, etc., apply the same treatment as for peas. I have been astonished in my travels to find so many people so totally ignorant as to how to make use of these beans in the green state, and, consequently, sowed their whole stock of seed at once, instead of in succession, and thereby having a continued supply of useful green pods throughout the season. For use, pull the beans when they are about two inches in length, cut in half-inch pieces, boil and pour the water off; then put in a good chunk of butter along with some pepper, stir these in thoroughly, and serve up one of the best vegetables known. Golden Wax is the best variety for using in the green, and White Marrowfat for ripening for winter use.

Salsify or Vegetable Oyster.—This is a much neglected article, I presume principally from the fact that its value or worth is little known. It is the best natural blood purifier and antidote there is for dyspepsia, and is very easily grown, if properly cared for, and well worth a place in every garden, even if it does take a little extra work. The land must be ploughed very deep and be of a rich and free nature, well manured, similar to that which produces good parsnips. Sow as early as possible in drills eighteen inches apart, and thin out your plants, leaving nine to ten inches between each. If the season is damp, apply plenty of wash or liquid manure. Keep well cultivated, and lift the roots whenever frost makes its appearance, as they are more susceptible of it than any other garden root. There are two or three different ways of cooking and serving up, but the easiest, simplest and best, in my opinion, is wash and scrape your roots clean, put them on with cold water and boil same as carrots, pour the water off and serve up with butter and milk sauce. See that you get new seed, as old will invariably give you horned roots.

Jerusalem Artichokes.—This is another vegetable which is much ignored through its value not being

known, and also on account of many believing that it is only good for hogs. This is wherein they make a big mistake, as no one can have a finer or more nutritious dish. Clean your roots, boil them like potatoes, and serve them up with butter and milk sauce. No rich soil is required—in fact, you get your roots from the nurserymen and plant them in spring in the shadiest and poorest soiled corner of your garden; scrape out the larger bulbs for use during the season and what you are going to keep over winter, leaving the smaller roots in the ground to supply the following year's crop.

Tomatoes.—I would recommend farmers especially not to dabble with too many varieties, but simply go in for two good ones, one large size, viz., Ruby, which is the earliest, heaviest cropper and most easily grown, and one small, viz., Yellow Plum, which really has, as yet, no equal in this country. Sow in seed pans or boxes in light, sandy, loamy soil, without manure, in the end of March or beginning of April, and when the plants throw out their third leaf, remove them to other boxes or a hotbed made up with a richer compost, and, when all fear of frost has gone, put out your plants in a well prepared plot, thoroughly manured, in rows three feet apart, with two feet between each plant. Keep well cultivated through the season, and give a plentiful supply of liquid manure.

Pruning Currants.

Is the pruning of the red currants altogether different from that of the black currants? Is spurring or cutting all the last year's growth close off the only true mode with the red currant, and, if so, will these spurs be the permanent basis for fruiting for years to come if the trees continue in good health? Will you kindly answer this in your valuable paper?

PRIVATE GARDEN.

ANSWERED BY W. W. HILBORN.

I think the best method of pruning red currants is to cut out all weak shoots of last season's growth and thin out the bush sufficiently to admit a good circulation of air, and shorten in, or cut back, all of last season's growth one-third to one-half. After the bush has grown for three to five years, begin to cut out the oldest wood and have new wood to take its place. In this way you continue to renew your bushes, and the wood is more healthy and productive of larger fruit. I would not on any account cut off all of last season's growth. The fruit is borne on wood two or more years old. A portion of every season's growth should be left to make the bearing wood of the future.

LEGAL QUESTIONS AND ANSWERS.

[Answers to legal questions of subscribers, by a practicing barrister and solicitor, are published for our subscribers free.]

Edward Burdett, St. John's, Winnipeg, asks:—I have a field of land in Kildonan, and at each corner adjoining is a house and premises, the owners keeping poultry and allowing them to run at large, much to my annoyance and loss, for they are continually doing me damage during the summer. As soon as the seed is sown they rove the land and scratch it out; during its growth they trample it down, and when ripe, or as soon as the grain forms again, take it. I want to compel the owners to keep their poultry up. Last year, after considerable damage was done, I gave notice in writing that poultry trespassing on my land would be shot; I shot several, leaving them on the ground untouched. Is this the proper mode and best way for the coming season? Your opinion will much oblige me.

Ans.—You have no right to shoot or destroy your neighbor's poultry. You may seize them while on your land and keep them, setting off the value of the chickens seized against the amount of loss and damage caused you, or you may sue your neighbor for damages.

George Wannacot asks:—If A holds a joint note made and signed by B, C, D; the note ran on three months after due; D then, in order to keep A quiet and content, gives A a note at the bank payable to A's order so many months after date, at so much per cent. per annum; the bank takes it; note is protested at bank and A is held liable for it. Before the note at the bank is due, C makes an assignment. Are B and D released by such on joint notes, (A still holds joint notes), they never having been lifted. C gave his own personal note at bank. B is a married woman. Can she be held liable for her signature on joint note?

Ans.—B and D are not released on account of the assignment merely having been made by C. Whether there may not be other matters connected with the transaction which would release them does not appear clearly from your letter. There are several disconnected statements in the letter which we do not understand. Did A take D's note in payment and discharge of the joint note of B, C and D? What do you mean when you say C gave his own personal note in bank after saying that B, C and D gave a joint note? As to whether B, being a married woman, would be bound by the note depends on the nature of the transaction, and it would be necessary for us to have much fuller information on this point than is contained in your letter before saying whether she is liable or not.

ENTOMOLOGY.

Injurious Insects.

BY JAMES FLETCHER, DOMINION ENTOMOLOGIST, OTTAWA.

CLOTHES MOTHS.

Only too well-known to the housekeeper are the injuries to sleigh robes, furs, carpets and woollen garments by Clothes Moths, for there are very few who have not been sometimes victimised.

Clothes Moths, like all other insects, pass through four well-marked stages of existence. The moths begin to appear in April, and some specimens may be found in the moth state throughout the summer. Soon after the insects appear in the perfect state, they pair, and the females begin to lay their eggs. The food of the caterpillars which hatch from these eggs is entirely of an animal nature, as wool, hair, fur and feathers of all kinds. The whole of the injury done by these insects is while they are in the caterpillar state. When full grown, these latter are a little more than a quarter of an inch in length, with a yellowish head. Although small, their power to do harm is very great. The chrysalis stage lasts only a short time. The caterpillars from eggs laid early in spring become full-grown by autumn, but do not change to chrysalides until the following spring. The young caterpillars from eggs laid late in the spring, or during the summer, have not time to reach full growth before winter sets in. These pass the winter in a torpid state without eating, and finish their growth the following spring, so that caterpillars only half grown may sometimes be found in spring upon undisturbed garments or carpets. By far the larger proportion, however, emerge as moths about the end of April, or in the beginning of May.

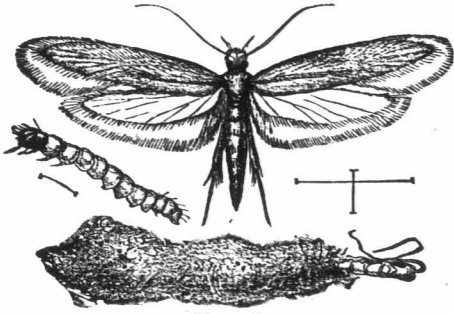


FIG. 1.

There are two kinds of Clothes Moths, the small caterpillars of which commonly attack clothes, furs, etc., in Canada, and neither of which is a native pest; both have been imported from Europe. The first of these (Fig. 1) is the commoner. It is a small creamy white moth, without spots, and when at rest the wings are held in a sloping position over the back. The caterpillar spins a white, silken path over or through the article attacked. The second kind is shown, much magnified, at Fig. 2. It is a dark gray moth, with a few darker spots on the wings; these latter lie flat over the back when the insect is at rest. The caterpillar from the very first lives inside a small muff-shaped case, which it constructs about with it all the time, and which it constructs of fragments of the material it has been attacking.

REMEDIES.

It is important that the nature of these insects should be understood by all who wish to protect their property from their depredations. In the first place a commonly believed mistake may now be corrected. Clothes Moths, the caterpillars of which eat clothes, carpets, etc., do not fly into houses from out of doors, but breed inside the house, and the

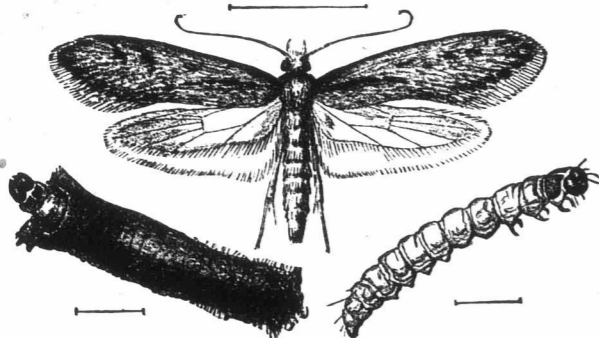


FIG. 2.

moths which fly into houses during summer evenings are perfectly harmless in this respect.

In the case of sleigh-robes, furs, etc., there is nothing better, as a remedy, than giving them a thorough beating and brushing, and then packing them away in spring in a tight box, chest or barrel before the moths appear. Woollen winter clothes and smaller articles may be folded neatly and wrapped in strong paper. Of course, if the edges are packed together it is so much the better.

When carpets are found to be infested, the furniture should all be removed from the room, and the carpets well swept. The edges may then be sprinkled freely with benzine or gasoline. Both these liquids are dangerous, on account of their extreme inflammability. Great care must therefore be taken not to take a light into the room until some hours afterwards, or until the room has been thoroughly aired. In the case of upholstered furniture or carriage linings, these may be sprinkled freely with gasoline, which will destroy the insects in all stages and will not injure the cloth: the odour soon disappears

when the articles are left in the open air. Prof. Riley, the U. S. Entomologist, recommends for carriage linings sponging them with a very dilute solution of corrosive sublimate in alcohol made only just strong enough not to leave a white mark on a black feather. The extremely poisonous nature of this substance, however, demands that the greatest care should be exercised in its use.

When, from various causes, winter clothes and furs have not been packed away before the moths appear in spring, they should be well brushed and beaten out of doors, and packed away in such a way that they can be got at easily. They must be opened again about a month later, and examined to see if there are any traces of the insects. An easy way to make a tight box for packing away clothes for the summer is to take any common box and paper it inside and out with newspapers: when filled, fasten the lid on and paste paper over the cracks.

Camphor, pepper, cedar chips, naphthaline and other substances sold for the purpose, do not kill the insects when they have once attacked material, but have a certain deterrent effect in keeping away the moths when they are flying about in search of a suitable place to lay their eggs.

POULTRY.

Poultry on the Farm.

BY IDA E. TILSON, WEST SALEM, WIS.

During twelve years of poultry culture I have twice bought a stock, three times hatched May or June broods, seven times got out my chicks in March and early April. I confess I prefer the last, but, considering my own exposure and the extra expense and time bestowed on early broods, with the fact that judicious feeding and forcing can make so much of chicks at any season, I doubt whether I shall again raise many as early, certainly not this backward spring, though two biddies are set, due the first week of April, just to keep my hand in practice. The breaths and bodies of a whole flock warm their house considerably, hence that is a more comfortable place in which to put early setters than a separate apartment would be. Late broods hatch anywhere. Biddy's social qualities have been developed along with her size and productivity. She is no longer an absolute "child of nature," and, I find, hankers less for quietness and retirement than some poulterers are still supposing. I introduce no strange, confusing boxes nor quarters, but let this civilized bird set just where she laid. Since nature must be recognized, I compromise between that and society by recommending setters such darkness and solitude as temporary nest-doors will secure. My usual nest-filling is sawdust, which shapes readily, cleans easily, and retains warmth finely. I have added hay or sod foundations, but my cluckers detected these new elements, and either fled affrighted, or, with desperate courage, scratched things to pieces in investigation. Sawdust alone gives good hatches, and I could not return to packing hay nests—worse for "humpiness" than a refractory "Sarotoga" trunk. After the setting fever has a good grip on biddy, her nest-box gets clean contents, which, when thoroughly warmed again, receive one-half teaspoon of sulphur and from nine to thirteen eggs, according to coldness of season and size of sitter. I mark her eggs as our grandmothers did, with a pencil, not all over, closing pores, but sufficiently for distinguishing them if necessary. All being made ready, biddy is not dumped on her nest like a senseless thing, but left to step inside; she likes to feel she has done something herself. But I always select tame birds, willing to be handled and that think just as I do, so we can agree and not perplex each other. The only bacteria that biddy fears are visible without a microscope, and about the size of lice. Do not risk—better still, do not own, an infested clucker. I can always find enough which seem perfectly free, but "favor is deceitful and beauty is vain," so I dust them all the same, with Persian insect powder or chamomile when set, when done, and a few times between, looking for red mites on top of head, and for large, grey specimens around throat and rear. Cold, greasy ointments I am afraid of, and have never needed. The above powder, known also as pyrethrum, is absolutely harmless for everything but parasites. What a shame to let a hen be eaten alive while doing her duty. It reminds one of those unpleasant cannibal islands. For early mothers choose plump, hearty, but not unwieldy hens. Setting is not a light employment for leisure hours, but a steady job, and requires stamina and endurance. Biddy can hardly be dynamo, heater, engineer, night watchman and mother all at once without generous and solid supplies, corn being chief, to which I often add bread crumbs, cheese rinds, egg-shells, and a very little lean, cooked meat, especially if a setter's appetite flags, or she seems "shivery" on coming to the air. Puddings and relaxing foods are entirely tabooed. Every morning in warm weather, twice a day in cold weather, I take off my setters and carry them into a little eating room. When satisfied with food, they are released and make their own way back, after such exercise and pleasure excursions as they see fit. My stated times and regularity of taking them off soon induce such methodical habits in these cluckers that, after a few days, they never come out otherwise, and I can dispense with all watching, or be absent from home for hours, because a well-trained setter virtually becomes like Tennyson's brook—
"Men may come and men may go,
But she goes on forever."

A steady heat for several successive hours is re-

quired to start the feeble embryo into real life, so a sitter's first absence and check to this continuous heat is critical, and should be brief. Sometimes on her uncovered eggs I lay my woollen mittens, warm from my hands.

"Anything well begun,
Is already half done."

Later, in all reasonable weather, biddy should take thorough airings for her own health, and because eggs too closely covered seem fairly cooked, and hatch no better than when there are too many, with always some chilled eggs around the edges of nest.

Of 203 chicks cooped by me one year, 202 reached maturity; another season 198 did out of 205, and other nearly as good results might be mentioned. I never see cooked eggs recommended for little chicks without wishing to say "Raw, or boiled at least twenty minutes." What is commonly called a "hard-boiled" egg—hard, indeed, for any digestion—has its albumen turned to leather. Keep on boiling, and that leather itself will slowly disintegrate and become more digestible. This covers the whole ground of dispute between those who say, "Feed little chicks entirely on eggs," and those who reply, "Never, unless you wish them to die." This annual "egg controversy" opened in a March poultry journal by one writer directing hard-boiled egg fed first thing; and another replying, it must not be done right away. According to my experience they might save such discussion, because chicks till three or four days old, at least my chicks, do not like cooked egg. My early staple is bread and milk, not sloppy, which is safe beyond criticism. Oatmeal, just moistened, and "Dutch cheese" come next; wheat as soon as can be swallowed; boiled eggs perhaps once a day, chopped shells and all, mixed with bread crumbs and potatoes; occasionally a regular baked custard, or a raw egg beaten, thickened with crumbs. Gravel and bonemeal mixed are constant companions, meal puddings are gradually worked in, and chopped onions or a little lean, cooked meat, shredded fine, are treats. A properly raised chick both eats to live and lives to eat.

Poultry Notes.

BY JOHN BEVERIDGE.

From actual experiment it is stated that the droppings from four large Brahma chickens for one night weighed in one case exactly one pound, and in another more than three-quarters, an average of nearly four ounces to each bird. By drying this was reduced to not quite one and one-half ounces. Other breeds make less, but allowing only one ounce per bird daily of dry manure, fifty fowls will make in their roosting house alone ten hundred pounds yearly of as good manure as can be purchased. Hence, fifty head of poultry will make more than enough manure for an acre of land, seven hundred pounds of guano being considered a good application for an acre, and poultry manure being even richer than guano in ammonia and fertilizing salts. No other stock will give an equal return in this way for the food consumed, and these figures should be carefully pondered by those who take little heed of this kind of manure.

Vegetables of any kinds, and especially onions, are relished by fowls of all ages. Onions chopped fine and placed in the soft food act as a stimulant and tonic. The tops are particularly good.

APIARY.

The Apiary.

BY ALLEN PRINGLE, SELBY, ONT.

SETTING OUT.

Throughout Ontario, with the exception of parts of the Niagara Peninsula, and throughout Canada generally, this is the month (April) for removing bees from their winter repositories and placing them on their summer stands. In the peninsula, which is somewhat specially favored in climate compared with the rest of Canada this side the Rocky Mountains, some of the best bee-keepers winter their bees outside on the summer stands. They are, of course, protected by packing. Under such circumstances the bees get an occasional flight during the winter and early spring, but those in cellars and other repositories cannot get a cleansing flight till they are put out either temporarily or to stay. Up to date (April 5th) there has been little or no weather suitable for the flight of bees wintered inside. For the first flight, when the bees are stiff and laden from long confinement, the weather should be warm and calm, or many will be lost. Unless they are badly diseased and restless, it is better to leave them in till a suitable day arrives. And should they be quiet and free from signs of the bee diarrhoea, it is better to leave them in winter quarters till the weather is settled warm, and the natural pollen appears. In Eastern Ontario this occurs on the average between the 10th and 20th of April.

After the bees are put out in the spring, as soon as they have finished their first flight, they ought to be examined, cleaned up, those deficient in stores supplied therewith, and the hives, if not chaff or double-walled, packed around and on top with chaff, straw, dry sawdust, or something to conserve the heat. If not so packed, and the weather turns cold and unfavorable, they ought to be carried back to the cellar till it settles fine. It pays to take care of the bees in the spring the same as it pays to care properly for the other live stock about the farm, and no farmer worthy of the name thinks of neglecting his stock in the spring, or at any other time. The bees are as worthy, if not more, of attention as the rest.

DAIRY.

Why the Dairy Farmer Should Feed Well.

1st.—Because the cow takes about two-thirds of all she eats to keep herself decently alive, so that only one-third remains for production and profit. On scant feeding a cow may continue to elaborate milk, but she will do so at the expense of her own body. Net result: Starved cow, starved dairyman.

2nd.—In order that the young she is to rear, and which is a constant and heavy drain upon her system for three-fourths of the year, shall be properly nourished and have a fair start in life.

3rd.—Because it is an established fact, as every breeder knows, that a properly fed calf means a better cow. Prof. Roberts found, in experimenting, that grain-fed milking two-year-olds and three-year-olds developed into better animals than their stable mates receiving no grain.

4th.—Because milk is not a miraculous product any more than wheat or an egg. Some cows will do better with their food than others, no doubt, but the truth remains that the cow must receive a liberal share of proper food out of which to elaborate milk. Something cannot come from nothing. She must receive the raw material out of which to convert the fat, casein, sugar and other elements of milk, or the process will come to an end. Because some experimenter did not find a higher fat per cent. in the milk after increasing the grain ration, no reader of the *ADVOCATE* is likely to run away with the foolish notion that a straw stack and brewer's grain ration will properly fill the dairy cow's bill of fare. For many reasons it certainly will not.

5th.—Because the cow is like a good savings bank—she will return what she receives with a handsome interest, besides supporting herself, also meanwhile enriching the farmer's fields, which the bank will not do. It is no uncommon thing for cows (nor are they confined to any one breed) to add from 100 to 200 per cent. to the value of the food consumed in their milk product.

6th.—Because it will lengthen her milking period, and, consequently, the time of profit making. Milking for only 6 or 7 months is a bad habit into which careless dairymen have let their cows fall.

7th.—Because it will improve her milking powers the following season. This was strikingly proven by the authorities of Cornell Experiment Station staff in comparing herds of cows fed grain in addition to pasture. The two herds were evenly selected and had not previously been grain-fed on pasture. The first season the grain-fed lot gave 27 per cent. more milk and gained 53 lbs. in weight each more than the other herd. The following season it was found that the lot that had been grain-fed yielded over 16 per cent. more milk than the others.

8th.—Because it will promote a larger flow of milk and a consequent greater product of butter, cheese and by-products (skim-milk, whey, etc.) for feeding.

9th.—Because (and now we are on much-debated ground) while in some experimental feeding tests increasing the meal in rations fed cows has not been followed, at least in a limited period of time, by an increased fat per cent. in the milk, in other cases it has, which indicates that there are problems in cow feeding not yet fully understood by experimenters. If the conditions were not different (for instance, foods not judiciously chosen or used, or some difference in the cows,) why did the butterfat increase in one case and not in another? In one experiment which we have in mind, the cows had been previously under good feeding, and were, perhaps, up to what is sometimes styled their "normal capacity," which a short feeding test could hardly be expected to vary. But how many farm herds are doing their best? The latest new data along this line is furnished by the Vermont Experiment Station, where it was found, in testing the waste products of corn ("cream gluten meal," "sugar meal" and "corn germ feed") in comparison with a standard ration of bran and corn meal, that the former produced more milk in eleven cases out of seventeen. They produced a richer milk (increased butterfat percentage) in fourteen cases out of seventeen, and a larger total product of butterfat in fourteen cases out of seventeen. Prof. Cooke adds a word of caution regarding the use of these waste corn products, especially the sugar meal and cream gluten meal, which are rich concentrated foods like cottonseed meal. Three or four pounds per day of sugar meal per cow is as much as it is safe to give, while with cream gluten meal the limit of two pounds per day per cow should not be exceeded. In one creamery herd, of which we have knowledge, adding cut-sheaf oats to a ration of straw, clover hay and corn silage reduced the quantity of milk to make a pound of butter from 18 pounds to 15. (Cows were well on in lactation, and separator was used.) When the sheaf oats were dropped the old and lower average was resumed. In our own experience we have been struck with the prompt effect of cottonseed meal in limited quantities on both the texture and color of butter. Wm. Warfield, the veteran Shorthorn breeder, after 50 years experience handling cattle, writes in his treatise on breeding as follows:

"That one cow can be made to give as rich milk as another may not be possible; but, by proper food, a cow may be made to give richer milk than when fed on improper food."

Prof. E. W. Stewart, a thoroughly practical authority, in his standard work on feeding ani-

mals, cites numerous instances—several being actually conducted by himself with both heifers and cows—in which by a steady course of special feeding a gradual but sure improvement was effected, both in quantity and quality. Since most farmers will begin the work of development with their present herds (securing, from time to time, all the advantage possible from the infusion of pure blood,) they should, under no circumstances, neglect generous feeding. Rightly done they are sure to effect an improvement that will become a fixed characteristic, and last as long as the cow's constitutional vigor holds out.

10th.—Because the cow whose dairy quality has been improved and fixed as described will transmit, as a rule, this desirable trait to her offspring. In trotting horse lore a "developed" sire or dam is one that has had sufficient handling in harness to show his or her best speed, and it is a well recognized fact, that a "developed" horse is far more likely to beget speed than if he were not so trained. This is equally true of the dam. Prof. Stewart mentions the case of heifer calves raised from two cows before he had developed them, which proved to be very ordinary milkers, but heifer calves raised after development proved to be excellent milkers, there being no gain in the latter case by the use of a better sire.

11th.—Because the universal experience of successful dairymen demonstrates that good feeding pays, and is the only sort that does pay. In short, of no one can it be more truthfully said than of the dairyman:—"The liberal man deviseth liberal things, and by liberal things he shall stand."

The Economical Production of Butter.

BY JAS. W. ROBERTSON, DAIRY COMMISSIONER.

There is nothing sordid in economy. The economical production of anything is the result of the application of the best skill to its manufacture. Men sometimes sneer at economy, because they think it has an element of meanness in it. I know men so mean that they will clasp both hand over two cents, and grip them so hard and continuously that their fingers will be too numb to scatter the seed in springtime to get a good crop for harvest. There must first be a giving out, a liberal sowing, before there can be an abundant harvest for reaping with joy. It is economical to sow bountifully when the seed and the soil are good.

Now, in the production of butter it is always economical to recognize that economy takes cognizance of a man's environment. We can grow oranges in Canada; we have an orange tree bearing oranges in Ottawa, but it is in a conservatory. We cannot grow oranges economically in this climate. Many men try to go on doing something, regardless of the natural conditions that they find around them. Now, we have in Canada the conditions for an economical production of butter. We have, first of all, a fertile soil—a soil rich in all the elements of plant food. We have a soil which gives the largest crops of forage plants in the world, with conditions to support all animal life in robust health. We have a capable people needing occupation—needing employment. Why should a man, living in Canada, want to go elsewhere to get more room to spread himself on a great big farm? The money to-day is being made on small farms by men who farm well, and not by men who spread themselves over great areas and farm poorly. We have markets calling out for fine butter all the time; and making butter will enable farmers to keep their land in good condition, and give them and their families profitable employment. It is economy for the governments, for the people, to do all they can to extend the economical production of butter.

It pays to concentrate the products of the soil, and sell the refined products that carry the highest value with the least exhaustion of fertility. It is a fact that in one ton of hay you will sell 85 times more from the soil than you will in one ton of fine butter, and you will get for the hay probably \$10 and for the butter \$450.

Then, in the economical production of butter, it will always pay a farmer to remember that butter is merely a kind of food whereby a man obtains energy for work. If I move my arm I rub off some of the material of my muscles—the friction has worn some off. I need something in my food to repair the waste of tissues in my body; besides, I need a supply of energy that will make it possible for me to originate and continue motions and perform the functions of living. There is nothing in fuel that will repair the waste of the cylinder of an engine; but without the fuel you could not get the motion. What does that mean? You get all energy in all food and fuel from the old sun. He streams his rays down on the earth and on into the plants, which the soil carries. He rolls his strength up into plants, as I might wind my strength into the spring of my watch. A plant may then become food and fuel. It is economical practice on the part of the farmer to select for his fields the plants which can serve him best in that capacity. The sun can store more of his energy during a single season's growth into the corn plant than into any other plant that grows easily in Canada. A cornstalk furnishes to the cows more energy than any other plant. Then you get this energy transmuted into butter, and you have "materialized sunshine" energy to supply force for your work. There is economy in that method of getting the sun to serve you by means of cornstalks, cows and butter. For this reason I think that every man who helps to make a farmer have

increased faith in the value of cornstalks does a service to his country. The wealth of the Western States has come practically from two sources—from the sun and from the minerals; from the sun through the cornstalks, which in various forms of derivative diet, has furnished the energy to dig up the minerals. You need not try to "bamboozle" yourselves into thinking that wealth comes into existence without somebody's effort.

Then, in the production of excellent butter, the farmer needs to have good cows. I have a great deal of respect for a good cow. I have a good deal more respect for some of the cows in my stable than I have for some men. If you will treat a cow properly, she will give back an equivalent for what she gets. She is therefore honest, and will pay for her way through life. I will hunt with a microscope in the careers of some men, to see what they have given to the world of valuable service, and cannot find it. A cow sometimes does get more than she gives. I would not spare that cow. Put her on the block; get your money out of her in that way. You think of cows as boarders, kept for the profit of the man who keeps the boarding house. Did you ever think of a man keeping a boarding house, running on the general satisfaction plan, saying that if he does not get enough from one boarder to pay for his keep, he will get it from the others? No! he expects to make a profit on each one of them. The farmer should act in that way towards the cows. There is advantage from watching the cows and selecting the best of them. It is not so very hard to do, and most cows are capable of paying for their board in full, if they are given a fair chance. But if they are brought up the wrong way, they are sure to go astray—just like boys.

Some people have a preference for a large cow. To my mind, if I wanted a cow to consume more food than she will give a return for, I would like an immense animal. If I wanted her to pay for her board, I would just as soon have a small one. I believe I would rather have a small cow than a large one, if she will give the same quantity and value in her milk. Then there is a notion that the bigger the cow, the better the quality of her milk. It is not so. I have faith in the quality of goods done up in small packages. I want to tell you what selection has done. The Hon. Thos. Ballantyne—a man who has done more to advance the dairying interests of Western Ontario than any single individual I know—spoke lately in my hearing, and he stated that one cow in his herd last year gave 12,000 pounds of milk; another gave 11,000 pounds in the season. They furnished milk for cheesemaking during the summer and for butter through the winter. It is possible for a farmer, by judicious selection and feeding, to enlarge the capacity of the cows in his herd. Mr. George Allan, who lives near Ottawa, is an excellent farmer. He had four cows in 1888, which gave only 78 pounds of butter each. He began to grow cornstalks, and feed these with a little bran, and in 1889 they gave 131 pounds each; and in 1890 his cows gave him 204 pounds of butter each. See the enlargement of capacity, and therefore the economical production. It is possible to enlarge the capacity of the cow, and thus reduce the cost of production. That belongs to economy, and the wise man is economical always, because to be otherwise is to waste; and waste is worse than folly.

(TO BE CONTINUED.)

Dairy Question.

Would you advise perforated metal tops on deep milk cans, which are set in a well? Will the cow flavor have any injurious effect on the butter? There is a pump in the well and plenty of water. Will it be better to cool the milk before placing in the well?

A SUBSCRIBER.

ANSWERED BY PROF. DEAN, O. A. C. GUELPH.
Do not set the milk in the well at all. The risk of injuring the water by spilling milk or cream is too great. It will be far better to pump the water into a tank or barrel and set the milk cans in it there. This water should be changed at least twice where ice is not used. It is almost necessary to use ice to get good results with deep pails. The milk should be cooled to 45 F. before skimming, as there will be great loss of fat or butter in the skim milk. I would prefer covers with a perforated top, or the submerged can, such as the Cooley, which allows the animal odors to escape into the water. If there is neither of these, then the lid should be left off for half an hour after setting. The flavor of the butter will be improved by allowing these stable odors to escape.

Report of Mt. Elgin Winter Creamery for 1892 to 1893.

Ninety-five patrons supplied milk. Total quantity of milk received was 497,271 pounds; total quantity of butter manufactured was 23,798 pounds. The average per cent. of fat contained in the milk was 3.90. The average number of pounds of milk to make one pound of butter was 20.89. The average number of pounds of milk required to make a pound of butter in each of the months was as follows:

December,	20.79	pounds milk per pound of butter.
January,	19.62	"
February,	20.79	"
March,	23.86	"

The total quantity of butter manufactured during the winter of '91 to '92 was 11,062 pounds, showing an increase of 12,736 pounds.

T. J. DILLON, Supt.

A Dairy Question.

BY S. P. BROWN.

There is a question relative to the dairy which is attracting not a little attention, and one which, I think, is closely allied to the one, "Can we feed fat into milk?" and this it is as I have seen it: "Why does a given quantity of my cream yield from one to two and sometimes even three pounds less butter one time than at another?"

I have had such experience several times this winter, and I think I have found out one or two causes for it. We use a hand-power separator altogether, so the cream is even of more uniform density than it is liable to be by a skimming process. This fact caused me to make very close observations in all my work to find the cause of trouble. I was satisfied that the wanting butter must be in the buttermilk, though for want of time I did not test it. I had tested enough to know the reason why cows gaining in the flow of milk, as on improved feed or flush pasture, would put more fat into a given quantity of cream each successive churning till a maximum is reached. On the other hand, when they are falling off in the flow of milk, from any cause whatever, for a length of time together, the pounds of butter per gallon of cream will proportionately fall off.

I account for this from the fact that such milk is harder to separate from the cream than that from flush feed, and, while in the skimming process more cream is left in the milk, the separator takes all the cream out, but puts more milk with it than with that from flush milk. Now this, it appears to me, accounts for the idea many have that they can feed fat into milk.

They have two facts which confirm the idea, viz., that their cows are gaining in milk yield, and that they get more butter from the same bulk of cream, but they lack the one essential to show the true percentage, namely, the percentage test.

Now, to answer the question I started out with, as I have concluded it to be answered, the cause lies in the management of the cream—too high a stage of acidity is developed. During the very cold weather in the past winter I set the cream, forty-eight hours before, expected to churn, where and so it would ripen slowly, and in that time it would attain a great density; but sometimes it would hardly get thick in that time, then would wait till it just began to thicken and then churn. I found every time that this occurred I got more butter; and now I manage it so as to churn just as it begins to thicken, or before rather than after it has become livery, with better results.

VETERINARY.**Micro-Organisms in Health.**

Some very startling facts have lately been discovered with regard to the part played by micro-organisms in plants and animals in health and disease. New thoughts, new ideas, lead to experiment, and sometimes the results are disappointing; on the other hand, it is never the expected that happens in nature. Within the past year a decided advance has been made in investigating the question, as to whether the inexhaustible store of nitrogen in the air could be utilized by plants, and, if so, by what process this nitrogen was made available as plant food.

For many years experiments in micro-organisms have shown that some particular kinds of plants have the power to acquire and fix in the soil, by means of these organisms, the store of nitrogen from the atmosphere (the root tubercles of most of the leguminous crops, pea family more especially); and that there are a great number of different organisms which accomplish the work for different kinds of plants was well known. Thus, if we wish to produce tubercles on the roots of lupines, we must grow the plants in soil which contains the lupine bacteria or micro-organism, for a rootlet requires at the spot where it touches the soil a most minute quantity of food, but it is necessary to its functions and its very existence that this minimum be found exactly at this spot.

Already it has been shown in a few trials that an increase in the yield of leguminous crops can be caused by spreading small quantities of soil from fields where legumes have previously been grown over ground where another crop of the same kind of legumes was to be grown.

The bacteria or micro-organism in one soil were thus transmitted or infected to another, to aid in supplying the new crop with nitrogen from the air.

In inoculation of the soil with these bacteria we seem likely to have another means of increasing the growth of crops. These results have been obtained by the investigations of the bacteriologists in searching out the micro-organisms of diseases and methods of prevention. In attempting to find a specific organism they have stumbled on another quite unexpectedly, and likely to be of as much importance to the agriculturist as to the physician.

A number of the diseases of plants have also been traced to minute organisms or fungi; new

species have been discovered, and the life history of many formerly known have been traced out. These diseases are soft rot, black rot, stem rot, white rot, dry rot, potato scurf, leaf blight, leaf mould, finger and toe of turnips. These diseases and the fungi which caused them have been fully investigated, methods of prevention and cure suggested.

Clover rust was found to invade only a second crop, and known under the generic term of clover sickness. It was found that while an early crop is not likely to suffer, when the second crop was used as a fertilizer, the fields should be carefully watched, and the crop plowed under if rust appears ever so slight.

Experiments have been made in treating large quantities of wheat for stinking smut. The seed to be treated was immersed in hot water, at a temperature of 131° F. The object to be attained is to thoroughly wet and bring every grain into contact with the hot water. The details are unimportant. The loose smut of oats has been treated in this way with success, and it not only destroys the smut, but also gives a greater yield than would be expected from merely removing and replacing the smutted wheat with sound seeds. The remarkable circumstances about all these organisms is that they are unable to withstand extremes of heat or prolonged cold. There is, however, some difficulty in accounting for the mode of operation, as in many diseases of animals we see exactly the same process as transplanting the mould for propagating the growth of leguminous seeds. Of all the contagious diseases to which animals are liable tuberculosis is most widespread; even reptiles are known to be subject, whilst it is common among the birds. There is, perhaps, no animal that so commonly falls a victim as the milch cow. From recent investigations, and an intimate knowledge of animals of the farm, we are desirous of again and again warning our authorities of the importance of this matter—to point out the danger of using unboiled cow's milk—one of the most favorite and nutritious articles of diet consumed by the public, although it is to be devoutly wished that the recent experiments to discover a general method of obtaining a curative substance, which has been done in some other of the malignant diseases, will be successful.

Dr. Behring, of Koch's Institute, Berlin, has discovered a principle by some experiments that the blood serum of an animal protected against a certain infectious disease possesses a curative power against this very disease in other animals. Thus, when an animal is rendered immune, "that is to say, when the animal has once had an attack of a contagious disease, he is proof against a second attack"; a quantity of the blood of the immune animal exerts a curative influence, not preventive, on another animal which has been inoculated with, or already suffers from, a contagious disease, so that we may hear very shortly that a method has been discovered of treating tuberculosis on the same lines.

The study of micro-organism seems to point in the direction of cause and cure of almost every known phase of animal and vegetable disease. When we study the system of life, we are instantly brought face to the problem: How very dependent one form is upon the other; that parasites and parasitic forms of life are essentially the manifestations of animal and vegetable organism; the birth, growth, reproduction, decay and death are only the stages.

Veterinary Questions.

ANSWERED BY W. A. DUNBAR, V. S., WINNIPEG.

I have lost two pigs out of a litter with the same symptoms; they first appeared short of breath, then ran round in a circle squealing, and died in about half an hour. The sow is in fair condition; little pigs three weeks old, and in very good condition. Would bleeding do them any good, and if so where is the proper place to bleed them?

THOS. GOSNEY, Miami.
The trouble is evidently in connection with the digestive organs, and is probably caused by improper food, such as frozen wheat, etc. Give to small pig two tablespoonfuls of castor oil, and one teaspoonful of laudanum. Bleeding is unnecessary.

Please give some simple remedies, if there are any, for the cure of foot and mouth disease; something that can be procured fifty miles from a drug store. Is there any means of preventing the disease from spreading in a herd? SUBSCRIBER.

The animals and their surroundings should be kept clean. The litter should be light and dry, and changed at least twice a day. Among the various lotions recommended to relieve irritation in the mouth, the following is the most simple and effective:—Borax and alum, of each one ounce; water three pints. This solution should be poured into the mouth from a bottle twice a day, and about half a pint used each time. The feet should be kept clean by washing gently once or twice a day with water containing two ounces of alum and one ounce of carbolic acid to the quart.

I found eight large worms like the one that I have sent you, and also a number of others about the size of a darning needle, in the small intestines of a pig which weighed 168 pounds. Would you let me know through your valuable paper the name of these worms, what harm they do, and also what is best remedy to use? Yours truly,

THOS. FISHER, Riverside, Assa.

The specimen you have sent in is an intestinal worm (lumbricus). This kind of worm is frequently found in the small intestines of various animals, but unless they are numerous they are not considered very injurious to health. For full grown swine, half a teaspoonful of sulphate of iron (pulverized) put in food morning and evening for a week or ten days, will be found a simple and effective remedy. For younger animals give a proportionately smaller dose.

A four-year-old mare got her hind leg cut on a road scraper last summer, and not having much knowledge on the treatment of such cases, I tried to do as everyone told me, and now the mare is worse than at first; leg is swollen to twice the natural size, with a large lump of raw flesh, like the half of a goose egg, and every time she lifts her leg the middle of this lump (a piece about an inch in diameter) pulls in. She is very lame just now, though sometimes she can run as though nothing was the matter with her; have tried several different treatments, and two V. S.'s have failed to cure her; am now using Butter of Antimony. Can you tell me how to cure it?

JOHN KILPATRICK, Killarney, Man.

You do not mention what part of your mare's leg is injured, but I think it must be the back part, just above the fetlock, and "the piece that pulls in" is probably the end of a tendon; if this is so, the case is somewhat serious, and should receive the attention of a good veterinary surgeon. If you are not within reach of a qualified man, you may try the following treatment:—Apply flaxseed meal or bran poultice to the part for forty-eight hours, changing the poultice twice a day, and then dust on to the raw part once a day a powder composed of equal parts of iodiform and boracic acid. Remove scab as soon as it becomes loose, and apply powder to the raw surface. The leg will remain enlarged, but after the sore is healed a course of blistering would probably reduce it to some extent.

Please answer the following questions through the ADVOCATE: Is there any way of detecting tuberculosis or lumpy jaw (which I understand is the same thing) besides the lump on the jaw, and is a lump on the jaw always an indication of it? Is there not danger to human life and health from using the flesh, milk or butter of such diseased animals? Is it safe to breed from a bull affected with this disease? Is there any law to compel a man to destroy animals so diseased?

"SANDY," Suthwyn, Man.

Tuberculosis and "lumpy jaw" (actinomycosis) are different diseases, produced by widely different causes. Tuberculosis is an infectious disease of cattle, and of many other animals, including man, and is developed from a germ called *bacillus tuberculosis*. This disease is more or less prevalent among cattle, especially in milch cows, in almost every civilized country, and is at the present time the subject of scientific investigation and research by the medical and veterinary professions in Europe and America. The governments of several countries, including that of our own Dominion, are also becoming aroused to action, and are taking the initiatory steps to stay the ravages of this scourge of man and beast. The first noticeable symptom of this disease, when the lungs are involved, is a low, short cough. As the disease advances the cough becomes longer, hoarse and very annoying to the animal. The disease is frequently in progress for a considerable length of time before the animal fails much in condition, but sooner or later the flesh begins to disappear, and continues to do so until (if the animal is allowed to live) nothing will apparently remain except the bony frame and hide. The flesh and milk of tuberculous animals are unfit for human food, being dangerous to life unless boiled or otherwise well cooked. Animals suffering from this disease should not be allowed to propagate their species.

Actinomycosis ("lumpy jaw") is caused by a vegetable fungus (actinomycosis), and appears as hard tumors on the upper or lower jaw and other parts of the head and face. Although this disease is chiefly localized in the region of the head and face, it is occasionally observed on other external parts of the body. The tongue is, in some countries, frequently the seat of actinomycosis, and the lungs and other internal organs are sometimes involved. Unlike tuberculosis, this disease has been proven by competent and careful investigators not to be infectious nor very contagious. The question as to where and how animals take this disease has not yet been satisfactorily decided, but it is generally believed by interested observers that the fungus enters the system through the food. According to the latest reports of European and American scientists, the flesh of animals suffering from actinomycosis is fit food for man or beast, providing it has not been in connection with the diseased part, and the animal was in good condition and giving no signs of constitutional disturbance. It is also stated in the reports mentioned that the iodide of potassium, in from one to two drachm doses twice a day for a week or longer, is a reliable remedy for this hitherto supposed almost incurable disease. For information regarding the disposal of animals suffering from infectious or contagious diseases, inquire of the Department of Agriculture, Statistics and Health, Winnipeg.

FAMILY CIRCLE.

THE STORY.

Mrs. Goldenrod's Boarder.

[Continued from page 131.]

But I must hasten on with my story. It must have been July, I think—I know it was in midsummer somewhere, when I stepped out towards evening to do some marketing. The place was full of visitors, and Polly and I moved with difficulty through the crowd. It was a lovely evening, the sea just breaking up the beach with a whispering noise, and the air was as cool and refreshing as could be. Everybody seemed happy, and Polly was as full of fun as a kitten, wanting to stop and look at everything at once. Suddenly we turned a corner, and there was the band beginning to play. Gentleman George with his fiddle in the midst of them, scraping away at a great rate. Polly was off like a shot. There was no stopping her.

"George, George," she cried, "Is a comin', George," for she was exceedingly fond of him.

Then whether she caught her foot or slipped, I don't rightly know to this day, but down she fell in the middle of the road, with a carriage just coming along, and the horses almost on to her. If Gentleman George hadn't sprang forward and caught her in his arms, it would have been all over with our Polly in another minute.

Oh, it was horrible. I cannot bear to think of it even now. My Polly lying in the road with her hair all tumbled in the dust, the basket she was carrying rolled away, eggs and all, into the gutter, and the horses rearing and prancing right over her head; the carriage, and the young lady sitting in it with a scared look on her pretty face, and gentleman George—the suspense and horror of that moment was awful.

Well, he gave the child to me, and "thank heaven, she is safe," said I, all of a tremble. "Thank you, too; for it was you who saved her. But what is the matter, George? You hav'nt hurt yourself, have you?" He was looking so terribly white and shaken, that I couldn't help noticing it, excited as I was about Polly.

"Hurt? Oh, no," said he, staring after the carriage that was just turning up a side street, as though he were dazed. "What is the matter?" I said again, pulling his sleeve; for the look on his face frightened me. Then he roused himself, and patted Polly's head, saying,

"Nothing is the matter, Mrs. Goldenrod: I am all right, thanks. Don't you worry about me, but take care of the child." And with that he went back to his place in the band; and in another minute he was fiddling away for all the world as though nothing had happened.

So Polly and I turned up the side street, and there was the carriage waiting, and the young lady in it. As soon as she sees us, she gives a start, and out she jumps on the pavement. "Oh, I'm so thankful that your little girl wasn't hurt," she said very earnestly. "It was terrible to look on and know that one could do nothing. What an awful fright it must have given you."

"It did, indeed," I said, gazing into her sweet face, and thinking what a kind heart she must have; for she couldn't speak without the tears coming into her eyes. "It alarmed me greatly, and if it had not been for Mr. George—"

"Ah," she said, catching her breath, "I wanted to ask you about him. Do you know him, and can you tell me where he lives?"

"If you are thinking of giving him money for what he has done, you must not do it, as he would be offended and would not take it. He is very high strung."

"Oh, no, no, no; I would not dream of such a thing."

She was quiet for a minute, then added:

"We are old friends, George and I; I've lost sight of him for a long time, and now—"

"He says he has no friends."

She gave quite a start, changed color, and her eyes filled with tears. "Oh, did he say that? Poor George! He didn't know. He didn't understand. Oh, if you know him well, you can help us so much!"

"I'll help you to the utmost in my power, if I could be sure that he will approve!"

"I'll take the responsibility of that," she began, smiling; "but all I ask of you is to let me know his address; the rest I can manage myself."

"I don't know whether he would permit me to give you his address."

At this she stamped her foot impatiently, saying—"Well, if you won't help me, I must ask one of those men who were with him. You can judge for yourself whether he'll like that better."

"You are right," I answered; "and as you are determined to see him, you had better leave it to me; but I must ask him first, and—"

"Hurry up, mamma," said she; "George will be home to supper before Polly, and—"

"Does George take supper with you?" asked the young lady, quickly. Then, as the child nodded, she looked at me triumphantly and added, "Polly will give me a cup of tea, too, if I come home with you now."

"Yes, indeed," said Polly. And she took hold of her hand as trustfully as though she had known her all her life; and I couldn't help laughing; it was all settled before I could say a word.

"One moment and I will be ready," said the young lady, her eyes dancing to think how she had outwitted me. And she tore a leaf out of her pocket-book, and scribbled something on it, then gave it to the coachman.

"Wait for my father," said she, "and when he comes, give him that. And now I can start as soon as you like, Mrs.—By the way, I don't know your name."

"Goldenrod," I answered, "will you favor me with yours?"

"Of course. My name is Greyson—Nellie Greyson," said she, as she walked by the side of me, holding Polly's hand.

"Have you ever heard George mention it?"

"He never mentions any names to us," I said.

"That was true enough; but in his fever he had often called for Nellie, and talked about her disappointing him, and not standing by, or believing in him and a great deal more in the same strain, but I was not going to tell her that."

The young lady talked on pleasantly until we came to our gate; then I sent Polly up-stairs, and asked Miss Greyson into the kitchen.

"Excuse my bringing you in here," I said; "we are house-cleaning, and all the other down-stairs rooms are in confusion just now, and George's room is very small, and at the top of the house. If you wish to see him in private, Matthew and I will step out in the garden, and I will see that the children are kept out of the way."

"No, no! I only want to speak to him a minute." And she sat down with her back to the window, and looked at me very earnestly. "Oh, Mrs. Goldenrod, you've been kind to him, I am sure; and when he's so very kindly, won't you believe me when I say that I come as a friend, and that George will be glad to see me."

I scarcely knew how to answer her, and while I was wondering what to say, I heard a click at the gate. Now, thinks I, we shall know the rights and wrongs of it.

But the young lady heard nothing. She was so absorbed with the things about her, and apparently thought that I had George in hiding somewhere.

"He doesn't come in yet, I suppose?" she asked again.

"Oh, Mrs. Goldenrod, I wish he would come quick; it makes me so nervous waiting for him."

And there he was, looking in at the window all the time, wondering who it was sitting with me. But when he heard her voice, he gave a start and turned away, and I ran out quick and caught hold of his arm.

"Come in, George, and get your supper. Why, what is wrong? You look as though you had seen a ghost."

"I have," he said, more to himself than to me—"the ghost of old happy days that I thought were over forever. But who is that with you, Mrs. Goldenrod?"

"A friend," I answered; "come in and see."

He followed me into the house like a man in a dream, and

there was the young lady standing waiting for him. It was easy to see that there was something more than common between them.

"Nellie!" he cried, almost as if someone had struck him. "Oh, George! George! I have found you at last," she cried; and she ran up to him, holding out her arms. But he turned away, shuddering.

"And his voice was so harsh and changed that I would not have known it." That is all over. I am a thief, and a forger, and—"

"You're not, George! Oh, you're not!"

"You believe I am; so it is the same to you as if I was."

"I don't believe it. I never believed it for a single moment. And now—oh, George!"

"Then why didn't you tell me so. Oh, Nellie, your silence was worse than all the rest. I could have borne everything but that; but when you, too, turned from me! I wouldn't have expected you to keep our engagement? but if you had sent me a word, or a line—oh, my darling, it would not have cost you much! And he threw himself down on Matthew's big chair, and laid his arms on the table, and his head on them, and gave a groan. "I never turned from you. They lied to you, George, and you believed their lies. And I couldn't come to you, though I tried, for you'd gone right away, nobody knew where. And you thought that I doubted you, too—I, who would have taken your word against the world. Oh, George! dear George! What you must have suffered! But it is all over now, and I am so thankful! It is all over now."

She was kneeling beside him as of long ago, and had his hands in hers; and he could not help looking at her, whether he would or not; but the look he gave her was enough to break her heart.

Over, Nellie! No, no; it is not over, and never will be this side of the grave. It is good of you, dear, to wish to stand by me; but it won't do; no, it won't do. I am a disgraced man in the eyes of the world, and I mustn't let you sacrifice yourself. You have taken away the sharpest sting of all, darling; but you shall never share the dishonor of my name."

She gave a sob at that, and clung closer to him.

There is no talk of dishonor any more, George. My father is as anxious to find you now as I am; yet when I first told him I knew you were not—what they said you were; and even if you had been I could not have helped loving you—he was almost mad; and said he would have prosecuted you if it had not been for me; and he was more than half inclined to do so still. So I had to keep quiet for your sake, until he was more reasonable. And now, George—now it is all over—the pain, and the doubt, and the parting; for they have found out who did it, and your name is cleared."

I did not hear him say anything then, and what happened I cannot tell you; for I thought it my duty to step outside and leave them to themselves.

When I came to the gate, there was the young lady's carriage driving up, with an old gentleman in it.

"Does Mr. George Benton live here?" he asked.

"Yes," I answered, jumping at once to the conclusion that that was his rightful name. And I showed him into the kitchen, taking care to make as much noise as possible, even stepping on the cat's tail which brought forth the coveted noisy objection on her part.

The young lady was sitting in Matthew's chair when we came in, and George was sitting on the kitchen table, looking at her, and seemed as though he would not be done looking for a good while; but he jumped down pretty quick when he saw who was with me.

"George," said the old gentleman, holding out his hand in a shame-faced sort of way, "your name is cleared, and I ask your pardon for ever having doubted you. You will own, though, that appearances were against you, and the circumstantial evidence—"

"Say no more about it, sir. The evidence that I was a scamp was so strong, that I found it hard sometimes to know myself for an honest man. No jury could have acquitted me, nor no one else who wouldn't trust my own word and their own bare knowledge of me—as Nellie here has done, against all appearances; and it isn't many who will do that."

"It takes a woman to believe against reason," said the old gentleman, smiling. "Forget and forgive, my boy, and I will do my best to make amends for what is gone."

There was a great deal of talk after that, and Gentleman George made a great mountain of the little we had done for him, and the young lady thanked me with tears in her eyes, and the old gentleman shook my hand, and Matthew's, too, when he came in, and they kissed Polly all round; and said that she it was who had brought them together; and we had a great time parting Polly at the parting. And Gentleman George named his first little girl Polly, after our Polly, and he and his beautiful wife often come down to see us and to talk over things with Matthew; and he's building a handsome mansion at his country seat and one of the cosiest of cottages, which he insists that we shall occupy for good and all, because he says he needs a superintendent, and he wants the superintendent right handy and he knows of no one that would suit him so well as the man who was the means of bringing him the greatest happiness a man can find in this world.

The White Day Lily.

There are day lilies and day lilies, but the day lily *par excellence* is the white day lily, *Funkia grandiflora alba*. Not a dozen other plants can be found that combine as many merits and as few faults. Its foliage is handsome, its flowers uncommonly beautiful, its culture of the easiest. It is perfectly hardy and never fails to produce a profuse and long continuous crop of fragrant flowers that come at a time when nearly all the true lilies are through blooming. It ought to be considered as indispensable to a yard as is the lilac or the rose. It is one of the few flowers I like to recommend to busy women who love flowers but are obliged to neglect them for their household and children.

All a plant of the white day lily asks is root room in fair soil; it will do the rest. I have seen a two-year-old clump that never had twenty minutes care given to it, that produced over two hundred flowers in the season, and how could one ask for a lovelier flower? A little smaller, but much resembling the old garden favorite, *Lilium candidum*, its snow white chalice perfumes the air, day after day, week after week, as fast as one blossom fades another taking its place. For a long time we, as a people, failed to appreciate perennials, now we begin to see their great value, and I prophesy that the time will soon come when the bulk of every householder's planting will be of those tried and true perennials that give a maximum of beauty for a minimum expenditure of time and labor. In that glad time we will expect to see in every flower border a great clump of our fragrant favorite, the white day lily.

Vicks Magazine.

L. S. LAMANCE.

THE QUIET HOUR.

At Thy Feet.

Low at Thy feet, I bow, O blessed Master!
Here let me lift my waiting heart to Thee;
Here let me feel Thy touch of love and healing;
Here let me lie in my humility!

As birds of song who swell the sweetest praises,
Build low their nests beneath the grassy mound,
So thro' life's shadows keep me, blessed Master,
Low at Thy feet, where perfect peace is found!

Here fill my soul with Thy reviving Spirit,
Inspire my lip to sing a nobler song;
Till at the dawn of that eternal morning,
I shall rise to join the choral throng.

Sweet it will be to burst these earthly fetters,
And soar above where angel faces greet;
But sweeter far to clasp Thy hand of welcome,
Kneeling in rapture at Thy sacred feet.

Prayer.

I have lately taken to turn to the character of God for comfort. Would it be like Him, the tender Father, to hold aloof from the weary, struggling, sorrowing child, and only be really near to those to whom He has given power of prayer and enjoyment? For if the power and access and peace are all His gifts (and who dare say they are not?) it would simply be unfair if he gave most love and care to those that have them, or when they have them.

Therefore, the only consistent conclusion is, that He is really just as near, just as loving, when we do not see or feel anything that we want to do, as when we do. Also, that as His sovereignty and His love are co-equal and universal, they must be applying here, and He only withhold the enjoyment and conscious progress we long for because He knows best what will really ripen and further us most.

And do we not wrong His tenderness by our distress at not being able to pray as we would when we feel weak and ill? Does He not know, not only that we would pray if we could, but also how much we are losing as to enjoyment by not feeling able, and so I do think sympathizing with us in this distress as much as in any other? There are not many things that have made me more vividly conscious of the antagonism of the old and new nature than the pouring out of such prayers as may involve suffering in their answers. There is a shuddering and shrinking and wincing. One trembles at the possible form the answer may take and is almost ready to forego the desired spiritual blessing for very cowardice, but yet one prays on, and desire is stronger than fear, heaven is stronger than earth, and one pleads and wrestles to be "purged and made white," even if these are to be inseparable from the following words, "and tried"—"I may know Him, and the power of His resurrection," even if this be linked with the "fellowship of His sufferings."

Our Lord's Life a Life of Health.

It was a life of health. Among its many sorrows and trials, sickness alone was absent. We hear of His healing multitudes of the sick—we never hear that He was sick Himself. It is true that the "golden Passional of the book of Isaiah" says of Him:—"Surely He hath borne our griefs, and carried our sorrows; yet we did esteem Him stricken, smitten of God, and afflicted." But He was wounded for our transgressions; He was bruised for our iniquities; the chastisement of our peace was upon him, and with His stripes we are healed; but the best explanation of that passage has been already supplied from St. Matthew, that He suffered with those whom He saw suffer. He was touched with a feeling of our infirmities; His divine sympathy made those sufferings His own. Certain it is that the story of His life and death shows exceptional powers of physical endurance. No one who was not endowed with perfect health could have stood out against the incessant and wearing demands of such daily life as the Gospel describes. Above all, He seems to have possessed that blessing of ready sleep which is the best natural antidote to fatigue, and the best influence to calm the overworn mind, and "knit up the ravelled sleeve of care." Even on the wretched deck of the little fishing boat, as it was tossed on the stormy sea, He could sleep, with no better pillow than the hard leather-covered boss that served as the steersman's cushion. And often in those nights spent under the starry skies, in the wilderness and on the mountain-top, He can have had no softer resting-place than the grassy turf, no other covering than the *tallith*, or perhaps some stripped *abba*, such as often forms the sole bed of the Arab at the present day. And we shall see in the last sad scene how the same strength and constitution and endurance, even after all that He had undergone, enabled Him to hold out—after a sleepless night and a most exhausting day—under fifteen hours of a trial and torture, and the long protracted agony of a bitter death.—"Farrar's Life of Christ."

"Alas! that man so often comes to see what his duty is when he no longer has the ability to perform it. When the friend stands alive before us when he stretches out his arms to us, and seeks us, with his eye, the thought of all we might be to him never enters our minds. But when death has laid him prostrate, when the wan hands are folded upon the lifeless corpse, and the lid draws its curtain for ever over the bright and faithful eye, then do we begin to think and ask ourselves: "Of what kind was the love with which I loved? Was it that which seeks to minister, or that which requires to be ministered unto? Spirit of Jesus Christ! rid me of the love that seeks only self and its gratification, and teach me that which seeks the good of others.—A. Tholuch, D. D.

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES:—

The poultry and egg industry has grown suddenly to be one of the most important in our Dominion, and there is fortune and success in it for any woman who will take it up with enough of patience and taste to develop it, for like every other industry it has to be perfected by slow degrees; but it has this advantage over others, that there is a ready sale for all produced. Do not hope to gain fortune and success all at once, for you must gain experience as you go on. Poultry can never be made remunerative as they are kept by the average farmer's wife now. Like all farm stock, they require to be petted and familiarized with the human beings about, and there is a vast difference in the productive properties of hens so petted to those that fly like crazy things when approached. To accomplish this familiarizing process, they must be housed in a warm room, fed and watered twice per day, their setting watched and the chicks taken care of. In fact, the care of poultry is as important as the care of stock if you intend they shall be profitable. The Plymouth Rocks are the hardiest of the large breeds; good layers, steady setters and careful mothers, besides dressing about six pounds apiece for market.

Supposing your stock now consists of fifty half-breeds or common barnyard fowls, procure six dozen of Plymouth Rock eggs from a dealer as you require them, and put them under the steadiest setters. You should have from this amount of eggs between forty and fifty pullets, and if hatched in May will give you eggs from November until they in turn begin to hatch for themselves. The cost of this outlay will be more than covered by the sale of the old stock in the autumn. It is a popular opinion that hens do not thrive when shut up. On the contrary they do not thrive when they are not shut up, picking their living amongst the live stock, roosting on the rafters of the barn, and often without food or water for days together. As the chicks come out, take possession of them. Coop the old mother and keep her there until the chickens are strong enough to follow her; house them every night in the coop, and cover with an old piece of carpet; feed regularly on curds, meal and sweet milk or boiled potatoes. Keep this up for three weeks, or until the pin feathers appear. This may appear to be very troublesome, but you cannot make a success of it otherwise. The fowl should have grain and plenty of fresh water or milk. In another letter, when your chickens are full grown, I shall tell you how to manage your fowls in cold weather. Do not be afraid of the sound of your "industry"; they may laugh who win, and success will attend you if you go to work determined to make a success of it. MINNIE MAY.

Our Irish Letter.

DEAR CANADIAN SISTERS AND BROTHERS:

I hope that by this time you have begun to look out for my letters. This will be altogether about the wonderfully loyal demonstration which was held on Saturday evening last in the Leinster Hall, which was built to accommodate 1,500 persons, and which was densely packed, so much so that the window stools and all the passages were crowded. I had the honor of receiving a platform ticket, and was immediately behind the speakers, so could comfortably take the notes which I now have the pleasure of sending you. The Earl of Erne was chairman; Mr. Ellison McCartney, M. P., and Judge (Lord) Morris were one on either side. (Lord Morris, though a staunch Conservative, is a Roman Catholic.) Mr. Caldbeck, Rev. Canon O'Conner, and the Rev. Duncan Craig were amongst the speakers. There were so many as thirty clergymen of different denominations on the platform, several of whom I did not know, but one I was much amused at—a Rev. Clarke. When he wished to emphasize, he first would stamp one foot and declare "we shall not have Home Rule"; then stamp the other and inform us we must not have Home Rule. He need not have striven so to impress me at least. I quite agreed; he was too funny. Hundreds of men in the body of the hall had sticks and orange flyers, only waved when some speech pleased them particularly. I liked Mr. McCartney's speech best of all. When he spoke of our birthright possibly about to be sold for a mess of Mid-Lothian pottage, he was greeted with such cheers and such wavings of flags as Dublin has seldom heard of before. He is a polished gentleman, as well as a fluent speaker—two gifts which do not always hunt in couples. Then Lord Erne spoke and told us of you, you, you Canadian brothers having come to the front with practical offers of men and money—two excellent backers for most needs. You were given cheer after cheer. Lord Erne told us also of the great pleasure it had given him during the last seven years, whenever he found himself wanted in any capacity where his presence or his purse, or both together, could be made use of for the loyal cause. I was able to take down his speech, but I fear I dare not trespass too much on either the editor's space or patience. He also told us that we were met together to protest against the most iniquitous Bill which had ever been laid before the House—one which must (if passed) "bring ruin on our land, and prove equally disastrous to the British Empire." It was hard to expect us to keep a calm heart and cool head in the face of these wrongs, but we must try to remember that we were members of a great "religious institution whose

principles are based on God's Word." We must trust in Him, knowing that "He is our refuge and strength—a very present help in time of trouble." We seek no ascendancy, but are resolute to maintain the civil and religious liberty won for us by our ancestors, for the benefit of our Roman Catholic countrymen as well as for ourselves. He was very pleased to see before him many faces of his Roman Catholic countrymen—faces that he knew well—and to know that at his side was the great Lord Morris, a Roman Catholic, a judge, and a member of the House of Lords, who "agreed with him" that loss of conscience and loss of friends would be a far greater calamity than loss of land; and who could doubt but that if Home Rule were established it must bring home ruin and home riot in its wake, and leave us at the mercy of the most intolerant priesthood the world had ever known. It had been suggested, he said, that every man who purposed attending that meeting should go with his Bible in his hand, and with one hand clasping it and the other upraised to Heaven, should ask God to continue to us the priceless heritage of a free and open Bible in our land, for Jesus Christ's sake. Amen.

The Rev. Duncan Craig then told us of a member of the Bonaparte family once giving him his opinion, which was that Home Rule for Ireland meant "hell"; for England, "suicide." He believed there had been a proposal made to do away with our dear old Union Jack, and substitute a flag instead on which was to be portrayed a hyena, with the numbers underneath, 1663. I hope my Canadian friends will know what this means; I am ashamed to say I do not. (I think this gives me an opportunity which I've wanted, to tell them that I ask neither for advice or assistance in any form when writing my letters, so that when they are dull or illiterate, or anything that is disagreeable, only my own small self is to be scolded.) I always do my business, whatever it may be, to the best of my ability; neither man or woman could do more.

Mr. Craig also told us that a new Herald was spoken of as coming to this new parliament in College Green, and he protested against our milk-and-water resolutions in connection with these contemplated changes, but would now ask Brother Caldbeck to say how we were to meet them, which Mr. Caldbeck did by saying that we in person, led by an "Erne" and an "Enniskillen," must decide upon meeting this rebel parliament at the Boyne, and the 100,000 men who were able and willing to come towards Dublin must join and come together and take the key of the new House of Parliament and the new hyenic flag and throw them both into the Liffey, then march to Clontarf, their bands playing God save the Queen, and wait for their opponents there. The dear old Queen's ears should have been very cold just then; the roof rang with cheers for her three times three. He told us also that we must not accept one clause of the Bill, or two clauses of the Bill, but were to protest against it purely and simply altogether.

Rev. McGregor believed that the Bill was intended to sell up Presbyterianism, but he refused to be sold, or allow his people to be sold, and wound up by sending you Canadian men this message: "That he and his, we and ours, trusted and believed we could 'Hold the Fort' against all comers," but that should we find we were over-rating our strength, we would one and all look to you Canadian brothers for the support you have so pluckily offered us." (You were cheered then, I tell you.)

Mr. Ellison McCartney then came to the front (in every sense of the word) and delivered a message from the Loyalists of Leinster-Munster, and need I say Ulster, which thanked us for the spontaneous and enthusiastic burst of loyalty we had shown in organizing these magnificent meetings over Ireland; warned us that we were face to face with hard facts (I mentally added hard knocks, too), but that they firmly believed we were able to cope with them. We had all been looking for this Bill for six years. Now that it had come, what did we read and see? That it required of us a complete surrender of ourselves and abandonment of the loyalty of our country. He believed there was no half-way house between the Imperial Parliament being everything or nothing. It was for us loyal men and women to say which we would have. He had no doubt that if the Loyalists of Ireland were obliged to hold their own over these issues, they would be able to give a good account of themselves; but that was an extreme issue which we should all think of with stilled hearts and spirits bowed to the "Throne of Grace," praying that such an hour might never come on this subject. He or they should not bind themselves to give or hold to any personal opinion, but consent to be guided by their imperial grand master, the Duke of Leinster, at the same time remembering what a leader, an "Enniskillen," had said in years gone by: "Let us not wait as though expecting this danger, let us go to meet it." They must be prepared to raise their banner with the old Derry motto on it, "No Surrender." There was tremendous cheering then, and he wound up with three times three.

Colonel Rowley ended the meeting by quoting the God-fearing old Emperor of Germany's famous words, "We fear none but God": at the same time he said, "We must for ever love and honor our Queen yet." Love, honor and fear the God (who has left her with us so long) first and most. When he ended there was a perfect torrent of cheers, Kentish fire, and waving of loyal banners. The band then played God bless the Prince of Wales, and, after it, for the last time, God save the Queen. Hundreds of voices joined in, and when finished the immense

concourse separated without one rough sound or word. For some hours I could see from my window that the streets were thronged, the electric light made everything and everybody so plainly to be seen, but there was no disturbance whatever. I could hear an occasional "Boo" for Gladstone, "Boo" for Jim Healy, and "Boo" for Morley, but it appeared to be only fun. There was not a shadow of a quarrel to be seen or heard, and now good-bye. I am, your Irish friend,

S. M. STUDDERT KENNEDY,
Blackrock, Co. Dublin.

March 16th, 1893.

Home-Made Dainties

WHICH WILL CERTAINLY PLEASE THE CHILDREN.
The recipes given below have all been tried many times and found most satisfactory.

DELICIOUS CARAMELS.

One and one-half pounds of white sugar, one cake, or half a pound of chocolate, a cupful of cream, a quarter-pound of butter, a teaspoonful of flavoring. The mixture will boil up and dent on the surface when nearly done. A good test is to take a little out and rub with the back of a spoon, to see if it will crumble, when it should be taken off. Mark off in squares before it is entirely cold.

FRUIT AND NUT CANDY.

Half a pint of citron, half a pint of raisins, half a pound of figs, a quarter-pound of shelled almonds, a pint of peanuts (before they are hulled), two pounds of sugar. Moisten with a little vinegar. Add a large spoonful of butter and cook the butter and sugar until it is almost hard, but not brittle. Beat it up well with the spoon and put in the mixed fruit and nuts; of course, after having prepared these by stoning the raisins, cutting up the figs and citron, blanching the almonds, and hulling the peanuts. Any other kind of nuts may be used, if wished. Pour into a wet cloth and roll it up like a pudding, slicing off the candy in pieces after it is cold. (This is also known as Mrs. Mary Stuart Smith's Pudding Candy.)

DARK AND LIGHT CANDY.

Half a pound of chocolate, two pounds of white sugar, one tablespoonful of butter, one teacupful of cream, one teaspoonful of vanilla. Stir this all the while it is cooking. This will be brown. Then butter a flat dish and put a layer on it, let it harden a little, and add a layer of white candy, made as follows: Three cupfuls of white sugar and one of cream, flavored with orange or lemon, and boiled for twenty minutes. Do not stir this very much. After the white layer hardens a little, put another of the brown. Mark off into squares or long pieces, and cut so as to show to advantage the alternating stripes of color. Instead of the brown, one can color the first with poke-berry jelly or other coloring that will give a red tint, and if vanilla is not liked, pineapple will make a nice contrast to the flavor of the white candy.

MARROONS GLACES.

One-half pound of mixed nuts—almonds, pecans and English walnuts. Divide the English walnuts and pecans in half. Two cupfuls of white sugar are put in a stewpan with one cup of water, or enough to cover it well. It would be advisable to use a stewpan with a lip, so that it will pour easily, and a handle for the protection of the hands. Do not stir with a spoon. In fact, do not touch it with a spoon, except now and then to dip out a little to see when it is done. Drop a little into very cold water; if done, it will form into crinkly little wires, which will sound hard and clear when struck against the side of the bowl. It ought to be cooked twenty minutes. After it is done, pour in drops—the size of a silver quarter of a dollar—on a marble slab, and press into each drop one almond, or one-half of an English walnut, or pecan. Two persons can make this candy far better than one, as the nut must be put in as soon as a drop is poured.

COCONUT CANDY.

Four cupfuls of white sugar, one cupful of the milk of the coconut only in case it is perfectly good; otherwise do not use it. One coconut, grated—do not use the desiccated. Cook the sugar, either with the milk, if good, or if not, with water, a little less than candy that has to be pulled. Try by dropping into cold water to see if it is done. Take it off the fire, pour in the coconut, stir until thoroughly mixed, pour into a dish, and when cold enough, cut into squares.

CHOCOLATE DROPS.

Dissolve one cake of chocolate in a bowl set in hot water. Boil two cupfuls of white sugar and one cupful of new milk twenty minutes. Season with one teaspoonful of vanilla. Empty this into a dish, and beat until it is a good consistency to make into balls. Lay the balls on buttered paper, and after they are quite hard, dip one by one into the melted chocolate. Use a fork in dipping, and replace the balls on the buttered paper. One can also use nuts with these balls, taking half of an English walnut to a ball. Children take especial delight in nut candy, but it is rather rich, so it might be very well to make both kinds.

To keep the teeth clean is part of your duty towards your neighbor, and they should be brushed every morning and night with harmless tooth powder or soap and water.

To relieve a sore throat dip a band of flannel in whiskey, cover with black pepper, fold together to keep the pepper inside, and apply. Immediate relief is afforded.

UNCLE TOM'S DEPARTMENT.

The Fishing Party.
Wunst we went a-fishin'—me
An' my Pa an' Ma—all three,
When they was a picnic, way
Out to Hanch's Woods, one day.

An' there was a crick out there,
Where the fishes is, an' where
Little boys 't ain't big an' strong
Better have their folks along.

My Pa he 'ist fished an' fished
An' my Ma she said she wished
Me an' her was home: an' Pa
Pa said he wished so worse 'n Ma.

Pa said ef you talk, er say
Anythin', er sneeze, er play,
Hain't no fish, alive er dead,
Ever go' to bite, he said.

Purt nigh dark in town when we
Got back home; and Ma, says she,
Your she'll have a fish fer shore!
An' she buyed one at the store.

Nen, at supper, Pa he won't
Eat no fish, an' says he don't
Like em. An' he pounded me
When I choked!—Ma, didn't he?

—JAMES WHITCOMB RILEY.

A Well-Mannered Man.

A well-mannered man is a very lovable object, for the fact of his being well-mannered speaks of the possession of estimable qualities of mind and heart, as the great principle of good manners is goodness of heart; like many other habits, good manners are trained in childhood, and where this education has been neglected, it is often difficult to establish them in early life. A constant regard for others, unselfishness, humility, and refinement of thought, will go far towards making a well-mannered person. No man is natural, he is conceited or awkward, and nothing but association with, and close observance of well behaved people will give him the requisite polish.

Let school taught pride dissemble all it can,
"These little things are great to little man."

In conversation, how easy to distinguish the gentleman; polite attention is given to all that is addressed to him, and his replies are courteous and kindly, and his manner is so natural—nothing put on. His teeth, hair, hands and ears are attended to in his bath or bedroom, and never give him a thought afterwards; even twisting his moustache is not indulged in. When he calls upon a lady he does not stay too long, and when he rises to take leave he goes at once and does not keep her standing listening to his talk, of which perhaps she has had too much already; neither does he offer her his gloved hand, be his gloves ever so clean and fresh. There is much in the manners of to-day that is sincere and heartfelt, compared with the past, when, all was coarse and brutal; even the lowest oaths were sanctioned in every day life.

"How sweet and gracious even in common speech"
"Is that fine sense which men call courtesy"
"Wholesome as the air and genial as the light."
"Welcome in every clime as breath of flowers—"
"It transmutes aliens into trusting friends."
"And gives its owner passport round the globe."

Modern Table Manners and Methods.

The use of knife, fork, spoon and fingers undergoes considerable modification from time to time, and singularly enough, as it would seem, more articles are now allowed to be handled at table than formerly for many years. Among these we may name bread, olives, cheese, radishes, celery, asparagus, berries served with the stems, and most fruits, while it is no violation of polite usage to take cubes of sugar with the fingers. Generally, however, what is considered the proper usage will be indicated by the hostess in the utensils supplied with the various articles, and when none are furnished it may be accepted as an indication that the fingers are expected to do duty. The knife is to be used only for cutting, for spreading butter and the like; the spoon conveys to the mouth fluids and semi-fluids only—everything else is relegated to the fork.—*Good Housekeeping.*

Our Library Table.

Current Topics, Chicago: \$1.00 per annum.—This periodical is in its infancy, but if success depends upon well selected reading matter it will surely attain it.

The Lake, Toronto.—There is already a career of usefulness ahead of our Canadian Monthly, if it keeps on improving as it has done.

Free Press Home Journal, Winnipeg, Manitoba.—This lively sheet furnishes fun and fiction for many an idle hour.

The Humanitarian, New York: \$1.00 per annum.—All the reading matter in this number shows careful preparation. The opening article upon "Pauperism" is well worthy of perusal.

Worthington's Illustrated Magazine comes to hand with a generous supply of good things for the entertainment of its rapidly growing circle of readers. The April number of this vigorous young magazine is the best that has yet been published, its table of contents showing great diversity of material and a most excellent list of contributors. The interest and value of its leading articles, the exceptional literary quality of its stories, poems, and Department matter, are admirably supplemented by the fine press work and artistic illustrations which make this number as attractive as it is readable.

Boys and Gardens.

By all means, let the boy have a garden and let him have a considerable plot of ground, where he can raise flowers, and also edible vegetables. Nothing will ever taste so good to him as his own lettuce and beets and radishes.

Don't imagine for a moment, however, that your boy, unless he be a genius, will know how to take care of these plants of his. No matter how much he loves them, he will require a good many weary hours of careful teaching and training before he is able to do efficiently even his small duty by his garden-patch. The trouble is that boys love so many things. If they loved their gardens only, or their lessons only, or ball-playing only, or stamp-collecting only; but it is with them as with the perplexed lover—"how happy could they be with either were 't other dear charmer away!" It is a good deal more trouble to see that the boy keeps his garden well than it would be to keep it yourself; but it is a good deal of trouble to bring up a boy right anyhow, and that is something that a mother might as well understand at the outset. Those who try to do it by easy means generally rue it with anguish of soul in the end.

"I never knew a boy who was fond of a garden," said a wise man who had brought up many boys, "to go far astray. There seems to be something about working in the soil and loving its products that does the boys good morally as well as physically." And honest Jan Ridd says, "The more a man can fling his arms around Nature's neck, the more he can lie upon her bosom like an infant, the more that man shall earn the trust and love of his fellow men." Again, he says, "There is nothing better fitted to take hot tempers out of us than to go gardening boldly in the spring of the year." And every one who has tried this can testify that it is true.

A certain little boy, who left a garden at home to take a trip with some friends, wrote home to his mother, "I am having a splendid time, but I wish every morning that I was sitting on my little green cricket in the back yard, watching my plants grow." This little boy always thought that some time, if he watched closely enough, he should see a flower open, but, beyond a few four-o'clocks, he has never witnessed this ever-recurring but magically secret phenomenon.

If possible, supply your own table with your boy's produce at ruling market rates, having it well understood beforehand how the money will be expended. Praise whenever you consistently can; offer prizes for the best fruits, flowers and vegetables, if you have several boys at work; and in every way treat the enterprise with consideration and respect. Many a boy who has put his best efforts into his garden loses heart when he hears it sneered at or made light of. "Your garden? Oh, dear! I never thought of that! What does that amount to?"

It cannot be too early impressed upon a boy that whatever he does should be done well. Therefore make his garden seem as important as you can without dwelling unduly upon it; and remember that the physical and moral effects of the garden are not all. The information that a boy gets from it concerning varieties of seed and soil may be invaluable to him later on.—[Harper's Bazaar.

Keeping Up Appearances.

How many a roof, transparent to the mind's eye, discloses anxious fathers and harried mothers, sacrificing everything to keep up appearances. The underclothing may be patched and insufficient, but it is covered by stylish gowns. Slipshod, ragged and unkempt at home, when abroad one would suppose them to live luxuriously. Scrimping on the necessities of life, eating crusts, shivering over a handful of coals, piecing out whatever is needed by makeshifts, such are destitute of refinement as of comfort.

This course of action should not be confounded with that forethought and thrift which hoards remnants and looks decent and trim on what would be impossible for a wasteful person. It is merely a pretension and obtrusive assumption. They believe "we live amid surfaces, and the true art of life is to skate on them well." They have not grown to the understanding that the object of existence is the culture of soul and body, and that the condition of the latter depends upon the former. [Hester W. Pool in Good Housekeeping.

A Hint from 1742 for 1893.

At this time, when so much is being said against the hoop-skirts and crinoline, it is interesting to know that at the first performance of Handel's oratorio of *The Messiah*, given at Dublin, Ireland, April 13, 1742, so great was the anxiety of the people to obtain seats that "the ladies of rank in the capital agreed for the time being to go without hoops, so that an additional number of people could be admitted in the audience." [Boston Evening Transcript.

Keep thou the door of thy lips.
If fat should catch fire in the oven throw a spoonful of salt over, or ashes will do as well.

A kind heart is a fountain of gladness, making everything in its vicinity to freshen into smiles.

A sure cure for diarrhoea is a teaspoon of dry arrowfoot swallowed every hour until a cure is effected.

It is a great misfortune to have a fretful disposition: it takes the fragrance out of one's life. The habit of fretting is one that grows rapidly, unless it is sternly repressed.

Puzzles.

1—SQUARE WORD.

You've sought for me nigh on a year,
But here I am at last.
I bring with me both hail and rain,
"A level surface" 'cast.

I've brought along "a bird" of prey,
"Inactive" though when slain,
I'll sing to music with "a slow,
A smooth and gliding strain."

EDITH FAIRBROTHER.

2—RIDDLE.

A cheery face is mine,
A first-rate housewife you divine;
When grimy, you despair
To find neatness anywhere,
But dirty or tidy I can sing
A song of home, a happy thing.
I love the five, the more it grows
The merrier my singing goes.
A misty crown I wear
As oft renewed as lost in air;
In sickness and sharp grief
They fly to me for quick relief
In days of health my contents pour
Freely and often o'er and o'er,
I only beg one single rule,
Keep me, like a toper, full.

AMOS HOWKINS.

3—CHARADE.

My FIRST is a hero, who gave his word,
And for Wallace and Scotland drew his sword;
A useful metal my SECOND is found,
To obtain it men have to work underground.
My THIRD is what the mariner dreads,
As upon his vessel's deck he treads,
My WHOLE is what we all must need,
When upon the back of a fiery steed,
Come answer this puzzle, cousins dear,
And cause old Uncle Tom's heart to cheer.

ADA SMITHSON.

To Lily Day:

Well truly now, dear cousin,
I could not away remain,
For puzzling is such a TOTAL,
That I must come again.
In LAST you could do without me,
For my puzzles haven't much sense,
And my FIRST for leaving you awhile
Was not the lack of "pence."
I found I could not write at all,
For want of brain and time,
But getting some of the latter to-day,
I composed this simple rhyme;
And now my letter I must close,
It's time to go to bed,
I will not this time say "good-bye,"
But *à la Recoit* instead.

CHARLIE S. EDWARDS.

5—CURTAILMENTS.

Chief High Lord of the Admiralty,
King and Ruler of the Navy;
Three in one, and one in three,
H. R. H. King Fairbrother, thus do we address thee.

Oh! thou gracious one, I thank thee
For the honor thou hast WHOLE me,
For the title thou hast given me,
For the office thou hast booked me.

When! Oh! when thou great and mighty,
On bended knee can I thank thee,
Hear thy kingly voice thus say unto me,
Arise, Sir Knight of ADVOCATE canoe!

Oh! thou royal highness, grand and sublime,
When shall I SECOND my robes of state,
Lace the honors of my office,
Book young Devitt as a middy of might.

HENRY REEVE.

6—ANAGRAM.

An anagram has been called for
By our cousin Ed. Fairbrother,
So though his own are all so good,
I'll try and send another.
Tis scarcely fair to use my name
"Till the consins of it tire,
Pray let it drop a little while
Ere you justly rouse their ire;
And cousin Ed., just go ahead,
As you have ever tried;
The pride you'll be of a mother some day,
Or rather of a *brud*.

ADA ARMAND.

5—CHARADE.

To Ada Smithson:
Welcome, TOTAL, and welcome
To your splendid puzzles too,
That the former owner of your FIRST
Was cleverer, can't be true.
For LAST of brevity I will now
End my rhyming here,
Hoping that in our "souvenir"
Your portrait will appear.

ADA ARMAND.

Answers to March 15th Puzzles.

1. Know, now, 2. Without, 3. Something.
1. B. 2. D. 3. H.
A. S. H. I. P.
B. A. L. L. A. C. E. H. O. V. E. L.
W. H. E. N. I. A. M. A. T. L. A. S. T. D. I. V. I. D. E. D.
A. P. A. R. T. P. E. D. A. T. E.
C. O. R. N. E. R. L. E. T. H. E.
E. N. T. E. R. E. R. D. E. E. R.
E. T. C.

Names of Those Who Have Sent Correct Answers to March 15th Puzzles.

Henry Reeve, Ada Smithson, A. R. Borrowman, Addison and Oliver Snider, I. Irvine Devitt, Thos. W. Banks, Willie Hunter, A. Malcolm, Matthew A. Robertson, Lily Day, Edith Fair Brother, Maggie W. Scott, Peter Scott, Jessie Nelson, George English, Mary Morrison.

DUCK AND HERRING.

At Swindon, Wiltshire, some years ago, a Mr. Duck cloped with a Miss Herring, which gave the inspiration for this stanza:

Oh! has a heron took flight with an eel,
Or a trout by a bit of good luck;
But I never could bring my mind to feel
That a Herring would bolt with a Duck.
All the Year Round.

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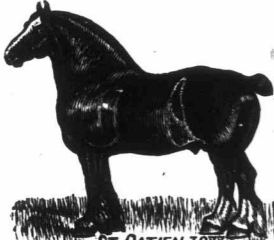
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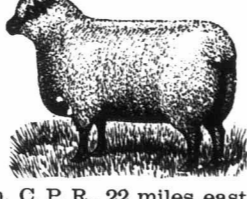
FOR SALE -- Imp. CLYDESDALE Stallion, by McCammon. HUGH THOMSON, Drawer D, St. Marys. 328-2-b-om

SHIRE HORSES.—A grand young imp. stallion for sale at a low figure. IMPROVED YORKSHIRES.—Young stock of all ages at farmers' prices. WHITE HOLLAND and BRONZE TURKEYS.—Orders booked for young birds for fall delivery. Correspondence solicited. Prices on application. 318-2-y-om WM. MULLEN, Hillsburg, Ont.

SHAMROCK -- AVENUE -- CLYDESDALES. The choicest collection of young Clydesdale Stallions, fit for service the coming season, to be found in Canada; good breeding and high class quality considered; prize-winners, and sons of prize winners, including the first prize three-year-old and second prize two-year-old (imported) class, and winner of gold medal as best Dominion-bred Clydesdale stallion any age at Ottawa last year. Prices reasonable. THOS. GOOD, Richmond P.O., Ont. Stittsville Station, C. P. R. 329-d-om

SCOTCH-BRED SHORTHORN BULLS

Scotch-Bred Heifers, Imported Shropshire Rams, Imported Ewes, Home-bred Rams, Home-bred Ewes. FOR SALE! In any number. All of very best quality, and at the lowest prices. We want 500 recorded rams for ranches. Correspondence Solicited. John Miller & Sons, Brougham, Ont. Clarendon Station, C. P. R., 22 miles east of Toronto. 306-2-y



MAPLE SHADE Stock Farm.

I now offer superior young SHORTHORN BULLS at reasonable prices. For full particulars address,

JOHN DRYDEN, 314-2-y-om Brooklin, Ont.

New Importation!

ARTHUR JOHNSTON, Greenwood, Ont.



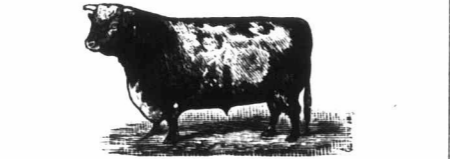
Reports his recently imported Cruickshank-bred safely at home, seven young bulls and six females, all of which will be sold at moderate prices. I have also exceedingly good young bulls and heifers of my own breeding for sale. Send for Catalogue. Greenwood P. O. and Telegraph Office, Clarendon Station on the C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see my cattle. 323-2-y-om

Shorthorns & Berkshires.

Some good, thrifty young stock of both sexes on hand for sale. Write for prices. 321-2-y-om JNO. RACEY, Jr., Lennoxville, P.Q. Shorthorns, Coach Horses and Berkshires. Our herd is headed by Daisy Chief—1367—by the famous Indian Chief—1108—, and was highly successful in the various Western Ontario fairs of the past season. We have for sale 3 young bulls, 6 heifers, and a Cleveland Bay mare and gelding, at reasonable figures. Also registered Berkshires and a few extra choice Cleveland Bay mares, the get of Disraeli, Dalesman, etc. Write for prices, or come and see us. A. J. C. SHAW, Camden View Farm, Thamesville. 318-2-y-om

SHORTHORNS, BERKSHIRES, Plymouth Rocks, Bronze Turkeys. Write me for prices on the above. I have one of the finest show cows in Ontario for sale. Waterloo-Booth strain. H. CHISHOLM, Montrose Farm, Paris, Ont. 321-2-y-om

SHORTHORNS, CLYDESDALES AND COTSWOLDS.



I have now on hand FOR SALE an extra good lot of TRULY BRED SHORTHORNS, CLYDESDALES, AND COTSWOLDS. Among my COWS, HEIFERS, and young BULLS are some fine show animals. The CLYDESDALES are of equal quality. MY PRICES are low and TERMS liberal. Visitors welcome. Correspondence solicited. DAVID BIRRELL, Telegraph and Post Office—GREENWOOD, ONT. 314-2-c-om

DEEP MILKING SHORTHORNS.

WM. GRAINGER, London, Ontario, offers for sale, a yearling bull, and a three-year-old heifer in calf, of the best milking strain of Shorthorns in Canada; both registered and good colors; dams made 30 lbs. of butter in seven days on grass. COME and SEE THEM. THEY are GOOD ONES. 319-2-y-om

SHORTHORN CATTLE. A few good, useful young bulls for sale. PLYMOUTH ROCK FOWLS—Pilgrim strain; choice cockerels and pullets at moderate prices. Also registered Berkshires. W. T. WARD, Birehton P. O., P. Q. 321-2-y-om

Bow Park Herd OF PURE-BRED SHORTHORNS

Have always on hand and for Sale young Bulls and Females, which we offer at reasonable prices.

ADDRESS— JOHN HOPE, Manager, 303-2-y Bow Park, Brantford, Ont.

SHORTHORN BULLS FOR SALE.

One two-year-old, got by Vice-Consul (Imp.)—4132—; four fourteen months, got by Wimples Heir—4129—. Write for prices and pedigrees. Any person coming to see them will be met at station, if they let me know when to meet them.

JOHN MILLER, 331-b-om MARKHAM, ONTARIO.

SHORTHORNS

I have for sale six females, ages from eight months to two years, color red and rich roan. Also three bull calves of extra merit. Also some young cows. All choice animals from choice imported stock at reasonable prices. D. ALEXANDER, 320-y-om BRIDGEN, Ont.

SHORTHORN BULL CALVES FOR SALE.

Three reds, sired by Barmpton Chief—1430—, a worthy son of the noted Barmpton Hero, and one roan, grandson of (Imp.) Toffhills, winner of 1st at Toronto this year. All grand calves and good pedigrees. Also a few choice Berks just fit to wean. Prices reasonable.

R. RIVERS & SON, Springhill Farm, Walkerton. 324-y-om

SCOTCH-BRED SHORTHORNS FOR SALE

6 Choice Young Bulls And the Imported Cruickshank Bull

ABERDEEN HERO, Their sire. Also some nice Young Heifers, From one year old up. Prices to suit times. 322-2-y-om SHORE BROS., White Oak.

If you want a well-bred Shorthorn Bull for use on Grade Cows, or a Heifer to start a herd with, at a price that your pocket can stand, write me. I can suit you. C. G. DAVIS, Woodlands Terrace Farm, Freeman P.O., Ont. 318-2-y-om

Scotch Shorthorns!

Imported Prince Royal and cows bred by S. Campbell, Kinnellar, and James Bruce, of Burnsides, together with their descendants by imp. bulls. Seventy head to choose from; also Cotswold sheep. Farm close to station. J. & G. Taylor, Rockwood, Ont. 317-2-y-om

SHORTHORN HEIFERS

A few extra good ones for sale, "Matchless" and "Minas," by Imp. General Booth (54353), that noted sire of prize-winners. Prices right, terms reasonable. Apply to W. J. BIGGINS, Elmhurst Farm, Clinton, Ont. 319-2-y-om

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.

SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT., (24 miles west of Toronto).



This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 316-2-y-om

FOR SALE

A very choice yearling Holstein Bull, a great grandson of Netherland Prince on the sire's side, and a grandson of Johanna Tensen on the dam's side. This is a very fine individual, and his breeding is first-class. Write, or come and see him. R. S. STEVENSON, BROCKHOLM STOCK FARM, 319-2-y-om ANCASTER P. O.

Holstein-Friesians OF THE CHOICEST MILKING STRAINS. Extra individuals of both sexes for sale. J. W. JOHNSON, 313-2-y-om SYLVAN, P. O.

Holstein-Friesians. Owing to an important change in business, our herd will be reduced one-half. Stock the choicest, breeding the highest, and prices the lowest. All young stock bred from Silver Medal and First Prize-winning stock. Send for our new catalogue. New Dundee P.O., Ontario. A. C. HALLMAN & CO. 318-2-y-om

Holstein-Friesians. I have several choice young Bulls of the Aaggie and Barington strains, which I will sell cheap to quick purchasers. Also several choice Cows and Heifers, of Bonnie Queen and Aaggie breeding, will be sold at greatly reduced prices, if taken soon. Write for prices and breeding. H. BOLLERT, Cassel, Ont. 318-2-y-om

HOLSTEIN-FRIESIAN -- STOCK.

We have on hand now more than 40 head of this great dairy breed of cattle selected for practical dairy purposes. We keep only the best butter and milk strains, and none but pure-bred, pedigreed animals. We offer for sale at moderate prices choice young stock, male or female. E. M. S. & C. S. MOTT, The Gore Farm, Box 95, Norwich, Ont. 318-2-y-om

FOR SALE

Twenty-two head Jerseys and Grade Jerseys; Bull, Nabob John Bull II. [29243]; also year-old Bull, fawn color, eligible. S. J. LYONS, Lot 12, Con. 11, Tp. of Esqueving, 332-a-omv NORVAL P. O.

INGLEDALE FARM, WINONA, ONT.

JONATHAN CARPENTER offers for sale at very reasonable figures a number of very fashionably bred Jerseys, bulls and heifers, of all ages; also standard-bred colts and fillies from such sires as Gen. Stanton, sire of thirteen in the 30 list, and Almont Wilkes, trial in 216. "Good individuals with gilt-edged pedigrees." Come and see them. 318-2-y-om

JERSEYHURST FARM, MARKHAM, Ont. ROBT. REESOR, importer and breeder of A. J. C. Jerseys of the choicest breeding, with the best Heifer bull Gtoile 17219 at the head of the herd. Stock of all ages on hand and for sale. 320-2-y-om

GLEN ROUGE JERSEYS!

WM. ROLPE, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses. 321-2-y-om

HEREFORDS FOR SALE.

Five extra fine Registered Hereford Bulls, from nine to eighteen months old. Intending purchasers should see them. Inspection of herd invited. F. A. FLEMING, Weston, Co. York, Ont. Farm half a mile from C. P. R. and G. T. R. Stations, three miles from Toronto Junction. 331-f-om

HEREFORDS, STANDARD-BREDS AND YORKSHIRES.—Headquarters for the famous Tushingham blood. Tushingham (19450) sold for \$5,000. Also standard-bred colts and fillies and pedigreed Yorkshires. 321-2-y-om J. W. N. VERNON, Waterville, P. Q.

Ingleside -- Herefords.

Herd headed by the Medal Bull of Canada, Young Tushingham 2nd (32398). All stock registered and from prize-winners, combining the desirable blood of HORACE ANXIETY THE GROVE 3rd BRADWARDINE. Choice young stock of the above strains for sale at reasonable prices.

IMPORTED CLYDESDALES.

Prince of Wales and Darnley strains. Saddle horses and stylish drivers for sale. Station H. D. SMITH, two miles, G. T. R. Ingleside Farm, 321-2-y-om COMPTON, Que.

Herefords, Leicesters, Imp. Yorkshires and Poland-Chinas.

First-class young stock for sale at moderate prices. DAN REED, The Spruces, GLANFORD P. O., ONT. 318-2-y-om

WANTED TO PURCHASE

A thoroughbred Ayrshire Bull, two or two and a half years old, must be a good-sized animal, perfectly docile, and no fancy price. Address: HAMILTON L. MORROW, 322-a-o Boylston, Guysboro Co., Nova Scotia.

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

A WORD TO BREEDERS AND STOCKMEN.

Most farmers know too well the trouble and loss caused by insects upon cattle, horses, sheep, pigs, etc. Now a good sheep and cattle wash should possess two seemingly opposite qualities: it should be at once poisonous and non-poisonous. No sheep and cattle wash is worth the name, unless it is rapidly fatal to all parasitic life infesting cattle, sheep, etc., and at the same time harmless to the animal itself, to its skin, and to its wool.

As a sheep dip, "Little's Sheep and Cattle Wash" is now extensively used in all the great wool growing countries of the world, and is rapidly superseding all other preparations. In Australia it is the recognized dip, and in New Zealand it is used in the government dipping stations, and highly recommended by principal sheep inspectors.

Prof. Shaw, Ontario Agricultural College, Guelph, writes: "We have used a considerable quantity of 'Little's Sheep and Cattle Wash,' and find it answers the purpose very well for which it is designed, namely, drives lice, ticks, etc., from all classes of live stock."

See John Miller's advertisement of young bulls for sale in this issue. He writes that he thinks they are the best lot that he ever offered to purchasers.

We are informed that the four milk cows to represent Ontario in the milk test at the World's Fair have been selected. They are thoroughbred Shorthorns, and are the property of F. Martindale, York; J. H. Davis, Glen West; Thomas Ballantyne, Stratford; H. Wright, Guelph.

Messrs. John Miller & Sons, Brougham, Ont., report that their crops of lambs and calves are the best they have had for years. Mr. Robert Miller is now in England selecting Shropshires, and perhaps specimens of some other breeds of sheep. He intends to bring a large number with him when he returns, which will be early in the summer.

Mr. J. C. Snell, Edmonton, Ont., writes us that the demand for Berkshire pigs is steadily increasing, and from a wider territory, his recent shipment covering several of the Southern and Western States and the Provinces of Ontario, Quebec and Manitoba, and the stock sent out has invariably given satisfaction and led to further orders. Jerseys are also in active demand, and a number of sales have been made since last report, including that of the young bull Lord Kinloch, with two fine heifers to Mr. John Duke, of Hartfell, Parry Sound.

We wish to draw the attention of our readers to the generous prizes offered at the World's Fair by the proprietors of the Cooper Sheep Dip. The prizes consist of sixteen handsome silver cups, and will be awarded as follows:

\$30.00 silver cup for rams winning the sweep-stake premiums in each of the following classes: Cotswold; Leicester; Lincoln; Southdown; Shropshire; Oxford; Hampshire.

\$30.00 silver cup for ewes winning the sweep-stake premiums in each of the following classes: Merino (a); Merino (b); Delaine Merino; Dorset Horn; Cheviot and French Merino.

\$100.00 silver cup for winner of the sweep-stake premium in the fat stock exhibit.

\$100.00 silver cup for best pen of 3 range ewes bred on range by exhibitor west of the Mississippi river. No limit as to breed or age. Best carcass and fleece combined to rule. In other respects official regulations to govern.

\$100.00 silver cup for best fleece of range wool grown by exhibitor west of the Mississippi river. Official judges to decide and official regulations to govern.

R. H. Harding, Thorndale, Ont., writes: I have just received from quarantine a pair of Todd's Improved Chesters, which are promising producers of the desired bacon hog. I there give a few of my recent sales: Two Dorset ewes and one ram to Ed. Vance, Emerson, Man.; Chester boar and sow to E. Vance; sow in farrow to W. J. Quinn, Crumlin, Ont.; boar to M. J. McKenzie, Crumlin, Ont.; boar to F. I. Seaton, Lakeside, Ont. The three last-named pigs are closely related to the sweepstake sow at Guelph Fat Stock Show, and will no doubt still keep up the reputation of this popular breed of swine.

DOMINION PRIZE HERD OF AYRSHIRES



We have the oldest established, largest and best herd of Ayrshires in Canada. Choice young stock for sale at liberal prices. Satisfaction guaranteed. JAMES DRUMMOND & SONS, Petite Cote, Montreal, P.Q. 332-2-y-om

THE MAPLE CLIFF STOCK FARM.

For Sale—A grand four-year-old Ayrshire Bull, winner of 2nd prize at Montreal last fall. Bronze Turkey eggs, \$4 for 11 eggs. R. REID & CO., One mile from Ottawa. Hintonburg, Ont. 324-2-y-om

PRIZE-WINNING AYRSHIRES FOR SALE



Mine is one of the largest and most successful show herds in the largest and most successful show herds in Ontario, and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOMAS GUY, Sydenham Farm, Oshawa, Ont. 314-2-y

Prize-Winning AYRSHIRES FOR SALE.



I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.

JAS. McCORMICK & SON, ROCKTON, ONT. 323-2-y-om

DORSET HORN AND SHROPSHIRE SHEEP, Jersey and Holstein Cattle, SHETLAND PONIES, CHESTER PIGS.

ALL THOROUGHBRED. JOSEPH STRATFORD, G. T. R., Brantford, Ont. 335-2-y-om

MAPLE GROVE FARM.

Cotswold and Leicester Sheep, also Improved Large Yorkshire Swine, are my specialties. O. W. Neville, NEWBURG, ONT. 322-2-y-om

IMPORTED SHROPSHIRE

My stock was selected by myself, and consists of Shearling Ewes and Ewe Lambs from the leading flocks of England, and of the highest quality and breeding. Stock of all ages for sale.

C. W. GURNEY, Paris, Ontario. 327-y-om

1881—SHROPSHIRE—1881

My flock is one of the oldest in Canada, my first importation being made in 1881. My present stock of ewes were imported direct from the flocks of Bradburne Bros. and H. Parker. Write for prices. JAS. COOPER, KIPPEN, ONT. 319-2-y-om

THE GLEN STOCK FARM.

Clydesdales, Shropshires and Berkshires.—Choice young registered stock for sale. Telegraph office, Innerkip. Farm 1 mile from Innerkip Station on C.P.R., and 6 miles from Woodstock, G.T.R. WHITESIDE BROS., Innerkip, Oxford Co., Ont. 316-2-y-om

SHROPSHIRE, CLYDESDALES AND POLLED-ANGUS CATTLE.

Two imp. stallions, one yearling bull and eighty choice Shropshire rams and ewes of all ages. Prices reasonable. Write quick. All registered. JAS. McFARLANE & SON, 319-2-y-om CLINTON, ONT. G.T.R. Station 1 mile.

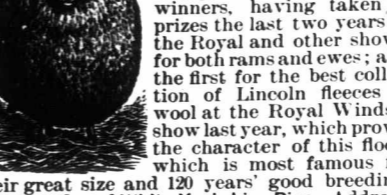
EUROPEAN ADVERTISEMENTS.

Shropshires, Shorthorns, Shire Horses, Yorkshires

The Ruyton-11-Towns flock always winning at R. A. S. E. and other shows. Last win: The Champion Cup at the Royal Liverpool Manchester and North Lancashire Show for the best ram, all ages and all breeds. Shorthorns:—Winning at R. A. S. E., etc. Herd established over 50 years. Yorkshire Pigs of good pedigrees. Easy distance from Liverpool. Meet trains at Baschurch, G. W. R., by appointment. Address

Telegrams: RICHARD BROWN, Ruyton-11-Towns, Shropshire, Eng. 322-2-y-om

LINCOLN SHEEP



I always have for inspection and sale a large flock of pure Lincoln Long wool Sheep, including many prize-winners, having taken 30 prizes the last two years at the Royal and other shows, for both rams and ewes; also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor show last year, which proves the character of this flock, which is most famous for their great size and 120 years' good breeding. Also breeder of White Yorkshire Pigs. Address,

HENRY DUDDING, Ribby Grove, Gt. Grimsby, Lincolnshire, Eng. 319-2-y-om

BLAIRTUMMOCK CLYDESDALES.

Prof. McCall invites inspection of his Stud of Clydesdales by American and Canadian buyers. Among the many good ones bred at Blairtummock may be mentioned Col. Holloway's renowned Cedric, acknowledged the greatest breeding horse in America.

Address: PROF. McCALL, The Veterinary College, Glasgow, Scotland. 317-2-y-om

CLYDESDALES & AYRSHIRES

WALTER PARK, Halton, Bishopton, Scotland, the breeder of the world-renowned "Lord Erskine" has always for sale a choice lot of Clydesdale Colts and Fillies; also pure-bred Ayrshires of the best milking strains. Visitors welcome. 317-2-y-om

THE HOME OF SPRINGHILL DARNLEY. Clydesdale dealers who in Scotland should not fail to visit Messrs. R. & J. Findlay's Stud, Breeder and owners, amongst others, of the famous H.A.S. winner, Chrystal 5387. Address —Springhill, Baillieston, Glasgow. 317-2-y-om

THE HOME OF SIR EVERARD

Wm. Taylor, Park Mains, Paisley, Scotland, calls the attention of American and Canadian buyers to the fact that his stud of Clydesdales and Hackneys is one of the best in Scotland. Inspection solicited. No trouble to show horses. 317-2-y-om

CLYDESDALES AND AYRSHIRES.

Parties visiting Scotland to purchase the above should call on the undersigned, who always has a choice selection bred from the best strains of blood. ROBT. WILSON, Manswraes, Bridge of Weir, Renfrewshire, Scotland. 317-2-y-om

W. G. BUTCHER,

The Chestnuts, Needingworth, Hunts, England, offers for sale a grand selection of HACKNEY and SHIRE-BRED COLTS and FILLIES of the choicest breeding, and good individually. All registered. Visitors welcome. Station: St. Ives, Hunts. 317-2-y-om

LARGEST SHEEP EXPORTER.

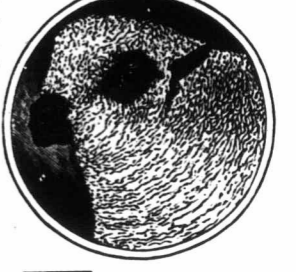
1272 Pedigreed Sheep, including many winners of all breeds, landed at Quebec without loss, July 26th, 1892, by E. GODWIN PREECE, Live Stock Exporter, Shrewsbury, Eng., who has thorough personal knowledge of all the very best British flocks, herds and studs, great experience in shipping and the privilege of obtaining choicest specimens of any breed for show or breeding. American buyers supplied with selected stock at lowest rates. Those visiting England conducted to inspect the leading flocks, to compare merits and prices before buying, also assisted in selecting and shipping FREE OF CHARGE. 5% commission paid by seller. Flock-book certificates and all documents supplied, as required by U. S. Government. Highest references from leading Canadian and American importers supplied 1889, 1890, 1891, 1892. All buyers should communicate. Information free. 318-2-y-om

SHROPSHIRE.

Having reduced my herd of cattle by recent sales, I intend visiting Great Britain in the spring to make an importation of sheep. To make more room I offer within the reach of all 23 shearing ewes and a few rams of the very best breeding flock at a great reduction. Short-horns will still be bred and for sale at "Greenhouse Farm" of the very best Scotch type and quality. Write or come and see them. W. B. COCKBURN, ABERFOYLE, ONT. 320-2-y-om

SHROPSHIRE and SHORTHORN for sale at reasonable prices. A choice lot of ram lambs and yearlings sired by my imp. Thomas ram from imp. and home-bred ewes; also 5 young bulls, from 6 to 18 months old. W. G. PETTIT, Freeman P.O., Ont., Burlington Stn., G.T.R. 318-2-y-om

Having reduced my flock by recent sales I intend visiting Great Britain early in the spring to bring out my annual importation, when I shall endeavor to select the best, size and quality combined



W. S. HAWKSHAW, Glanworth Post Office. 326-y-om

J. D. McEWEN, Falkirk, Ont., Breeder of Border Leicesters. Stock for sale. 332-f

To Stockmen & Breeders.

LITTLE'S PATENT: FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange and all insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy. The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock: "MAPLE SHADE" HERDS AND FLOCKS. BROOKLIN, ONT., Sept. 4th, 1890.

DEAR SIR,—I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested, I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders. JOHN DRYDEN, 27 Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, Ont. Sole Agent for the Dominion. 330-2-y-om

THE MARKHAM HERD, LOCUST HILL, ONT.

(Farm one mile from Locust Hill St., C.P.R.) Registered Improved Large Yorkshire, Berkshire and Suffolk Pigs. Stock selected from the best herds in Canada. Am booking orders for Spring Pigs.—LEVI PIKE, Locust Hill, Ont. 328-y-om

Improved PEDIGREED LARGE YORKSHIRES I am booking orders for spring pigs from imported and home-bred sows at reasonable prices. J. H. S. BARBOUR, King P. O., Ont. 318-2-y-om

FIRST SWEEPSTAKES HERD

IMPROVED: YORKSHIRES IN CANADA,

selected from the well-known herds of the Earl of Ellesmere, Prescott Union, and C. E. Duckering, England, by James Main, who is considered one of the best judges of pigs in America; also one imported sow and several other Canadian-bred sows and boars of the well-known herds of Sanders Spencer and F. Walker-Jones, England.

REGISTERED SOWS AND BOARS MATED NOT AKIN.

JOSEPH FEATHERSTONE,

P.O. and Telegraph. PINE GROVE FARM 321-2-y-om STREETSVILLE.

J. M. HURLEY & SON

Offer for sale pedigree Improved Large Yorkshire Pigs of both sexes. Herd founded in 1887. OUR AIM is to make our pigs advertise us. 321-2-y-om

FARMERS, READ THIS

We will pay extra for fat pigs bred from Tamworth and Improved Yorkshire boars, as they are worth more money to us. We have imported a large stock of these pigs, and have on hand a choice selection of imported and home-bred boars and sows. Write us for prices, which are as low as they can be made, this being a business entirely of a secondary consideration with us, our first object being to supply the trade with an A 1 article in bacon, and we are satisfied that these are the breeds that pay both the feeder and the packer. Send in your orders quick and get a good in-pig sow, or a boar to use on grade sows.

JAS. L. GRANT & CO.

Ingersoll, Ont. 320-2-y-om

ISRAEL CRESSMAN, New Dundee, Ont.

Breeder of Large English Berkshires. Young Hogs always on hand; got by imported stock 328-y-om

J. C. SNELL, Edmonton, Ontario.

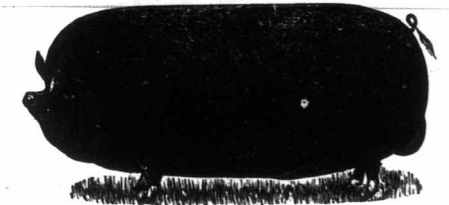


Most of our best sows now have fine litters of young pigs sired by first-class imported boars.

H. J. DAVIS, Woodstock, Ont., Breeder of High-class Large Berkshire and Imp. Large White Yorkshire Swine, Short-horn Cattle.

lot of young pigs ready for shipment of both breeds; also boars fit for service from prize-winning stock.

BERKSHIRES.



J. G. SNELL & BRO., Edmonton, Ont. A few of our best sows now have young pigs, and we have a grand lot of sows to farrow through April and May.

CANADIAN BLACK BESS HERD

Of Registered Poland-Chinas—A choice lot of young pigs for sale. Elected =448=, the great ribbon winner at the head of herd, assisted by Ethel's Chief, who weighs 1,000 pounds.

E. D. GEORGE PUTNAM, ONT., Importer and Breeder of Ohio Improved Chester White Swine

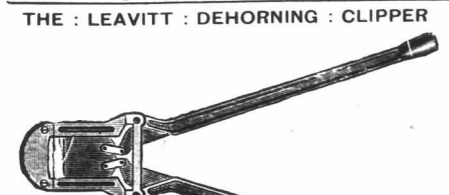
The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price.

TAMWORTH SWINE, SHROPSHIRE, CLYDESDALES AND SHORTHORNS.

John Bell, Clydesdale Farm, Amber, Ont. A number of prize-winning Pigs in pairs, unrelated, from imported stock bred by the best breeders in England.

THE OXFORD HERD OF POLAND CHINAS.

W. & H. JONES, Mt. Elgin, Importers and breeders of Poland Chinas. Young stock for sale sired by The Imported and Show Boar, "Ellas Moor," and other good boars out of sows of equally as good breeding.



THE : LEAVITT : DEHORNING : CLIPPER

Takes any horn off in one-tenth of the time required with saw. Circulars, giving full description, testimonials, price, etc., on application.

TWO VALUABLE IMPROVED FARMS FOR SALE VERY CHEAP.

S. W. 1, Sec. 4, T. 15, R. 28. On this place is located the DeClare P. O. A small general store is run in connection. No other store nearer than sixteen miles.

44-2-f-om DeCLARE, MANITOBA.

IF WE WERE TO USE SHANNON



No. 4 A File, - - \$2.00 Book Racks, - - 1.25

Sold by all stationers.

SHEEP RAISING IN BRITISH COLUMBIA.

The islands of the Gulf of Georgia offer great advantages for those desirous of investing in sheep raising. We have several suitable islands 30 to 80 miles from Vancouver, containing 200 to 1,700 acres, at \$5 to \$8 per acre, deeded.

MACKINNON, MACFARLANE & CO., 611 Hastings Street, West, Vancouver, B.C. 330-2-y-om

Best White Oat IN THE WORLD.

JOHN SHARPE & SON'S ROYAL DONCASTER

This magnificent White Oat was introduced by Messrs. John Sharpe & Son in 1892, and has given the greatest satisfaction at home and abroad. It surpasses all others for earliness, while its productiveness may be realized from the fact that on several farms last season it yielded 12 to 14 quarters (96 to 112 bushels) per acre.

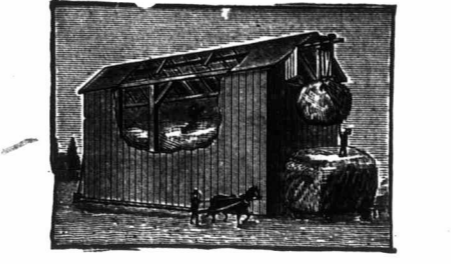
From Wm. Saunders, Department of Agriculture, Ottawa (to whom we shipped a quantity last season)—"I find Royal Doncaster Oat is much thinner in the skin than any of the oats we have been growing. From its appearance and character it will be a valuable addition to the varieties we have now in this country."

PRICE, 8s. PER BUSHEL, FREE AT LONDON OR LIVERPOOL.

FARM CATALOGUES ON APPLICATION Apply to JOHN SHARPE & SON, Or Mr. J. H. MILLARD, Manager Town Hall Chambers, Reading, ENGLAND.

BUCHANAN'S (Malleable Improved) PITCHING MACHINE

For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable Iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter

Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED.

Circulars, Prices and Terms on application to M. T. BUCHANAN, Ingersoll. 331-c-om



A Bright Lad,

Ten years of age, but who declines to give his name to the public, makes this authorized, confidential statement to us:

"When I was one year old, my mamma died of consumption. The doctor said that I, too, would soon die, and all our neighbors thought that even if I did not die, I would never be able to walk, because I was so weak and puny. A gathering formed and broke under my arm. I hurt my finger and it gathered and threw out pieces of bone. If I hurt myself so as to break the skin, it was sure to become a running sore. I had to take lots of medicine, but nothing has done me so much good as Ayer's Sarsaparilla. It has made me well and strong."

T. D. M., Norcutt, Kans. AYER'S Sarsaparilla Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Cures others, will cure you

THE GODERICH ORGAN CO. GODERICH, ONTARIO. MANUFACTURE THE PIANO CASE THE NEW EMPRESS THE IDEAL HIGH CLASS FINE TONE EVERY DEALER SHOULD WRITE FOR PHOTOS AND PRICES WE LEAD THEM ALL IN STYLE TONE & FINISH AGENTS WANTED IN EVERY TOWN 319-2-y-om

GALLOWAY BULL. Pure-bred, 15 months old, grand sire Kough's Claverhouse, dam Sybel K. III.; quality first class. Will sell cheap. A. MANN, Bowmanville. 331-b-om

NOTICES.

C. W. Paris writes us that, "Having read Mrs. Jones' book, 'Dairying for Profit,' I think every farmer who has any cows should send and get a copy. They will never regret it, and so cheaply to be had."

We wish to call attention to a peculiar typographical error which occurred last issue in the advertisement of the Waterous Company's Portable Sawmill. This advertisement read, "Can be run by 6 to 12 hogsheads of water, wind or steam." This clause should have read, "Six to twelve horsepower, water, wind or steam."

TO FRUIT GROWERS. The attention of our readers is called to the advertisement of the Blymyer Iron Works Co., of Cincinnati, Ohio, which appears in this issue. Their Zimmerman Evaporators for Fruits and Vegetables have for many years been looked upon as the Standard Machines. Parties in want of Evaporating machinery will do well to write for their catalogue.

PURE SOAP. The Wanzer Pure Soap Company, Hamilton, Ont., are manufacturers of pure soaps for laundry and bath use. All the oils and materials used are absolutely pure, sweet and healthful. No cheap adulterations to add weight are used. We have tested the goods offered by this firm and find them very superior.

THE WORTMAN & WARD SPADE HARROW. Among the many useful things manufactured by The Wortman & Ward Manufacturing Co., London, Ontario, is The Wortman & Ward Spade Harrow; this implement does its work in a very thorough manner. Among all the devices for tilling the land few, if any, equal this implement, and certainly none surpass it. At the price at which it is sold every good farmer should own and use one.

We wish to call the attention of our readers to the advertisement of hay and grain caps which are manufactured by the Symmes Hay Cap Co., Sawyerville, Que. Farmers have long felt the need of a hay cap which would be waterproof, durable, convenient, not liable to be blown off by storms, and, at the same time, be offered at a reasonable price. This cap, from the description and recommendations, appears to fill the bill exactly.

GREASE-HEEL OR SCRATCHES. Physic your horse well with Dick's Blood Purifier; feed on soft, cooling food. Keep him clean, and dry and he will recover in time. Washing with castile soap and warm water will be useful if the legs are carefully but gently rubbed after each washing. Do not use bandages. What is most desirable is to keep his skin dry and his blood thoroughly cooled. It may take some time to get rid of the fever and impurities in the blood that have caused the trouble, but Dick's Blood Purifier will accomplish it if used as directed.

CALIFORNIA HEARD FROM. A remedy which can be used instead of the firing iron is one of inestimable benefit to the horsemen of the country. Actual cautery or firing, no matter how skilfully the operation may be performed, will leave a blemish, and in many cases affects the sale and deteriorates the price of the horse. In this respect Gombault's Caustic Balsam is invaluable, and is a preparation used and endorsed by the best veterinarians. It is also a cure for ailments of the muscles, glands, tendons and skins of horses and cattle, and will be found exceedingly useful to the human being as a relief for rheumatism, sprains, etc. Every owner of a horse should have on hand a supply of this great veterinary preparation. The American agents are the Lawrence Williams Co., Toronto, Ont. Breeders and Sp., May 30, 1891.

A flock cannot thrive if infested with insects, nor can it yield a good fleece. For a small sum the sheep can be cleaned and kept clean, and the lustre and growth of the wool enhanced, by dipping in a preparation of good repute. The Cooper Sheep Dip advertised in our columns is famous the world over, and is giving the greatest satisfaction wherever introduced. Its advantages appear to be:—Its use with cold water, non-deterioration to the wool, freedom from strong scent, while being cheap and effective. Annual dipping is a wholesome custom resorted to in the older sheep producing countries, and is fast coming into vogue on this continent. The Cooper Dip has been in use 50 years, and has been used on one hundred millions of sheep annually, the best possible proof of its sterling quality. Cooper & Nephews, Galveston, Texas, mail their "Guide to Dipping" free to all applicants.

LUCK IN SEEDS. "I didn't have very good luck with my seeds last year," a farmer was heard to say. This gives rise to the question: How many poor crops can be attributed to "luck" in the selection of seeds? Buying seeds is an important factor in farming, and should receive the careful judgment and consideration of the farmer. It is almost always impossible to distinguish the good from the bad in seeds by sight, and the only infallible guide for the planter is the reliability of the seedsman. D. M. Ferry & Co. of Windsor, Ont., have for many years been the leading seed house of this country, and their reliability is unquestioned. They issue a book annually which contains a complete digest of the very latest gardening knowledge by the best authorities. The 1893 edition is handsomely illustrated and contains information about the selection and planting of seeds which will prove of the greatest value to every one planting a garden or farm. It is mailed free to any one making application to the firm's address.

A DEHORNING DEVICE. S. S. Kimball, 577 Craig street, Montreal, P. Q., offers for sale in this issue Dr. W. H. Leavitt's Dehorning Clipper. This instrument is made in three sizes—one small, to be used when operating on calves, the other larger, suitable for cutting the horns of young cattle or milch cows, the third size will cut off any horn that grows on a bovine, large or small. These instruments are made of the best steel, and do the work quicker and better than a saw; does not crush the bone, but leaves it smooth and the wound in just the right condition to heal quickly. This device is recommended by the highest authorities, including Prof. J. P. Roberts, of Cornell University, N. Y. We advise our readers to write Mr. Kimball for full particulars and pamphlets, which give directions for the use of this tool, and also tells how to dehorn and how to place the animal so as to operate in the easiest and best way.

ATTENTION!

Good SEED CORNS are not plentiful, and many will be disappointed in the seed they may get, unless they buy from reliable and responsible dealers. The germinating properties of a great deal of Seed Corns are very low, some not 50 per cent. Our stock of good Seed Corns, both for ensilage and planting, is limited, therefore ORDER EARLY. A full line of MANGEL, TURNIP and CARROT Seed. The best that money can buy. Send for SEED CATALOGUE.

Every man who has 10, 15, 20 or 25 cows, and is making butter, if only half the year, should have one of our ALEXANDRA HAND SEPARATORS. Simple and easy to operate, easy to turn, perfect work, will do all we claim for them. Largest capacity and cheapest and best Separator in the world. Never handled anything that has given such UNIVERSAL SATISFACTION. You should also have our Improved Butter Mould and Parchment Paper, the nicest thing you ever saw; Butter-worker, Butter Shipping Boxes, &c.

You are sure to want something that we have. Send for DAIRY CATALOGUE. Address—

JOHN S. PEARCE & CO.,
LONDON, ONTARIO. 332

FREE Illustrated Publications, with MAPS, describing Minnesota, North Dakota, Montana, Idaho, Washington and Oregon, the BEST AGRICULTURAL GRAZING AND TIMBER LANDS now open to settlers. Mailed FREE. Address: H. S. LAWSON, Land Com. N. P. R. R., St. Paul, Minn. 332-c-0

STOCK GOSSIP.

In our review of the Toronto Spring Stallion Show we inadvertently reported Mr. Wm. Philips (Yelverton) colt Sir Burnie Dale (2009), by imp. Erskine's Pride, dam imp. Cambeltown Maid, as having won third prize, while he was awarded second in a capital class of colts rising two.

BLEMISHED ANIMALS.

It is really surprising how many good animals are badly blemished through slips or strains. In most cases only a slight lameness exists at first, and if Dick's Liniment were at once applied this would be cured, but even when lumps have formed they can be removed with Dick's Blister. It cures Curbs, Spavins, Ringbones and like blemishes.

Clydesdale Breeders who contemplate making an exhibit of stallions or mares at the World's Columbian Exposition in Chicago are requested to send the names and numbers of the animals that will constitute their display by early mail to Charles F. Mills, Springfield, Illinois, the Secretary of the American Clydesdale Association, who is now preparing the copy for the Columbian Clydesdale Catalogue. The prospects are very encouraging for a large and creditable exhibit of Clydesdale horses at the World's Columbian Exposition of animals bred in Scotland, Canada and the United States.

E. Gaunt & Sons, St. Helens, writes that they would like their advertisement in the ADVOCATE discontinued, as they are fairly deluged with enquiries. They will renew it a little later in the season.

T. H. Medcraft, Sparta, writes that he has purchased a yearling bull from W. G. Sanders, St. Thomas, out of the well-known cow Daisy Star 11179. He is a half-brother of the bull which won sweepstakes at Toronto. Mr. Medcraft has a choice lot of lambs for this season's trade and will sell his whole flock, consisting of two imported rams, a few home-bred shearing rams and 21 imported ewes.

The Southdown Sheep Breeders' Association have arranged to hold at Chichester, England, on June 25th and 27th, 1893, a Show and Sale of southdown sheep, for registered sheep only. Valuable prizes will be offered to induce the best sheep to be sent, including one of 25 guineas by the President of the Association, for the best pair of 10 Shearing Ewes, that have not been shown before. All Ewes sold singly. Ewes in pairs or fives. Home and foreign buyers and breeders are asked to support the establishment of this sale with their patronage, for those who attend will be able to make a selection from all the best registered flocks. A second sale will be held on August 10th, 1893. All enquiries and communications in reference to either of the above sales to be addressed to W. W. Chapman, Secretary to Southdown Sheep Breeders' Association, 27, Baker Street, London, W., who will execute commissions.

HOW SHE MADE HER MONEY.

Mrs. E. M. Jones' New Book, "DAIRYING FOR PROFIT," Tells the Whole Story.

So anyone reading it can do the same, and secure a comfortable independence. 60,000 COPIES SOLD ALREADY! Orders still pouring in. Price, 30c. by mail; four copies to one address by mail, \$1. **ROBT. Y. BROWN, Agent,** Box 324, Brockville, Ontario, Canada. 332-y-om

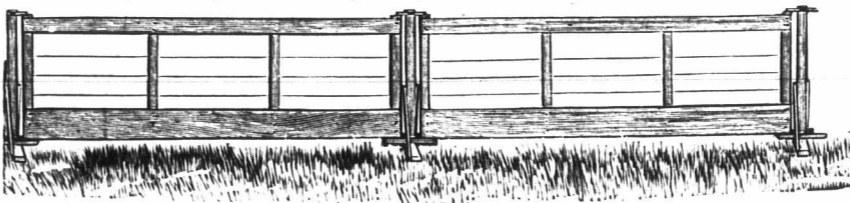
DELAVAL CREAM SEPARATORS

Fully Guaranteed Superior to any other Separators in the World.

SEND FOR CATALOGUES, TESTIMONIALS, ETC.

FRANK WILSON, 33 St. Peter St., MONTREAL. 331-f-om

G. E. HARRIS' PATENT PORTABLE FENCE



Stands at the Head for a General Purpose Farm Fence. See full description in February 20 issue of the ADVOCATE. 332

The Dale LAND ROLLER

(PATENTED.)

A STEEL ROLLER, THE DRUMS OF WHICH OSCILLATE ON PIVOTS AND ADAPT THEMSELVES TO THE UNEVENNESS OF THE GROUND.

Its points of advantage are too many to enumerate. Some of them are:

The bearings are the only wearing parts and are guaranteed to last from Ten to Fifteen Years, and can be replaced at a nominal cost.

It rolls all the ground, no matter how rough. There is no axle shaft, no strain, and consequently no wear. It is easily oiled between the drums.

THE DEMAND IS STEADILY INCREASING. IT IS UNANIMOUSLY RECOMMENDED BY THOSE FARMERS WHO HAVE USED IT.

Orders are now being booked for the spring trade.

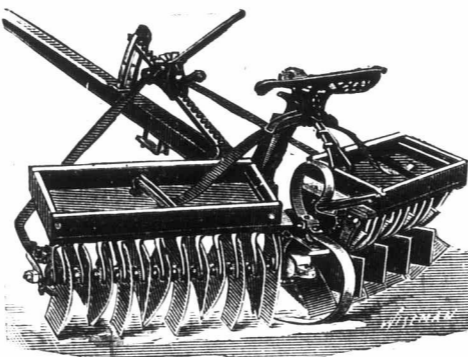
Description and price furnished on application to

T. T. COLEMAN,

SOLE MANUFACTURER, SEAFORTH. 320-2-y-om

THE WORTMAN & WARD MFG. CO.'S SPADE HARROW

The Best Pulverizer! The Best Cultivator! And The Best Harrow Ever Made.



THE WORTMAN & WARD MFG. CO., LONDON, ONTARIO. 322-d-om

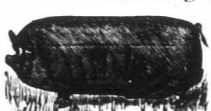
NONE BUT THE VERY BEST ARE KEPT AT ISALEIGH GRANGE.

This is what we claim and our customers endorse. GUERNSEYS, SHROPSHIRE AND IMPROVED LARGE YORKSHIRES. Seventy-five beautiful ewes in lamb to our imported rams, winners at England's greatest shows. In Yorkshires we imported last year the cream of the English winners at the Royal, the Liverpool and Manchester, and the Royal Cornwall and other large shows, including the first-prize boar at the Royal. Do not forget that like produces like, and send in your orders for young pigs early. Address, 322-2-y-om **J. Y. ORMSBY,** Manager Isaleigh Grange Farm, Danville, P.Q.

S. COXWORTH, CLAREMONT, ONT.,

Breeder and Importer of Berkshire Hogs.

Young stock of different ages constantly on hand. Pairs supplied not akin. Stock won at leading shows in 1892 1st, 11 second, 7 third, including Toronto, Montreal and Ottawa. Prices moderate. Satisfaction guaranteed. Station and Telegraph Office—CLAREMONT, C. P. R. 332-y-om

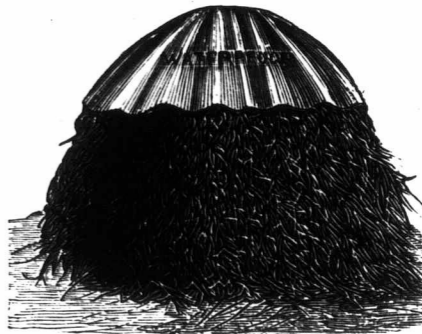


IMPROVED LARGE YORKSHIRE PIGS.

Thirty-five choice Breeding Sows from the best English breeders. Young stock of all ages. Stock supplied for exhibition purposes, registered and guaranteed to be as described. Personal inspection solicited. **J. E. BRETHOUR,** Burford, Brant Co., Ont. 327-y-om

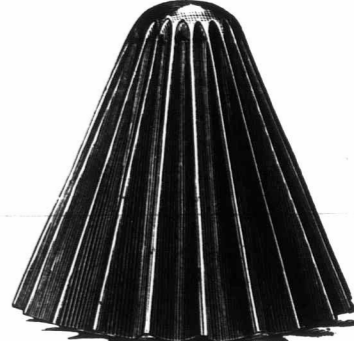


THE SYMMES HAY AND GRAIN CAP.



The most practical, cheap and efficient Hay and Grain Cap yet introduced. For particulars, send for circular.

THE SYMMES VEGETABLE AND FLOWER COVER.



Thoroughly waterproof, tough and durable. Size, 11 inches high and 12 inches diameter at bottom. Valuable for covering transplanted plants and flowers, protecting them from sun and frost. Manufactured by **THE SYMMES HAY CAP CO.,** Sawyerville, P.Q. 331-e-0

WILLIAM EWING & CO., SEED MERCHANTS, 142 McGill Street, MONTREAL.

Superior Farm Seeds, VEGETABLE AND Flower Seeds.

Ensilage Corn of all the best varieties. Imported Horse Beans and Giant Russian Sunflower for the Robertson Ensilage Combination. 331-b-om Catalogues mailed free on application.

KEITH'S

Gardener's Assistant and Illustrated Catalogue of Garden, Agricultural and Flower Seeds now ready and will be mailed free on application. I call special attention to my stock of CHOICE Saskatchewan Red Fyfe Wheat

PRICE, \$1.25 PER 60 LBS.

And also to my supply of Manitoba Oil Cake, the richest oil cake to be had on the market. Prices on application. Clover and Timothy, Orchard Blue and Red Top Grasses, Flax Seed, Ground Flax, Tares, Seed Wheat, Oats, Barley, etc., etc.

GEORGE KEITH, Seed Merchant, 124 King St. East, Toronto. 332-a-0

SEEDS

WILLIAM EVANS, Seedsman to the Council of Agriculture for the Province of Quebec, importer and grower of Field, Garden, Flower Seeds, AGRICULTURAL IMPLEMENTS, Guano, Superphosphate and other Fertilizers.

WAREHOUSES: Nos. 89, 91 and 93 McGill St.; Nos. 104, 106 and 108 Foundling St., and 42 Norman Street.

MONTREAL.

Orders respectfully solicited. French and English catalogues on application. 332-d-om

: \$200 :

In Prizes to the Farmers. NO ENTRY FEE.

For the best and second best acre of potatoes grown this season with the aid of our Fertilizers, in each of the provinces of Quebec and Ontario, we offer \$75.00 and \$25.00 respectively as prizes. For particulars get one of our circulars from local agent, or by addressing us.

THE NICHOLS CHEMICAL CO., 331-d-0 Capelton, P. Q.

FOWELL'S PAT'D MILK AERATOR AND CAN BEAT in America. Send for circular. H. FOWELL, Belleville, Ont. 330-2-d-om

POULTRY FOR SALE. After the breeding season we will sell Langshan, Partridge and Buff Cochins, Cockerels, Hens and Pullets, at greatly reduced prices. Prize-winning, high-scoring stock. Eggs from the above varieties and Brown Leghorns at \$1.50 per setting. **BAILEY & GEORGE**, No. 52 Clarence Street, London, Ont. 332-a-om

Sweepstakes at Chicago, 1891
B. and W. P. Rocks, W. and S. Wyandottes, W. and B. Leghorns, and Bronze Turkeys. 300 Toms and Hens, sired by 44 and 47 lb. Toms. 500 Cock's, pairs, trios and pens, mated for best results. Valuable illustrated poultry free. **F. M. MINGER, DeKalb, Ill.** 328-2-y-om

HAZELTON FRUIT & POULTRY FARM
PLYMOUTH ROCKS
Unsurpassed in America.
Eggs, \$2.00; guaranteed.
Elegant Illustrated Catalogue for '93 gives all particulars and information. Sent free.
C. W. Eckardt, Ridgeville, Ont.
U. S. BRANCH - Brookside Poultry Farm, Columbus, N. J. 327-y-om

CHICKEN-HATCHING BY STEAM
IMPROVED VICTOR INCUBATOR
Simple, easy of operation, self-regulating, reliable, fully guaranteed. Send for illus. Catalogue. Geo. Briel & Co., Mrs. Quinby, Ill. U.S.A. 330-c-om

THE ROYAL NEW MODEL INCUBATOR.
An incubator for the fancier, for the farmer, for the amateur. Practical, perfect in construction, easily operated, self-regulating. Send for circular and testimonials.
Address **J. S. SMITH,** 332-b-om Chilliwack, B.C.

WANDERER: CYCLES
The wheels for Canadians. Light, strong, unbreakable. Unexcelled for easy-running qualities. Manufactured by the Wanderer Cycle Company, 22 and 24 Lombard St., Toronto. Send for Catalogue. 328-f-om

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THE MACHINES OF THE SEASON.

Light, Strong, Fast & Neat.

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Wholesale General Merchants,
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MANUFACTURERS OF BESSEMER STEEL
SOFA, - CHAIR - AND - BED - SPRINGS
A LARGE STOCK ALWAYS ON HAND.
WM. CURRIE, 331-y-om **F. P. CURRIE**

SPRAY- and SAVE --- MONEY.



APPLE SCAB, - PEAR BLIGHT, - GRAPE MILDEW, - PREVENTED
Curculio, Potato Bugs, Lice on Cattle, - killed by spraying. - Send post card for illustrated catalogue of pumps and spraying mixtures, and you will put dollars in your pocket.
W. E. SAUNDERS & CO.
330-11-0 LONDON, ONTARIO



GOOD CROPS OR POOR CROPS,
Which Shall it be for 1893?

W. A. FREEMAN, Esq. Niagara, Jan. 27th, 1893.
Dear Sir, - Having given your "Bone and Potash" a fair trial with most satisfactory results, I have much pleasure in adding my testimony to its excellence as a fruit producing fertilizer. I have used it at the rate of 8 lbs. per tree in full bearing. I have placed in the hands of Mr. Gage my order for eight tons, an increase of two tons on order of last year. Respectfully,
J. H. BENN, (Signed)

W. A. FREEMAN, Esq. Niagara, Jan. 27th, 1893.
Dear Sir, - Used your potato manure last year, and am well pleased with it. We used on one piece one sack with manure per acre, on another two sacks with manure, and a small piece without manure, but with fertilizer at the rate of three to four bags per acre. The manure plots had at the rate of twelve to twenty loads per acre. The largest yield was received from the plot where fertilizer alone was used.
A. C. HOWE, (Signed)

Send for **FREEMAN'S NEW CATALOGUE,**
Treating of Manuring and how to grow large and paying crops.
--- SENT FREE BY ADDRESSING ---
W. A. FREEMAN, - **HAMILTON, ONTARIO.**
Please mention this paper. 335-a-om

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UPON our 250 acres of Nursery we have every class of Trees and Plants that is hardy in a northern climate; Fruit, Ornamental, Nut and Flowering. In our catalogue which are the most complete and elaborate published by any Nursery establishment in the world, all are accurately described and offered at one-half the price of tree agents. Lovett's Guide to Fruit Culture tells all about fruits their merits and defects; how to plant, prune, cultivate; describes the best varieties, etc. Richly illustrated - several colored plates. Price 10 cents. Lovett's Manual of Ornamental Trees and Plants is authoritative as well as interesting and instructive. A model of excellence in printing and illustration. Price, with colored plates, 15 cents. We successfully ship to all parts of the earth.
J. T. LOVETT CO., Little Silver, New Jersey.

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THE CORBIN PATENT TEMPERED DISK

Every Slicer Disk in the Corbin Harrow and the Corbin Drill is stamped exactly like the words in the circle surrounding this. If not so stamped, it is not genuine and is not tempered.

The Ball Bearings and Tempered Disks in the Corbin Harrow make it capable of cultivating **TEN THOUSAND ACRES (10,000).** None other will bear one-half this work.

The Corbin Patent Tempered Disk is hardened on the cutting edge and is soft-centered.

J. S. CORBIN, Prescott, Ont.
331-d-om

As "SAINT GEORGE" of YE OLDEN TIMES WAS WITHOUT AN EQUAL, SO ARE ST. GEORGE IMPLEMENTS.

We present to the farmer a very complete line of goods: Plow Cultivators, Horse Hoes, Turnip Sowers, Land Rollers, Mowers, Reapers, Ensilage and Fodder Cutters, Root Pulpers, Tread Powers, Wheelbarrows, Bag Trucks, Scrapers, etc., etc.

Write us for description and price of any implement you want.

B. BELL & SON, 329-2-y-0 ST. GEORGE, ONT.



The Garrett Picket and Wire Fence Machine

Weaves to the posts. A universal favorite. **THOUSANDS** in use. **GUARANTEED.** Freight and Duty paid. Agents are reporting big sales. Machines at wholesale direct from factory to Farmers, where I have no agent. Liberal Terms to Agents. **CATALOGUE FREE.** Address the manufacturer.
S. H. CARRETT, MANSFIELD, O., U. S. A
330-2-y-0



FENCE! FENCE! FENCE!

The best, cheapest and most durable fence in the market. It will turn horses, cattle, sheep, hogs, dogs and poultry.
Prices within the reach of all, viz., from 45c. to 75c. per rod (161 feet). Also manufacturers of Woven Wire Fencing. Send for our list.

TORONTO PICKET WIRE FENCE COMPANY
221 River Street. - TORONTO CAN.
330-a-om

CANADA SHIPPING COMPANY.
BEAVER LINE OF STEAMSHIPS.

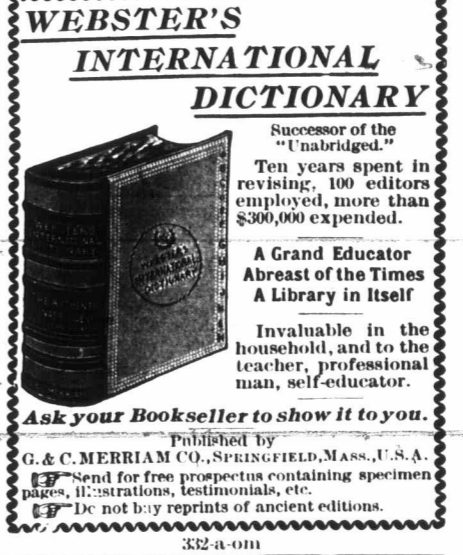
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From MONTREAL Every Wednesday.
From LIVERPOOL Every Saturday.
The Steamers have First-class Accommodation for Saloon, Second Cabin and Steerage Passengers.
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Saloon, \$45, \$50 and \$60.
Round Trip, \$90, \$100 and \$110,
according to steamer and accommodation. The \$45 and \$90 rates per S. S. Lake Nepegin only. Second Cabin, \$30; Steerage, \$24. Each Steamer carries a duly qualified Surgeon and experienced Stewardess.
The attention of Importers of Horses and Live Stock generally is directed to the fact that these Steamers have the highest record for the successful carriage of the same, and a trial shipment is solicited. For freight or passage, apply to
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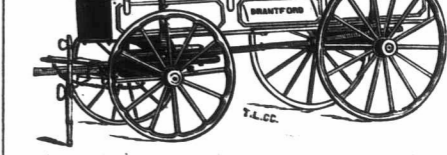
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