

**PAGES
MISSING**

FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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VOL. XXXIII.

LONDON, ONT., AND WINNIPEG, MAN., MARCH 1, 1898.

No. 449.

EDITORIAL.

More Barn Plans.

We are pleased to learn from a number of our correspondents that the barn plans and descriptions given in late numbers of the FARMER'S ADVOCATE are being appreciated as helpful. It has been remarked by one or two contributors that some of the designs have been on a too elaborate scale for the average farmer to follow. We are able in this issue, however, to offer what should suit the purse and needs of stock farmers down to the tiller of fifty acres. The three plans each have features worthy of commendation and imitation. Good features from these and others previously published can be chosen according to the judgment of the reader, based on his own purposes and conditions.

Seed Time is Coming.

It goes without saying that between the harvest of one year and the seeding time of the next every thoughtful farmer decides to make some changes in his methods. The final end of all farming operations is "the return," and where one sees a chance to increase this without too great an outlay of effort or expense, he is very sure to follow it. There are several reasons why changes in one's system are necessary, and among these are the varying demands for different crops, the changing of rotation to increase fertility and cleanliness of the soil, and such other variations as the lessons of experience and scientific insight dictate. A few years ago barley sold at a price that made it the best paying crop on all farms suitable for growing it; but as that is no longer the case, this crop is grown for little else than for the feeding of stock, for which purpose it is highly prized. To-day wheat promises to maintain at a paying figure, hence the return to it on many farms. The most general change, however—one which is doing much to improve the financial condition of the individual and the nation—is in the direction of growing stock-feeding crops and feeding them on the farms, such as corn for dairy cows. It is being found by actual experience what has been preached in our columns for years, that as much of the product of the farm as possible should be converted into a fine food product, such as dairy produce, meat or live stock. It is being observed that impoverished farms cannot be made to yield a profit. With these changes in conditions and greater enlightenment comes the yearly introduction of new and better varieties of grains, grasses, and other crops. While it is not wise to send for a bag or more of every new sort said to be a "world beater," it is well to observe what is being learned from the repeated experience of good farmers and those who are in a position to judge between the best and medium varieties, the quantities of seed per acre, and the best cultivation before and after the sowing. This involves a consideration of how a person's rotation, if he follows one, can be improved. It is not only necessary to get the most good from the farm this year and the next, but the seasons which are to follow are just as much to be considered. In this issue our Farm Department is replete with lessons along the line of seeding operations, which are worthy of very careful perusal and consideration. By the kindness of numerous contributors, we are able to make this number of the FARMER'S ADVOCATE of more than ordinary value, particularly at this season. We cannot refrain from quoting the words of an old reader that "a farmer who cannot get more than the price of his year's subscription from one or two such numbers as this one is either an extraordinarily good farmer or else singularly obtuse." The results of dearly-bought experience can teach more to those who are teachable than all the theorizing that can be penned. Useful points may have been overlooked, and no

doubt there are others in these letters which will be taken exception to, and next issue will be a good one for further discussion. Matter reaching us by March 9th or 10th will be in plenty of time for the 15th number.

Our Live Stock Associations.

The annual meetings of the Stock Breeders' Associations held last month in Toronto and Winnipeg were characterized by a confident and hopeful spirit which augurs well for the future of the business. The attendance of breeders was much larger than usual, and all seemed to feel the influence of the improved times causing an active demand for pure-bred stock and better prices. The registration of stock has increased very largely during the last year, and the staff of registrars are being worked to full capacity. Breeders should keep their stock recorded well up to date, and the high standard of Canadian Herd and Stud Books maintained in its integrity. The proposed amalgamation of the Shorthorn Herd Book of the Maritime Provinces with the Dominion Herd Book is a very desirable consummation, and is creditable to the judgment of all concerned. The steps taken towards uniting the Ayrshire Herd Books of Ontario and Quebec, and also that of the Maritime Provinces, in one Dominion Record are also commendable, and we hope will end in an agreement satisfactory to all parties. As was expected, the suggested amalgamation of the Canadian with the United States Clydesdale Stud Book met with no approval. The offering of special prizes at leading exhibitions in each province for the best animals and herds owned in the respective provinces is a wise and judicious way of disposing of any portion of the surplus funds accumulating, and one which well serves to enhance the interest taken in the affairs of the Associations, and will be duly appreciated by exhibitors. The reduction of the membership fees is a proper movement, thus minimizing the tax upon the membership to the actual necessary expense of running the affairs of the Association properly. The people who have contributed to the accumulation of the funds on hand are certainly entitled to share in the distribution of any surplus which may have accrued.

The Manitoba and Northwest Association meetings were particularly interesting, being largely attended by the foremost breeders and farmers of the country—men whose intelligence and enthusiasm was evidenced by the excellent papers and addresses given, and the practical discussion of many important subjects. A proper move was made at the latter gatherings to secure a similar freight rates classification for pure-bred stock on the railways as prevails in Ontario and the East, which will put the live stock interests on a better basis, enabling farmers generally to secure better stock for the improvement of their herds.

That a great awakening has come upon the people of this continent in regard to the need of more and better stock is certain, and it will require all that the breeders can raise to meet the demand. The ambition of every breeder should be to produce a better class of stock than he has ever done before, and to feed and care for it in such a manner as to develop its best possibilities and have it at all times in condition to sell to advantage. This course will be found to prove most profitable to the breeder and satisfactory to the buyer. There is an immense field on this continent waiting to be stocked, and many millions may be added to the value of the stock by judicious breeding and management. Let every man, to the extent of his ability, do his duty in the effort to elevate the standard of our stock and to develop the resources of this great country, which is a heritage of which we may well be proud.

Those Reported Glanders Cases.

Some time ago reports reached the FARMER'S ADVOCATE that a number of livery stable horses were affected with glanders in a town not far from Toronto. A sick horse had been noticed on the streets of the latter place, apparently in the chronic stage of glanders. On being destroyed, a post-mortem was held by two veterinaries, who found the evidences of a long-standing case of the disease. This animal was subsequently traced to the livery referred to. The attention of both Dominion and Provincial authorities was called to the matter and the ADVOCATE sent members of its staff to investigate. It was found that a horse affected with acute glanders was killed some four or five miles distant from the place referred to last May, and in an adjoining village there were a number of cases of what was reported to be nasal gleet. The livery stable horses were seen, but beyond being low in condition there seemed to be nothing serious ailing them. At the request of the local authorities, Prof. Sweetapple, of the Ontario Veterinary College staff, also visited the place, and in company with a local veterinary surgeon made a physical examination (taking temperatures, but not applying the mallein test for glanders) of the eleven horses in the stable. He reports no evidence of glanders, nor any symptoms indicating any similar trouble. There the matter rests for the present. Glanders has long been regarded as one of the most serious of animal diseases, and is included in the Dominion Contagious Diseases Act, so that it comes under the jurisdiction of the Chief Veterinary Inspector, Dr. McEachran, and his staff. As we previously pointed out, there is an Ontario statute under which glanders may be dealt with, but the Provincial authorities do not assume direct responsibility, provision being made whereby cases may be dealt with by a justice of the peace upon information laid by any individual, the question of compensation being left with the municipality, which is certainly only a half-hearted plan of trying to deal with such matters. The Province of Manitoba, as in other matters, has "taken the bull by the horns," so to speak, and appointed a veterinary inspection staff of its own, who act regardless of the Dominion inspector, and notwithstanding the reassuring statements of the latter before the Committee on Agriculture at the 1897 session of Parliament at Ottawa, to the effect that Canada was nearly rid of the trouble, the Manitoba authorities had actually slaughtered 40 glandered horses. This speaks volumes for the knowledge and efficiency of the Dominion Veterinary Department! Or else, on the other hand, the Manitoba Veterinary Department has been perpetrating an outrage upon horse owners, which is hardly likely. When anything really serious crops up in any of the Provinces, there should be effective machinery to deal promptly and vigorously with it. There should be no open question as to jurisdiction, and no shirking responsibility. When reports are made a proper investigation should at once take place, and, if need be, the necessary action taken to clean out the trouble. It is the greatest folly to try to gloss over or cover up animal diseases if they exist. The authorities, having had their attention thus pointedly directed to these matters, should see that proper plans are devised, and that can doubtless be done without any needless multiplication of fat-salaried officials to thrive on "scares," and with whom the taxpayer is already burdened. We trust the Dominion Minister of Agriculture will prove himself equal to the task.

Appreciation.

I have taken the FARMER'S ADVOCATE since Jan. 1st, 1895. Have preserved all the copies, and find it a valuable paper.
E. A. KIPP.
Chilliwack, B. C.

THE FARMER'S ADVOCATE AND HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONTARIO, AND WINNIPEG, MANITOBA.

JOHN WELD, MANAGER.

- 1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month. It is impartial and independent of all classes 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.

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One Copy Worth \$100.

To the Editor FARMER'S ADVOCATE: SIR,—Herein please find amount for subscription enclosed. As you know, I am an old subscriber, and as such must say that I am thoroughly convinced that every farmer in the Dominion should be a grateful recipient of your great ADVOCATE.

STOCK.

Information on Hog Raising.

S. HURLEY, Dundas Co., Ont.:—"I would like to get some information on hog-raising through your paper. I think these questions would be helpful to the farmers generally. I would like to hear from men who have had experience. 1. Can a farmer who does not keep cows, hence has no milk or whey to feed, keep hogs profitably? If so, how? 2. If roots are fed, what kind, and how fed, raw or cooked? If sugar beets, the kind—orange, sugar or those grown to make sugar from? 3. If the hogs are turned on clover in summer, how high should it be before turning them onto it? Also, how many per acre? 4. How do young vetches compare with clover for pasture? Is shorts or a mixture of oats, barley and peas the better feed? 5. If the grain is fed, is it more profitable to get it ground and give the tenth or a little more for grinding or feed it whole? If fed whole, how-dry, soaked or boiled? 7. When is the best time to have the pigs come—in the fall, winter or spring?"

Roots and Green Feed Liberally Used.

To the Editor FARMER'S ADVOCATE: SIR,—In reply to the enquiries of Mr. Hurley, would state that hogs can be fed profitably without milk or whey. Frequently we have no milk for our young pigs; we use as a substitute boiling water in which is stirred a little chopped grain, middlings and ground flax seed. This is covered over and let stand for an hour, when it is ready to feed. For winter, we feed boiled roots morning and night (pulsed so that one fire will cook sufficiently), mixed with cut clover, chopped grain, and bran. Noon feed consists of raw mangels only. In summer it is not necessary to cook the roots. As sugar beets keep longer than turnips or mangels, the former are reserved for late spring feeding. During the summer season green feed—clover, vetches, rape, etc.—is carted to the pigs. Fall and spring are the best seasons to have pigs come. If they come in winter, the pen must be made warm by covering over with boards and straw.

WM. RENNIE, Farm Superintendent, Ontario Experimental Farm.

The Smithfield Block Test.

SHEEP SLAUGHTERED FROM THE SMITHFIELD CLUB SHOW OF 1897.

Table with columns: Description of Animal, Honors, Age, Average live weight, Average daily gain of live weight, Average weight of dressed carcass, Average percentage to gross live weight. Rows include Wether Lambs under twelve months old, Wether Sheep above twelve and under twenty-four months old, and Ewes above three years old.

Pointers from Iowa.

To the Editor FARMER'S ADVOCATE: SIR,—The methods employed in hog-raising in the States are of necessity quite different from those prevailing in Canada, although there are many principles common to both countries. A great many farmers in the Western agricultural States grow hogs successfully without keeping more milk cows than barely enough to supply the needs of their own family. This is accomplished by having sows farrow about the time grass comes in the spring and feeding liberally of good, rich slops, and giving both sow and litter the range of clover or other pasture during the summer. Roots are only fed to a very limited extent in this locality, and mangels, sugar beets, and potatoes are most generally used. Potatoes are generally cooked, while the others are fed raw. The sugar beets grown are the sugar-making varieties. In practice it is found to be a good policy to give the hogs the range of large areas of pasture, and turn them on as soon as the weather is favorable for them to be outside. An acre of pasture to each five or ten hogs will not be too much, although it may be necessary to use other stock to consume a part of the grass. The vetch is not a satisfactory forage plant in this locality. The clover is altogether more desirable in every way. Peas are not extensively grown here, and shorts, oats, barley, and corn constitute the principal grain feeds. Corn is used almost exclusively for fattening, while the brood sows are fed largely on the other grains in addition to corn. It is not generally considered profitable to grind corn for hogs unless the market price is below twenty-five cents per bushel, nor is cooking feed regarded as profitable. By far the greater part of the corn crop is fed to hogs dry, although considerable of it is soaked with good results during the summer months. Litters are generally farrowed in April and May, although a few breeders who have good quarters arrange to have their pigs come earlier, mostly in March. Not many fall pigs are grown, and hardly any are raised in the winter.

Iowa Experiment Station.

Pigs Run with Sow till Two Months Old. To the Editor FARMER'S ADVOCATE: SIR,—In reply to Mr. Hurley's questions about raising pigs profitably without keeping cows, I would say yes. I suppose Mr. Hurley intends raising his own pigs if he goes into the pig business; if so, and he has no milk, he should let his pigs run with sow till two months old, or if longer than that it would be all the better; and if he only wants to raise one litter in a year from his sows I would advise letting them run with sow as long as she has any milk, as by that time they will eat well if they have been fed shorts made into slop at first; then I would add a little meal of some kind—I prefer barley—and if the weather is not too cold would let them run out as much as possible every fine day. I feed roots pulped and mixed with meal of some kind. I have fed sugar beets, mangels, and turnips. I do not think there is very much difference which, although they like mangels or sugar beets better than turnips, but they will eat turnips all right when they get accustomed to them. I would advise turning them on clover before it gets very high, as it is more tender than it is when it gets stalky; and as to how many per acre would depend very much on the quality of the soil, the size of the pigs, or how much other feed is used, as one would not expect small pigs to grow very fast

on nothing but clover. Brood sows that are not suckling pigs will do all right on clover. I would advise having both vetches and clover, as a change of feed is advisable. Would prefer shorts till about two months old, then would mix some kind of meal, and as to what kind would depend on the price of the different kinds of grain; but for young pigs would not advise giving pea meal, and would advise having grain ground. If I were raising only one litter a year from sows would have them come in the spring, as most people succeed better with spring pigs than with fall pigs.

THOMAS TRASDALE, York Co., Ont.

Can Get Along Nicely Without Dairy Products.

To the Editor FARMER'S ADVOCATE: SIR,—I would say a farmer cannot go astray in feeding hogs at the prices of feed and the value of hogs fit for market, as during the past twelve months there has been a wide margin to work on. I have no milk for hogs, as we do no dairying worth mentioning over and above what keeps the house running. Although I value by-products of the dairy highly, I think that when we cannot get them we can get along nicely without. I feed the sow while suckling considerable boiled peas; after weaning, add shorts for the youngsters and gradually work into meal, a mixture of oats, peas and barley meal and shorts, wet with warm water and let stand a few hours. When they are able to eat clover, say three months old, let them have their will of it and feed a few peas. Just throw the peas on the ground and let the hogs pick them up. If late in the fall or winter I prefer boiling pulped turnips. Mix with meal of mixed grain while the turnips are hot and let stand until cool enough for feeding. By letting them have all the exercise possible I experience no trouble in getting nice marketable hogs of 200 pounds at seven months old. I prefer not forcing them too rapidly. I think a hog fed as I have stated above will not cost as much at seven months as others at six were they fed a more concentrated food and at far more risk. I have had no experience in feeding sugar beets, but have fed mangels extensively to sows when safe in pig. I just fed them raw and whole. I think clover should be six inches high before turning into it. I cannot say how many per acre, it would all depend on the season and size of hogs, etc. As grain I prefer shorts mixed with a meal from mixed grain to shorts alone. We get our grinding done for about a fifteenth, and I think if it cost a fifth to get it ground fine with stones it would be more profitable than to feed it whole, soaked or boiled. Peas is the only grain you can boil and feed with profit to hogs.

I never find pigs come wrong. I try to have them come so that not more than two sows will be farrowing near the same time. If I was only keeping one or two sows I would prefer having them farrow in March and September. I fed four pigs last year without milk for show purposes, and the judges at Toronto threw one of them out for being too large. JOHN BELL, "Clydesdale Farm," York Co., Ont.

Use Grass, Clover and Roots Liberally.

To the Editor FARMER'S ADVOCATE: SIR,—Pigs can be profitably raised without dairy by-products. If possible give the brood sow and pigs a grass run. Before the little ones are weaned have them learned to eat, by giving boiled roots (carrots or mangels preferred) mixed with shorts and fed in form of porridge. When the pigs are two to

three months three months grains, such as Pigs seem to to turnips, be than turnips, young growing the meal mixed the pigs are w to what kind ever the land individual far The clover high when the ber of pigs to size of the p what extra fe six to ten or is advisable t ing on the g Clover is pre become very go to seed an I prefer to pigs are two that, outa, ba best results, to grind th whole, it sho or soaked a pass through will swallow tion. Where in the year, as the pigs s ter where th grass plot. is better to h say one in M September. marketed al litter could April or May ally brings t

Central Ex

Mr. J

Owing to the farm of Ont., during structure w The new ba under the ground. Th is plainly i Fig. 1. Its posts 28 feet ing a great inch pine, driveway in lock. The granar double hem It will be hay, straw, venience in house are handling r The bar clearly sh are 22 inc plenty of l windows of floor of th of the cattl is secured end walls ous chute passages a any waste good size a doors for O On his another b sions, wit large and pure his exten of Cotswa and health season.

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To the Edi SIR,— keeping c tom of m floor of t The othe water. system o stable w 30 below many of in their c threed to North

H. R. paper s you ever

three months old, add a little ground oats, and after three months gradually introduce the heavier grains, such as barley, peas or bran.

Pigs seem to prefer carrots, mangels or potatoes to turnips, besides they are all much easier boiled than turnips. If possible, have the roots boiled for young growing pigs; if not, have them pulped and the meal mixed through them. The brood sows after the pigs are weaned will do well on raw roots. As to what kind of roots are best, I would select whatever the land is best adapted for and which the individual farmer can grow to best advantage.

The clover should be from four to six inches high when the pigs are turned on. As to the number of pigs to one acre, that would depend on the size of the pigs, the condition of the crop, and what extra feed was given. I would consider from six to ten or twelve, depending on conditions. It is advisable to have the pigs all ringed before turning on the grass to prevent turning up the sod. Clover is preferred to vetches, as the latter might become very troublesome if any were allowed to go to seed and spread over the farm.

I prefer to feed shorts largely till the pigs are two to three months old; after that, oats, barley and peas will give the best results. I think it will always pay to grind the grain for hogs. If fed whole, it should be fed dry, for if boiled or soaked a considerable quantity will pass through the pigs undigested, as they will swallow it without proper mastication. Where only one litter is wanted in the year, the spring is the best time, as the pigs soon get outside and do better where the sow has the run of a small grass plot. To obtain the best results, it is better to have two litters in the year—say one in March or April, and again in September. The first litter would be marketed about September, and the fall litter could easily be made ready for April or May, at which time pork generally brings the highest price.

R. R. ELLIOTT, Herdsman.
Central Experimental Farm.

Mr. John Morrison's Stock Barn.

Owing to destruction by lightning of a barn on the farm of Mr. John Morrison, near Brooklin, Ont., during the summer of 1897, an excellent new structure was put in its place before winter set in. The new barn—86 x 50 feet—has a stone basement under the entire size, having walls 9 feet above ground. The arrangement of the upper structure is plainly indicated by the accompanying plan, Fig. 1. Its corner posts are 18 feet, and purline posts 28 feet. The roof is hipped, or broken, allowing a great holding capacity. The siding is of 3 1/2-inch pine, planed, tongued and grooved. The driveway is of tongued and grooved, planed hemlock. The mow floors are of double pine boards. The granaries are of planed, tongued and grooved double hemlock. The timbers are also of hemlock. It will be noticed that chutes for putting down hay, straw, etc., are arranged with a view to convenience in the basement. The trapdoors to root house are also placed so as to do away with re-handling roots in the cellar.

The basement plan, Fig. 2, is also clearly shown in cut. The 9 foot walls are 22 inches thick, and studded with plenty of large windows. There are also windows over each of the doors. The floor of the horse stable is of brick, and of the cattle portion cement. Ventilation is secured by 10-inch pipes through the end walls at the ground and the numerous chutes into the barn above. The passages are all of nice width, without any waste of space. The stalls are of good size and conveniently arranged. A horse can be driven through the 4-foot doors for cleaning out the stables.

On his 200 acres Mr. Morrison has another barn, of much the same dimensions, with stone basement, so that his large and excellent herd of high-grade and pure-bred Shorthorns, as well as his extensive Clydesdale stud and flock of Cotswolds, will always be comfortably and healthfully stabled in the housing season.

Water Trough for Cattle Stall.

To the Editor FARMER'S ADVOCATE:

SIR,—We notice in last issue a cut of stall for keeping cows clean. Our experience is to have bottom of manger from two to three inches higher than floor of stall, instead of lower, as shown in plan. The other parts of stall are good, except pipes for water. We prefer an open wood trough to any system of piping, as they will freeze in almost any stable when the thermometer goes down to 20° or 30° below zero, and thus are liable to burst. A great many of our neighbors are troubled with abortion in their cows from no apparent cause, ranging from three to seven months after service. Is there any remedy or preventive for this? Is it infectious? Northumberland Co., Ont. ALEX. HUME & Co.

H. R. KEYES, Midway, Man.—"I think your paper should be in every farm home, and I wish you every success."

FARM.

SEEDING OPERATIONS.

Before the time for seeding arrives every farmer must make a choice as to the varieties of the various grains he will sow for the coming crop. Whether the decision is based on one's own experience or that of others in whom he has confidence, the subject is worthy of careful consideration, because the difference between the returns from different sorts, under the same conditions, often run into hundreds of bushels on the average farm. Not only is it necessary to grow the best obtainable sorts to get the largest returns, but the system of managing the land has even a greater influence upon the returns received. In order to assist our readers as far as possible to decide wisely the different questions that face every

most popular and paying varieties, although the coming season we are trying a new bean called the Bayou, said to be in the highest favor with the miners, and thus bring a slice of the Klondyke our way.

Our favorite hay is produced by seeding with six pounds red clover, two pounds Alsike and two pounds timothy. About half the quantity of timothy is put on when sowing the wheat in the fall. The balance of the mixture is applied in the spring with a patent seeder, and the land rolled when it becomes sufficiently firm. This produces a fine hay and a heavy crop. Our lucerne (alfalfa) mixture is twelve pounds lucerne, two pounds red and one of Alsike. We sow this on spring grains, barley preferred, usually broadcasting it behind the tubes with the seeding attachment on the grain drill, and roll at once, which presses the seed in the required depth. From nine acres seeded in this way in 1896 we cut one and a half tons of hay per acre the same fall, and last year it pastured over 100 head of hogs until they were marketed, besides furnishing night pasture for two work teams and ten head of milch cows. Lucerne may not do well with everyone, and everywhere, but it's a bonanza to the farmer that can grow it!

Were we asked what were our main sources of fertility we would answer the three C's, cows, corn and clover, and of the three we think the latter the most important. As before stated, we clover everything we possibly can, and either pasture, plow under, or feed every pound of it in conjunction with our coarse grains and millfeed. Another point, we endeavor to place the manure on the land as soon as made, finishing up with a complete barnyard cleaning in the spring, consequently we get the full benefit, and have no loss from the manure leaching and bleaching in the yard six or eight months. That our farm is responding liberally to this treatment will be seen by the fact that the past year our corn yield was in the neighborhood of 125 bushels per acre, and wheat and beans turned

out 30 and 33 bushels per acre respectively.

The cultivation necessary to the best results in the hoed crops will draw the required moisture, and with the addition of plenty of clover will go a long way toward banishing the weed nuisance on any farm.

I have no experience in treating peas, oats, etc., but have successfully treated potatoes for scab with corrosive sublimate for the past two years, and can highly recommend it to those having scabby potatoes.

A Heavy Feeding Crop Once in Six Years.

BY JOHN BURNS, PERTH CO., ONT.

In regard to rotation of crops no hard and fast rule can be successfully carried out, owing to the many changing conditions of the market for farm produce and the fact that farmers are adding new and reclaimed portions to their farms which for a certain time require special treatment. As a rule, in my own practice I try to carry out a six-year rotation. By that I mean that only once in six years the land will be carrying a heavy feeding crop, such as wheat. Four years of this period is devoted to roots and corn and leguminous crops, pasture, meadow and peas. It will also get two applications of farmyard manure during this time—one heavy coating before the roots and corn, the other for wheat, usually not so heavy as for the root crop. In following out this method with thorough cultivation there is very little trouble from weed seeds, and as far as I can see there is no perceptible diminution in the fertility of the soil. In varieties of grains, I am still growing the old standards, Banner oats, Mandcheuri barley, and Golden Vine peas. I have never grown any spring wheat whatever.

In preparing the land for these crops I aim to have the work well done the fall before, usually plowing twice, the last time thorough and deep; then cultivate in the spring. Sow and harrow until the land is in fine tilth, then after allowing a few days for the surface soil to settle, sow grass seed on what is to be seeded down, with a wheelbarrow seeder, then roll. And this is the only method used to conserve moisture in the soil. However, in preparing sod land for fall wheat too much importance cannot be attached to early plowing, thorough working on the top to compact the sod and mellow the soil. I usually sow from eight to ten pecks per acre of seed. In grasses I like a mixture of about five pounds red clover, five pounds timothy, two pounds Alsike and two pounds orchard grass per acre. I have had better success with fall wheat as a nurse crop than with any other kind of crop. It is quite safe to sow as early as you like—say after the first of March. I think it quite necessary to sow perfectly clean peas for seed, and if you cannot get them free from bugs the best way to do is to keep them over to the second year, when all the bugs that they contained will have deserted them. Have treated wheat for smut with the copper sulphate solution, and had most satisfactory results.

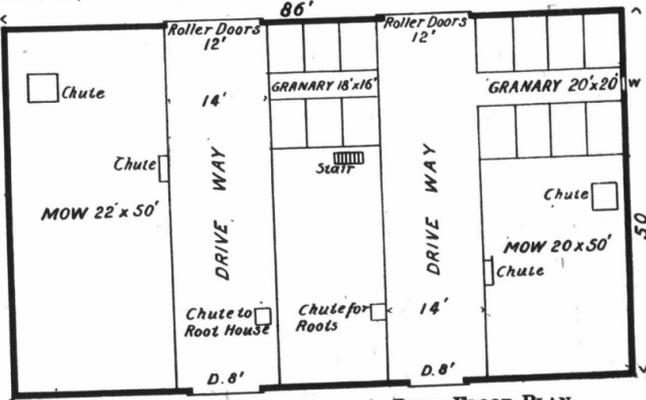


FIG. I.—MR. JOHN MORRISON'S BARN FLOOR PLAN.

thinking, progressive farmer at this season of the year, we publish the following letters, based upon practical and successful experience, which discuss the subject of rotation of crops, varieties of grains and quantities sown, preparation of the land, varieties and methods of sowing grasses, clovers, etc., for hay and pasture, means of maintaining fertility, moisture and cleanliness of land, as well as the treatment of grains and potatoes in order to combat insect and fungous troubles.

Cows, Corn and Clover the Main Sources of Fertility.

BY W. A. M'GRACEY, KENT CO., ONT.

Our rotation is as follows: Clover, beans, wheat, clover, corn, and potatoes; oats and barley. We seed down with all our wheat, oats and barley. As a result we have an abundance of hay, pasture, and material for green manuring, which is rapidly increasing the fertility of our farm.

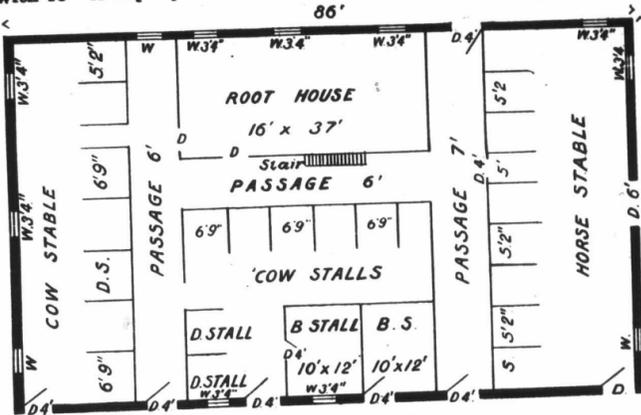


FIG. II.—BASEMENT PLAN.

We fall plow the sod intended for beans and corn, coat it heavily with stable manure during the winter, which gives us a week or ten days additional time in the spring for working the land and destroying fowl seed. Spring preparation for oats and barley consists in working the land sufficiently and then that the seed will cover when drilled, and then rush them in, as we consider earliness of seeding goes a long way toward a heavy yield of either of these grains. I think the experiments conducted along this line at the Experimental Farm point the same way. The bean and corn ground is thoroughly worked before planting time, as we believe in doing the hoeing by horse power before the seed goes in. We cultivate the ground over every week or ten days with a disk harrow, rolling it after each working to hold the moisture which is so essential to the early growth of these crops. As to varieties, Black Tartarian and Joannette oats, Mandcheuri barley, Ohio Improved and eight-rowed yellow corn, and the pea bean seem the

be seeded down, with a wheelbarrow seeder, then roll. And this is the only method used to conserve moisture in the soil. However, in preparing sod land for fall wheat too much importance cannot be attached to early plowing, thorough working on the top to compact the sod and mellow the soil. I usually sow from eight to ten pecks per acre of seed. In grasses I like a mixture of about five pounds red clover, five pounds timothy, two pounds Alsike and two pounds orchard grass per acre. I have had better success with fall wheat as a nurse crop than with any other kind of crop. It is quite safe to sow as early as you like—say after the first of March. I think it quite necessary to sow perfectly clean peas for seed, and if you cannot get them free from bugs the best way to do is to keep them over to the second year, when all the bugs that they contained will have deserted them. Have treated wheat for smut with the copper sulphate solution, and had most satisfactory results.

A Good Mixture of Grasses Better than Clover and Timothy.

BY J. E. RICHARDSON, BRANT CO., ONT.
We generally put fall wheat on a crop of clover plowed under, then roots and corn, followed by barley or oats, seeded down to clover and grasses. We also like to plow under a second crop of clover for oats, and sow peas on sod land plowed in the spring. Our varieties are:

- Spring wheat—Campbell's White Chaff.
- Oats—Newmarket (white), White Giant, and a new black oat which has not yet been put on the market—it is early and an excellent yielder.
- Barley—Selected six-rowed.
- Peas—Prussian Blue.

After roots and corn, plow in the fall and work land well on top in spring. After fall wheat, gang plow (shallow) as soon as possible, and plow late in fall, and work land well in spring before sowing roots, corn, etc. This is very important, viz., to get the land as clean as possible before putting in a hoe crop. We sow wheat one and a half bushels per acre; oats, two bushels; barley, one and a half bushels; peas, three bushels.

A good mixture of grasses, when once established, are superior to clover and timothy both for hay and pasture. Have had good success with this mixture for hay: Perennial rye grass, timothy, meadow fescue and Alsike. Owing to the difference in weight of most of these grasses, it is necessary to sow them separately—from fifteen to thirty pounds to the acre—according to the condition of the soil and the varieties of grasses used. In selecting a mixture for hay, it is well to get grasses that mature about the same time. Orchard grass is very good mixed with timothy and other grasses, such as meadow fescue, etc., for pasture; but for hay, timothy and orchard grass should never be sown together, as the latter matures much earlier than the former, and when overripe is almost worthless for hay. Sow grass mixtures on clean, rich land, and about one bushel of oats or barley as a protecting crop. Cover the seed with very light harrows.

To maintain the fertility of the land and keep it clean, we plow down clover and other green crops, and a liberal supply of ashes and farmyard manure. We work the land well, and when a few bad weeds appear we don't neglect them. "A stitch in time saves nine." Pull one weed, and it may save pulling a thousand next year. Cultivate continually corn and roots. The shallower the teeth are in the ground the better, as the capillary tubes of the soil are then opened nearer to the surface, and so the moisture is brought to the top. We have not yet treated seed peas for bugs, but it is time to commence; shall certainly do so another year. Smut in oats, wheat, and barley have not troubled me much, as I am continually growing new varieties.

Now is the Time to Operate Your "Klondyke."

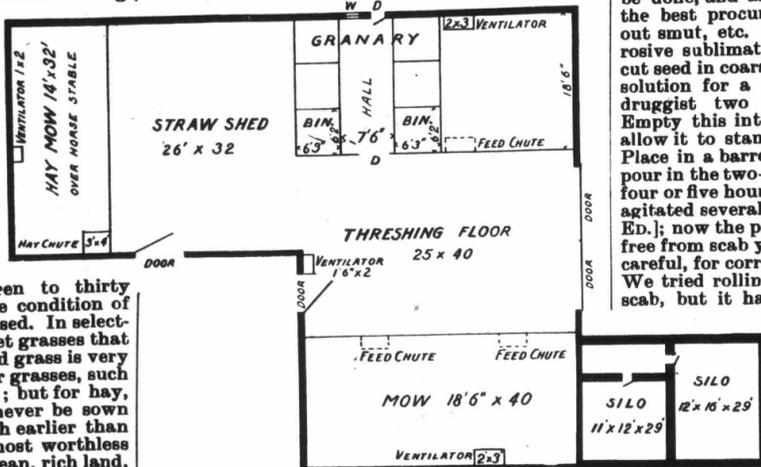
BY W. C. HUFF, PRINCE EDWARD CO., ONT.
Generally speaking, we could not practically follow any fixed rotation of crops with good results, as some land would produce a good yield, the following crop would not be suited to the soil and consequently be a failure. You must know what your land is adapted for, then proceed to get the most and of the best quality possible. This is our plan: To sow on clover sod peas or corn; the following season wheat; next two seasons barley and seed down again; timothy sod, sow oats; and should the soil produce good corn, try a crop of corn. A root crop is recognized generally with the rotation, but it would be too large for us to attend to and consume on an average. We can grow more consecutive crops of barley than of any other crop, so for years it has been the staple. Spring wheat, Eldorado [NOTE.—This name must represent a different variety from the original Eldorado, as it was a well-remembered failure to the writer and many others in yield and flouring qualities.—ED.]; oats, American Banner; barley, Mandcheuri and common six-rowed; peas, Runner and Golden Vine; corn, Yellow Flint for husking, Stowell's Evergreen and Hickock for feeding. We always have the land fall plowed, and in spring we complete the preparation with a spring-tooth cultivator and sharpest-toothed harrow we can get; sow with a drill, and finish with roller. Although some prefer to use broadcast seeder, I think grain is properly placed and covered and less seed required on an average when the drill is used. The quantity of seed per acre depends largely on the condition of the land. Wheat, 1 1/2 bushels to 1 3/4 bushels per acre, according to size of kernel; oats, 2 bushels to 3 bushels; barley, 1 1/2 bushels to 1 3/4 bushels; peas, 2 bushels to 2 1/2 bushels of small variety, large peas 3 bushels to 3 1/2 bushels. Circumstances often alter cases; and no set rule can be used for above; for instance, in a good growing season less would suffice, when in a dry one more would be wanted, and land in high state of fertility takes less during drought. Better only cultivate one way, shallowly when

(Continued on Third Column.)

A Well-Contrived Barn.

To the Editor FARMER'S ADVOCATE:

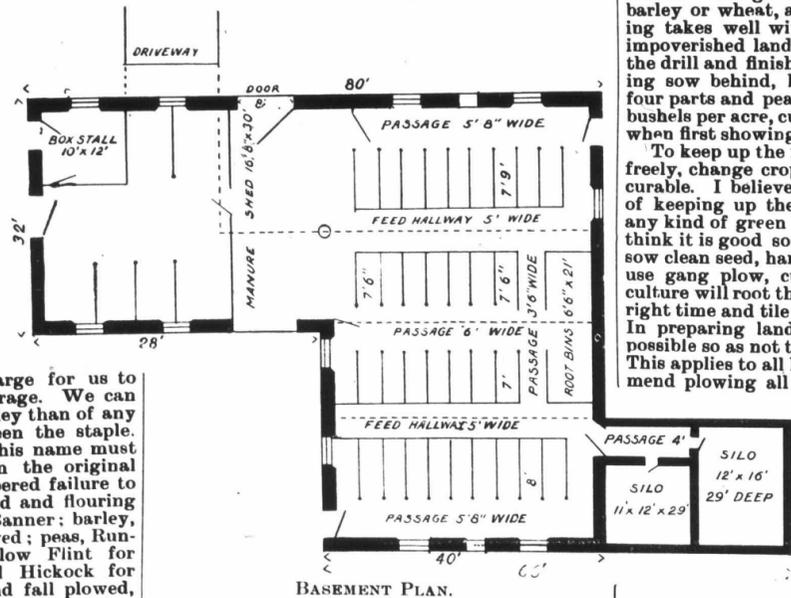
SIR,—Some time ago I noticed in your valuable paper a request for the plan of a barn of moderate size. I started then to prepare for you a plan of a barn which we erected some three years ago, but press of work prevented my finishing the plans before this. I hasten to send them at this late time, trusting they may be of some service to you. I have tried to make the plans self-explanatory. The main building is 40x62, and the wing is 32x40. The stone foundation is nine feet high, and the posts of the frame are 18 feet 6 inches. The main building has a mow in each end, with double threshing floor in the center. In one end of the wing is a mow for hay



FLOOR PLAN OF MR. R. K. JACKSON'S BARN.

over horse stable; the rest of it is used for a straw shed. There are two driveways, one a double one into the main building, and the other out of the wing. In this way we can drive right through the barn, and there is no backing down the gangways. The barn is built on level ground, so that there is no earth against the walls to cause dampness in stables.

The ground floor is laid out in horse and cow stables, with a manure shed behind. The shed door is hung on weights. In this way the shed is completely closed in, and the manure never freezes so as to prevent its being drawn out any time dur-



BASEMENT PLAN.

ing the winter. We always draw it and spread it on the fields during the winter, and none of it is lost by being washed away in the barnyard. The cow stable is fitted up with the Hoard model stall, which has been described several times in the FARMER'S ADVOCATE, and which we have found to be most satisfactory. We have seen no stall that so well meets the requirements of comfort and cleanliness, which are the essential qualities of a stall. The silos are filled from the main gangway of the barn: this permits of a shorter carrier being used. The passage in front of the smaller silo we find a great convenience. We can throw down our ensilage any time, and it is not in the feed hallway of the stable in the way, nor making the cattle restless by its presence, which they very quickly detect.

R. K. JACKSON,
Lanark Co., Ont.

corn gets large, as cultivator breaks off so many rootlets.

I do most assuredly think it is necessary to treat all kinds of seed that is affected or likely to be with smut. This is the best way to remove all such, if not to thoroughly clear to assist materially to hold in check. It is just what every farmer should practice. Smut, scab, etc., are even worse than weeds, having more effect on the crop in most respects. To treat peas for bugs: Treat with insecticide (carbon bisulphide) by placing the seed in tight bin or box and pour above over; allowing it to get all through seed by keeping covered closely will destroy all the bugs. [NOTE.—It is highly recommended to place the liquid in a shallow pan on the grain in the tight bin, when it will evaporate and penetrate the entire bin.—ED.] Have never treated any other grain, but think it should be done, and all farmers should endeavor to use the best procurable means to assist in stamping out smut, etc. To treat potatoes for scab: Corrosive sublimate will do the best work; put the cut seed in coarse linen sacks, then place sacks in solution for a short time [NOTE.—Purchase of a druggist two ounces of corrosive sublimate. Empty this into two gallons of hot water, and allow it to stand over night, or till all dissolved. Place in a barrel thirteen gallons of water, then pour in the two-gallon solution. Allow it to stand four or five hours, during which time it should be agitated several times, when it is ready for use.—ED.]; now the potatoes are ready to plant. If soil is free from scab you will get a clean crop. Be very careful, for corrosive sublimate is a rank poison. We tried rolling cut seed in sulphur to keep off scab, but it had but little effect. Get new seed every year, or plant on different kind of soil if you wish to get best results. There is nothing more unsightly than scabby potatoes. Try either of these methods for a good crop of real Irish fruit: Manure heavily, plow under, sow turnips, and keep clean; next season plant potatoes, or sow rye on your old potato patch in August, and plow under following spring, when ready to plant your potatoes.

We have not found anything better than clover and timothy for all purposes; they are the principals, millet and Hungarian are used as supplementaries or extras; in case of a short crop of hay the last are used. When seeding for a clover meadow we mix the seed, as three parts clover and one part of timothy, sowing eleven pounds per acre; when on low land seeding three parts timothy, one part clover, sowing eight pounds. Last season we used equal quantities of clover and timothy seed, sowing eleven pounds per acre. Do not be afraid of seed. There are other good grasses that would be advisable to use when seeding for pasture, as orchard grass, blue grass, and something of a lasting nature. We get best results when sown with barley or wheat, although in some instances seeding takes well with peas. Do not waste seed on impoverished land. Always sow the seed behind the drill and finish by rolling, or when broadcasting sow behind, harrow lightly and roll. Oats four parts and peas one part, sown two and a half bushels per acre, cut with binder into small sheaves when first showing light color, make good hay.

To keep up the fertility of the land we cultivate freely, change crop and apply all the manure procurable. I believe green manuring is a good way of keeping up the fecundity. Have never tried any kind of green manuring in a direct way, but think it is good so far as it goes. As for weeds, sow clean seed, hand weed grain, and after harvest use gang plow, cultivator and harrow. Careful culture will root them out. Proper cultivation at right time and tile drainage is the most important. In preparing land sow and finish as rapidly as possible so as not to allow any moisture to escape. This applies to all kinds of crops. I would recommend plowing all sod in fall for this reason—it does not dry out so quickly in a dry season. Use roller both ways on spring-plowed sod. For hoe crops do plenty of surface cultivating. Never cultivate deeply, nor too near corn or vegetable crops. Now is the time to make preparations for operating your "Klondyke." Times are certainly getting brighter, and every opportunity should be seized.

The Agricultural Experimental Union.

The work of the Ontario Experimental Union is to test in various parts of the Province the most promising varieties of agricultural crops, with a view to determine their value generally, and also their adaptation to local districts. This work has grown since 1886 from one experiment, conducted by 12 experimenters, who sent in 8 full reports, to 18 experiments, conducted by 2,835 experimenters, from whom 610 full reports were received by the Secretary, C. A. Zivitz, O. A. C., Guelph, in 1897. As we have previously pointed out, these tests are carried on in all parts of Ontario Province, in uniform plots, similarly managed as to thickness of seeding, etc., so that the results arrived at are the averages from over the Province from all the reports received. The varieties sent out to the ex-

perimenters and previous year

Variety.

- Goose.....
- Harrison's B.....
- White Russet.....
- Bart. Tremal.....
- Oderbrucker.....
- Siberian.....
- Joanette.....
- Bavarian.....
- Poland White.....
- Mandcheuri.....
- Oderbrucker.....
- Kinnakulla.....
- Black Hulle.....
- Early Britan.....
- Prussian Bl.....
- White Won.....
- Egyptian.....
- Japanese.....
- Silver Hull.....
- Common G.....

Bushels

- Oats, 1 1/2.....
- Peas, 1.....
- Tares, 1 1/2.....
- Oats, 1 1/2.....
- Peas, 1.....
- Oats, 1 1/2.....
- Tons, 1.....

Variety

- Cloud's Ear.....
- Mammoth.....
- Wis. Early.....
- Evergreen.....
- Salzer's N.....
- Compton's.....
- LEGU.....

Grass Peas

- Tares.....
- Crimson C.....

Variety

- Pearce's I.....
- Large W.....
- Guernsey.....
- Danver's.....

Purple-top

- Hartley's.....
- Buckbee's.....
- Jersey N.....

Evans' In

- Simmers'.....
- Carter's.....
- Carter's.....
- W. Silos.....

Variety

- Pearl of.....
- American.....
- Empire.....
- Burpee's.....
- Tonhook.....
- Great D.....

Do

The follow
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Saunders, I

INDIAN CORN.

Yield at the Several Experimental Farms—Season of 1897.

perimenters are those that have done best the previous year on the test plots of the Guelph farm:

Table of wheat varieties and their yields. Columns include Variety, Straw (Fons), Grain (Bush), and Yield (Bushels/Acre).

Table of mixed grains for fodder. Columns include Variety, Height (Inches), Ears (Tons), and Whole Crop (Tons).

Table of corn varieties. Columns include Variety, Height (Inches), Ears (Tons), and Whole Crop (Tons).

Table of leguminous crops for green fodder. Columns include Variety, Com. Value, and Yield per Acre.

Table of carrot varieties. Columns include Variety, Com. Value, and Yield per Acre.

Table of turnip varieties. Columns include Variety, Com. Value, and Yield per Acre.

Table of mangels varieties. Columns include Variety, Com. Value, and Yield per Acre.

Table of potato varieties. Columns include Variety, Table Value, Marketable, and Yield per Acre.

Dominion Experimental Farm.

The following are the figures showing the results obtained from uniform trial plots of grain and fodder corn on Experimental Farms of the different Provinces, under the direction of Prof. Wm. Saunders, LL. D., F. R. S. C.:

Large table showing yields at several experimental farms for various varieties of Indian corn. Columns include Farm Name, Variety, and Yield (Ton/Lbs).

Yield at the Several Experimental Farms, Season of 1897.

Main table of experimental farm yields for various crops including Oats, Barley, Spring Wheat, and Peas. Columns include Name of Variety, Farm Name, and Yield (Bushels/Acre).

Preparation for Spring Wheat.

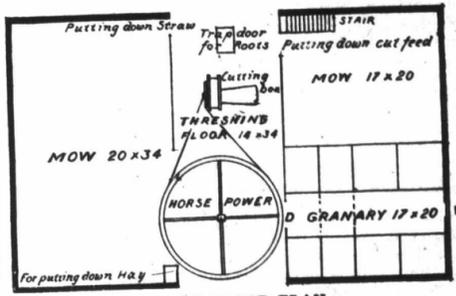
Article by J. H. Tyerman discussing the best methods for preparing fall-plowed clover sod for spring wheat, including sowing techniques and soil management.

are kept close after the plow: then, after manuring, disking and harrowing, roll before sowing, and also harrow and roll afterwards. This I have done on a nine-acre field of clover sod this past fall, and it was one of the best pieces of wheat seen around this part of the country.

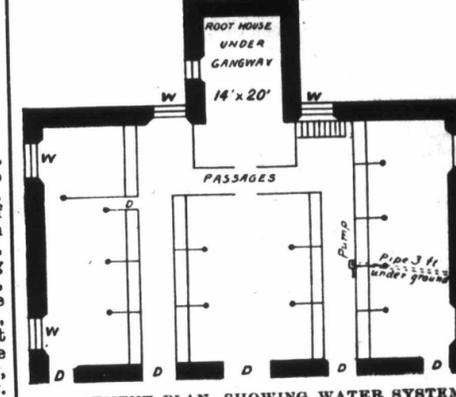
I have tried many kinds of spring wheat, but the White Russian has pleased me best, trying them side by side. Perhaps some other kinds would do better in other localities. It is eighteen years since I got the seed first, and it does not seem to deteriorate, as I always try to keep the ripest and best of my grain for seed, and clean and re-clean until I have the best and largest of the grain.

A Modern Small Farm Barn and Watering System.

Article by J. H. Tyerman describing a modern small farm barn and watering system, highlighting its efficiency and space-saving design.



with a perpendicular pipe from bottom of well. I got mine from a Goderich firm, who claim they can bring water a thousand feet. We have three pumps, and this is the easiest working one of them all.



We have had our cattle dehorned for two years, and do not want any more with them on. I do not think it is as cruel to cut them off as to let them hook each other around all winter; and we are not the least concerned now at night or if we are away for fear of one getting loose, as they do not bother the rest as if they had their horns on; besides, one's own comfort in handling them, tying them up or letting them out is quite a consideration.

I must say I can thoroughly endorse the statement made by Mr. J. A. Macdonald in January 15th issue, as I think your paper is first, and you do not need to fear any other.

J. H. TYERMAN, Lothair, Man.: "Of all papers I cannot do without the ADVOCATE."

Third Annual Meeting of the Nova Scotia Farmers' Association.

[SPECIALLY REPORTED FOR THE FARMER'S ADVOCATE.]

This Association was formed three years ago under Government auspices, and the Nova Scotia Farmers' and Dairymen's Association was amalgamated with it. The membership consists of one delegate from each of the agricultural societies, two delegates each from the Nova Scotia Fruit Growers' Association, the Nova Scotia Poultry Association, and any other societies approved of by the Governor-in-Council. Any other person may become a member upon payment of fifty cents, or a life member upon payment of five dollars. The Government gives a small grant—not to exceed \$1,000 a year—for the use of the Association. It was generally believed that the fate of the Association depended upon the success of this meeting, as the Government had signified its intention of withdrawing the annual grant. The Hon. T. R. Black was present at the meeting as the representative of the Government. The following delegates were present: John Davidson, Shubenacadie Agricultural Society; Matthew Wentzell, Farmers' Ag. Soc.; Wm. McKerrow, Halifax County Ag. Soc.; Ronald Chisholm, Sylvan Valley Ag. Soc.; J. R. Wyman, Yarmouth Ag. Soc.; Hugh Munro, Earl-town Ag. Soc.; H. G. Reid, Musquodoboit Ag. Soc.; J. R. Mackenzie, Malagash Ag. Soc.; W. W. Jones, Weymouth Ag. Soc.; C. A. Burt, Pugwash Ag. Soc.; Hugh McMillian, Strait of Canso Ag. Soc.; Dr. J. N. Fuller, King's County Ag. Soc.; W. J. Maxwell, West River Ag. Soc.; W. O. Creighton, Pictou County Farmers' Association; E. A. Logan, Spring-side Ag. Soc.; F. R. Trotter, Antigonish Ag. Soc.; M. Geo. de Wolf, Nova Scotia Fruit Growers' Association. Among the many others present were Dr. Kendall, M. P. P.; B. W. Chipman, Secretary of Agriculture; Col. D. McCrae, of Guelph, Ont.; R. Robertson, Supt. Experimental Farm, Nappan; Prof. Smith, Principal Nova Scotia School of Agriculture; F. L. Fuller, Supt. Model Farm, Truro; R. N. Starr, Wolfville; L. C. Archibald, Antigonish; Col. Blair, Nappan; W. W. Hubbard, Sussex; and Mr. Ferguson, M. P. P., of Guysborough.

The meeting was opened by the President, S. C. Parker. His able address principally had reference to the proposed withdrawal of the Government grant. He pointed out, among other things, that this Association was the first and only representative of farmers ever organized in Nova Scotia. It was pointed out that the Association had exerted an influence in consolidating and directing public sentiment towards the concentration of efforts in a Provincial Exhibition, which is now placed on a permanent basis; to the directing of public sentiment towards a needed change in the statute labor law, and in many other worthy efforts. While the Government had granted the Exhibition Committee \$30,000, certain gentlemen in the House considered \$1,000 can be better expended in some other way in promoting agricultural interests than in granting it to this Association. The President in concluding his remarks said "it seemed that this Association has been used as a 'cat's paw' to pull the exhibition chestnuts out of the fire, and then we are turned down as a back number."

The address was referred to a special committee to report upon. The Secretary-Treasurer, P. C. Black, also read his report. As many thought the expenses were unnecessarily heavy, it was referred to the same committee to report upon it. Both reports were finally adopted.

Beef-raising.—C. H. Black, of Amherst, read a paper on beef-raising. He pointed out the fact that our butchers are going to Ontario to buy beef for our local markets, and saw no reason why they could not be supplied by the farmers here. He spoke of the many advantages Nova Scotia possesses for the production of superior beef cattle. The pastures were good, hay was a very plentiful crop, and roots yielded well. He advocated the feeding of the crops upon the farm instead of selling them, as is now done, and spoke strongly against the practice of trying to make beef from scrubs and animals of the dairy breeds. In order to make beef-raising pay it was necessary to produce it at the lowest possible cost, and this could not be done with inferior animals. He favored grade Shorthorns or Hereford cattle, and urged farmers to use bulls of the recognized beef breeds.

Dr. Kendall, of Sidney, C. B., took rather a gloomy view of farming in Nova Scotia, and thought it very questionable if it would pay to grow beef here. While some parts of the Province were particularly favored, in others the farms were being abandoned. He thought more pains should be taken to instruct the farmers of those regions, but what they wanted was not so much lectures as object lessons.

Col. McCrae, of Guelph, Ont., said that the time of ton beef was past, what the market now demanded was animals weighing 1,400 pounds, yielding good, young, nice beef. In order to produce beef profitably we must have animals of the beef breeds. Good feeding required skill and thought. The critical time was at weaning, and special care should be given during the first year; after that there was no trouble. Economy should be practiced by growing cheap feed, and too little was being said about turnips. Straw and turnips were good foods for beef. He considered ensilage the cheapest food where it could be grown, but thought he got as good results from dry corn. In growing cheap feed his practice was to sow oats in the spring and seed them with clover. After the oats were cut in the fall, rye was drilled in during the last week of August or the first week of September. After the rye was taken off white turnips were sowed. He spoke strongly against the feeding of grain upon grass; if anything were fed it should be oil cake. If the pastures were poor or too heavily stocked, supplementary crops should be grown. I. H. Starr said that his stock were Polled Angus, and that he could always get from nine to ten cents per pound for his beef in Halifax.

A question as to the necessity and benefit of feeding salt, and also as to the possibility of increasing the fat in milk,

created quite a discussion, with many conflicting opinions. R. Robertson, Superintendent Experimental Farm at Nappan, thought that cattle in Upper Canada required more salt than those in Nova Scotia. Being close to the sea, he thought they got more in their feed. With regard to increasing the fat in milk, he explained that every cow had a limit, which he called a normal, beyond which it was not possible to force her. If the yield were below the normal high feeding would increase the fat.

In the afternoon there was a large attendance, and the Mayor, on behalf of the corporation and citizens, presented an address of welcome. In it he referred to several instances where worn-out farms had by good farming methods been brought to a state of profitable production. As the horse furnished the motive power upon the farm, he thought the exhibitions should encourage fast walking. He spoke strongly against the proposed withdrawal of the Government grant, and thought the Government should aid the Association by every means in its power. He hoped the time was not far distant when Nova Scotia would rank as high in farming matters as she now does in fishing and shipping.

Col. Blair, of Nappan, was requested by the President to reply to the address. After thanking the Mayor for the kindness shown to the Association, he compared the past and present of Truro and the farms surrounding it. He showed that the growth and prosperity of the town had depended upon the farmers. He was glad to see that the young men were taking an increased interest in farming matters; even business and professional men were recognizing the importance of farming, as was shown by the increasing interest they took in agricultural matters. Co-operation and the exchange of experience was, he thought, the surest means of progress. As to the withdrawal of the Government grant, he could not think the Government was serious in the matter. If they were he would say, "Go on without it"; he for one would not let it interfere with the work of the Association.

A Paper on Stock-raising, by C. S. Archibald of Truro, was read by the Secretary, Mr. Archibald being in Ontario. He thought stock-raising was unprofitable because there was no market for the class of animals now raised, and that with the present system of feeding it costs too much to grow them. Too much money was invested in machinery and taxes were too high. He saw no reason why stock-raising should not be profitable if the right class of animals were kept, and looked forward to the time when Nova Scotia would not only supply her home market, but participate in Canada's increasing export trade.

Mr. R. Robertson, of the Experimental Farm at Nappan, in his address said he thought there was no class of men so beneficial to the country as the farmer, and that it took more brains and ability to make a good farmer than any other profession. As the prosperity of a country depended upon what it produces, when it has to depend upon agriculture alone necessarily compels the adoption of improved methods. This had been the case in Upper Canada, and consequently she now led in all agricultural pursuits. The necessity of improvement was being felt more and more in Nova Scotia. He thought there was no obstacle to successful farming in Nova Scotia, but that diligence and better information were necessary. He read an extract from a Halifax paper stating that Halifax merchants imported yearly \$250,000 worth of butter, eggs and poultry from other Provinces. He did not think this was right, and that Nova Scotia farmers could and should supply the trade. He spoke of the export trade of Upper Canada, which went past our doors and in which we take no part. More scientific methods must be used. It did not take much intelligence to grow and sell hay, but it took a great deal of intelligence to convert it into something else and sell it for more money and at the same time save the fertility. He thought prosperity depended greatly upon live stock, as by raising stock the products of the farm could be converted into a condensed form, and for this purpose no stock was better than dairy cows. If beef animals were chosen, he advised that no attempt be made to mix the blood of different breeds. He thought there was room for many more sheep, and that no stock gave such returns for the money invested. Money might be made from pigs, but cows were wanted first. What was wanted was the best cow for the purpose. He thought there was less difference between breeds than individuals of one breed. He advised that corn be grown where it is possible to do so, and said that the period of ripening could be greatly hastened by constant cultivation. Even after intelligence had been used and the land made to produce much more, and after the best live stock had been procured, only a small advance had been made towards success. A lot of little things had to be made use of which, while they cost but little, increased the profits:

- Heat, to keep the animals warm, enabling them to put their food to profitable use, instead of merely maintaining life; and he spoke strongly against the practice of turning cows out to water, which should be provided in the barn.
- Light, which was a great invigorator and tended to good health. Kindness, which would pay in dollars and cents; and regularity of habits. These things, he said, often made the difference between success and failure. Speaking of creameries, he thought their success depended upon the farmer, and advocated winter dairying in preference to summer, as he could not afford to board a cow all winter for nothing. In answer to a question as to what was the right temperature to keep stables, he said about 60 degrees. He had always got more milk when the temperature was nearer 70 degrees than 50 degrees, but that beef cattle did not require so much heat. He would sooner have a lower temperature than poor ventilation. He gave the ration fed to cows at Nappan as follows: Thirty pounds roots, 30 pounds ensilage, 3 pounds bran, 1 pound meal, 10 pounds hay. He thought bran was absolutely necessary to properly feed dairy cows, but that clover and roots would do nearly as well. Peas, he thought, were worth more per pound than any other grain as a dairy feed.

JNO. CLARK, SR., Crowfoot Creek, N. W. T.: "I like the paper very much, and wish you a prosperous year."

DAIRY.

Cheese and Butter Makers' Association.

The new dairy association, which had its birth in London during the Western Ontario Cheese and Butter Association meeting in January, held its first convention in the town of Woodstock on Feb. 23rd and 24th. There were some 200 makers present, most of whom became members of the new organization. The purposes of the Association are to guard the makers' interests and to improve cheese and butter making of Ontario. The convention was conducted by J. T. Henderson, Pine River. "Practical Dairying" was very ably dealt with by Mr. Geo. Barr, of Sebringville, who always advocates thoroughness in every branch of dairy work. Commencing at the weigh stand, Mr. Barr claimed that milk having bad flavors should be returned to the patron and followed with kindly and helpful advice by way of improvement. He claimed that all makers must take a stand to not accept badly-flavored milk, and not to take in a patron's milk who has left another factory because his milk has been sent home. The curing rooms should be kept clean, sweet, and tidy. A slovenly, dirty curing room will prejudice a cheese buyer against the cheese before he has bored it. Curd sinks and utensils need very close watching. Curd cloths should be thrown into sweet whey over night and washed in several waters in the morning. Butter can be as well made in winter as summer, said Mr. Barr, provided improper milk is not accepted. The feeding of turnips should not be tolerated. Many useful suggestions were thrown out to the listeners, who after he had finished entered into a helpful discussion.

"Economical Use of Steam" was the subject taken by Mr. E. Agur, Brownsville. He told how he had been able to save a great deal of fuel in making steam. He claimed that many fireplaces were not kept cleaned of soot and ashes. Soot is a nonconductor of heat, and when it has accumulated on the boiler it lessens the effect of the fire. The tubes should be cleaned twice a week. It is not well to use all the draft, as it burns wood unnecessarily fast. Mr. Agur has his boiler well built in, and every steam pipe perfectly tight. He uses a draft, in the chimney by which he controls the fire. He is able to make cheese with just three fires each day—the first to heat the milk, the second to cook the curd, and the third to mill the curd, wash up, elevate the whey, etc. He fills the boiler at night to within two inches of the top of the glass. It is then partly warm by morning. As a boiler purge, he recommends caustic soda, just enough to make the water feel soft. He uses two-foot wood, split coarse, and would almost as soon have soft as hard. With 122 cords of short wood he made 186 tons of cheese, kept the curing room warm, and heated dwelling house from Feb. 10th till a year from the following April. He has run his factory six days on a cord of soft wood, and had steam enough for all purposes, when making at the rate of 136 tons in the season.

Prof. H. H. Dean gave a brief review of the dairy experiments conducted at the Ontario Agricultural College during the last seven years. Some of the giants this new organization had to slay by co-operation and organization were low wages, long hours, and losses from bad quality of cheese and butter, due to causes over which they had no control. Ignorance too was mentioned as a troublesome giant, which they must make an effort to overcome. Unsanitary condition of factories is now a great drawback, which successful co-operation and organization can overcome. To do the best work for the industry, co-operation among patrons, makers and the market is necessary. The experiments referred to were the effects of various foods on the texture of butter; effects of pasteurization; thickness of cream for best churning; the use of starters; testing milk; washing butter, and many others. Mr. T. C. Rodgers followed Prof. Dean with an exhaustive treatise on practical butter-making, based on the experiments and experience of the O. A. College dairy, and Mr. James Stonehouse ably described a model creamery.

Rules and Regulations, as drawn up by the Committee for that purpose and adopted by the Convention, were as follows:

1. This Association shall be known as the "Cheese and Butter Makers' Association of Western Ontario."
2. Only cheese and butter makers and helpers in factories be accepted as members.
3. Everyone interested in dairying will be welcome at all public meetings.
4. None but members can become officers of this Association.
5. The Board shall consist of a president, vice-president, and seven directors. The president shall be elected from among the directors by that body.
6. The vice-president by virtue of his office shall succeed the president.
7. The nominating committee shall be appointed by retiring president.
8. All officers must be elected annually, and at least one new member be elected on the Board each year.
9. Officers shall have power to select the Secretary and Treasurer.

The following recommendations were also brought in:

"That the makers stand shoulder to shoulder in regard to the rejection of milk, and that no maker accept milk that has been rejected by any other maker; that this Association take steps to issue to the salesmen of factories circulars requesting them and their local boards of trade to pass resolutions that all sales of cheese and butter be made binding on the buyer and salesman alike, and that all cheese and butter be inspected before buying; that cheese and butter makers shall be held responsible for inferior cheese or butter due to inferior utensils or curing rooms, or unsanitary condition of factory, and that makers be responsible for inferior cheese or butter due to

their carelessness clauses be inserted in factorymen, and factorymen, and inspector appointed in factory.

Officers.—Directors—E. A. Pine River; C. hand, Milvert J. Morrison, John Brodie,

British Col.

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To the Edit

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their carelessness or lack of skill in making; that the above clauses be inserted in agreements between makers and factorymen; that in case of dispute re quality between maker and factorymen, the maker has the privilege of calling in an inspector appointed by this Association; that an inspector be appointed in the different sections, to be called on if necessary.

Officers.—President, T. B. Millar, Guelph. Directors—E. Agur, Bowmanville; J. T. Henderson, Pine River; G. H. Barr, Sebringville; G. E. Goodhand, Milverton; W. W. Brown, Attercliffe Sta.; J. Morrison, Stratford; T. Barre, Ingersoll, and John Brodie, Mapleton.

British Columbia Dairymen's Association.

The Dairymen's Association of British Columbia convened at New Westminster on the 21st January, when, although the attendance was disappointing, a good meeting took place. Papers on "The Winter Feeding of Cows," by Mr. Richards, of the *Pacific Coast Dairymen*, and Mr. F. H. Page, were presented in a very practical manner, and the "balanced ration" problem was thoroughly discussed. At the evening session the question of feeding fat into milk came in for a great deal of attention. Owing to the very diverse views held and expressed, the discussion became very animated, but ended by, apparently, leaving the audience without definite evidence on either side of the "case."

Mr. A. C. Wells, of Chilliwack, was elected president for 1908, and J. H. Hadwen, of Duncan's, secretary-treasurer.

The financial statement showed the Association to have a surplus on hand, and it was decided to hold a series of meetings throughout the dairying districts of the Province, and a committee was appointed to arrange for the systematic testing of milk, as it was held that many cows were unprofitable and a source of loss instead of profit to their owners. The next annual meeting of the Association was fixed for Ladner's Landing.

VETERINARY.

Glanders and the Mallein Test.

Professor McCall, of the Glasgow Veterinary College, recently submitted to the local authority a report on the above subject, which we copy from the *Scottish Farmer*. He says: "Authority having been given me to apply the mallein test (owners consenting) to horses suspected of being affected with glanders, or in contact with diseased or suspected horses, I find that since 16th October till 31st December, 1897, 320 horses have been inoculated with mallein. Of the 320 horses, 147 have responded to the test, the indications of which are elevation of temperature, and, in from twenty-four to thirty-six hours, considerable swelling of the part injected, with stiffness or lameness of a fore limb. The 147 horses having responded to the test, and by it declared to be affected with glanders (although in not one single instance presenting visible or clinical symptoms of being diseased), were thereafter valued and slaughtered." He proceeds in his report to deal with the query as to whether it is imperative that all horses which react to the mallein test should be slaughtered. He quotes from a paper by Professor Nocard, of the Alfort Veterinary College, Paris, and agrees with the opinion that pulmonary glander in its early stage is curable, and that, therefore, the slaughter of infected horses should be suspended until clinical evidence of glanders is recognizable. To sum up, what he thought now wanted was: (1) Power to license stables. (2) Power to test with mallein all studs in which glanders by clinical evidence has declared itself present. (3) Power to compel separation of the horses which react to mallein from those which do not react. (4) Power to prohibit the sale of all horses which react to mallein, and to retest the reacting animals twice during the first month, and monthly thereafter, until the animals cease to react to mallein. The local authority, after consideration of the report, appointed a deputation to co-operate with the Lanark County Council in approaching Mr. Long, of the Board of Agriculture, to seek power for both city and county to license stables, to test with mallein, to compel separation of the horses which react, to prohibit the sale of all horses which react, and to retest them at particular periods thereafter. The members of the local authority appointed to the deputation were Councilors W. Stevenson, Brechin, Martin, McFarlane, and Chisholm, with Professor McCall and the clerk.

Remedy for Warts.

To the Editor FARMER'S ADVOCATE:
SIR,—I see in the *ADVOCATE* recipes for taking warts off animals. I will give you one with which I have taken off large warts after trying several other remedies which did no good. Rub the wart well with castor oil (such as is used for machine oil) once a day until wart is gone. It will take quite a while if the warts are large, but it will make a complete cure and no sores about it.
R. W. L. R.

The merchant who allows his delicately tinted prints to stand in the sun and fade out until they will not bring more than a quarter of their original value shows quite as much business ability as the farmer who leaves corn fodder standing in the field in shocks until winter is half over, when it is neither palatable nor nutritious.

Abortion (Premature Birth).

This affection has been ascribed to many exciting causes, such as overdriving, railway journeys, ill-usage, accidents, acute indigestion, etc. It may spread as an epizootic, the cause depending upon a microbe present in the uterine discharges and fluids of animals that have aborted.

This specific microbe is now stated to have been discovered by Professor Bang, of Copenhagen, and his assistant, M. Stubolt; but whether the infecting or contagious germ has been isolated or not is a matter of little practical importance to stock-owners; it does not afford more information in the prevention and cure of the malady, at all events until the special life history of that microbe can be ascertained, than we at present possess. The old theory of the disease being of sympathetic origin, or that it was caused by the smell emanating from the placental membranes or cleansings that had been left in a field or cowshed, has been pretty generally done away with, owing to the fact of animals generally done away with, owing to the fact of animals smelling and being in close proximity receiving no injury. Another supposed cause—the presence of ergotized grasses in the herbage—has also become obsolete to a great extent, as its supposed action of causing spasmodic contractions of the womb has been superseded by what at present is considered the true action when administered internally, viz., contracting the blood-vessels of the womb, and in this way preventing hemorrhage (bleeding) after difficult parturition (calving).

It was the supposed action of ergot of rye that caused it to be thought by analogy that the ergot of other graminaceous forage might provoke the contraction of the gravid uterus. It, however, has not been experimentally demonstrated that the ergotized grasses possess an identical action with that of the ergot of rye, and, were it even shown that it had the power of causing contraction of the muscles of the womb after the expulsion of the calf, there is no evidence of it having a similar action on the gravid uterus. Professor Nocard, of the Alfort Veterinary College, Paris, has never succeeded in causing a pregnant cow to abort, no matter what the dose or mode of administration of that substance. Abortion takes place when animals are housed before autumn, when the herb is cut before maturing of the ear, before the ergot has time to form; consequently, it can have no influence in the development of the disease. It has been proven the pus (matter) that drains from the vulva (orifice of external generative organs) of cows after abortion abounds in micro-organisms of the bacilli and micrococci type, and that these microbes are capable of cultivation in their appropriate media (fowl and veal soups, etc.), and that the liquid obtained by scraping the mucous membrane of the womb of aborted cows is not only acid, but swarming with microbes, specially between the mucous membrane of that organ and the envelopes or coverings of the young animal, and after the expulsion of the fetus these micro-organisms exist without impairing the health of the animal, and are ever ready to react upon a new fetus or its envelopes. This is the cause of repeated abortions in the same animal.

According to these views, the treatment lies in preventive measures being adopted to arrest the spread and destroy the infecting agent. The first introduction of the disease into a cowshed or byre is generally ascribed to the purchase of cows at fairs or auction marts, at which places the previous history of the animal is not stated—the cow being generally described as newly calved. Professor Nocard has made numerous investigations on this subject, and among these he made *post-mortem* examinations of cows that had aborted the previous year, and were found afterwards not capable of conception, and the reason he gives for this is of great importance: On *post-mortem* examination a great variety of micro-organisms were found. The mixed variety of micro-organisms were found. The liquid obtained by scraping the mucous membrane of the womb gave a *slightly acid reaction*. From this statement it is probable that as the spermatozooids—the impregnating agents of the semen of the bull—can only live in an *alkaline* medium, they cannot retain their vitality, consequently the cow remains barren. It must be remembered that these microbes, no matter how they gain access, live and breed between the lining membrane of the womb and the placental membranes of the young animal, and that the irritation set up by them and their products cause the expulsion of the calf.

Treatment.—Isolate aborting from pregnant cows. Cleanse and disinfect the premises in which an animal has aborted. Every week the floor of the byre or cowshed should be scraped and washed thoroughly, and then watered with a strong solution of sulphate of copper. Every week a vigorous injection should be thrown into the vagina of the pregnant cows with a clyster pipe full of warm liquid, of which the following is the composition: Take of distilled water, 20 litres; glycerine and alcohol, of each 100 grammes; bichloride of mercury, 10 grammes. Directions: Dissolve the bichloride in the alcohol and glycerine, mix with the water, and agitate well [Nocard]. This solution should be kept in a wooden bowl or other receptacle, and put out of the way of animals and children. Each morning as the animals are being dressed they should be carefully washed with the above warm solution around and over the anus, vulva, and inferior surface of the tail. In the case of a cow which has aborted, she ought to be cleansed by a veterinary surgeon, who should exercise great care, and afterwards irrigate the uterus

(womb) with a caoutchouc tube carried to the fundus (neck), and through which should be poured eight or ten pints of the tepid solution above referred to. The fetus and membranes on removal should be immediately destroyed, either by burning or boiling. Animals which have aborted should be fed off, for the microbes are dislodged with difficulty, and fresh generations are liable in subsequent conceptions to repeat the attack.—*Reviresco, in Scottish Farmer*.

APIARY.

Beekeeping.

The keeping of bees can be carried on as a profitable branch in any section where farming, gardening or fruit-raising can be successfully followed. Moreover, regions so rough and sterile or so swampy as to give no encouragement to the agriculturist, or even to the stock-raiser, will often yield a good income to the beekeeper, provided there is honey-producing flora or trees within a range of three or four miles.

Beekeeping usually becomes peculiarly fascinating to most people who take it up from choice, and when conducted on modern principles a material profit is usually secured. To this end, however, much labor and great watchfulness are necessary, and the performance of work at stated times is imperative, so that it is well in any case for a beginner to undertake only a few hives at first. Apiculture, like all other branches of agriculture, depends largely upon the natural resources of the location and the favorableness or unfavorableness of any particular season. The knowledge, skill, industry, and promptness of the apiarist have likewise much to do with the return.

A moderate estimate for a fairly good locality would be thirty to thirty-five pounds of extracted honey or twenty pounds of comb honey per colony, says Frank Benton in U. S. Department of Agriculture *Farmer's Bulletin* No. 59. When two or more of the important honey-yielding plants are present in abundance, and are fairly supplemented by minor miscellaneous honey plants, the colony may be considered excellent. With extracted honey at the usual wholesale price of six to seven cents per pound, and comb honey at twelve to thirteen cents, each hive should, under favorable circumstances, give a gross annual return of \$2.50 to \$3.00. From this about one-third should be deducted to cover expenses, besides the labor. These will include the purchase of comb foundation and sections, repairs, eventual replacing of hives and implements, and the interest on the capital invested. By locating in a decidedly favorable location, the returns in a good honey season may be easily double or treble of the sum indicated. Reverses may come in any locality, and among these may be drought, great wet, late spring freezes, etc., which come sufficiently frequently to offset the very good seasons. On the whole, the intelligent management of a few swarms should be expected to pay for one's time, good interest on the money invested, a sufficient margin to cover contingencies, and a constant supply of one of the most healthful and luscious foods for the table.

With the exception of a very few persons whose systems are particularly susceptible to the poison injected by the bee, almost any person with fairly steady nerves and some patience and courage can easily learn to control and manipulate bees. It must be constantly borne in mind that quick motions around the hives give the guards warning that their home is in danger, hence the likelihood of stings in such instances. One who moves about with deliberation is seldom stung while in the discharge of his duties among the colonies. The charge of this occurs with some kinds of bees and at certain seasons. It is safe to say that almost any one can with perseverance and the exercise of due caution learn to manipulate bees with perfect freedom, and without serious risk of being stung. As a race, Carnolian bees are the gentlest, but the beginner need not hesitate to undertake to manipulate pure Italians. Crosses between blacks and Italians are nearly always quite vicious in the case of the first cross, and are even harder to subdue with smoke than pure blacks. The next essential with smoke bees is the possession of a good smoker, after quiet bees are to be handled. This consists of a narrow can with pointed top and fitted with a bellows to blow the smoke evolving from burning wood inside the can. They can be secured from any bee supply store at a slight cost. A black bobinet or Brussel's net veil and a pair of gloves are also necessary. The veil should be drawn down over the hat, but after some experience both the veil and gloves can be dispensed with, if gentle bees are kept. Simple and convenient hives of Langstroth or Dadant pattern will also facilitate the avoidance of stings. The use of the bee-escape, too, greatly reduces the risk of being stung, as it saves much manipulation of combs and shaking and bruising of bees. This useful device is fitted into a slot made in a board the same size as the top of the hive, and the whole when slipped in between the brood apartment and an upper story or super will permit all the workers above to go down into the lower story, but not to return to the top one, so that in one night it is possible to free entirely a set of combs from bees without any further interference. Careful attention to the above appliances, with extra gentleness and intelligent moderation in manipulation, will enable anyone who desires to avoid bee stings.

POULTRY.

Money in Eggs and How to Get Them.

BY CHARLES BONNICK, YORK CO., ONT.

(Continued from page 62.)

They build their houses with any amount of glass, facing the sun, and have the perch at the back or in one corner, with no covering; the fowls have the sun during the day, therefore the place is warmer than at night, so that they have actually a colder place to sleep in than they had when they were stirring about in the daytime. On the floor of the henhouse I have about eight inches of chaff. I cut up some oat straw with cutting machine, the oats were not threshed out, and it makes it good for the hens. I have used hayseed, dry leaves, and oat hulls; but whatever you do in the winter time, when the fowls are confined a great deal, do not give them a plain, clean floor; all through the winter let them go outside all the fine days you can, and if the snow comes to bother you, get a shovel and clean off a place outside large enough for the fowls to come out and knock around. It will pay you. A good plan for those who keep horses is to put their horse manure every morning in front of the fowl house; when they come out it is splendid for them to scratch about in, and also good for the feet. Now, as to feeding. There is a danger, of course, in some breeds getting too fat to lay well, and you must avoid that in Plymouth Rocks, Brahmas, etc. I find, though, that the Leghorns will stand all variety of food, and lots of it, and will give good return back in eggs.

I generally feed in winter months as follows: Always see that the fowls have vegetables of some kind, either turnip chopped up fine and placed in a long trough that I have against the wall, or have a cabbage suspended from the ceiling in the middle of the henhouse just high enough so that fowls can stand on their tiptoes or jump to pick at it. I also have oyster shells crushed and mica grit always on hand, as already referred to. Then starting with the morning meal: One morning I give soft feed, warm say some boiled corn meal or crushed oats, mixed up in bran or shorts. I never give them more than they can eat up clean, and about an hour after I throw a few handfuls of grain among the chaff, mixed up as much as possible, so that they have lots of exercise in scratching to find it; sometimes it is oats, especially if I think they are getting too fat, but it is generally wheat. Another morning I will crush up with the bone mill some green bones, and give a good plateful to every twenty hens; another I mix up with skim milk or warm water, stale bread or biscuit dust, which can be got for three-quarters cent a pound, and about once a week I boil meat and give it to them, cutting it up fine. Every day I give them the grain after the warm feed, and grain again about noon—sufficient of it so by time night has come they will go to roost with their crops well filled. On a cold day I make the afternoon feed whole corn. I find that this is best if not fed too often. Now, carry this out, and from fifty hens in December you will get eighteen to twenty dozen of eggs; January still more, and so on for February, March, April and May. From December to April eggs bring the best price—that is the time we want them. Let the people know that you have fresh eggs and there is no trouble to dispose of them, and at good figures. I could sell a dozen for every egg laid and never have to deliver them. One storekeeper alone has offered to come and take them away himself in one and two dozen lots, and pay highest price, if I will only keep them for him; and not having a great many hens, I often have to refuse people (because the eggs are gone) who come after them for sick people and such like, and would pay a very high price for them.

The fowl and eggs of to-day are very much superior to those of a few years ago, and this, no doubt, is owing somewhat to the interest our Government has taken and support they have given it, and farmers and breeders in general who have not got their fowls down to a paying basis should follow the reports and essays that are sent out by the Government from time to time, and they will very soon feel that it is one of the most profitable branches on the farm. I have tried in my humble way to show how to keep fowls for procuring eggs, and having a very wide field, there may be many points I might have enlarged on only space would not allow.

Winter and Spring Care of Ducks.

BY W. R. GRAHAM, HASTINGS CO., ONT.

Ducks are looked upon by the majority of farmers as the most unprofitable species of fowl kept on the farm. Many seem to think that a duck eats more grain than it is worth. True, when fed on a ration of grain only the amount of profit will be very much diminished. Therefore, if ducks are to pay well they must be fed on a different plan. They must pay well or the large number of poultry farmers would not raise them for the market in preference to chickens.

As briefly as possible I shall endeavor to explain the method of housing, feeding, etc., that is followed by the large duck farmers in the United States, and the same principles have proven equally successful here. Ducks are very easy to raise, and very profitable, as they will make as much growth in ten weeks as a chicken will in five months. Unless ducks are wanted to lay very early they do not

require a very warm house; and, further, as eggs procured during January and February are usually infertile it will be unnecessary to touch on forcing ducks to lay in very cold weather. Young ducks lay earlier than old ducks. Yearling ducks' eggs are more fertile. Very old ducks are not heavy egg producers. Ducks should not be inbred.

Any shed that opens to the south and is dry and has plenty of litter is quite suitable for ducks so long as their feet do not freeze. Frozen feet to ducks is what a frozen comb is to a hen. Never house a duck very closely. They enjoy sitting on snow on sunny days. Give them plenty of yard room and plenty of fresh air. Never fail to have a good supply of grit in easy access to them. Ducks must have a clean, dry roosting-place. Ducks usually lay at night or early morning. They should have nest provided. Never neglect shutting them up at night, as they are not particular as to where they drop their eggs, and also are protected from dogs and vermin.

In feeding, give a bulky yet wholesome food. Feed very little whole grain. A ration as follows will give good results from this season on: By measure, 30% cut clover, or clover leaves or heads; 25% cooked pulped roots, turnips preferred; 10% animal meal or ground bone; and the balance equal parts of shorts, bran and corn meal; mixed dry and scalded about six hours before feeding. Cold water will do for mixing in warm weather, but hot gives better results. Feed morning and evening, with a little whole grain at noon. Peas, barley or buckwheat are relished. Avoid too much corn, as it is very fattening. Give all the mash they will eat up clean and NO MORE. Ducks are very easily put "off feed" and great care should be taken to take up any food that may be left. Do not feed soured feed, and always feed in clean troughs.

Contrary to the general opinion, ducks will do well when they do not have free access to water. Some maintain that they do better when just given enough water to drink. Notable among these is Jas. Rankin, of South Easton, Mass., who raises annually about 10,000 ducks for the market. He guarantees the fertility of his eggs. With a running stream to bathe in they are much cleaner. Always give a drink when feeding, otherwise they might choke. Two gallons is sufficient for thirty ducks in cool weather.

At this season of the year one drake is sufficient to five or six ducks, but later on when the weather gets warm one drake is plenty for seven or even more ducks; in fact, if more drakes are kept the egg record will be diminished as well as the percentage of fertile eggs. The drakes are a source of great annoyance and should be separated to the above number.

Thirty to thirty-five ducks are enough in a flock; where more are kept they should be separated. When confined allow thirty ducks a run of 100 feet by 20 feet, and a house 20 feet by 15 feet.

GARDEN AND ORCHARD.

The Farmer's Hotbed.

SIR,—In the last issue of your paper I noticed an article entitled "Every Farmer's Hothouse," in which the writer says, "Unless for a large garden a hotbed is not required," and then goes on to give a method of raising plants in old milk pans around the kitchen stove.

Although not absolutely required for a small garden, still a hotbed is so much more convenient and satisfactory in every way that if "Gyra" would try it for a year she would forever discard her old milk pans. If only from a point of cleanliness the hotbed is more desirable. What careful housewife would have her kitchen cluttered with a lot of old milk pans, their contents of earth and water constantly spilling on the nicely cleaned floor? Then, as the writer says, "occasionally the plants were cooked from being placed on top of the stove." There is little heat underneath the kitchen stove. What there is would only serve to bake the soil on top, while the bottom would still remain cold. In a hotbed all this is avoided. There is a steady bottom heat and an even temperature.

On a farm a hotbed can be made with little trouble and no expense, excepting for a sash, which would last for years and will cost about one dollar for a large size, say 30 x 68 inches. For making the frame 2 x 12 inch plank is most suitable, though a lighter board would answer the purpose. The plank should be made into a box, with width and length equal to size of sash and extending from north to south. Have the south end of the frame lower than the north end so that when the sash is put on there will be a slope of four or five inches to the south.

The best material for heating a hotbed is fresh horse manure. It should be well mixed with straw or it will heat too violently. Gather the fresh horse manure every day into a pile until you have enough for the purpose, have it near to where you intend making the hotbed. Let it stand until it heats thoroughly, which will generally be in a few days, no matter how cold the weather. As soon as the manure is heating well, make it over for the bed. This bed of manure should be at least a foot wider every way than the frame, and if you make the hotbed about the first of March the manure should be at least three feet deep. The earlier the bed is made the more manure will be required. As the manure is put in the bed it should be tramped down quite evenly and firmly with the feet. Now

put on the frame and sash, and let it settle and heat for a day or so. When well warmed through level the top of the manure, and cover with soil six inches deep. Black soil from the woods I have found the best. As soon as the soil is warmed through and dry enough to work make the surface fine with a rake, and the bed is ready for seed.

If possible, make your bed at the south side of a barn, or in some sheltered place. Make the frame quite tight and solid, and there will be little danger from frost. To make sure, it is well to bank the frame quite to the top with horse manure. On very cold nights the sash should be covered with old pieces of carpets or mats. Water as required. On mild days raise the sash for ventilation, and as the heat increases it is well to shade the young plants in the middle of the day by throwing some light covering over the glass. Middlesex Co., Ont. D.

Spraying Fruit Trees.

BY ELLIS F. AUGUSTINE, LAMBTON CO., ONT.

The season for spraying will soon be at hand again, and every owner of fruit trees who is not already possessed of a good spraying outfit should at once set about the matter of procuring one. One should endeavor to get a pump that will throw a strong, fine spray, as great force is required to reach the center of large, tall trees with the liquid; and if it is not finely and evenly distributed it may prove injurious instead of beneficial. While a strong pump is necessary, it should not work with much difficulty or the labor of spraying will be found very great. Perhaps the work of spraying has received a greater drawback through the number of inferior pumps placed upon the market than through any other cause; for with an inadequate outfit, not only is the work of spraying greatly increased, and the time required for doing the work much lengthened, but the results are very unsatisfactory, so that the owner becomes discouraged, and regards the work of spraying as of little benefit. While thorough spraying of individual orchards shows good results, I believe we will never succeed in exterminating the codling moth and other insect pests, or in permanently eradicating fungous diseases, until spraying becomes universal. And never before, I believe, since the codling moth first began its ravages, has a time been more propitious for its utter extermination than the present. The severe late spring frosts of 1895 destroyed many of the moths, and the total failure of fruit left them no breeding place; so that in 1896 the injury caused by them was scarcely noticeable. The past season they did considerable damage in the small amount of fruit grown, but in this section, Lambton Co., apples were so scarce that the moth again had little chance for increasing. What better time could there be, then, for a united effort for its utter extermination by thorough and systematic spraying then the coming spring?

A short time ago I was in receipt of a letter forwarded me from the office of Superintendent of Farmers' Institutes at Toronto, which letter had been received from a Mr. Hadley, a fruit-grower of Las Cruces, New Mexico. Mr. Hadley made some comments upon a paper read by the present writer at an Institute meeting last season. In conclusion, he said: "We are fighting the moth here, and we have one coincidence which is giving us the keynote to our line of action. One orchard in this valley that had previously been affected with the moth was entirely free from it the past year and produced a wonderful crop of fruit. Now, it so happens that this orchard had all its fruit killed by frost the preceding year, and it was the only orchard in the valley that fared thus. Our people are now contemplating the destruction of all fruit the coming season, hoping in this way to get the start of the moth. Spraying has not been satisfactorily successful in this warm climate."

Now, it strikes me that if the people of New Mexico are willing as a whole community to undertake the labor of destroying a whole season's crop of fruit, and suffering the consequent loss for that year, for the purpose of exterminating the moth, we Canadians, with whom spraying is so successful, should be willing to combine in a body to fight the moth by the means which are so ready to hand. And not only will we check the future deprivations of the moth, but at the same time we will be more than doubling our yield of marketable fruit, thus increasing our profits and also building up an increased and permanent trade for our apples in the British markets. I trust that the FARMER'S ADVOCATE will continue, as in the past, to press upon the notice of its readers the necessity for thorough and persistent spraying by every owner of fruit trees throughout Canada; and I believe the work would be greatly forwarded if there was a practical fruit-grower upon every delegation of Farmers' Institute speakers: one who has had practical experience in the work of spraying, and who can speak from personal experience and observation as to the beneficial results and increased profits resulting from thorough and systematic spraying.

I suppose it would be impossible for our Government to make spraying compulsory; and if such a law were enacted, no doubt it would prove a dead letter, as many similar statutes have turned out to be; but if such a law could be enforced it would add millions of dollars to the receipts of our fruit industry. Some time ago I read an article in a leading publication, contributed by a prominent fruit-grower of Niagara district, in which the writer stated that he believed it would be of benefit

to have Parliament for commercial fr Now, while I do should interfere with regard to h yet it does seem u owners of trees sh estimable loss to negligence in com Although we can made compulsory the good work by results at every p

QUESTIONS

[In order to make parties enclosing stamps, mail, in cases where enquiries, when of succeeding issue, if Enquirers must in a full, though not a

F. W., Perth a small soft curb thing that will horse with a puff of the joint; it for coming, to m any cure for it?

[Apply the fo dinary, and rub in iodine crystals, ammonia, 3 dram stand in bright clear. For the following blisters iodine crystals, Mix and rub in up for 24 hours the parts; and apply a little sw healed and hair liniment preser month.]

Digestion D

R. N., Oxford years old, which about her head at noon hour her head about before she start at night. I cut Hungarian Would it be he She also has it this trouble ev off in sum ar. make no diff rest of our ho stable she will be all right. T

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to have Parliament prohibit the planting of trees for commercial fruit-growing for a term of years. Now, while I do not believe that Government should interfere with the rights of any individual with regard to how many trees he should plant, yet it does seem unjust that a number of careless owners of trees should be the means of causing inestimable loss to progressive growers, through negligence in combating insect and fungous pests. Although we can scarcely expect spraying to be made compulsory, yet we can each aid in furthering the good work by calling attention to its beneficial results at every possible opportunity.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

Curb.

F. W., Perth Co., Ont.:—"I have a horse with a small soft curb, caused by a knock. Is there anything that will take that lump down? Have a horse with a puff in hock joint, very large in front of the joint; it never was lame. It had no cause for coming, to my knowledge. It is soft. Is there any cure for it?"

[Apply the following liniment to the curb once daily, and rub in well: Potassium iodide, 2 drams; iodine crystals, 1 dram; alcohol, 4 ounces; strong ammonia, 3 drams; water, 4 ounces. Mix and let stand in bright light until the solution becomes clear. For the puff in front of the hock apply the following blister: Bismuth of mercury and iodine crystals, of each 1 dram; lard, 1 ounce. Mix and rub in for 20 minutes. Tie horse's head up for 24 hours so that he cannot lie down or bite the parts; and on the third day after blistering apply a little sweet oil, and every third day until healed and hair started, after which rub well with liniment prescribed for curb once daily for a month.]

Digestion Disordered, or Aching Tooth.

R. N., Oxford Co., Ont.:—"I have a mare, 11 years old, which has been troubled with something about her head. When I fetch her in from work at noon hour she will not eat, but keeps tossing her head about for from a half hour to an hour before she starts to eat. She will sometimes do it at night. I am feeding four quarts of oats and cut Hungarian grass and straw three times a day. Would it be her teeth—they seem to look all right? She also has itching in her hind legs; she has had this trouble every winter for years, which passes off in summer. I have treated her, but it seems to make no difference. She does not do as well as the rest of our horses. When I fetch her out of the stable she will stop shaking her head and seem to be all right. The stable is stone, with plank floor."

[Your mare's symptoms would indicate derangement of the digestive organs; yet it is only speculation to prescribe for such a case in the absence of a personal examination or more positive symptoms. However, if you have tried and failed and wish to try again, give her bran mash only for two days, followed by the best Barbadoes aloes, 6 drams; ginger, 3 drams; bicarbonate of soda, 3 drams; dissolve in a pint of cold water, and drench. If no operation on the bowels occurs in twenty-four hours, give exercise sufficient to produce purging, during which time bran only must be fed, following up on second day with a teaspoonful of the following mixture three times daily: Bicarbonate of soda, powdered gentian, and nitrate of potash, of each one ounce; powdered nux vomica, half an ounce; thoroughly mixed. Stop feeding Hungarian, and give clean hay, oats, and bran, but have a qualified veterinarian examine her mouth thoroughly for decayed or aching teeth, as that may be the cause.]

Fistulous Withers.

J. M. W., Que.:—"Please prescribe for the following horse bought last summer from a man who had driven him fifty miles with a nail on inside of collar, which caused a bad wound on shoulder, which turned to a running sore. It was treated with iodiform; then horse was fixed up by a horse-man, partly cured, then neglected. Now it has three bad sores, one on shoulder and two on withers. I have taken this horse in hand, and would be glad to hear from you. Horse eats well and feels well otherwise?"

[Your horse has what is known as fistulous withers. The pus has not been allowed to drain, and has burrowed into the deeper tissues, and we think it a case only for a qualified veterinary surgeon who understands the anatomy of the parts. If such is not convenient, open the wound to the bottom and insert a seton (a strip of clean factory cotton, one inch wide), running down from the most dependent part of the abscess to keep it open, and wash the wound out twice daily with an antiseptic, such as carbolic acid, 2 drams; corrosive sublimate, 20 grains; boiled soft water, 1 quart; using a fountain syringe, which will force the solution through all parts of the wound to escape out of the lower portion where seton is inserted. When thoroughly cleansed, run in about a cupful of cotton-seed oil, two parts; spirits turpentine, one part; allowing as much to remain in the wound as

possible. This treatment should be continued until the parts are healed. Leave seton in for about four weeks, or until copious discharge ceases.]

Intestinal Worms in Young Pigs.

GEORGE BELL, Lambton Co., Ont.:—"Having noticed in your valuable paper the veterinary column giving name of certain diseases and cure, I would like to ask what might be the trouble with pigs, and cure, if any, for same? I have twenty small pigs which are about three months old. They did all right while with sow and for some little time afterwards, then they appeared to go back. They were fed on barley and oat chop, half and half, when taken from the sow, and have had plenty of exercise. This last six or seven weeks they have not grown any, but got thinner in flesh. I am feeding now one-third oats, one-third barley, one-third corn, ground, and mixed with warm water. I have tried the following remedies: Two teaspoonfuls of turpentine and two table-spoonfuls of linseed oil to each pig. I gave them a good scrubbing with soap suds (warm). They get sulphur and ashes at their disposal. They are very scurvy and all hunched up, and they eat each other's tails off. I lost several from this disease. They are very hearty; will eat anything and all I will give them; but they are terrible specimens of pigs. If you can give me any information as to their trouble, and what to do to effect a cure, it will greatly oblige."

[Indications point to large quantities of intestinal worms, and in case you lose any more, by all means hold a careful post-mortem. Give each pig a teaspoonful of creoline in its feed every other day for three doses; then following this, give hyposulphite of soda, sulphur, salt, and charcoal, in equal parts and well mixed. A teaspoonful to each pig in feed twice daily, and change diet to milk, shorts, and boiled roots—preferably potatoes. Oats and barley hulls are difficult for young pigs to digest.]

Inflammation of Pericardium.

E. D. LORDLY, Chester, N. S.:—"In the absence of any reliable autopsy, can you suggest the cause for the sudden death of our Durham stock bull? Out for service on Friday, appeared ill on Saturday, and died on Sunday. A large quantity of water was found around the heart."

[Your bull died from inflammation and dropsy of the pericardium (covering of the heart), which is not at all uncommon in cattle, the cause of which we are not in a position to state, but had you made a close examination of the heart substance you would have found a needle or like substance, which gained access first to the stomach, finding its way into one of the large veins, thence to the heart. No treatment.]

Miscellaneous.

Queen of the Meadow.

J. C. BICE, Huron Co., Ont.:—"Can you tell me the botanical name, the habit, and the medicinal properties of a plant commonly known as 'Queen of the meadow,' and procurable at most drug stores under that name?"

[Queen of the meadow, as sold by druggists, is obtained from the plant *E. upatorium*, called after Upator, King of Pontus, who discovered one of the species to be an antidote for poison. The drug as sold has a specific action upon the kidneys, and is administered in cases of dropsy and troubles of the urinary organs. There are over 400 species of *E. upatorium*, which include boneset (*E. perfoliatum*) and horsehound (*E. rotundifolium*), both of which have a medicinal value.]

Can Hens be Induced to Sit?

ESME, Ontario Co., Ont.:—"How can I persuade my hens to take to sitting early?"

[We regret that we cannot recommend a specific that would induce early sitting. It must be remembered that the sitting instinct is a natural one, that belongs to all fowls after having laid a certain number of eggs. It is true that the heavy breeds, such as Brahmas, Cochins, etc., are more inclined to sit than many of the lighter sorts, but even these cannot be made to sit before laying a number of eggs. All we can recommend is to follow the good advice contained in the many good poultry articles that have appeared in our columns during the past few months, and after laying has thoroughly commenced get a number of china eggs to leave in the nest, which might induce the broody instinct. We will be pleased to hear from any of our readers regarding this question.]

Pig-Feeding Questions.

S. H., Dundas Co., Ont.:—"I may say that I am feeding six pigs on mangels and provender boiled together—a bushel of cut mangels to a pail of provender (oats, barley and peas mixed). I would like to hear from some who are in the pig-feeding business, and who are successful, what proportions they feed when they wish to make the pig grow and do it as cheaply as possible?"

Cheshire Swine.

W. J. TREFFRY, Oxford Co., Ont.:—"Can you give me some information regarding the breed of hogs called 'Cheshires'? Are they a good bacon hog, and how do they differ from Chester White hogs? And can you tell me where I can secure a good Cheshire boar? I have taken the ADVOCATE a number of years and am well pleased with it."

[Cheshire swine originated as a breed in Jeffer-

son Co., N. Y., and were first exhibited at New York State Fair in 1850. They are probably the result of a cross between the large Yorkshires, the Suffolks, and the common pigs of the country. A pork-packer's prize of \$500 was won by a pen of Cheshires at St. Louis Fair in 1870. They are fairly popular in New York State. They are of medium size and mature quickly. Their meat is of fine quality, having a large proportion of lean. They are quiet in disposition, white in color, and moderately fine in bone. As compared with Chester Whites, they are somewhat less in size, and approach more nearly the bacon type. A breeder of Cheshires can do himself a favor by placing an advertisement with us.]

Round Silo Construction.

R. W. L., Kent Co., Ont.:—"I intend building a round silo, 14 feet in diameter and 20 feet high, with 2-inch pine plank. How many hoops will it require and how heavy? Would round or flat iron be best and cheapest; also, what is the best way to fasten hoops at ends, where hoops are in two pieces?"

[A 14-foot round stave silo 20 feet high should have five hoops of 3/4-inch round iron with 1/2-inch threads, or six 1/2-inch round iron hoops with 3/8-inch threads. The hoops should be closer together as they approach the bottom of silo. The hoops may be fastened at ends either by blocks or scantlings. If blocks are used they may be of hardwood or cast iron. The latter are made by J. Fleury's Sons, Aurora, and are 5 inches long, 3 1/2 inches wide, and 2 inches thick; hardware stores keep them. When blocks are used care should be taken not to screw the nuts too tightly, as in such case the blocks will twist and bend the rods. Hardwood scantlings extending the entire length of silo answer well. They may stand outside the silo, or may take the place of a plank, standing flush with inside of silo; in which case a five-inch scantling should be used so as to allow good room for the hole for the bands. When the scantlings stand outside they are liable to bulge the silo in opposite where they stand.]

Can Silo be Filled by Windmill Power?

ROBERT W. MEEK, Ontario Co., Ont.:—"I would like to know if any of the readers of your valuable paper have ever run their cutting box and carriers filling their silo with a windmill. What satisfaction do they give? And what make of a windmill do you recommend to be the best?"

[Will some reader who can answer the question re filling silo do so, and help a brother farmer? In the FARMER'S ADVOCATE of Dec. 1st, 1897, the merits of different first-class windmills were well brought out by a number of our correspondents. We must leave our readers to decide between them.]

Concrete Root House.

D. M., Huron Co., Ont.:—"Could I build a concrete root house, and how is it made? Would it be frost-proof?"

[Concrete makes an ideal root house or basement wall, as it is cheap, indestructible, and much more frost-proof than a stone wall. In building it, excavate for foundation to the depth required at least below frost, eighteen inches wide. Begin work by spreading concrete mixed thoroughly, six to one of sand, and made into stiff mortar, two or three inches thick over the bottom. Fill in with stone well hammered down, and kept apart so that the concrete may be rammed firmly between them. Level up to the largest stone with concrete and small stone; then put on not less than two inches of concrete, followed by more stone, hammered and rammed as before. Put no drains lengthwise beneath a concrete foundation. When the trench has thus been filled level, bed planks on each side of foundation trenches; for the outside corners, nail two planks firmly together at right angles, then put in angle a three-cornered strip made by ripping a two-inch square piece diagonally. For the inside corners, nail planks the same way. Set these corner-pieces inside and outside, so the inside of plank is neat with wall line. Then set up scantlings to support the two-inch plank on each side of wall, and toe-nail the bottom of upright scantling to plank bedded in foundation. Keep the upright scantlings about six feet apart and opposite each other, three inches from wall line. Nail small strips across from one scantling to the other; brace firmly to stakes driven in ground. Now the wall may be commenced. Have planks enough to go once around the building, inside and outside. Arrange the plank to proper wall line by wedges between plank and upright scantling. Now fill in with concrete mixed six to one, not sloppy. Be sure and have clean sand, or fine gravel free from soil. Spread about three inches of concrete between planks; ram both faces of wall thoroughly, then put in field stones in center of wall and hammer them down solid, having no stone nearer than two inches to the face of plank or wall line. Now put in more concrete and ram the face thoroughly, so as to insure a good, smooth surface when planks are raised. Keep on in this way until all the planks are filled. This should constitute one day's work. Raise the planks their own width towards evening, to be ready for work the next morning. In raising planks, slacken or drive out top and bottom wedges. When planks are loose, raise plank till it has about two-inch hold on completed wall; wedge up to place and proceed as on previous day. In putting in last course of cement on top of wall, bed a two-by-four-inch scantling, well

water-soaked, flush with the top of finished wall. In two or three days this scantling will lift out, and as long as possible water should be contained in this trench, which will serve to harden the wall. Keep the wall wet for a couple of weeks, when the roof or upper structure may be put on, and you have an ideal root house wall.]

Service Fee.

W. H. M., Victoria Co., N. B.:—"I have a registered Jersey bull, solid color, black tongue and switch. Have had him two years; will be three years old in April. He is the only registered Jersey bull in this county that I know of. He has served one cow only since I got him, outside of my own. When I got him home he just cost me "seventy dollars." I offered his service for five dollars per cow. If I was guaranteed more than ten cows, I would give the service for three dollars. Now, sir, would you kindly tell me through the columns of the ADVOCATE if I have asked too much for the bull's service; if so, kindly state what his service ought to be worth in a community where there is no pure-bred bulls of any kind?"

[The very fact that little else but scrub cattle are kept in the vicinity referred to is sufficient indication that there is too little enterprise among the farmers to appreciate the blood of any superior stock. We therefore conclude the fee of five dollars is more than such people are likely to pay. The usual fee for pure-bred bulls is two dollars for grade cows and five for pure-breds. No doubt if two dollars were charged in the case in question, and the half-bred calves pleased the farmers, the bull's services would soon be in sufficient demand to make him a profitable animal at two dollars per cow.]

San Jose Scale and Nursery Stock.

JOHN R. FRASER, Pictou Co., N. S.:—"Please give the names of several nurserymen whose trees are strictly free from the San José scale, or in which counties in Ontario does it exist?"

[So far as we can learn, the scale only exists in three or four counties, including Essex, Wentworth, and Lincoln; and Ontario nurserymen who grow their own stock are probably all free from the scale. The new Ontario Act (referred to in our Feb. 1st issue) is immediately going into effect, and with its stringent application and a proper oversight by the Dominion authorities of imported stock by inspection, etc., the trouble will be effectually checked. The Canadian Government can require all imported stock to be accompanied by certificates as to its freedom from the pest. We notice that the American authorities themselves have adopted measures preventing the sale of infected stock.]

Thrashing Brome Grass.

B. C. T., Pilot Mound:—"I have some Brome grass that I intend to thresh for seed; what place would you recommend; will the ordinary grain separator do this properly?"

[We cut the Brome grass with a grain binder, and thresh with the common grain separator. At first we threshed the whole sheaf, latterly we have held the sheaf in the cylinder until the head was threshed and threw out the butt of the sheaf unthreshed; by this means we avoid a good deal of labor in fanning. S. A. BEDFORD, Supt. Manitoba Experimental Farm.]

Tares or Peas for Fodder?

C. R. A., Cartwright:—"Which do you prefer, tares or peas for green fodder, to be fed to sheep and cattle?"

[We prefer tares for the purpose mentioned, as the fodder is of a better quality; the seed is, however, more difficult to obtain, and higher in price than peas. We have had fair success in growing tares for seed by mixing one peck of oats with two bushels of tares; this is sufficient for one acre. The combined crop is cut with a binder and threshed by power, and the oats separated from the tares with a fanning mill. S. A. BEDFORD, Supt. Manitoba Experimental Farm.]

Rape with Fall Wheat Seeded to Clover.

JAMES HAYDEN, Algoma District, Ont.:—"Will it do to sow rape with fall wheat for pasture, it being seeded with clover and timothy which we intend for a meadow? If so, how much seed per acre, and at what date should it be sown?"

[We never get clover too far advanced the first year, but would frequently like to see it much larger than it usually gets to withstand the winter. It would, therefore, be very unwise to sow rape among wheat seeded to clover, as the clover would be very much weakened, if not entirely destroyed, by the rape following the wheat.]

What Crop to Grow on Sod.

J. F., Lanark Co., Ont.:—"What would be the best use to put 20 acres of sod to this spring? What would you put in it? What would grow in it—it is good soil? Your answer to No. 3 by Dr. Saunders says to try mixtures for hay. Would these mixtures do on newly plowed sod? You say to sow clover with all cereals. Would it do to sow clover on the sod with the mixture?"

[If peas do well in your district, we should say they would be the best crop to grow on the land, as they do not require very rich soil, and do not draw heavily upon the land, but gather nitrogen from the air and store it in the nodules on the roots. The crop should be cut with a mower with peaharvesting attachment, which leaves the roots and nodules on the land. It is not usual to seed to

clover with a crop of peas, but we have seen a fair catch of clover with such crop. Part of the field might well be sown with mixed grain to be cut green for fodder or made into hay. In that case clover might be sown, and if the season is favorable might prove a catch. The mixture would probably do fairly well on spring plowing, but would do better on land plowed in the fall. Peas generally do best on land plowed in the spring. Good crops of ensilage corn are sometimes grown on fresh plowed sod with good cultivation. Oats would grow on it, but we would not recommend sowing oats on spring plowing. Sometimes they do fairly well, but not generally.]

Tree Seeds for Planting.

R. MACONACHIE, Victoria Co., Ont.:—"Referring to some very interesting papers published a little time back in the ADVOCATE about planting trees, can you inform me (1) where to get good walnut, hickory, and butternut seed for planting; (2) what time of the year is best for sowing?"

[1. I beg to say that the nuts of these trees suitable for planting can be obtained from the Steele, Briggs Company, seedsmen, of Toronto, and probably from the other seedsmen as well.

2. The spring of the year, just as soon as the frost is out of the ground, is the best time for planting. They can be put in the ground in the fall, but are more liable to be destroyed by vermin than if left until spring. They ought not to be covered too deeply. It is not necessary to have the soil cover the nuts thicker than about the diameter of the nut if the soil is sufficiently moist. If the ground is fairly mellow it will, I think, be sufficient to drop the nuts on the ground and press them in the soil with the foot.

THOMAS SCUTTHORTH, Clerk of Forestry for Ontario.

These nuts are subject to duty, but our Government at Ottawa should remit this when for planting. I did not succeed in getting the duty taken off or remitted. There are walnuts about Ruthven, Essex Co., Ont., in some quantity. Hiram Clifford, at that place, would be a reliable man to get them, if obtainable. However, I could not find enough there to begin to supply my wants for planting, and not any hickory nuts in Ontario. Hence, I was forced to apply to William H. Conant, Potterville, Eaton Co., Michigan (a station on G. T. R.). The hickory nuts also came from him. So far as I know, the shell-bark hickory nuts are not obtainable in any quantity in Ontario. After paying the cost in Michigan, duty and freight, the nuts cost less than I could get the seed for in Ontario. The planter must remember not to allow the nuts to dry out. You know a dried beech nut will not grow. Get them with the burr on, if possible. Plant in the fall, and cover lightly. THOS. CONANT.]

MARKETS.

Toronto Markets.

Attention has again been called to the agitation with a view to remove the Western Cattle Market to the Dundas street bridges, near the Toronto Junction, and placing same in the hands of a private company known as the Union Stock Yards Company. The city will do well to pause before allowing a valuable franchise to pass into the hands of a powerful monopoly. The dangers are many, and must mean in the future that shippers would have to pay increased rates and fees and exorbitant charges for fodder, and would most probably have the effect of diverting the now growing trade to other market centers. This year the expenses of running the department will be \$7,000, and the rents will bring the annual cost to \$11,000, leaving a clear balance to the good of \$21,000.

Export Cattle.—Market weak and prices declined 10c. per cwt. The bulk of fat cattle offered were butchers' stuff, \$3.85 to \$4.25 per cwt.

Butchers' Cattle.—The trade in butchers' cattle was slow; good to choice sold at from 3c. to 3 1/2c. per lb.; common sold down as low as 2 1/2c. per lb. William Levaok bought 140 cattle, mixed, at \$2.90 to \$3.85. Mr. W. Murray, of Hamilton, bought one carload of 20 cattle, 1,070 lbs. average, at \$3.80. Mr. A. Levaok bought 17 cattle, 1,080 lbs. average, at \$4. These were the choicest heaves on the market, and fetched the top price of the day. Mr. S. Halligan bought one load of butchers' cattle for Montreal, 1,150 lbs. average, at \$3.50. Six carloads of cattle were taken for Montreal.

Bulls.—Good demand for bulls, at from \$3 to \$3.60. These are wanted for tying up and feeding in the sheds previous to export.

Stockers.—The trade in this line is somewhat firmer, selling at \$3 to \$3.50 per cwt.

Feeders are in good demand; prices are firmer, and wanted, at \$3.60 to \$3.90 for choice. Buffalo men are not operating so freely on this market.

Lambs were too abundant; many not sold at the close of the day. Prices went from \$5 to \$5.30 per cwt., \$3 to \$3.75 per head.

Sheep are unchanged, at from \$3.25 to \$3.50 per cwt.; bucks at \$2.50 to \$3.

Calves are wanted, at from \$5 to \$8 each for the right kind.

Milk Cows.—About 30 on offer; the demand from outside points was active. They were readily sold at from \$25 to \$50 for choice, and more could have been taken. Local dairymen are filling up for the spring.

Hogs.—The market is in a very disordered state; prices are easy, with still a downward tendency; 150 to 200 lbs., \$4.90 per cwt.; for light, \$4.65; for thick fat, \$4.50; sows at \$3.50; stags, \$2. There is an active demand for stores, at \$4.25 per cwt. We look for a steady advance in the near future; prospects are for a little firmer market next week.

Dressed Hogs were dearer on the local market. Feeling is steady and offerings not so liberal. Choice lightweights are quoted at \$6 to \$6.10, and farmers' loads of mixed weights are quoted at \$6.25 per cwt. to \$6.30 for selections.

Grain Market.—About 9,000 bushels delivered to-day. Wheat sold at \$6c. to \$6 1/2c. per bushel; 9c. to 9 1/2c. for red, and 8c. to 8 1/2c. for goose.

Hay.—About ten loads per day, at \$8 to \$9.50 per ton.

Straw.—Four loads of straw, at \$7 per ton.

Eggs.—The market is not heavily stocked with any line, but the receipts of new laid are more liberal; held, fresh, at 13c. to 16c. per dozen.

Poultry.—Receipts more liberal; ample for present wants. Turkeys range from 10c. to 11c. per lb.

Butter.—Choice dairy butter is rather scarce, and the market is well cleaned up, in good shape to receive supplies. Toronto, February 26th.

Chatty Stock Letter from Chicago.

Following are the current and comparative prices for the various grades of live stock:—

Table with columns: CATTLE, Extreme Prices, Top prices (Two weeks ago, 1897, 1896). Rows include 1500 lbs. up, 1350 @ 1500, 1200 @ 1350, 1050 @ 1200, 900 @ 1050, Fed Westerns, Stockers and feeders, Fat cows and heifers, Cannons, Bulls, Calves, Texas, Texas C. & B., Corn-fed Texas, Hogs (Mixed, Heavy, Light, Pigs), and Sheep (Natives, Western, Lambs).

Thousands of cattle were bought last fall simply because they were cattle, and not because they had any feed lot qualifications. Hence there are large numbers of ill-bred, rough, unfinished cattle that are lacking much of paying their winter's board bill.

The miserable quality of lots of the cattle which buyers were forced to take or go without has resulted in considerable losses. The fat cattle market is in a peculiar condition. The supplies are not large and the quality is poor. There are plenty and more than plenty of immature cattle. Feed lots are being emptied of cattle that have not paid for their feed. Many thousands of Western branded cattle have been selling for less than total cost, and seeing no chance for improvement on that class of stock, and finding it necessary to meet their monetary obligations, they have forced in cattle that were far from being finished.

At the same time the demand for thrifty young feeding cattle is as strong as ever. The strictly well-bred cattle have paid feeders well, and from present indications will continue to do so. It is a strong argument for better breeding in the herds on the Western plains and ranches, and owners are beginning to see the point. A report from the Pan Handle of Texas says men who would not pay \$50 for a bull three years ago now pay \$150 for one and do not bat an eye. A bull cannot now be made that is too good for our Texas ranches.

The business in Western range cattle is quite active, and the whole range country is fuller of life than for fifteen years past.

The hog market has been doing some "sky-rocketing," and during the past week one load of hogs sold up to \$7 1/2, the high point of the year. The packers have been unloading provisions at good profits. The country hog feeders are exceedingly hopeful of still higher prices, and this fact may have had something to do with supplies at market being higher than expected. On the other hand, the farmers and feeders claim that the reason hogs are not being sent to market more freely is that they are not in the country. One thing is certain, and that is the light average weight of the hog coming, and the premium buyers are paying on big, heavy hogs indicates that the crop of young hogs is being drawn upon. Meantime farmers and feeders are making good money and are generally happy.

It is said the wool clip in New Mexico this year has been 15,000,000 pounds, which has been sold at an average of 10 cents per pound, or \$1,500,000. It is estimated that the total number of lambs sold for Northern ranges is 1,000,000, bringing an average of \$2 per head, or \$2,000,000 for all sold. As the entire population of the territory, including Indians, is only 150,000, it will be seen that the sheep alone have put into circulation a per capita of more than \$23. The sheep situation is in a very prosperous and hopeful condition. The price of wool now freely is that they are not in the country. One great temptation to the sheepmen to take the wool off before the sheep comes to market. Many seem to believe that they can get more profit this way, but it is questionable.

Among the distinguished visitors was Mr. A. Van Schelle, a representative of the Belgian Government. He is here to investigate our horse business, especially with reference to our export trade; also to see what became of the Belgian stallions which came over here a few years ago. He is of the opinion that American shipments are liable to be overdone, but says the American horses are very popular in that country. In the matter of colors, dark browns, roans, chestnuts, blacks and even grays are preferred there to bays, and bays with tan-colored legs are almost unsalable. Mr. Van Schelle is an advocate of careful inspection of breeding animals, and says that custom is observed in his country. He will make his headquarters at the Transit House for a week, when he goes to Indianapolis, St. Louis, Colorado, Wyoming, and Minnesota to see our range horses, and then will return by way of Canada. He has to report upon the equine population of the United States and Canada.

The midwinter sale of Splan & Newgas, at the Chicago Stock Yards, is in progress. The highest price on the opening day were \$800 for Conductor and \$900 for Alfred G. The total for the first eighty-seven horses sold amounted to \$16,996, an average of \$195.34. During the second day Dorothy Wilkes, by Mistake (2 2/4), brought \$1,350, and Regent (2 1/4), \$1,250. At the Union Stock Yards there were handled last year 111,618 horses, an increase of over 6,000 on the year preceding. The mares sold better than expected, and the horses not quite so well.

BOOK TABLE.

"The Dear Old Farm."

In these days of modern methods and improvements in all departments of farm life we are apt to forget the hardships of the settlers, the days of which Whittier writes:

I hear the tread of pioneers Of nations yet to be; The first low wash of waves where soon Shall roll a human sea.

We therefore greatly welcome the appearance of a substantial volume, "The Dear Old Farm," where in story form many of the pioneering reminiscences of the past in Western Ontario, graphically told, are preserved. We have gone through its pages with delight, and feel sure that old "Upper Canada" settlers, particularly those in any way acquainted with the "Col. Talbot Settlement" in Elgin Co., will prize it as a treasure. The author of this historical romance, Mr. C. M. Sinclair ("Maleolm"), in early days was, if we are not mistaken, an appreciative reader of the FARMER'S ADVOCATE, and we most heartily commend him for his literary effort in "The Dear Old Farm," which is attractively illustrated and published by the Journal Publishing Co., of St. Thomas, Ont. We wish the volume very great success.

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THE GREAT CANADIAN PUZZLE!

First Prize, **\$50.00!**

Second Prize, **A Gold Watch!!**

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Gold-Plated Pins!!!!

A PROFITABLE, INSTRUCTIVE, AND AMUSING PUZZLE.

THE management of the FARMER'S ADVOCATE have determined to increase their subscription list to 50,000. As an aid in doing this they offer the above magnificent gifts ENTIRELY FREE to competitors for obtaining NEW SUBSCRIBERS.

1. -A-A-A: A progressive country.
2. H-D-O: A large bay in Canada.
3. -T-A-R-N-E: A noted river in Canada.
4. T-C-M-E: A well-known Indian Chief.
5. -U-O-S-L-O-Q-I-S: Native Indian races.
6. N-W-O-N-L-N: A Canadian Island.
7. -O--O: A Canadian city.
8. F-R-E-S-D-O-A-E: A popular Canadian publication.
9. -U-B-R: A Canadian export.
10. P-C-O: A Canadian town.
11. -A-O-S-C: A Canadian summer resort.
12. E-A-G-L-N: A noted poem, the scene of which is laid in Canada.
13. -A-U-A--A: A valuable time saver.
14. L-U-I-R: A prominent Canadian statesman.
15. --A-A-A--: Visited by all tourists to Canada.
16. L-R-A-E-D-E: Commander-in-Chief of Canadian forces.
17. --E-H-A-E: Found in most Canadian cities.
18. -- man -- makes -- himself -- eaten --: An old proverb.

HOW TO SECURE THE PRIZES.

Send a correct list of the above drop-letter words, enclosing \$1.00 for a year's subscription (new) to the FARMER'S ADVOCATE, and you can secure the \$50.00 or other grand prizes as provided below. This puzzle may seem difficult at first, but you can do it, as there are no names or other words in the list which every school boy and girl do not see almost daily. To give EVERY ONE a chance to secure a handsome present, we promise to send a Gold-plated Pin, Roman Knot design, heavily chased, set with sparkling gem—garnet, opal, or emerald—suitable for either lady or gentleman, to EACH person who answers eight of the above questions, and encloses with his or her list \$1.00 for one new subscriber to the FARMER'S ADVOCATE. The Pins will be forwarded as soon as list and money are received; but the grand prizes will not be awarded till June 1st, when winners' names will be published. Winners of the Gold-plated Pin prize will also have the chance of gaining the \$50.00 or one of the Watches. Owing to the wonderful popularity of the ADVOCATE with both old and young, by simply showing others a copy and calling their attention to its superior merits you will have no difficulty in obtaining their subscription, which must be sent in along with the answers to the puzzle. Give your own address and that of the subscriber. All answers must reach this office by May 20th, when the contest closes. Address The FARMER'S ADVOCATE, London, Ont. This is a very easy way to secure a beautiful present. No doubt many will take advantage of our liberal offer. The first prize will be awarded the sender of correct answers to the full list, but if several correct answers to the puzzle should be received, the \$50.00 will be given to the one whose list is neatest and best written, and the Gold and Silver Watches to the second and third best. If no complete list is received the \$50.00 will not be awarded, but the Gold Watch will be forwarded to the sender of the best list, and the Silver Watch to the second best.

Mr. J. W. Westervelt, Principal of the Forest City Business College, London, Ont., has kindly consented to act as judge in deciding which lists of answers are neatest and best written. Lists will be submitted to him by us without the names attached.

ANSWERING THE PUZZLE.

Put letters in place of dashes: Thus, the first word is "Canada," which is made by supplying the dropped letters "C N D," the others are worked in the same way.



A MISTAKEN CHARITY.

BY MARY E. WILKINS.

There were in a green field a little, low, weather-stained cottage, with a footpath leading to it from the highway several rods distant, and two old women—one with a tin pan and old knife searching for dandelion greens among the short young grass, and the other sitting on the doorstep watching her, or, rather, having the appearance of watching her.

"Air there enough for a mess, Harriet?" asked the old woman on the doorstep. She accented oddly the last syllable of the Harriet, and there was a curious quality in her feeble, cracked old voice. Besides the question denoted by the arrangement of her words and the rising inflection, there was another, broader and subtler, the very essence of all questioning, in the tone of her voice itself; the cracked, quavering notes that she used reached out of themselves, and asked, and groped like fingers in the dark. One would have known by the voice that the old woman was blind.

The old woman on her knees in the grass searching for dandelions did not reply; she evidently had not heard the question. So the old woman on the doorstep, after waiting a few minutes with her head turned expectantly, asked again, varying her question slightly, and speaking louder—

"Air there enough for a mess, do ye s'pose, Harriet?"

The old woman in the grass heard this time. She rose slowly and laboriously; the effort of straightening out the rheumatic old muscles was evidently a painful one; then she eyed the greens heaped up in the tin pan, and pressed them down with her hand.

"Wa'al, I don't know, Charlotte," she replied, hoarsely. "There's plenty on 'em here, but I ain't got near enough for a mess; they do bble down so when you get 'em in the pot; an' it's all I can do to bend my j'int's enough to dig 'em."

"I'd give considerable to help ye, Harriet," said the old woman on the doorstep.

But the other did not hear her; she was down on her knees in the grass again, anxiously spying out the dandelions.

So the old woman on the doorstep crossed her little shrivelled hands over her calloo knees and sat quite still, with the soft spring wind blowing over her.

The old wooden doorstep was sunk low down among the grasses, and the whole house to which it belonged had an air of settling down and mouldering into the grass as into its own grave.

When Harriet Shattuck grew deaf and rheumatic, and had to give up her work as a tailoress, and Charlotte Shattuck lost her eyesight, and was unable to do any more sewing for her livelihood, it was a small and trifling charity for the rich man who held a mortgage on the little house in which they had been born and lived all their lives to give them the use of it, rent and interest free. He might as well have taken credit to himself for not charging a squirrel for his tenement in some old decaying tree in his woods.

So ancient was the little habitation, so wavering and mouldering, the hands that had fashioned it had lain still so long in their graves, that it almost seemed to have fallen below its distinctive rank as a house. Rain and snow had filtered through its roof, mosses had grown over it, worms had eaten it, and birds built their nests under its eaves. Nature had almost completely overrun and obliterated the work of man, and taken her own to herself again, till the house seemed as much a natural ruin as an old tree-stump.

The Shattucks had always been poor people and common people; no especial grace and refinement or fine ambition had ever characterized any of them; they had always been poor and coarse and common. The father and his father before him had simply lived in the poor little house, grubbed for their living, and then unquestioningly died. The mother had been of no rarer stamp, and the two daughters were cast in the same mould.

After their parents' death Harriet and Charlotte had lived along in the old place from youth to old age, with the one hope of ability to keep a roof over their heads, covering on their backs, and victuals in their mouths—an all-sufficient one with them.

Neither of them had ever had a lover; they had always seemed to repel rather than attract the opposite sex. It was not merely because they were poor, ordinary, and homely; there were plenty of men in the place who would have matched them well in that respect; the fault lay deeper—in their characters. Harriet, even in her girlhood, had a blunt, defiant manner that almost amounted to surliness, and was well calculated to alarm timid adorers, and Charlotte had always had the reputation of not being any too strong in her mind.

Harriet had gone about from house to house doing tailor-work after the primitive country fashion, and Charlotte had done plain sewing and mending for the neighbors. They had been in the main, except when pressed by some temporary anxiety about their work or the payment thereof, happy and contented, with that negative kind of happiness and contentment which comes not from gratified ambition, but a lack of ambition itself. All that they cared for they had had in tolerable abundance, for Harriet at least had been swift and capable about her work. The patched, mossy old roof had been kept over their heads, the coarse, hearty food that they loved had been set on their table, and their cheap clothes had been warm and strong.

After Charlotte's eyes failed her, and Harriet had the rheumatic fever, and the little hoard of earnings went to the doctors, times were harder with them, though still it could not be said that they actually suffered.

When they could not pay the interest on the mortgage they were allowed to keep the place interest free; there was as much fitness in a mortgage on the little house, anyway, as there would have been on a rotten old apple tree; and the people about, who were mostly farmers, and good, friendly folk, helped them out with their living. One would donate a barrel of apples from his abundant harvest to the two poor old women, one a barrel of potatoes, another a load of wood for the winter fuel, and many a farmer's wife had bustled up the narrow footpath with a pound of butter, or a dozen fresh eggs, or a nice bit of pork. Besides all this, there was a tiny garden patch behind the house, with a straggling row of currant bushes in it, and one of gooseberries, where Harriet contrived every year to raise a few pumpkins, which were the pride of her life. On the right of the garden were two old apple trees, a Baldwin and a Porter, both yet in a tolerably good fruit-bearing state.

The delight which the two poor old souls took in their own pumpkins, their apples and currants, was indescribable. It was not merely that they contributed largely towards their living; they were their own, their private share of the great wealth of Nature, the little taste set apart for them alone out of her bounty, and worth more to them on that account, though they were not conscious of it, than all the richer fruits which they received from their neighbors' garden.

This morning the two apple trees were brave with flowers, the currant bushes looked alive, and the pumpkin seeds were in the ground. Harriet cast complacent glances in their direction from time to time, as she painfully dug her dandelion greens. She was a short, stoutly-built old woman, with a

large face coarsely wrinkled, with a suspicion of a stubble of beard on the square chin.

When her tin pan was filled to her satisfaction with the sprawling, spidery greens, and she was hobbling stiffly towards her sister on the doorstep, she saw another woman standing before her with a basket in her hand.

"Good-morning, Harriet," she said, in a loud, strident voice, as she drew near. "I've been frying some doughnuts, and I brought you over some warm."

"I've been tellin' her it was real good in her," piped Charlotte from the doorstep, with an anxious turn of her slight face towards the sound of her sister's footsteps.

Harriet said nothing but a hoarse "Good-morning," Miss Simonds. Then she took the basket in her hand, lifted the towel off the top, selected a doughnut, and deliberately tasted it.

"Tough," said she. "I s'posed so. If there is anything I s'pose on this arth it's a tough doughnut."

"O Harriet!" said Charlotte, with a frightened look.

"They air tough," said Harriet, with a hoarse defiance, "and if there is anything I s'pose on this arth it's a tough doughnut."

The woman whose benevolence and cookery were being thus ungratefully received only laughed. She was quite fleshy, and had a round, rosy, determined face.

"Well, Harriet," said she, "I am sorry they are tough, but perhaps you had better take 'em out on a plate, and give me my basket. You may be able to eat two or three of them if they are tough."

"They air tough—turbidly tough," said Harriet stubbornly; but she took the basket into the house and emptied it of its contents nevertheless.

"I suppose your roof leaked as bad as ever in that heavy rain day before yesterday?" said the visitor to Harriet, with an inquiring squint towards the mossy shingles, as she was about to leave with her empty basket.

"It was turbidly," replied Harriet, with crusty acquiescence—"turbidly. We had to set palls an' pans everywhere, an' move the bed out."

"Mr. Upton ought to fix it."

"There ain't a-y fix to it; the old ruff ain't fit to nail new shingles on to; the hammerin' would bring the whole thing do an on our heads," said Harriet grimly.

"Well, I don't know as it can be fixed, it's so old. I suppose the wind comes in bad around the windows and doors too."

"It's like livin' with a piece of paper, or mebbe a sieve, 'twixt you an' the wind an' the rain," quoth Harriet, with a jerk of her head.

"You ought to have a more comfortable home in your old age," said the visitor thoughtfully.

"Oh, it's well enough," cried Harriet, in quick alarm, and with a complete change of tone; the woman's remark had brought an old dread over her. "The old house'll last as long as Charlotte an' me do. The rain ain't so bad, nuther is the wind; there's room enough for us in the dry places, an' out of the way of the doors an' windows. It's enough sight better than goin' on the town." Her square, defiant old face actually looked pale as she uttered the last words and stared apprehensively at the woman.

"Oh, I did not think of your doing that," she said hastily and kindly. "We all know now you feel about that, Harriet, and not one of us neighbors will see you and Charlotte go to the poorhouse while we've got a crust of bread to share with you."

Harriet's face brightened. "Thank ye, Miss Simonds," she said, with relaxed courtesy. "I'm much obliged to you an' the neighbors. I think mebbe we'll be able to eat some of them doughnuts if they air tough," she added mollifyingly, as her caller turned down the footpath.

"My, Harriet," said Charlotte, lifting up a weakly, wondering, peaked old face, "what did you tell her them doughnuts was tough for?"

"Charlotte, do you want everybody to look down on us, an' think we ain't no account at all, just like any beggars, 'cause they bring us in vittles?" said Harriet, with a grim glance at her sister's meek, unconscious face.

"No, Harriet," she whispered.

"Do you want to go to the poorhouse?"

"No, Harriet," the poor little old woman on the doorstep, fairly cowered before her aggressive old sister.

"Then don't hender me agin when I tel. folks their doughnuts is tough an' their pertaters is poor. If I don't kinder keep up an' show some spirit, I sha'n't think nothing of myself, an' other folks won't nuther, and fust think we know they'll kerry us to the poorhouse. You'd 'a been there before now if it hadn't been for me, Charlotte!"

Charlotte looked meekly convinced, and her sister sat down on a chair in the doorway to scrape her dandelions.

"Did you git a good mess, Harriet?" asked Charlotte, in a humble tone.

"Toler'ble."

"They'll be proper relishin' with that piece of pork Miss Man brought in yesterday. O Lord, Harriet, it's a chink!"

Harriet sniffed.

Her sister caught with her sensitive ear the little contemptuous sound. "I guess," she said querulously, and with more pertinacity than she had shown in the matter of the doughnuts, "that if you was in the dark, as I am, Harriet, you wouldn't make fun an' turn up your nose at chinks. If you had seen the light streamin' in all of a sudden through some little hole that you hadn't known of before when you set down on the doorstep this mornin', and the wind with the smell of the apple blows in it came in your face, an' when Miss Simonds brought them hot doughnuts, an' when I thought of the pork an' greens just now—O Lord, how it did shine in! An' it does now. If you was me, Harriet, you would know there was chinks."

Tears began starting from the sightless eyes, and streaming pitifully down the pale old cheeks.

Harriet looked at her sister, and her grim face softened.

"Why, Charlotte, hev it that that is chinks if you want to. Who cares?"

"That is chinks, Harriet."

"We'al, that is chinks, then. If I don't hurry, I sha'n't get these greens in in time for dinner."

When the two old women sat down complacently to their meal of pork and dandelion greens in their little kitchen, they did not dream how destiny slowly and surely was introducing some new colors into their web of life, even when it was at most completed, and that this was one of the last meals they would eat in their old home; for many a day, in about a week from that day they were established in the "O'd Ladies' Home" in a neighboring city. It came about in this wise: Mrs. Simonds, the woman who had brought the gift of hot doughnuts, was a smart, energetic person, bent on doing good, and she did a great deal. To be sure she always did it in her own way. If she chose to give hot doughnuts, she gave hot doughnuts; it made no difference to her if the recipients of her charity would infinitely have preferred ginger cookies. Still a great many would like hot doughnuts, and she did unquestionably a great deal of good.

She had a worthy conductor in the person of a rich and childless elderly widow in the place. They had fairly entered into a partnership in good works, with about an equal capital on both sides, the widow furnishing the money, and Mrs. Simonds, who had much the better head of the two, furnishing the active schemes of benevolence.

The afternoon after the doughnut episode she had gone to the widow with a new project, and the result was that entrance fees had been paid, and old Harriet and Charlotte made sure of a comfortable home for the rest of their lives. The widow was hand in glove with officers of missionary boards and trustees of charitable institutions. There had been an unusual mortality among the inmates of the "Home" this spring, and the matter of Charlotte was very quickly and easily arranged. Harriet and Charlotte were very quickly and easily arranged. But the matter which would have seemed the least difficult—inducing the two old women to accept the bounty which Providence, the widow, and Mrs. Simonds were ready to bestow on

them—proved the most so. The struggle to persuade them to abandon their tottering old home for a better was a terrible one. The widow had pleaded with mild surprise, and Mrs. Simonds with benevolent determination; the counsel and reverend eloquence of the minister had been called in; and when they yielded at last it was with a sad grace for the recipients of a worthy charity.

It had been hard to convince them that the "Home" was not an almshouse under another name, and their yielding at length to anything short of actual force was only due probably to the "Home," which was advanced most eloquently to Harriet, that Charlotte would be so much more comfortable.

The morning they came away, Charlotte cried pitifully, and trembled all over her little shrivelled body. Harriet did not cry. But when her sister had passed out the low, sagging door she turned the key in the lock, then took it out and thrust it slyly into her pocket, shaking her head to herself with an air of fierce determination.

Mrs. Simonds' husband, who was to take them to the depot, said to himself, with disloyal defiance of his wife's disactive charity, that it was a shame, as he helped the two distressed old souls into his light wagon, and put the poor little box, with their homely clothes in it, in behind.

Mrs. Simonds, the widow, the minister, and the gentleman from the Home, who was to take charge of them, were all at the depot, their faces beaming with the delight of successful benevolence. But the two poor old women looked like two forlorn prisoners in their midst. It was an impressive illustration of the truth of the saying that "it is more blessed to give than to receive."

Well, Harriet and Charlotte Shattuck went to the "O'd Ladies' Home" with reluctance and distress. They stayed two months, and then—they ran away.

The "Home" was comfortable, and in some respects even luxurious; but nothing suited those two unhappy, unreasonably old women.

The fare was of a finer, more delicately served variety than they had been accustomed to; those finely flavored soups for which the "Home" took great credit to itself fell-d to please palates used to common, coarser food.

O Lord, Harriet, when I set down to the table here there ain't no chinks," Charlotte used to say. "If we could hev some cabbage, or some pork an' greens, how the light would stream in!"

They had to be more particular about their dress. They had always been tidy enough, but now it had to be something more; the widow, in the kindness of her heart, had made it possible, and the good folks in charge of the "Home," in the kindness of their hearts, tried to carry out the widow's designs.

But nothing could transform these two unpolished old women into two nice old ladies. They did not take kindly to white lace caps and delicate neckerchiefs. They liked their new black cashmere dresses well enough, but they felt as if they broke a commandment when they put them on every afternoon. They had always worn calico with long aprons at home, and they wanted to now; and they wanted to twist up their scanty grey locks into little knots at the back of their heads, and go without caps, just as they always had done.

Charlotte in a dainty white cap was pitiful, but Harriet was both pitiful and comical. They were totally at variance with their surroundings, and they felt it keenly, as people of their stamp always do. No amount of kindness and attention—and they had enough of both—sufficed to reconcile them to their new ways. Charlotte pleaded continually with her sister to go back to their old home.

O Lord, Harriet," she would exclaim (by the way, Charlotte's "O Lord," which, as she used it, was innocent enough, had been heard with much disfavor in the "Home," and she, not knowing at all why, had been remonstrated with concerning it). "I don't like the vittles, an' I don't like to wear a cap; I want to go home and do different. The currants will be ripe, Harriet. O Lord, that was always a chink, thinkin' about 'em. I want some of 'em; the Porter apples will be gettin' ripe, an' we could have some apple pie. This here ain't good; I want my rashes fur sootin'." Can't we get back no ways, Harriet? It ain't far, an' we could walk, an' they don't lock us in, nor nothin'. I don't want to die here; it ain't so straight up to heaven from here. O Lord, I've felt as if I was slanting down from heaven ever since I've been here, an' it's been so awful dark. I ain't had any chinks. I want to go home, Harriet. I'll go to-morrow mornin'." said Harriet finally; we'll pack up our things an' go; we'll put on our old dresses, an' we'll do up the new ones in bundles, an' we'll jesh sh; out the back way to-morrow mornin'; an' we'll go. I kin find the way, an' I reckon we kin git thar, if it is fourteen mile. Mebbe somebody will give us a lift."

And they went. With grim humor Harriet hung the new white lace caps with which she and Charlotte had been so pestered, one on each post at the head of the bedstead, so they would meet the eyes of the first person who opened the door. Then they took their bundles, stole slyly out, and were soon on the high-road, hobbling along, holding each other's hands, as jubilant as two children, and chuckling to themselves over their escape, and the probable astonishment there would be in the "Home" over it.

O Lord, Harriet, what do you s'pose they will say to them caps?" cried Charlotte, with a gleeful cackle.

"I guess they'll see as folks ain't goin' to be made to wear caps agin their will in a free kentry," returned Harriet, with an echoing cackle, as they sped feebly and bravely along.

The "Home" stood on the very outskirts of the city, luckily for them. They would have found it a difficult undertaking to traverse the crowded streets. As it was, a short walk brought them into the free country road—free comparatively, for even here at ten o'clock in the morning there was considerable travelling to and from the city on business or pleasure.

The people whom they met on the road did not stare at them as curiously as might have been expected. Harriet held her bristling chin high in air, and hobbled along with an appearance of being well aware of what she was about, that led folks to doubt their own first opinion that there was something unusual about the two old women.

Still their evident feebleness now and then occasioned from one and another more particular scrutiny. When they had been on the road a half-hour or so, a man in a covered wagon drove up behind them. After he had passed them, he poked his head around the front of the vehicle and looked back. Finally he stopped, and waited for them to come up to him.

"Like a ride, ma'am!" said he, looking at once bewildered and compassionate.

"Thankee," said Harriet, "we'd be much obliged."

After the man had lifted the old women into the wagon, and established them on the back seat, he turned around, as he drove slowly along, and gazed at them curiously.

"Seems to me you look pretty feeble to be walking far," said he. "Where were you goin'?"

Harriet told him with an air of defiance.

"Why," he exclaimed, "it is fourteen miles out. You could never walk it in the world. Well, I am going within three miles of there, and I can go on a little further as well as not. But I don't see—Have you been in the city?"

"I have been visitin' my married darter in the city," said Harriet calmly.

Charlotte started, and swallowed convulsively.

Harriet had never told a deliberate falsehood before in her life, but this seemed to her one of the tremendous exigencies of life which justify a lie. She felt desperate. If she could not contrive to deceive him in some way, the man might turn directly around and carry Charlotte and her back to the "Home," and the white caps.

"I should not have thought your daughter would have let you start for such a walk as that," said the man. "Is this lady your sister? She is blind, isn't she? She does not look fit to walk a mile."

"Yes, she's my sister," replied Harriet stubbornly; an

she's blind; an' my darter didn't want us to walk. She felt reel bad about it. But she couldn't help it. She's poor, and her husband's dead, an' she's got four leetle children."

Harriet recounted the hardships of her imaginary daughter with a gibbous that was astonishing. Charlotte swallowed again.

"Well," said the man, "I am glad I overtook you, for I don't think you would ever have reached home alive."

About six miles from the city an open buggy passed them swiftly. In it were seated the matron and one of the gentlemen in charge of the "Home." They never thought of looking into the covered wagon—and indeed one can travel in one of those vehicles, so popular in some parts of New England, with those much privacy as he could in his tomb. The two in the buggy were seriously alarmed, and anxious for the safety of the old women, who were chucking maliciously in the wagon and they soon left far behind. Harriet had watched them breathlessly until they disappeared on a curve of the road; then she whispered to Charlotte.

A little after noon the two old women crept slowly up the footpath across the field to their old home.

"The clover is up to our knees," said Harriet; an' the sorrel an' the whiteweed; an' there's lots of yaller persifles."

O Lord, Harriet, thar's a chink, an' I do believe I saw one of them yaller butterflies go past it," cried Charlotte, trembling all over, and nodding her grey head violently.

Harriet stood on the old sunken doorstep and fitted the key, which she drew triumphantly from her pocket, in the lock, while Charlotte stood waiting and shaking behind her.

Then they went in. Everything was there just as they had left it. Charlotte sank down on a chair and began to cry. Harriet hurried across to the window that looked out on the garden.

"The currants air ripe," said she, "an' them pumpkins hev run all over everything."

O Lord, Harriet, sobbed Charlotte, "thar is so many chinks that they air all runnin' together!"

THE QUIET HOUR.

Friendship.

How will sad memory point where, here and there,
Friend after friend, by falsehood or by fate,
From him or from each other parted were,
And love sometimes becomes the nurse of hate! . . .
Rather, he thinks he held not dull despair,
Love, the best gift that man on man bestows,
Who round his downward path, secluded and drear,
Feels the chill indifferent shadow close,
"Why did not" his spirit murmur deep,
"At every cost of momentary pride,
Preserve the love for which in vain I weep?
Why had I wish or hope or sense beside!
O cruel issue of some selfish thought!
O long, long echo of some angry tone!
O fruitless lesson, mercilessly taught,
Alone to linger—and to die alone!" —Houghton.

The Time is Short.

Oh, my dear friends, you who are letting miserable misunderstandings run on from year to year, meaning to clear them up some day; you who are keeping wretched quarrels alive because you cannot quite make up your mind that now is the day to sacrifice your pride and kill them; you who are passing men sullenly upon the street, not speaking to them out of some silly spite, and yet knowing that it would fill you with shame and remorse if you heard that one of those men were dead to-morrow morning; you who are letting your neighbor starve till you hear that he is dying of starvation; or letting your friend's heart ache for a word of appreciation or sympathy, which you mean to give him some day,—if you only could know and see and feel, all of a sudden, that "the time is short," how it would break the spell! How you would go instantly and do the thing which you might never have another chance to do.

"Thou must endure! yet loving all the while,
Above, yet never separate from, thy kind,—
Meet every frailty with the gentlest smile,
Though to no possible depth of evil blind."

Giving Comfort.

Ask God to increase your powers of sympathy, to give you more quickness and depth of sympathy, in little things as well as great. Opportunities of doing a kindness are often lost from mere want of thought. Half a dozen lines of kindness may bring sunshine into the whole day of some sick person. Think of the pleasure you might give to someone who is much shut up, and who has fewer pleasures than you have, by sharing with her some little comfort or enjoyment that you have learnt to look upon as a necessary of life—the pleasant drive, the new book, flowers from the country, etc. Try to put yourself in another's place. Ask, "What should I like myself if I were hard-worked or sick, or lonely?" Cultivate the habit of sympathy.

Yet sets she not her soul so steadily
Above, that she forgets her ties to earth,
But her whole thought would almost seem to be
How to make glad one lowly human heart:
For with a gentle courage she doth strive
In thought and word and feeling so to live
As to make earth next heaven!" —G. H. W.

Small Worries.

Nothing else but seeing God in everything will make us loving and patient with those who annoy and trouble us. They will be to us then only the instruments for accomplishing His tender and wise purposes towards us, and we shall even find ourselves at last inwardly thanking them for the blessings they bring us. Nothing else will completely put an end to all murmuring or rebelling thoughts.

"Whatever God does is well!
Patience, let us wait;
He doth Himself our burdens bear,
He doth for us take care,
And He, our God, knows all our weary days,
Come, give Him praise."

The subjection of the will is accomplished by calmly resigning thyself in everything that internally or externally vexes thee, for it is thus only that the soul is prepared for the reception of Divine influences. Prepare the heart like clean paper, and the Divine Wisdom will imprint on it characters to His own liking.
M. Molinos.

"Callin'
Standing on the
which divides the
two peasants wa
them across. "A
echoes and re-echo
limpid stream, but
delinquent charon
awaiting the chan
until the call has
roused from his bli
strokes from his b
spot where his pas

THE CH...

The C...

A somber old
looking in a mo
close to his feet.
grub," said the
pillar hanging to
from. I'd like to k
"Like you, Mr
"Ha! ha! ha!
And the crow
laughter.
"An egg? It
came from an eg
you did, I should
and not have ad
and shiny a coat
on to-day. You'r
enough to make
der, and really y
marks would n
blush, only I can
on black."
"Well, as fa
goes, I confess
boast of a very h
form; but I am
sleep presently,
I wake up again
more beautiful
could ever dres
with all you're p
answered the grub.
"You little
a mind to make
of you, only you
small and ugly,
neither be satis
pleased," resp
crow.
"Don't bo
please," said the
"I want to eat
this leaf before
sleep, for I feel
ness coming on.
The old cro
more closely, a
sight of the t
eyes, and six
legs, and then,
ing to himself,
"Well, he m
but I declare
well supplied
and legs."
"Caw, caw,
tered, and she
again: "Say, G
eyes and legs w
"My twelve
together, and f
not so large, ar
wings, and ins
grub, I shall f
majesty."
"Well, I sh
too amusing fo
At this the
body, and very
"Good-by;
a chrysalis."
Mr. Crow w
the change, b
wonderful con
remark he ma
was:
"Poor delu
insects can be
rection he will
able imaginati
for sure enoug
After a tir
smiled upon
dead, dry and
and one day
stretching itse
encumbrance,
wings beautif
very close to
him to burst f
"What a b
"How do
Butterfly,
we met, isn't

"Calling the Ferryman."

Standing on the bank of the narrow stream which divides them from the opposite shore are two peasants waiting for the ferryman to row them across. "Ahoy, ye hoy!" "Ahoy, ye hoy!" echoes and re-echoes along the silent banks of the limpid stream, but fails to penetrate the ears of the delinquent charon who has fallen asleep while awaiting the chance arrival of a passenger. Not until the call has been oft repeated is the ferryman roused from his blissful sleep, when a few powerful strokes from his brawny arms lands the boat at the spot where his passengers are waiting.

THE CHILDREN'S CORNER.

The Crow and the Grub.

A PARABLE.

BY W. J. KIRBY.

A somber old crow sat on a bending branch, looking in a most intense manner at something close to his feet. "Well, you're a strange-looking grub," said the crow at last, speaking to a caterpillar hanging to a leaf. "Where did you come from, I'd like to know?"

"Like you, Mr. Crow, I came from an egg."
"Ha! ha! ha!"
And the crow fairly shook his sides with laughter.
"An egg? Indeed; and, pray, who told you I came from an egg? If I came from an egg, like you did, I should expect to be as ugly as you are, and not have as smooth and shiny a coat as I have on to-day. You're homely enough to make me shudder, and really you're remarks would make me blush, only I can't show it on black."

"Well, as far as that goes, I confess I cannot boast of a very handsome form; but I am going to sleep presently, and when I wake up again I shall be more beautiful than you could ever dream to be, with all your pride," answered the grub.

"You little grub, I've a mind to make a dinner of you, only you are so small and ugly I should neither be satisfied nor pleased," responded the crow.

"Don't bother me, please," said the little grub. "I want to eat all I can of this leaf before I go to sleep, for I feel the drowsiness coming on."

The old crow looked more closely, and caught sight of the twelve tiny eyes, and sixteen short legs, and then, as if talking to himself, he said:

"Well, he may be ugly, but I declare if he isn't well supplied with eyes and legs."

"Caw, caw," he muttered, and then he spoke again: "Say, Grub, what will you do with all your eyes and legs when you go to sleep?"

"My twelve eyes will be strangely brought together, and form just two eyes like yours, only not so large, and my sixteen legs will become four wings, and, instead of crawling here a disgusting grub, I shall fly abroad as free as your superior majesty."

"Well, I should smile to see you flying; you're too amusing for anything."

At this the grub gave a peculiar twitch to his body, and very quietly whispered:

"Good-by; I'm going to sleep. I must become a chrysalis."

Mr. Crow was too busy to stay by and watch the change, but went away to tell others of the wonderful conversation with the grub. The last remark he made as he flapped his wings and flew was:

"Poor deluded little Grub! Some foolish little insects can believe anything. I guess all the resurrection he will ever know will be in his unreasonable imagination. You might well say good-by, for sure enough it's a final farewell."

After a time the warm sunshine came and smiled upon the cocoon, and that which looked dead, dry and useless began to show signs of life, and one day the living something seemed to be stretching itself for more room, and shook off its encumbrance, and a magnificent Butterfly with wings beautifully painted flew out, and passed very close to the beak of Mr. Crow, and caused him to burst forth in admiration as he said:

"What a beauty!"

"How do you do, Mr. Crow?" inquired the Butterfly. "I'm glad to see you. Some time since we met, isn't it?"

"You beautiful creature," said the crow, "I feel very much honored to be addressed by you, but, really, I do not remember seeing such a lovely thing as you are before. Pray, where did we meet?"

"Oh, you forget old acquaintances, then. You do not remember meeting a Grub some time ago?"

"Why, yes," he said, "I remember the ugly thing well. I wonder what became of him?"

"I presume he did as he told you he would. He went to sleep and then changed into an insect with two eyes and four wings, and instead of living on leaves he flies around and takes his fill of the sweetest honey from the choicest flowers."

"What a story!" exclaimed the crow. "Tell that to some more stupid creature; but you insult the wisdom of the whole family of crows to expect you to believe such a thing as that." And he drew himself up to his full height and looked as dignified as an Agnostic.

"If you only looked a little more reasonable, Mr. Crow," said the Butterfly, "I would tell you the whole truth: I—was—once—that—grub."

With that the crow almost lost his balance and came nearly falling into space. However, he calmed himself and took a more careful look at "the perfect insect," and thought he could detect something which made him say: "Well, I declare, I am almost persuaded to believe you; the whole story has come out just as you said, and I don't know why I should be unwilling to accept your statements, for, coming to think of it, I am not much like the egg I came from, and I do remember I stayed around all one winter and the trees all died, and everything came forth like a

chained as it seems by death's icy touch, flows the current, strong and unfaltering as ever—just as the truly great mind moves onward unwaveringly towards its desired goal, though hampered oft by adverse circumstances.

We could not do without our bright, breezy Canadian winters which enable us to appreciate more fully the warmth and beauty of the succeeding seasons. There are countries where summer is, as it were, perpetual. How its pleasures must pall upon the inhabitants! With what delight would they not hail "Our Lady of the Snows!"

The griefs with which we meet are sent by a Providential Hand, that by contrast we may esteem our joys more highly. Our draughts are tintured with bitterness only that we may learn to prize the honey; and the same all-wise, all-loving Director invests each of our seasons with charms peculiar to itself that we may doubly enjoy them—in anticipation and in realization. Just now we are on the borderland of springtime's fair domain, and already in fancy we traverse the still leafless woodlands and gather the first frail tributes that nature offers to the reigning goddess. (Next month we shall find them in reality.) O, the joy, the gladness of it all! Mrs. Blewett will pardon a prosy old fellow for daring to criticise a part of her poem, for his every pulse throbs in harmony with the rest of it. I sometimes think what beautiful poems lie hidden in many a heart, lacking only the ability to find utterance in words. Then come the clever ones, and speak for us as the above-mentioned author has done.

O for a thousand tongues to sing near and afar her glorious spring song!

Spring, with the warmth in her footsteps light, and the breeze and the fragrant breath,

Is coming to press her radiant face to that which is cold in death.

Spring, with the hyacinths filling her cap and the violet seeds in her hair,

With the crocus hiding its satin head in her bosom warm and fair;

Spring, with its daffodils at her feet, and pansies a-bloom in her eyes,

Spring, with enough of the God in herself to make the dead to arise!

The hill where she rested is all a-bloom, the wood is green as of old, and wakened birds are striving to send their songs to the Gates of Gold.

I would call the attention of all our readers to the "Great Canadian Puzzle" given elsewhere in this issue. Here is a chance for the bright ones—a chance to win fifty dollars, a gold or silver watch, or other valuable prize. Just put on your thinking-caps and get to work. No need to fear any dishonest dealing—the past reputation of the FARMER'S ADVOCATE is sufficient guarantee that "Fair Play" will be, as ever, the watchword in this competition. It has nothing to do with our Puzzle Corner, but I shall be pleased to have all my boys and girls try it; and still more pleased to see their names head the list of winners, as I have no doubt they will. Don't for a moment suppose that because your work for our column is not mailed direct to me I do not keep posted about you. I am glad to see so many new friends. May our circle continue to widen!

By all means, little Maudie, come and be one of my nieces and bring Alice with you. We have a special welcome for the tiny people, and are always "at home" when they call.

You will see at the head of the Puzzle column what rules are to be complied with. Now, my merry boys and girls, don't forget the "Great Canadian Puzzle" is the parting injunction of—

UNCLE TOM.

Milk Dressings for Burns.

A valuable suggestion, which seems to have been made by a French newspaper originally, has been picked up by several American medical papers lately. The use of so simple and available a dressing for burns as milk is recommended. Cloths soaked in milk should be bound on, and changed at least twice a day. Remarkable results are said to have attended this kind of treatment. Says *The Chemist and Druggist*, quoting from some foreign publication, no doubt:

"In one instance an extensive burn on the leg, treated in this manner for three or four days, was reduced from five inches to an inch in width. In another instance a severe burn that had been rebellious under a treatment with olive oil and zinc oxide healed rapidly under the application of milk compresses. This suggestion may serve as a valuable one for country practitioners when their accustomed remedies for burns are not at command."



"CALLING THE FERRYMAN."

resurrection in the springtime. And all this really looks as if there was some power behind it all."

And he heard an echo, but could not trace the voice, saying:

"Way should it be thought a thing incredible with you that God should raise the dead?" And because of the great emphasis, the last word which echoed through the clear, calm atmosphere was the blessed word "God."

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—
O, the frozen valley and frozen hill make a coffin wide and deep,
And the dead river lies, all its laughter stilled within it, fast asleep.

No carol of love from a songbird's throat, the world lies naked and still,
For all things tender and all things sweet have been touched by the gruesome chill."

Thus of the past months sings one of our Canadian poetesses, Mrs. Jean Blewett. Although there is much truth in her words, we are not totally in sympathy with them, for the "gruesome chill" that has hushed the notes of the songbirds and blighted the promise-freighted flower buds has given us so many fresh delights in exchange that we are not unwilling to relinquish the old. And the world is not "naked." Old Mother Earth has been wearing one of her fairest robes—her stainless diamond-flecked ermine; nor "still," for never more cheerily does the laugh ring out than when accompanied by the merry jingle of sleigh-bells, or when blithesome youth skims o'er the glassy bosom of the "dead river." Beneath that frozen surface,

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES.—

I am sure many of you will take advantage of the generous offer made in this issue. I refer to the very valuable gifts to be presented to those who solve all or even part of the "Canadian Puzzle," if they send in the name of a new subscriber and \$1.00 for a year's subscription to the magazine with the list.

It is a contest which cannot fail to delight all our readers—young and old—for it is truly "instructive, amusing and profitable, and any one who spends a few hours in seeking answers to the questions will be amply repaid. The capital prize of \$50 is worth a good deal of hard work; the gold and silver watches are very handsome, and are excellent timekeepers, made by first-class manufacturers. The gentlemen's and ladies' pins are in the design of a Roman Knot, of exquisitely chased gold plate, and set with an emerald, opal or garnet, all equally beautiful. Winners of these prizes are allowed the privilege of stating which gem they would prefer in their pins. As they can be secured by any one who answers eight questions and forwards the name of a new subscriber, I expect many of my nieces will become the happy owners of these lovely pins. The FARMER'S ADVOCATE has so long been noted for its honorable dealings with its subscribers that you need not hesitate to join in a competition which I am confident will be conducted to the satisfaction of all contestants. MINNIE MAY.

Puzzles.

[This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1—GEOGRAPHICAL ENIGMA.

My 14, 11, 4, 10, 15 is a river in Europe. My 6, 3, 2, 10 is a town in the United States. My 3, 9, 13, 12 is a town in Massachusetts. My 1, 16, 8, 4, 9, 10, 13 is a town in Florida. My 5, 7, 2, 13, 5 is a river in the British Isles. My whole is a large body of water.

MURIEL E. DAY.

2—CROSS-WORD ENIGMA.

In lost but not in found. In dark but not in light. In gain but not in light. In gain but not in loss. In wide but not in round. In Adam but not in Eve. My whole is a town in Western Ontario.

"MADGE."

3—BEHEADING.

I am composed of six letters. My whole is a class of dishonest men. Take away my 1st and it leaves—an adjective. Take away my 2nd and it leaves—a noun. Take away my 3rd and it leaves—a verb, in the past tense. The two remaining letters with a vowel at the end make a very common and pleasant drink.

PEARL CORRIGALL.

4—NUMERICAL ENIGMA.

12, 6, 17 is a human being. 4, 2, 11, 14, 10, 8, 17 is a county in Ontario. 13, 3, 4, 10 is to permit. 15, 17, 16, 1 is the past tense of a verb. 1, 10, 7, 20, 11 is the plural of a noun. 7, 2, 3, 8, 5, 10, 11 is a thousand thousand. 18, 13, 19, 7 is a Turkish leader. 14, 10, 9 is to allure. 1 to 20 is a prominent figure in Canadian history.

B. N.

5—DECAPITATION.

(a) I mean farewell, behead, and I am another name for God. (b) I mean quiet, behead, and I am a gift. (c) I mean frightened, behead, and I mean to marry. (d) I am a title of honor, behead, and I am darkness. (e) I mean hatred, behead, and I am a proper name. (f) I am a political party, behead, and I am a movement. (g) Behead and cut off a place in Europe and I am a stopping place for ships. (h) Behead and cut off a word meaning to detest and leave to blaspheme.

BLANCHE MACMURRAY.

6—CHARADE.

Once with force a sportful three Threw a two against a tree, Did its polished surface one, Then did fly till set of sun. If the total you would find Bring the saddler's work to mind.

"KIT."

7—RIDDLE-ME-REE.

My first is in minute but not in hour. My second is in flavor but not in flour. My third is in sun but not in moon. My fourth is in midday but not in noon. My fifth is in autumn but not in spring. My sixth is in hand and also in ring. My seventh is in faith but not in hope. My eighth is in strand but not in rope. And now if you study my riddle-me-ree, The name of a British possession you'll see.

PEARL MOTHERSILL.

8—IN THE DAIRY.

Across the floor of smooth flat rocks The water ripples around the xxxxxx; Here pussy tiptoes, soft as silk, And cooes for some warm new xxxxx. But further on a yellow gleam Bubbles thick and luscious xxxxx. Now skim it at the proper turn And pour it in the swinging xxxxxx. So to and fro with swish and sputter That brings out golden grains of xxxxxx;

Next work it smooth with wooden spats And mold it into dainty xxxx. This other warm till at a word It forms a mass of tempting xxxx; For concentration, as I guess, We put it in a mighty xxxxx. Now turn and trim it by degrees Until it hardens into xxxxxx. The other part that ran away— O, that is only watery xxxx.

"OGMA."

9—NUMERICAL ENIGMA.

My 3, 4, 12 is a utensil. My 2, 13, 14 is an affirmative. My 6, 11, 9 is a part of the body. My 1, 7, 3 is a climbing plant. My 2, 10, 11, 5 is to transport. My whole is something you can get at a druggist's.

"BELL."

10—RIDDLE. Two letters placed a mile apart Reveal the sunshine of the heart.

"OGMA."

11—SQUARE.

1. One who charges exorbitant interest. 2. Sarcasm. 3. A place of ideal perfection. 4. Becomes mature. 5. Sea-holly. 6. Torque.

12—DOUBLE ACROSTIC.

1. A fruit. 2. A parting word. 3. Intelligence. 4. A young fowl. 5. To deduce. 6. A beverage. 7. Pertains to the East. 8. A gulf in the north of Asia. 9. A state capital. 10. Initials spell the name of an animal; finals, the country in which it is found.

MURIEL E. DAY.

13—WORD SQUARE.

My first means faculties. My second is assunder. My third is rate. My fourth is a manoeuvre. My fifth is to stir a fire.

14—TRANSPOSITION.

1. Change artful into confusion. 2. Change a Persian king into a mixture. 3. Change a cutter into listeners. 4. Change a chest into musicians.

HAZEL.

Answers to Feb. 1st Puzzles.

1—The stone that is rolling can gather no moss. 2—O A S I S 3—Rape, pear, reap, pare. A R A B Y 4—The FARMER'S ADVOCATE. S A F E R 5—Massachusetts. I B E R I 6—Nelson. S Y R I A 7—1, Uncle Tom; 2, Ada; 3, Helen; 4, Esther; 5, Irene; 6, Hope.

COUSINLY CHAT.

Lulu.—"I have always time to read the cousins' letters, no matter how long, but generally not much time to reply. 'Practice makes perfect,' and you already do very well. 'Muriel.—'When is 'it' to happen? 'Bell.—'Am glad our Corner pleases you, and hope you will remain with us. Even part of an answer will count. 'May Boyne.—'Come again, and often. Pearl C.—You have not given full directions for that puzzle you spoke of; I have seen it before, but never saw a correct solution to it. It certainly 'puzzled' me long enough. You are improving. Anywhere from ten years upwards, but I know very little about most of them. We have some boys in our Corner, but perhaps the others are too clever to notice us. What do you think? 'Mae.—'You are late this time, little girl. I have heard from your chum but not from 'Pass'; did I scare her, I wonder! If you have not yet received that address, you soon will. Maud J.—Your letter has been forwarded to me. Come, by all means. W. B.—Contribution just came as work was ready to mail. Yes, come back. I receive so many puzzles now that it is difficult to give all a chance to appear, as our space is limited. Anything novel will always be acceptable. Contributors have a formidable rival in 'Ogma,' but perhaps some of our girls will be able to match him (B). No more space. Good-bye. ADA A.

Memory Gems Contest.

CONTRIBUTED BY H. MILLS, MALAKOFF P. O., ONT. He that calls a man ungrateful sums up all the evil that a man can be guilty of.—Swift. Happy is he who wisely knows To use the gifts that Heaven bestows; Or if it please the Powers Divine, Can suffer want and not repine.—Dean Swift. 'Weakness never need be falseness; Truth is truth in each degree, Thunderpealed by God to nature, Whispered by my soul to me.' Get but the truth once uttered, and 'tis like A star new born, that drops into its place, And which, once circling in its placid round, Not all the tumult of the earth can shake.—James Russell Lowell. Habit is a cable; we weave a thread for it each day, and it becomes so strong we cannot break it.—Mann. Is happiness thine utmost bent! Why search afar for many a year, When thou mayst find it now and near If thou but find content!—C. E. Stephens. A thing of beauty is a joy forever; Its loveliness increases; it will never Pass into nothingness; but still will keep A bower quiet for us, and a sleep Full of sweet dreams, and health, and quiet breathing.—John Keats. It would be better to prove ungrateful than to commit a crime to oblige your benefactor.

IX. Trust no Future, how'er pleasant! Let the dead Past bury its dead! Act.—act in the living Present! Heart within and God o'erhead! —Longfellow.

X. Look for gladness, look for gladness. You will meet them all the while; If you bring a smiling visage To the glass you meet a smile. —Alice Cary.

XI. Politeness is to do and say The kindest thing in the kindest way.

XII. If by easy work you best, Who the more will prize you! Gaining victory from defeat, That's the test that tries you! —Phoebe Cary.

XIII. Solitude is as a genial balm to the mind.—Goethe. One may conquer a thousand men in battle, but he who conquers himself alone is the greatest victor.—Buddha.

XIV. B fit pleasures are like popples spread, You seize the flower, its bloom is shed; Or like the snowfall in the river, A moment white—they melts forever. —Robert Burns.

XV. SENT BY O. H. BROWN, NEEPAWA, MAN. I. The soul of all improvement is the improvement of the soul. —Bushnell. II. A talent is perfected in solitude, a character in the stream of the world. —Goethe. III. It is better to be nobly remembered than nobly born. —Ruskin.

IV. It is a high, solemn, earnest awful thought for every individual man that his earthly influence which has had a commencement, will never through all ages, were he the very meaneast of us, have an end. —Thos. Carlyle. V. Careless seems the great avenger; history's pages but record One death grapple in the darkness 'twixt old system and the new. Truth forever on the scaffold, wrong forever on the throne, Yet that scaffold sways the future, and behind the dim unknown Standeth God within the shadow, keeping watch above his own. —J. R. Lowell.

VI. Be thou the first true merit to befriend: His praise is lost who waits till all commend. —Pope. VII. Only the actions of the just Small sweet and blossom in the dust. —Shelley. VIII. When men of infamy and grandeur soar They light a torch to show their shame the more. —Young. IX. When midnight darkness reigns we do not see That the sad night is mother of the morn; We cannot think our own sharp agony May be the birth-pang of a joy unborn. —Phoebe Cary. X. One loving word from tongue or pen, To lift our lives above their signing, Is worth a world of weeping when Our lips are hushed beyond replying. —Charles H. Crandell. XI. Strong Son of God, Immortal Love, Whom we, that have not seen Thy face, By faith and faith alone embrace, Believing who we cannot prove. —Tennyson. XII. Faint not and falter not, nor plead Your weakness. Truth itself is strong; The lion's strength, the eagle's speed, Are not alone vouchsafed to wrong. —Whittier. XIII. A smile is as cheap as a frown, my dear, And it's better a thousand fold; A frown is at best but a leaden weight, While a smile is a crown of gold. Be sensible, dear, as you journey on; Drop the weight, wear the golden crown. Remember, wherever life's path may lead, A smile is as cheap as a frown.—Ida Reed Smith. XIV. Aim high, dear youth!—a lofty aim For stir the soul to lofty deeds; A thousand fall of noble fame Because intent on minor deeds. —Philip B. Strong. XV. How oft 'mid the scenes of life's great commotion And myst'ries so strange that I often explore, I drift in my heart to the home of my childhood, And softly I open the latch of the door. I stand for a moment with heart love consuming, For oh! there's a scene that I ne'er can forget: My mother, dear mother, so prayerful communion— The text of her Bible she's pondering yet. —Mrs. M. O. Page.

L'Art de la Mode, the leading French fashion journal of America, has come to us in the attractive guise of a new cover, which is most artistic. It contains no less than seven splendid colored plates, showing the latest French costumes, and is replete with original designs in black and white, by the most famous Parisian designers. Attend to your "Farmer's Advocate" subscription early, and avoid regrets for oversight.

Auction OF SPECIAL RESIDENTIAL PROPERTY SITUATED

Oshawa Harbour

There will be offered in public auction, on TUESDAY at 2 o'clock p.m., at the town of Oshawa, Ont., the lands containing 230 acres, in Sydneyham Farm, for some of that well-known breeder, the late Thos. This is one of the finest shore farms, and is situated terminus at Oshawa Harbour. The land is of good state of cultivation and is well equipped with a large and fine herd of pure-bred Ayrshire and Swine, and is also a fine stock of sheep and calves being annually fed on the premises. The house is excellent, and is furnished within and out by a furnace. The beautiful lawn and garden includes a large and fine variety of fruit trees, including plums, peaches, etc. The view from the farm is beautiful in the Lake Ontario to the north and west. The permanent sale and enough work to make with the purchase of the property, the 5 per cent. payable 1st mortgage on the farm. The following very to purchasers: Ten per cent. down, balance in five years. For full particulars apply to JAS. O. GUY or MRS. FLORA C. or their Solicitor.

SHORT

The undersigned Wednesday, March head (17 cows and 1 Farm, the place of JOHN SH

GEO. SEED CO.

Mailed free on app which Bangholm's Sweet Skirving's Swed Keith's Scottish Swede Tur Voages Short Co Mammoth Long

GEO. FOR PRICE L

SEED CO.

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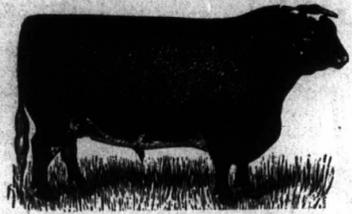
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and price list fo wax to sell write and price you w Cold, BR

EDM Barrister, So

Moneys loaned Investments p Address, 87 D

Arthur Johnston,
Greenwood P. O. and Telegraph Office,



— OFFERS FOR SALE —
FIFTEEN SPLENDID YOUNG BULLS.
— ALSO —
Cows and Heifers,
As good as the old bull ever left.

Berkshires OF CHOICEST BREEDING AND QUALITY FOR SALE
Send for Catalogue and prices. "No business, no harm," is our motto. Claremont C. P. R., or Pickering G. T. R. om

Shorthorns & Leicesters
Nominee, sweepstakes bull at Toronto, 1897, bred by us. We also won first prize on pen Leicesters bred and owned by exhibitor. We continue to breed the best.
YOUNG STOCK FOR SALE.
E. Gaunt & Sons, ST. HELEN'S, LUCKNOW STATION, G. T. R., 3 miles. om

FOR SALE! **Good Young Cows**
Two years old, yearlings and heifer calves out of imported and home-bred cows, and the imported bulls, Royal Member and Rantin Robin. Come and see them, or write, if you want something special.
H. CARGILL & SON, Station on the farm, Cargill Sta., P. O., Ont.

W. G. Pettit & Son, FREEMAN, TELEGRAPH OFFICE, BURLINGTON STATION, G. T. R., BREEDERS Shorthorns, Shropshires, and Berkshires OF . . .

Ten choice young bulls from 9 to 12 months, extra good quality, got by "Indian Statesman." A choice lot of yearling ewes (served by an imp. ram), due to lamb in March and April and a few bears from four to six months old. Farms one-half mile and one and one-half from Burlington Station, G. T. R. om

Spring Grove Stock Farm

Shorthorn Cattle and Lincoln Sheep. The noted sires, Golden Robe = 20395 = and Nominee = 19028 =, at the head of the herd. Representatives of this herd won two silver medals and the herd prize at Industrial Fair, Toronto, 1897. Prize-winning Lincoln Sheep are also bred at Spring Grove. Stock of all ages and both sexes for sale. Apply **T. E. ROBSON,** Ilderton, Ont. om

Shore Bros.,
WHITE OAK, ONT.,

Offers young Shorthorn bulls of the low, easy-feeding sort which the present trade demands. Could also spare a few heifers. om

« **SHORTHORNS** »

Bulls and heifers, having gilt-edge pedigrees, and of superior quality.
C. A. BRODIE, Bethesda P. O., Ont.

JERSEYS.
1 PURE-BRED FOUR-MONTHS-OLD BULL CALF,

by Canada's Hero, and three seven-eighths-bred females, by Lillium's Signal (a Mrs. Jones bred bull). om

W. C. Shearer, BRIGHT, ONT.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lambert), out of tested cows. Grand individuals. Prices right! 22 y om

J. C. C. JERSEYS FOR SALE.—Bulls fit for service. Bull calves, heifer calves, and young cows from tested dams. Baron Hugo heads the herd. Prices right.
H. E. WILLIAMS, Sunny Lea Farm, KNOWLTON, P. Q. om

MILLER & SIBLEY'S
Jerseys

BIG COWS HEAVY MILKERS
RICH PEDIGREES
SOUND COWS GREAT BUTTERMAKERS
FULL FOREUDDERS
LARGE, WELL-PLACED TEATS.

Championship yearly milk record in Jersey breed for two-year-olds, as well as mature cows, held by this herd.

187 First Prizes and Sweepstakes won by this herd at 18 State or greater fairs. First prize herd in 1897 wherever shown, viz.: at New York State Fair; Victorian Era Exposition, Toronto; Western Fair, London, Canada; Central Canada Exposition, Ottawa. In previous years, first prize herd at New York, Pennsylvania, Ohio, West Virginia, Indiana, Illinois, and Missouri State Fairs, and Cotton States Exposition and Live Stock Show of America, etc.

Every animal over one year old has been tuberculin tested. Our animals are not cheap. They are worth what we ask for them. In general, no bull, heifer or cow for less than \$200. If you want our kind of Jerseys, come and see our herd. If you can't come, write for what you want. No trades. No Catalogue.

MILLER & SIBLEY, FRANKLIN, Venango Co., Pa.

ONE FIRST PRIZE BULL
A. J. C. C.

Sire King of Highfield, winner of 1st prize over all Canada; dam, St. Lambert's Kathleen, made 21 lbs. 3/4 ozs. of butter in 7 days; dam of King of Highfield, Signal Rosa May (22 lbs. 4 ozs. of butter in 7 days, and 1st prize over all Canada, 4 times), also dam of Unoma May (26 lbs. 4 ozs. of butter in 7 days, and 64 lbs. of milk a day).
J. H. SMITH & SON, Highfield, Ont.

BRAMPTON JERSEY HERD

Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves; 9 choice young bulls. High-grade cows in calf; and Berkshires.
B. E. BULL & SON, Brampton

JERSEY BULL FOR SALE.
"JOHN BULL OF GROVESEND" No. 4574, A. J. C. C. three years old, sire Nell's John Bull, dam by King of St. L., by Ida's Rioter. Grand stock bull. Will sell cheap to avoid inbreeding.
H. L. MCCONNELL, Grovesend, Ont.

A. J. C. C. JERSEYS.
4 YOUNG BULLS of special merit for sale. Write for prices and particulars.
JOHN O'BRIEN, 2nd Con. London Tp., London West, Ont.

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA!
— ALSO —
TAMWORTH SWINE
Orders booked for spring pigs. Pairs not akin.
Address—
H. D. SMITH, Compton, Que. 17-y om

Guernsey Cattle

CHESTER WHITE AND DUROC-JERSEY PIGS.
At present we are offering
4 Richly-bred Bull Calves two of which are from imported cows, and pigs of all ages. **WM. BUTLER & SON,** DERRHAM CENTRE, ONT. om

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.
Address: **SYDNEY FISHER,** Alva Farm, Knowlton, P. Q. 17-y o

Galloway Bulls

Ranging from nine months to three years, of Anderson & McErian strain. Correspondence invited.
A. M. & ROBERT SHAW, Box 294, BRANTFORD, ONT.

GREAT CLEARING SALE . . .
ON WEDNESDAY, MARCH 9th, 1898.

The property of **JAMES HUNTER, Alma, Ont.,** consisting of
Clydesdale Stallions
Master Lyndoch (imp.) [1537] (8037) 7346; King of Sunnyside [2320], sire Master Lyndoch, dam Jess [2364] 7376.

FOUR REGISTERED CLYDESDALE MARES,
45 HEAD OF SHORTHORN CATTLE,
50 REGISTERED SHROPSHIRE SHEEP,
5 BERKSHIRE SOWS AND ONE BOAR.

Positively no reserve, as the farm is rented. Catalogues on application. Terms of Sale—9 months credit on approved joint notes; 5 per cent. discount for cash.

INGRAM & HEFFERNAN, **JAMES HUNTER,** AUCTIONEERS. ALMA, ONTARIO.

50 Scotch Shorthorns 50

MARCH 18TH, 1898, AT 1 O'CLOCK P. M.
DISPERSION SALE

Of a great prize-winning herd of Shorthorns, including such families as Strathallen, Golden Drop, Mina, and Cleopatra, all of which are of pure Scotch breeding; in all, 50 superior animals, headed by the imported bull Blue Ribbon.
Farm 7 Miles from Ilderton, L. H. & B. Railroad.
SEND FOR CATALOGUE.

CAPT. T. E. ROBSON, **C. M. SIMMONS,** —om Auctioneer. Proprietor, IVAN, ONT.

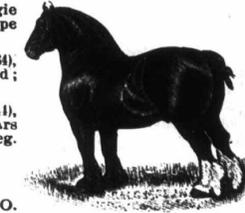
— AUCTION SALE —
— OF —

Imported Shorthorn Bulls

The undersigned will offer at Public Auction at his farm, 1 1/2 miles from Markham Village, on **March 16th, 1898,** eleven bulls recently imported from the herds of Messrs. Campbell, Duthie, and Marr, Aberdeenshire, Scotland. Also a number of Canadian-bred bulls and females. Farm 20 miles north of Toronto.
JOHN SMITH, M. P. P., **JOHN ISAAC,** Auctioneer, BRAMPTON, ONT. Markham, Ont.

3 CLYDESDALE STALLIONS

CHIEF SECRETARY 5794, by Sirdar (5994) 4714, dam Maggie of Kilmory (4576). Seven years old, brown, white stripe on face, two white front and one white hind ankle.
INGRAM'S HEIR 6930 (2224) by Lord Ingram (imp.) 4522 (7964), dam Sonie (imp.) (996) 5287. Bay horse, six years old; stripes on face, two white hind ankles.
WARLOCK (2311) 8053, by Second Choice (imp.) 1431 (8241), dam Lady Superior (imp.) (2353) 5794. Rising four years old; white face, two white hind and one white front leg.



HUNT & COLTER, BRANTFORD, ONTARIO.

"Gem Holstein Herd."
STOCK FOR SALE!

We only keep and breed registered Holstein-Friesians. We have now some choice young bulls and heifers, also some older animals, all of the very best dairy quality, that we will sell, one or more at a time, on reasonable terms. Correspondence solicited.
HILLIS BROTHERS, BEDFORD PARK P. O., ONT. Shipping Station, Toronto. 7-y om

HOLSTEINS FOR SALE
From the 1ST PRIZE HERD AT TORONTO

in 1897. Fifteen richly-bred bulls for sale. Strong in the blood of De Kol 2nd. Are one month to one year old. Splendid individuals, UNSURPASSED in breeding. A fine lot of one, two and three year old heifers and young cows of the richest producing strains. Write to-day, and state just what you want. No catalogue.
HENRY STEVENS & SONS, LACONA, N. Y.

Maple Hill Holstein-Friesians
SPECIAL OFFERING.

Three bull calves, sired by Sir Pieterje Josephine Mechthilde, whose five nearest female ancestors average over 28 pounds butter per week, and out of the great cows, Cornelia Tensen, Lady Akkrum 2nd, and Inka Rose Pieterje DeKol. If you want a bull to head your herd why not get the best!
11-y om **G. W. CLEMONS,** St. George, Ont.

Brookbank Holsteins. Champion milk and butter herd. Can sell a limited number of bulls and heifers one month old and up; some nice ones from our show herd. First come first served. Quality unsurpassed. Prices right. Write or come and see.
A & C. RICE, Oxford Co., Ont. om CURRIE'S CROSSING.

AYRSHIRES AND YORKSHIRES!

We have, just dropped, and more to follow, a few extra fine light colored bull calves from choicely-bred cows of superior milking strains, and got by our stock bull, "White Chief of St. Anne's," a noted son of "White Floss." Also, young calves from high-grade, heavy-milking dams, and by same bull. We have in our herd imported cows and their descendants, and animals from imported bulls. We have no reserve animal—will price any to intending purchaser. Young pigs three and four months old, and others just farrowed. Orders booked for any above stock or young pigs. We do not compete in low prices, but give choice stock for good prices.
ALEX. HUME & CO., Burnbrae P. O., Ont. Importers and Breeders. Hoard's Station, G. T. R.

GLENGARRY STOCK FARM

JOHN A. McDONALD, Jr., Williamstown, Ontario, BREEDER OF
HIGH-CLASS AYRSHIRES.
Three fine young bulls rising 2 years old for sale; also young calves of both sexes at reasonable prices. Write or come and see them. Lancaster Station, G. T. Railway. —o

Ayrshire Bull for Sale.

A good one, 10 months old; sire Max O'Rell -1783-, 1st prize Western Fair, 1896; dam Conney 2683, by imp. Castle Douglas; grand-dam Countess of Earncliffe, 1st prize Western Fair. Price reasonable. Write—
—om **GEORGE HILL,** Delaware, Ont.

3 AYRSHIRE BULLS 5 and 8 months calves. All by Douglas of Loudoun 1384, a Morton-bred bull. **F. W. TAYLOR,** —o WELLMAN'S CORNERS.

Maple Cliff
DAIRY AND STOCK FARM

Ayrshire cattle, Berkshire & Tamworth pigs. Two bulls fit for service and 5 bull calves dropped in Feb.
R. REID & CO., HINTONBURG, ONT.

FAIRVIEW

Ayrshire Cattle
Traveller of Park while my herd is chased by Mr. David type, and are of the Write for prices of y
DAVID LEITCH, Gr Stations—Cornwall,

AYRSHIRE

4 Imported Bulls,
FIT FOR SERVICE,
From the best milking strains. Terms reasonable.
Robt. Davies, Thorncliffe Stock F.

Ayrshire

WE offer for sale each one bull out of an in yearling, one August and one February
THOS. BALDWIN, "Neidp
STRATFORD, Farm adjoins

Choice A

Farm close to St. Ann

TROUT RUL

Offers one specie choicest breed Minorcas, Buff & ma fowls. Bre
Wm.
Norfolk County

WM. WYL

Breeder of high class AYRSHIRE Young stock always for sale; bred from the choicest strains procurable. Breeding stock selected from the most fashionable strains at prize-winning stock at Howick, Que.

AYRSHIRE CA

The bull T. BROWN and the heifer White Floss winners of sweet stakes at World Fair, were bred from this herd. Young stock for sale. Also Leicester Sheep and B.
D. BELL, Glenhurst Farm

Chester

White
W. E. WRIGHT,
SHEEP BRE
American Sh the largest live Hon. John Dryd Address corresp ERING, Sec., L

Maple Cliff
DAIRY AND STOCK FARM
 Ayrshire cattle, Berkshire & Tamworth pigs. Two bulls fit for service and 5 bull calves dropped in Feb.
 R. REID & CO., HINTONBURG, ONT.; one mile from Ottawa.



FAIRVIEW STOCK FARM.
 Ayrshire Cattle and Berkshire Pigs.
 Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Benning; are modern in type, and are of the choicest milking strains. Write for prices of young bulls and heifers.
 DAVID LEITCH Grant's Corners, Ontario.
 Stations—Cornwall, G.T.R.; Apple Hill, C.P.R.

AYRSHIRES FOR SALE
 4 Imported Bulls,
 FIT FOR SERVICE,
 From the best milking strains.
 Terms reasonable.
 Robt. Davies,
 Thorncliffe Stock Farm, TORONTO, ONT.



Ayrshire Bulls!
 WE offer for sale four (4) Ayrshire bulls, each one being by an imported bull and out of an imported cow, namely, one yearling, one August calf, one November calf, and one February calf.
 THOS. BALLANTYNE & SON,
 "Neidpath Stock Farm,"
 STRATFORD, ONTARIO.
 Farm adjoins city, main line G. T. Ry.

Choice AYRSHIRES.
 R REFORD,
 Breeder and Importer.
 FOR SALE.—Young cows in calf to imported Napoleon of Auchinclopp. Bull calves, sired by imported Glencairn 3rd. Write for prices to JAMES BODEN, Manager, St. Annes de Bellevue, Que.
 Farm close to St. Annes Station.



TROUT RUN STOCK FARM
 Offers one splendid young bull of the choicest breeding; E. P. Rocks, Black Minorcas, Buff Cochins and White Brahma fowls. Bremen geese & Rouen ducks.

Wm. Thorn,
 Norfolk County, LYNEDOCH, ONT.

WM. WYLIE,
 Breeder of high-class AYRSHIRES. Young stock always for sale; bred from the choicest strains procurable. Breeding stock selected from the most fashionable strains and prize-winning stock of the day. Farm located at Howick, Que.
 5-1-y-o



AYRSHIRES AND RED TAMWORTH SWINE.
 Still a few choice young bulls for sale, and a grand lot of Tamworth boars ready for service. Write us now and secure one.
 CALDWELL BROS., Briery Bank Farm, Orchard Ont

AYRSHIRE CATTLE, BERKSHIRE P.G.S
 The bull TOM BROWN and the heifer WHITE FLOES, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester Sheep and Berkshire Swine.
 D. BENNING & SON,
 Glenhurst Farm, WILLIAMSTOWN, ONT.



Chester White Hogs
 AND
White Holland Turkeys
 W. E. WRIGHT, - GLANWORTH, ONTARIO.

SHEEP BREEDERS' ASSOCIATIONS.
 American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVY, ERING, Sec., Lafayette, Indiana. 3-1-y-om

Consumption Cured.
 An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all throat and lung affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 230 Powers' Block, Rochester, N. Y.

To Farmers, Stock Dealers and Wool Growers: FOR SHEEP, CATTLE AND HORSES.
Leicestershire Tick and Vermin Destroyer
 It effectually destroys Ticks, Lice, Worms or Grub, to which sheep, horses and cattle are subject, and enables the animals to thrive. It will be found far superior to other preparations used for the similar purpose. The proprietors will guarantee perfect success when used according to directions, as will be found on each box, price 30 cents each. It is put up in tin the wool bright and clear. One box is sufficient for twenty ordinary sized sheep. It only requires to be tried to prove itself all that is claimed for it. Sold by druggists and grocers. Manufactured by G. C. BRIGGS & SON, 31 King St. West, Hamilton, Ont.



MILLER'S TICK DESTROYER
 Effectually Destroys Ticks, Scab and ALL Vermin.
 Makes the skin clean and healthy, and imparts a silky softness and luster to the wool.
 HUGH MILLER & CO., TORONTO, CANADA.

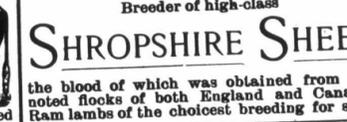


Geo. Hindmarsh,
 Breeder of high-class SHROPSHIRE SHEEP
 the blood of which was obtained from the noted flocks of both England and Canada. Ram lambs of the choicest breeding for sale.

OAK LODGE HERD OF YORKSHIRES
 Highest quality of bacon hogs, profitable to the feeder, and correct type for the packers. Orders now being taken for young pigs suitable for exhibition purposes. Largest herd in Canada to select from. Write for prices.
 J. E. BRETHOUR, BURFORD, BRANT CO.



HERMANVILLE IMP. YORKSHIRES
 Tamworths (red), Duroc-Jersey Pigs, AND NONE BETTER.
 SPRING PIGS. One to two months old, crated and expressed anywhere after May 1st, \$1 to \$5. Necessary papers furnish ed for registration. Write now and have your order booked. Address: HERMANVILLE FARM, P.O. on the farm. om HERMANVILLE, P. E. I



ADVERTISE IN ADVOCATE

GOSSIP.
 Readers will note change in the advertisement of Alex. Hume, Burnbrae, in this issue. "F. Birdsall & Son, Birdsall, Ont., write us:—"Our ad. of Chester White swine brought numerous enquiries, and a nice lot of sales. The animals gave general satisfaction to buyers."
 Mr. John Laurie, of Malvern, Ont., reports that inquiries for Ayrshires have been good, and he has just sold seven head, among which are three very fine heifers, to Mr. R. Davies, Thorncliffe Stock Farm, Toronto.
 R. Reid & Co., Hintonburg, Ont., report two more bull calves (Ayrshire) dropped in February, making five in all from deep-milking cows, and by such sires as Matchless and Gold King. Their Berkshires and Tamworths are also doing well.
 At the third annual convention of the Quebec Patrons of Industry, held recently in Montreal, a resolution was adopted asking the Dominion Government to make compensation in case of animals slaughtered for tuberculosis.
 A cheese and butter makers' convention will be held at the Kingston Dairy School on Wednesday, March 9th, under the auspices of the Eastern Ontario Association. Prof. Dean, Supt. J. A. Ruddick, A. F. McLaren, M. P., L. A. Zufelt, Messrs. Kerr, Bomery, Lomey, Bensley, Purvis, Publow, Derbyshire, and others will take part.
 The New Brunswick Farmers and Dairy-men's Association has elected the following officers for the ensuing year:—President, Maj. H. M. Campbell, Apohaqui; vice-president, W. S. Tompkins, Southampton; recording secretary, J. R. Taylor, Westmoreland; corresponding secretary, W. W. Hubbard, Sussex; treasurer, G. E. Fisher, Chatham.
 Mr. T. D. McCallum, Manager Isleigh Grange Farm, Danville, Quebec, writes:—"I expect to start for the Old Country shortly to import some Guernseys, Ayrshires, Yorkshire pigs and some Shropshire sheep. Our stock is coming through the winter splendidly, and we have the best lot of young stock on hand this year that we have ever raised. Our new stable has been a great benefit to us. We have not had one sick animal this winter, and I think it is largely owing to the splendid light and ventilation of our new barn. I wish you every success."
 Mr. W. C. Shearer, Bright, when ordering a change for his advertisement, states that his young Jerseys are in fine form to offer, and growing well. The young bull is by the worthy sire Canada's Hero (dam 19 lbs.), and out of Rosalie (15 lbs. in seven days). The females are from cows the dams of which have been high producers all through, the granddam of one giving 10,000 lbs. of 4% milk last year in ten months, and calving again within the year, while the other yielded 9,000 lbs. of 4% milk in the same time; the third being a granddaughter of the pure-bred cow Bessie, 18 lbs. in seven days.
 A NOTABLE SALE OF SHORTHORNS, CLYDESDALES AND SHROPSHIRE.
 Attention is again directed to the dispersion sale of the herd and flock of James Hunter, Alma, Ont., 20 miles from Guelph, 5 miles from Elora, and 2 miles from Alma, G. T. R. Teams will meet the morning trains at Elora and Alma. Forty-five head of high-class Shorthorns will be offered, also a number of first-class registered and high-grade Clydesdales, and a fine flock of registered Shropshire ewes. A review of this stock was given in our issue of Feb. 15th, page 95.
 DATE OF SALE CHANGED.
 Fitzgerald Bros., Mount St. Louis, Simcoe Co., Ont., write us that they have changed the date of their sale of Shorthorn cattle, etc., from March 9th to March 8th, to avoid clashing with other sales on the former date. I think it is best to advise you of this change. Messrs. Fitzgerald will offer on March 8th, at 1:30 p. m., 51 head of registered Shorthorn cattle, 4 cows and heifers, and 7 bulls; also 30 Cotswold ewes and 4 rams. Conveyances will meet the train due at Phelpsston at 12:53 on the day of sale.
 JOHN SRIELEY'S SALE OF SHORTHORNS AND HEREFORDS.
 On Wednesday, March 9th, Mr. Srieley, Allandale, Ont., advertises that he will sell at auction 22 head of Shorthorn cattle—17 cows and 5 bulls; 15 Herefords—10 cows and 5 bulls. The sale will take place at the farm, 3 miles south of the town of Barrie.

NOTICES.
 Farmers and gardeners will note the advertisement of Freeman's high-grade fertilizers, for which they make strong claims, and which they are prepared to supply in any reasonable quantity on short notice. Price list will be sent on application to W. A. Freeman Co., Limited, Hamilton, Ont.
 A CHOICE STOCK FARM.
 The executors of the estate of the late Thos. Guy, of Oshawa, Ont., advertise in this issue the sale of the fine farm of 220 acres, by auction, on March 8th, at the Queen's Hotel, Oshawa. The property is situated on the lake shore, convenient to the town. The farm is said to be very fertile and in excellent condition, the buildings ample and in good repair, the orchards and small fruit plantations in fine form, and ornamental trees make the place attractive. Liberal terms are offered, and the farm should find a purchaser without any trouble, as it has many things to recommend it as a comfortable and pleasant home.
 MAPLE SUGAR AND SYRUP.
 The season for making maple sugar will soon be with us again, and to do the work economically and well the latest and most modern apparatus is essential. The G. H. Grimm Manufacturing Co., of Montreal, are the patentees and manufacturers of the Champion Evaporator for maple syrup and sugar, sorghum, cider and fruit jellies, also of the Champion Fruit Evaporator. They issue a book by Prof. A. J. Cook on "Maple Sugar and the Sugar Bush," showing how to make the most of that department of the farm, and will send a copy of this, with their illustrated catalogue, for 5c., or the catalogue alone free. Address them as above.

ESTABLISHED 1889.
BELLEVILLE
BELLEVILLE, BUSINESS COLLEGE
ONTARIO.
 The system of training is Normal, Specific, Thorough, comprising full instruction and practice in
 I. BOOKKEEPING—Double and Single Entry, Business Papers, Law and Practice.
 II. SHORTHAND and TYPEWRITING—Office and Court Work.
 III. CIVIL SERVICE QUALIFICATIONS—Indexing, Precis-Writing, Statistics, English and French Options.
 This College is OPEN THROUGHOUT THE YEAR. Students may enter at any time. Now is the Time.
 ROBERT BOGLE,
 J. FRITH JEFFERS, M. A., } PRINCIPALS.
 WRITE FOR CALENDAR.
 ..FOR SALE..
 A number of extra good Large White YORKSHIRE BOARS AND SOWS
 THREE TO FIVE MONTHS OLD.
 Sows in pig to show boars, and young pigs 6 to 8 weeks old, of early farrow. Also lengthy Berkshire sows in pig to show boars, and boars and sows from 8 weeks to 5 months. Orders now booked for spring pigs of both breeds. Inspection invited. Write
 H. J. DAVIS, Box 290, Woodstock, Ont.



Farmers and Breeders
 If you are wanting to raise Bacon Hogs try the Long English Berkshires for breeding purposes out of the "Bow Park" herd. Prices reasonable.
The Bow Park Company,
 Limited,
 BRANTFORD, ONT.

LARGE ENGLISH BERKSHIRES
 Sows in pig. Young boars fit for service. Orders booked for young pigs sired by Baron Lee IV. and Victor XII. For prizes won by us, see Toronto Industrial and Guelph Fat Stock Show of 1895 and 1896. Write for prices, or come and see us.
 J. G. SNELL, Snelgrove, Ont.
 Station: Brampton, C. P. R. and G. T. R. -om



CHRIS. FAHNER, CREDITON, ONT.
 Importer, Breeder and Shipper of Berkshire, Chester White, Victoria, Tamworth, Duroc Jersey, Poland-China Hogs.
 Also high-class Poultry. Write for particulars to CHRIS. FAHNER, Crediton, Ont.
LARGE ENGLISH BERKSHIRES.
 We now offer for sale stock boar, Bright Star; also Boars and Sows, 2 to 4 mos. old. B. P. Rock Eggs. Write for prices or call.
 H. BENNETT & SON, St. Williams, Ont.



HEADQUARTERS FOR DUROC-JERSEY SWINE
 Our herd secured nine of the first prizes out of the eleven offered at Toronto Exhibition, and a similar portion at London and Ottawa. We are justified in saying we have the best herd in Canada. First-class stock of all kinds for sale at all times. Address—TAPE BROS., RIDGETOWN, ONT.



JAMES CHRISTIE,
 WINCHESTER, ONT.,
 Breeder of Chester White pigs, the foundation of which was selected with the greatest care and from only the most noted breeders in Canada. o



THE AVON HERD OF CHESTERS AND POLANDS
 are in fine form, and offering some grandly bred and useful sires, as well as young females of both breeds.
 HENRY HERRON, Avon P. O., Ont.



SHORTHAND

Bookkeeping; Mechanical and Architectural Drawing; Machine Design; Stationary, Marine and Locomotive Engineering; Architecture; Railroad, Municipal, Hydraulic & Bridge Engineering; Surveying and Mapping; Sheet Metal Pattern Cutting; Plumb'g; Electricity; Milling; Metal Prospecting; English Branches. All who study GUARANTEED SUCCESS. Fees Moderate, Advance or Installments. Greater Free. State subject you wish to study. International Correspondence Schools, Box 900, Scranton, Pa.



MERTON LODGE

Herd of Chesters and Tamworths are in full bloom, and are offering choice stock of



both breeds and sexes. Also booking orders for coming spring stock.

H. GEORGE & SON

CRAMPTON P. O., ONT.

Special Offers for the Next 30 Days!

Several promising young registered sows bred for Mar and Apr litters; also a few boars fit for service. Write for what you want to



R. H. Harding, THORNTON, ONTARIO Breeder of Imp. Chester Swine, Dorset Horn Sheep, Ayrshire Cattle.

J. F. McKAY, PARKHILL, ONT., Poland-China Swine. I have a choice stock of all ages and sex for sale. Bronze turkeys, B. P. Rocks, Rouen Ducks. Write for particulars. Farm 3 miles east of Parkhill.

Oxford Herd of Winning Poland-Chinas.

Having won the herd prizes at Toronto, London, Ottawa, and Brantford Fat Stock Shows, we feel justified in stating that we are in a position to offer you what you may ask for from gilt-edge prize-winning stock. W. & H. JONES, OXFORD CO. MT. ELGIN.

HURON HERDS OF POLAND-CHINA, DUROC-JERSEY and TAMWORTH HOGS.

Will offer the following No. 1 stock at out-of-door prices for 30 days only: Two Tamworth boars (one of them King of Duke 648, the 3rd prize winner at London this fall); two Duroc-Jersey boars, six months (one the winner of 2nd at London this fall); one aged Duroc-Jersey sow, never been beaten in Huron county. Write, if you want a snap. WESLEY W. FISHER, Benmiller, Ont.

Holsteins, Tamworths, Barred Rocks

Am offering two young bulls and a few females. My remaining Tamworth boars and young sows are ideals of the breed, by the noted Nimrod (imp.), and in grand, healthy form. B. P. Rock settings. A. C. HALLMAN, New Dundee.

Woodland Tamworths

are in good form this season, and offering young stock of superior quality and breeding of both sexes. H. REVELL, INGERSOLL, ONT.

P. R. Hoover & Sons, GREEN RIVER, ONT.

BREEDERS OF CHOICE TAMWORTHS. Young boars and sows ready for breeding purposes at prices which should sell them. St. Locust Hill, C. P. R.; Markham, G. T. R. Correspondence solicited. 9-1-y-om

TAMWORTHS

From imported stock. One yearling boar; one boar and half a dozen sows, four months old, by Algernon 573. WILLIAM MAJOR, WHITEVALE, ONTARIO. Locust Hill, C. P. R., 3 1/2 miles. 1-12-o

OAK HILL HERD OF TAMWORTHS. FOR SALE: Boars fit for service. Eggs from Black Minorcas, Black Spanish, R. P. Rocks, S. Wyandottes, Red Caps, P. Cochins, Langshans, and Rouen Ducks, at \$1 per set. R. J. & A. LAURIE, Waverton, Ont.

ASTHMA CURED TO STAY CURED. Correspondence and orders to: Dr. H. H. Hays, B. D., Buffalo, N. Y.

GOSSIP.

R. T. McGibbon, box 828, Montreal, Que., is anxious to secure a position on a farm. See his advt.

Mr. D. T. Gray, of Lobo, has invested in a choice young Yorkshire boar from the Oak Lodge herd, and he hopes to breed the right class of hogs suitable for the export trade.

Mr. Wm. Fraser, of Campbellville, Ont., has recently purchased from the Oak Lodge herd of Yorkshires a very choice pair of pigs. The boar is bred from a sister to Oak Lodge Gloria, which was a prize-winner at all the large shows in 1897. The sow is a full sister in breeding to Mr. Brethour's sweetstake sow which won in the bacon classes.

Mr. Wm. Thorn, in ordering a change in his advertisement of Ayrshires, writes: "I have sold one bull calf to Hugh Gordon Mitchell, Ryegate, Ont., and a yearling bull to Wm. J. McKay, Bennington, Ont., who was looking for something choice, as he is going to breeding Ayrshires, and I am glad to say he has got it in Prince Henry of Trout Run, as he was never beaten last fall as a calf. I have yet a splendid bull calf to dispose of."

Breeders of Shortborns will note the date of John Isaac's sale of imported bulls, March 16th, at his farm, one mile from Markham, G. T. R., and two miles from Locust Hill, C. P. R. This is one of the most important sales of pure-bred stock in recent years. These young bulls were selected by Mr. Isaac in person from some of the best herds in Scotland, and are up-to-date in breeding and quality. See advertisement and send for catalogue.

W. R. KNIGHT'S POULTRY.

Among the prize-winners at many of the leading winter poultry shows was Mr. W. R. Knight, Bowmanville, Ont., whose ad. appears in another column of this issue. His specialties are Andalusians, of which a dozen hens are kept. Eight Black Javas of the choicest breeding and quality, half a dozen each of Black Hamburgs and Houdans, a dozen Brown Leghorn hens that have proven themselves among the best, and a pair each of Silver and Gray Dorkings are to be seen, as well as Pekin and Rouen ducks, Toulouse geese and Mammoth Bronze turkeys, and of which stock he is prepared to offer young stock for sale, as well as eggs that are guaranteed to breeding, at reasonable price. Among the winners at the 1907 International Poultry Show were 19 firsts and 6 seconds at Peterboro, 20 firsts and 10 seconds at Cornwall, 5 of which were specials, and at Toronto 10 firsts and 6 seconds. All in the keenest competition met for years.

NOTICES.

The Windsor Salt Co., Limited, Windsor, Ont., have won a wide reputation for their dairy salt, which has been tried and found satisfactory by thousands of farmers in all sections of the Dominion, being pure and of fine quality. Try it, and prove it.

Messrs. G. C. Briggs & Son, Hamilton, Ont., advertise in this issue the "Leicester Tick and Vermin Destroyer" for sheep, cattle and horses, which they guarantee successful in the destruction of ticks and lice when used according to instructions, and which, it is claimed, prevents scurf and scab, and leaves the wool bright and clear. See the ad.

Seeding cannot be done without seed, and satisfactory crops cannot be secured without good seed. It is as easy to have good seed as that which is inferior or of a doubtful character. All that is necessary is to deal with an old established firm, having a reputation, and this is found in Kennie's, at the corner of Adelaide and Jarvis streets, Toronto. See their advertisement in this issue, and send to them for a beautiful illustrated catalogue and gardener's guide.

Only improvident people put off buying seed until the ground is ready to receive it, as in such cases the varieties wanted may be all gone. There is no need of any such disappointment; in fact, it is better to buy at once, while there is time to think and decide wisely what is needed. A valuable help to make a wise choice is a reliable seedsmen's catalogue, and among the many issued we would commend to our readers that sent out by George Keith, whose place of business is at 124 King street east, Toronto. See his advertisement in this issue.

PEDIGREE SEED POTATOES. Harry N. Hammond, of Decatur, Mich., the old established firm, is devoting the major portion of his time to the growing of seed potatoes in a commercial way on an extended scale, under conditions calculated to produce the best possible results. The Michigan New Muck Land Seed Potatoes are remarkable for their earliness, size, runners, freedom from and ability to resist disease, and their great productivity. It is for this reason that they are so frequently spoken of as Pedigree Seed Potatoes. They are now being shipped to every section of the country, where they sustain their former good reputation for the qualities enumerated above. Mr. Hammond also grows a full line of vegetable, flower and farm seeds, on which he makes some very special offers for introduction, as will be noticed by his ad. in another column. Write him for his new illustrated catalogue and say that you saw his ad. in the FARMER'S ADVOCATE.

GOOD FOR ENLARGED TENDONS. St. John, N. B., April 29, 1897. The bottle of Caustic Balsam you so kindly sent me in November, 1896, I have used on my horse for enlarged tendon, and found it to work to my entire satisfaction, and would recommend it to all horsemen instead of using the firing irons, as it has even a better result. R. O'SHAUGHNESSY.

ADVERTISE - IN THE - FARMER'S ADVOCATE - AND - HOME MAGAZINE.

THE HISTORY OF SPRAYING

May be interesting to the professor of learning and others of like mind, but the average fruit-grower has little time to devote to process of learning all that has been done. He is alive to the results attained. He wants to know how to do it and what apparatus to use. The Ontario Government, through the Fruit Experimental Stations, have solved these problems for him, and we therefore show the results as they affect the SPRAMOTOR, the latest and best spraying apparatus made, not only for spraying for the prevention of fungous diseases and insect pests, but for whitewashing and painting for sanitary reasons.

CERTIFICATE OF OFFICIAL AWARD. This is to certify that at the contest of spraying apparatus, held at Grimby, on April 2nd and 3rd, 1896, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the SPRAMOTOR made by the Spramotor Co., of London, Ont., was awarded FIRST PLACE.

If you are interested, write us for particulars. A list of awards and references will show that we state facts in all our claims. Spramotor Co. Parties desiring agency, address 357 Richmond St., London, Ont.

SHOEMAKER'S STOCK WINS!

In the hands of his customers it wins and keeps winning every prize in sight. Never beaten! Always Victorious. We lead in quality and low price. Largest and best stock. OUR POULTRY ANNUAL & ALMANAC FOR 1898, a corker. 100 pages best paper. It tells all about everything in the poultry line. Is fully illustrated with finest engravings. It should be in every library. Price only 15c. Money refunded if not satisfactory. Address, C. C. SHOEMAKER, FREEPORT, ILL., U. S. A.

Silver-Gray Dorkings

COCKERELS AND PULLETS. ALSO Eggs for Hatching. WRITE FOR PRICES. T. HARDY SHORE, GLANWORTH, ONT.

FIRST PRIZE WINNERS

Our 1898 Mammoth Poultry Guide of 100 pages mailed FREE. Something entirely new, tells all about poultry, how to be a winner, how to MAKE BIG MONEY. Contains beautiful photographs of fowls in their natural colors. Sent 15c. for JOHN BAUSCHER, JR., postage. Box 225, FREEPORT, ILL.

Dark Brahmas

Prize-winners at Ont. Poultry Show and sale. Will sell pen Buff Leghorns (6) for \$7; pen R. C. White Leghorns (9) for \$10; pen Black Cochins (5) for \$8; pen White Cochins (4) for \$8. Eggs from thrifty farm-bred Barred and White P. Rocks, \$1.50 per 13. Address: A. J. GEORGE, 52 Clarence Street, LONDON, ONT.

MAMMOTH BRONZE TURKEYS, SILVER-GRAY DORKINGS, and BLACK MINORCAS.

S. C. Brown Leghorns, B. Plymouth Rocks, White Wyandottes. Grand birds from prize-winning stock. Mated for breeding. T. & H. SHORE, White Oak, Ont.

Poultry. L. and D. Brahmas, B. and W. Black Minorcas, Indian Game and Red Caps. Young stock and eggs from above breeds. Eggs, \$1.25 for 13; \$2 for 26. Satisfaction guaranteed. JACOB B. SNIDER, Corman Mills.

POULTRY - Andalusians, Black Javas, Blk. Hamburgs, Houdans, Silver and Gray Dorkings, Brown Leghorns, Pekin and Rouen Ducks, Toulouse Geese and Bronze Turkeys. Young cockerels for sale and eggs for hatching from prize-winners. Address, W. R. KNIGHT, Bowmanville, Ont.

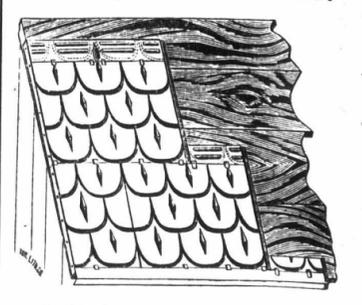
EGGS FOR HATCHING from three splendid pens of Black Langshans. Send no card for circular, om JOHN F. HILL, WELLAND, ONT.

Toronto Incubators

Best hatching machine built. Awarded silver and bronze medals. For circular, address: T. A. WELLES, 311 Dundas St., Toronto, Ont.

Pedlar Patent Steel Shingle

IS THE PROPER COVERING FOR BARN AND HOUSES. "IT STANDS THE TEST."



OUR shingle is right up to date, and embraces all the desirable points found in all metal shingles. Catalogue sent on request.

The Pedlar Metal Roofing Co., OSHAWA, ONT.

Larger and more progressive than all others combined.

CAMPBELL'S Banner ROOT CUTTER

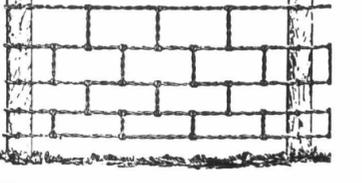
Cuts all kinds of roots & vegetables for STOCK FEEDING. The only machine made with self feeder. Warranted to do PERFECT WORK. Feed in shape to prevent all danger of choking. Used everywhere. Catalogue FREE. Address: THE M. CAMPBELL FARMING MILL CO. OF CHATHAM, LIMITED, Chatham, Ont. Also manufacturers of the Famous Chatham Fanning Mill with Bagging Attachment. Write for their book entitled, "How to make Dollars out of Wind," or "The Science of Farming." Mailed free to any address.

PARIS PLASTER MILLS

Land Plaster

FRESH MINED AND FINE GROUND. Write for prices and special freight rates on fifteen tons to all points in Ontario. We have it in barrels, bags and bulk.

PARIS PLASTER MILLS, PARIS, ONTARIO.



We can cut your 1888 fence account just in half. We claim we have the most practical fence on earth. Four miles of it in use at the Experimental Farm, Guelph. Send for prices.

TORONTO PICKET WIRE FENCE CO.

221 RIVER STREET, TORONTO, ONTARIO.

BOWEN CABLE STAY FENCE CO. \$10 For a machine to build the cheapest's strongest and best fence made of wire. No royalties, no farm rights, machine easily and quickly operated by any farmer. Send for large circulars. NORWALK, OHIO, U.S.

FENCE MACHINE

Will weave your fence of any kind of wire, 40 to 50 rods per day. Price saved in one day's work. Agents Wanted. Write for particulars. MCGREGOR, BANWELL & CO., Windsor, Ont.

Premiums!

COMMENCE
CANVASSING
TO-DAY.



OUR NEW
Self-binder.

WE have for a long time been in search of a suitable binder for the FARMER'S ADVOCATE, and have at last secured what is wanted. It is handy, neat, handsome, strong and durable; black duck back, and cloth sides, with gold lettering. Each copy of the paper, as it is received by the reader, can be securely fastened within the binder, presenting the appearance of a fine cloth-bound book. In this way the paper can be preserved for reference, thus doubling its value. The files of the FARMER'S ADVOCATE constitute a volume of practical high-class agricultural matter, thoroughly up-to-date, such as can be got in no other way. We answer hundreds of important questions during the year. In order that all our friends may secure it we make two propositions:

We will send this splendid and useful premium, post prepaid, to any one sending us two new yearly subscriptions.
We will sell the binders at 75 cents each.

HOW TO GET A

First-class Collie



TO any subscriber sending us the names of 10 new yearly paid-up subscribers we offer a young Collie, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States.

Bagster's NEW COMPREHENSIVE Teacher's Bible

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, WITH SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

Binding—

Strong, durable, flexible American Seal (best material) improved circuit cover, round corners, red-under-gold edge.

Paper, Type, Etc.—

Of superior quality, clear and distinct, easy to read.

Maps (with index)—

Revised and brought down to January, 1896.

Helps—

Covering nearly 2,000 subjects—contain all features so popular in the past, and an endless amount of fresh matter, including concordance on new and improved plan, dictionary of proper names and places, with pronunciation and meaning. Size 8½ x 5½ inches (closed).

How to obtain this Handsome and Valuable Bible

Which ordinarily would retail at from \$4 to \$5: We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of THREE NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1 each.

XMAS NUMBER FOR 1897 **\$1.**
AND ALL OF 1898 FOR

Handsome Rings

WARRANTED TEN KARAT GOLD.

To find the size of ring required, take a narrow strip of paper that will draw tightly around the finger, forward same to us, and we will assure you a perfect fit.

CHILDREN'S OR MISSES' REAL STONE SETTING.

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|  |  |  |  |
| No. 1—Price, \$1.25.
1 Pearl, 2 Garnets.
2 New Subscribers. | No. 2—Price, \$1.25.
1 Garnet.
2 New Subscribers. | No. 3—Price, \$1.50.
3 Pearls.
3 New Subscribers. | No. 4—Price, \$2.00.
1 Pearl, 2 Garnets or Coral.
3 New Subscribers. |

LADIES' REAL STONE SETTING.

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| No. 5—Price, \$3.50.
2 Pearls, 3 Garnets.
5 New Subscribers. | No. 6—Price, \$3.50.
2 Garnets, 5 Pearls.
5 New Subscribers. | No. 7—Price, \$3.50.
1 Garnet, 2 Pearls.
5 New Subscribers. | No. 8—Price, \$2.00.
3 New Subscribers. |

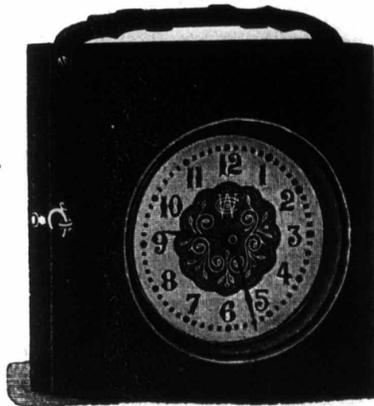


Gent's Gold Filled Cuff Links, warranted for 20 years, for 3 new names.

In Sterling Silver for 1 New Subscriber



Sterling Silver Canoe Scarf Pin, can also be used as lady's stick pin, 1 New Subscriber.



Fine Gold-finished Clock, handsomely decorated dial; fitted in Maroon Seal Leather Case. 4 New Subscribers.

Spray Pump!



OUR readers know the importance of having a good Spray Pump, and we are pleased to state we have made arrangements with the Spramotor Co., of this City, whereby we can supply the Spramotor Jr. to anyone sending Ten New Subscribers accompanied by \$10 in cash. It will be found a great success for spraying all kinds of fruit trees, painting your barns and fences and rough surfaces, whitewashing, disinfecting stables, poultry houses and cellars. It is built very carefully. The mechanical agitator, strainer, base casting, plunger tube, air chamber and hose couplings are in brass.

OUR HANDSOME LIVE STOCK ENGRAVINGS:

- “Canada's Glory,”
- “Canada's Pride,”
- “Canada's Columbian Victors.”

All three may be obtained by any subscriber sending us the name of one new yearly subscriber, or for 50 cents cash.

12 MONTHS FREE!

Any subscriber may have his own subscription credited **12 months** for sending two new subscribers at \$1.00 each.

FOR CANVASSING OUTFIT ADDRESS:

The Wm. Weld Co., Limited,
LONDON, ONT.



NEW MULTIFLORA ROSES.

With seed of these new Roses, plants may be had in bloom in 60 days from time of sowing. Plant at any time. They grow quickly and flowers appear in large clusters and in such quantity that a plant looks like a bouquet. Perfectly hardy in the garden, where they bloom all summer. In pots they bloom both summer and winter. From a packet of seed one will get Roses of various colors—white, pink, crimson, etc.—no two alike, and mostly perfectly double and very sweet. Greatest of novelties. Seed 25c. per pkt., 3 pkts. for 50c.—or for 40c. we will send

1 pkt. New Multiflora Roses. All colors. 1 " Chinese Lantern Plant. Magnificent. 1 " Cupid Dwarf Sweet Pea. A real gem. 1 " Verbena. Giant White Scented. 1 " Tree Strawberry. Largest, finest berry. 1 bulb Double-flowered Tuberosa Begonia. 1 " Fancy Gladiolus. Extra fine. 1 " Giant Flowered Gladiolus Childs. 1 " Spotted Calla Lily. 1 Montbretia. 1 " Fancy Gladiolus. All different colors. 10 " Flowering Oza lvs. Mixed colors. Also, our Great 100-page Color Plate Catalogue and THE MAYFLOWER Monthly Magazine for a year; illustrated—colored plate each month—devoted to Flowers and Gardening. Worth \$1.50 but for trial All the above for 40c. postpaid.

Our Great Colored Plate Catalogue of Flower and Vegetable Seeds, Bulbs, Plants, and Rare New Fruits, is the finest ever issued; profusely illustrated. 16 Magnificent Large Colored Plates, 160 pages. Mailed for 10 cts., or FREE to any who expect to send us an order after getting it.

JOHN LEWIS CHILDS, Floral Park, N. Y.

TREES!

Our stock is as Good as the Best. Having an unusually large stock of trees, vines, bushes and plants, both FRUIT and ORNAMENTAL, OF OUR OWN GROWING, we are compelled to extend our trade, which has hitherto been chiefly confined to the Niagara District. Having no agents, we have no fancy prices to protect, and so offer at very low rates to be in touch with the times. Price list free on application. Dealers' and Jobbers' orders packed with care, and dispatched cheaper than elsewhere. Let us price your wants, we guarantee satisfaction. All Canadian-grown stock. Stock guaranteed free from San Jose Scale.

J. W. SMITH, WINONA NURSERY CO., Manager. WINONA, ONT.

OUR 18TH FREE PRICED CATALOGUE

is now going to customers. If you want a TREE, VINE, ROSE or PLANT of any sort, send for it. It surely will interest buyers. They write us if they had known of our Nursery sooner it would have saved them many dollars. Satisfactory results from good stock. Try ours!

A. G. HULL & SON, ST. CATHARINES, ONT.

Ewing's Reliable Seeds.

Illustrated Seed Catalogue now ready and mailed free on application. Send us your address. Our stock is carefully selected and includes all the best varieties in

VEGETABLE, FIELD, FLOWER SEEDS and PLANTS, GRASSES, CLOVERS, and SEED GRAINS.

William Ewing & Co., SEEDSMEN, 142 McGill St., MONTREAL.

LIGHTNING WELL MACH'Y PUMPS, AIR LIFTS, GASOLINE ENGINES, AIR COMPRESSORS, THE AMERICAN WELL WORKS, AURORA, ILL. - CHICAGO - DALLAS, TEX.

DEERING Binders, Mowers, Reapers, Corn Binders, & Hay Rakes are the most economical because they do the cleanest work and last the longest. Send for illustrated catalogue and "Opinions of Canadian Farmers." Free to farmers. DEERING HARVESTER Co., London, Ont.

GOSSIP. In writing to advertisers, mention the "Farmer's Advocate." J. M. Gardhouse, Highfield, Ont., has purchased from Mr. W. Redmond, Millbrook, and placed at the head of his herd of Shorthorns, the Dutch-bred bull, Prime Minister, imported by D. D. Wilson, and used with good success in his herd and that of Mr. Watt, as well as in Mr. Redmond's herd.

THE SIMMONS DISPERSION. An event of interest and importance, especially to the Shorthorn fraternity, is the dispersion by public auction, advertised elsewhere in these pages, of the widely-known herd of Mr. C. M. Simmons, at Ivan, Ont., some fifteen miles north-west from the city of London. The beginning of Mr. Simmons' successful career as a breeder dates back about twenty-seven or twenty-eight years ago, when he invested \$700 in Mara 5th and Elvira, two comely heifers got by Bell Duke of Oxford, and purchased from George Miller, of Markham, Ont. In the addition of females and the choice of sires during the many intervening years, Cruickshank blood has been the main reliance, and the reputation gained, not only in the showing, but in practical stock rearing at home, attests the fact that the herd has been developed with the skill of a practical breeder who has not been carried away with fads or fancies. But now the herd is to be scattered, and in addition to the details of pedigree in the catalogue, copies of which may be obtained from Mr. Simmons, a few jottings will interest FARMER'S ADVOCATE readers both east and west and across the lines, for the fifty odd heads of all ages and both sexes will present an unusual opportunity to buyers. The herd comprises such families as the Minas, Goldendrops, Elviras, and a predominating number of the noted Strathallans, originating in Third Red Rose of Strathallan 10513, by Ercildoune 617, and out of Red Rose of Strathallan, by The Doctor (imp.), purchased from John Miller, of Brougham. She proved herself a regular breeder, raising fourteen calves. Her oldest daughter, Daisy (Strathallan, by Victor Regalis (imp.) 1810 (a pure Booth bull), is an aged cow, and has proved herself as persistent and valuable a matron as her dam, and five of the females in the herd stand to her credit. They combine thick, low-set, evenly-distributed, beefy substance, having strong, rugged constitutions, with good udders, being large and persistent milkers, rearing vigorous and growthy calves. The next younger daughter of the old cow in the herd is Daisy of Strathallan 13th, by Bampton M. 18240, which in 1895 won a prominent place at the Montreal and Ottawashow. She bears out the solid Strathallan color and conformation in her evenly-fleshed, thick and deep body, and as she is now in milk and three years old should attract a good share of attention from breeders. The five daughters of Daisy of Strathallan are solid red, with the exception of one roan, and are from such sires as Mina Chief (sire of Simmons' celebrated calf quartette of winners at Toronto, 1894), Royal Saxon (winner of first at Toronto, 1894, in the aged bull class), Bampton M., and Blue Ribbon (imp.). Of the Strathallan strain four females trace to the Princess family through the Third Crown Prince of Strathallan, a well-considered cross, producing animals of the true Shorthorn type. No mistake can be made in their introduction into established herds or as foundation stock. They are a strong, useful, well-developed lot, possessing good dairy qualities. Of the Golden-drop family we saw two mature cows and a heifer under a year. The original Golden-drop 16591, by Bampton Hero 324, and out of Fancy Drop 5123 (imp.), was bred by Alex. Brookie, Fergus. Of her sire it may be said Bampton Hero 324, by Royal Saxon (imp.) 1817, and out of Mimulus (imp.) 1343 by Champion (imp.) 1848, was bred by Hon. John Dryden, Brooklin, and from this breeding the great sire was produced that did valuable service in the herd of Messrs. Watts for fourteen years, probably unequalled except by his son Challenge; therefore, it may fairly be allowed that matrons carrying such breeding in their pedigrees possess qualities apart from their individual merit which make them of great value. The Minas also, although but two in number, are a pair of grand, good cows, either of which in conformation are qualified for the farm—a rich roan yearling heifer by Royal Saxon, and a true type of the Mina family. Elvira 11th, by Duke of Gilders (imp.), a pure Cruickshank bull, dam Elvira, is a dark red and roan cow of large size. Her stock have all been prize-winners in the big showings, and two representatives are in the herd. One, the two-year-old daughter by Royal Saxon, is a large, rangy cow, now suckling a calf, and the red seventeen-month-old full sister, a splendid type of the Shorthorn breed, with flesh evenly distributed and a grand constitution. Larkspur, by Abbottford 1946, and out of Linnet 16883, by Prince Albert, with pedigree running to the grand sire Royal Bampton, was bred by H. & W. Smith, and is a choice three-year-old cow worthy of attention, of fair size and sweet quality. The present stock bull, Blue Ribbon (imp.) 17095 (63706), by Royal James (54972), dam Rosalinity 298, E. H. B., was bred by S. Campbell, Kinellar, and imported by Mr. Arthur Johnston. Royal James has such noted sires in his pedigree as Champion of England 17526, Roan Gauntlet 35284, and Cumberland 46144, and his dam was one of the finest cows in Scotland. Blue Ribbon is doing service in the herd the second season, and apart from his breeding and conformation his progeny proves him to be one of the foremost sires, stamped as they are in solid colors, well and evenly built, and of a uniform type seldom met with. Of them we would specially mention the young son of Daisy of Strathallan 9th, with his rangy, stylish make-up, and three-months son of Saxon Beauty, as possessing qualities to recommend them as likely sires to head high-class purebred herds. The young females fall none short of the former, and in the face of the present demand and future prospects we look forward to the 18th of March, at Ivan, as one of the great Shorthorn events of the year.

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