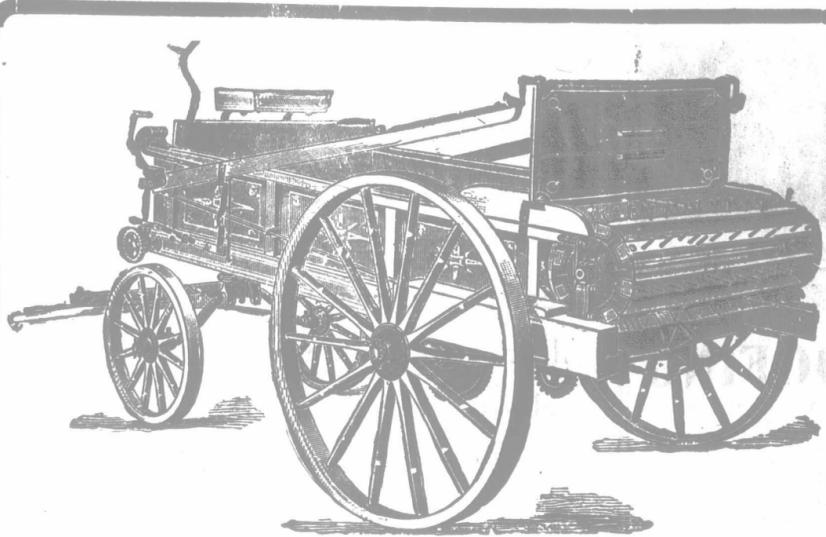


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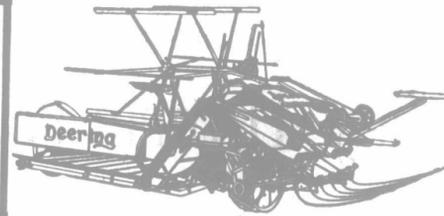
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VOL. XLI.

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LONDON, ONTARIO, APRIL 26, 1906.

No. 709

EDITORIAL.

The Need of Underdraining.

At no season of the year is the need of underdraining, in many places, more apparent than in the spring, when farmers are waiting for the land to become sufficiently dry to admit of its being worked to advantage in preparation for seeding. In riding through the country at this season, one is impressed with a sense of this need by seeing water lying on some portions of a field, while the major portions are dry and ready for cultivation, the consequence being that seeding operations must be delayed a week or more while the wet places become dried by the process of evaporation, while if those places were tile-drained, they would be fit for work as soon as the rest of the field. It is conceded that the early-sown grain and clover, as a rule, ensures the surest catch and the heaviest yield, and early sowing is often impracticable because of a few wet places in the field. The harvesting, too, is often delayed by the necessity of waiting for the ripening of the crop in these low places, if, in the meantime, it has not been drowned by excessive rains, when that on the higher portions is ready and in the best condition for reaping. The spindly stalks and yellow leaves of the grain on these low places are often noticeable as signals of distress, owing to the wet feet of the crop, and the end is disappointment, while, with a little expense for tile-draining, these portions would certainly be the most fruitful in the field. As a matter of fact, few farmers are wealthy enough to be able to afford to neglect draining such portions of their lands, and yet such neglect is a common occurrence. Those who have adopted tile-draining have almost invariably found the results so satisfactory and profitable that the expense has been repaid by the increased yield of the first two or three crops, and in some instances in a single season. It may be too late, in many cases, to remedy this evil this spring, but it is a good time to make a note of the need of the remedy, and resolve to apply it at the first favorable opportunity.

Sow Clover About the Buildings.

A little clover seed, left after sowing the fields, may be used to excellent advantage by scattering a few handfuls here and there about the buildings, especially in the backyard, and along the lanes and roadsides. If clover were not such a common farm crop, it would be used largely in a decorative way. No other plant makes such an effective flower-bed as a mass of clover bloom. Its foliage is unsurpassed. No perfume distilled by nature or man excels the fragrance of its crimson blossom. Unlike many flowering plants, it is at no stage of its growth unsightly. While it holds the ground, it subdues noxious weeds, and, dying, leaves the soil in better condition to grow whatever may succeed it. If it be considered too common, or not altogether suitable to make a sward for a lawn, it has, at any rate, a place in the back yard. A few pounds of clover seed cost little, and are not worth holding over to another year. Sow it in the bare spots, or the places where the weeds grow rampant every summer. It will help to keep them down. Broadcast it everywhere there is a chance for a seed to sprout. If a few plants come up, they will, in all probability, seed more ground next year. And a few plants are better worth while than the exotics in the nursery catalogue.

Thrift is a first essential in farming. Without thrift, enterprise leads to failure; with thrift, it usually leads to success.

Make Country Life Better Worth Living.

Despite the imputed conservatism of farmers, there is no doubt we are making rapid progress in methods. Practices derided ten years ago as visionary, are to-day commonly adopted. A fortnight since, driving through a prosperous section of Western Ontario, we found the area of fall wheat had been reduced almost to nil. Instead, spring grain, corn for ensilage and clover are grown extensively in a more or less regular rotation; large numbers of dairy cows and other stock are kept, and bigger returns secured than used to be the case from the system of hay and grain farming. We noticed few cross fences. The land is worked in long rounds, and three-horse teams were in evidence. Substantial barns were common, and the houses were protected by groves of trees, and not a few of them surrounded with nice lawns, shrubs and flower-beds. Comfort, and even luxury, were enjoyed by the people.

It is true the population here, as elsewhere, had been somewhat thinned by western migration, but this will right itself by and bye. Meanwhile, those who have remained are, beyond question, more prosperous, and generally better off than any of their precursors. Progress is reflected in their condition.

What has the next decade in store? It is unsafe to prognosticate specifically, if one would preserve a reputation for judgment, but we do not hesitate to affirm a belief that the progress of the last fifteen years will be eclipsed by that of the next ten. This will include the whole field of agricultural effort. Great strides will be made in cheapening and increasing the production and improving the quality of farm produce, but if we may undertake a prophecy, it is that the most marked advance of the next few decades will be in making the country a better place to live in. Dwelling places will be made homes—homes in the true sense of the word. The exterior will be embellished with trees, vines, shrubs, flowers and grass, and an unpainted building will be the exception. An unkempt back yard will be as much frowned upon as an untidy front yard is now. Inside, the best periodicals will be found upon the tables, standard books in the library, the piano and camera will be found in almost every home, the typewriter and letter-copying book will be considered essential, as they are in a modern office. The telephone will be universal; electric railways will traverse the country in a network. The social standard in rural districts will rival the city in culture and versatility. Much will be done, also, to make farm labor more easy and pleasant. Electricity will, in all probability, be harnessed to thresh and grind our crops and light our buildings, if not to plow the fields. Farming will be a nicer job than ever before.

At the same time, it is well to point out that this happy condition will be realized first by the thrifty, energetic workers who love the farm for its own sake. It was a sensible thing said to us recently by a farmer who had erected a new barn a few years ago, that he built it in order to make enough money to build a house. He will have the house, too, judging by some facts he told us. Last year, from a two-hundred-acre farm, his cheese-factory checks totalled \$1,400, besides which, he sold this spring eight yearlings at twenty dollars apiece, and raised also a colt or two, and sold a hundred dollars' worth of hay. This is a rational way of bettering one's condition. All the facilities above described will come, not by investing in luxuries first, but from the increased prosperity that results from judicious prosecution of enterprising business and scientific methods. Any other ambition is an attempt to put the cart before the horse.

Last, but not least, one of the greatest advances will be in lightening the work of the farmer's wife. We cannot dwell here upon details, but the time will come when no feasible convenience will be esteemed too dear for the farmhouse, and the day is approaching, if it is not soon upon us, when a favorite beau of the city girl will be a thrifty, progressive Canadian young farmer.

Let everyone do something in the great work of beautifying the country roads and farmsteads, removing or covering up blotches on the landscape, subduing weeds, tearing down fences, grading and levelling roads and planting trees. If every man, woman, boy and girl would take as a motto, "Nature idealized," what a transformation would be made in the face of the country.

We live only once, and we take no wealth with us beyond the grave. Let us see that our lives are lived amid beautiful, wholesome surroundings; and what a chance we have to make them so! He who makes nature to smile where she frowned before, is a public benefactor of the truest type. Co-operation is necessary in this great work, and co-operation waits only for example. That means each of us.

Don't Work the Hill-sides.

Seed down that steep, clay hillside this year to lucerne, either lucerne alone for hay and soiling, or with a mixture of white clover and other grasses for permanent pasture. Prof. Zavitz's permanent pasture mixture has often been given in this paper, and a trial is recommended. We may also give the following, which has given excellent satisfaction on forty acres of hilly land on a farm in Ontario Co., Ont.: Twelve pounds lucerne, 6 pounds timothy, 3 pounds white clover, 10 pounds orchard grass, and 10 pounds blue grass, per acre. Nine years ago this spring this mixture was sown with a nurse crop of barley. The growth was rank, especially of lucerne, but no cattle were allowed on it till the latter part of the following May. It has been pastured continually since, being top-dressed occasionally with manure. It is true the lucerne has now died out, except on the clay knolls, but here it is very persistent, and as thick as and more growthy than the first year it was sown. The seeding, generally, has proved a great success, and these hills are more productive and vastly more profitable than similar land on neighboring farms, tilled in the old-fashioned way, and gradually washing into gullies, the good surface soil having been long since carried away.

There is no money in working these hill-sides. They take the bigger share of the manure, as well as an extra amount of very difficult cultivation. Even then the crop is often inferior, and frequently the rotation is disarranged by failure to get a good catch of clover. In the early days the hill-sides were cleared first, as being safest from frost and earliest to permit seeding. But conditions have long since been changed. Now, it is the rich, level land which should be cultivated in rotation, and the hill-sides clothed in forest or seeded to some crop which entails no work except the harvesting. The worst of them should be in permanent pasture, so that the live stock may do even the harvesting. How many of our readers have ever calculated the profit in cultivating hill-sides.

The idea of exempting farm woodlands from taxation is gaining ground. It is not an extreme or irrational measure, but a moderate, feasible, and badly-needed means of stimulating interest in the farm wood-lot. As such it deserves the support of public-spirited citizens.

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Give the Apple Orchard a Chance.

If there is one department of the Canadian farm that has been neglected more generally than another it is the orchard. The common practice in its care is an excellent example how it should not be done. A great many orchards are planted as though they had been intended for shelter-belts. Thirty-five to forty feet for Southern Ontario, thirty to thirty-five feet in Central Ontario, and twenty-five feet in the extreme North, are about the proper distance of the trees apart. Plenty of cases are to be seen where they are two to four times this thick. In such cases a radical thinning is the first thing to do. The owner may think it a pity to destroy the trees which have been so long growing, but if it is the means of getting more and better fruit, what folly to leave the surplus trees to cumber the ground!

The second essential is more and better pruning. The subject of pruning has been very fully covered in "The Farmer's Advocate" by Linus Woolverton, and our readers will do well to preserve those copies for future reference. One would think that a fair amount of information had been disseminated regarding this important art, yet the other day we noticed a boy butchering trees by cutting out every small limb within fifteen feet of the ground, leaving a little brush at the top. There is need for more object lessons in pruning.

Spraying is a neglected operation. There is, perhaps, some excuse on this score, for the task is an unpleasant one, comes at a busy time, and requires special apparatus and some knowledge to do it right. Still, as with most things else, it is not such a formidable job when one gets at it. The spray pump is less expensive than many other farm implements, and the expense for chemicals is small, compared to the increase in quantity and value of the crop. In most localities spraying is an absolute necessity to the growing of a profitable apple crop. Every orchard should be sprayed at least three times—once before blossom-

ing with Bordeaux mixture, and twice after with Bordeaux and Paris green. A fourth or even fifth spraying may be required. The Bordeaux is a preventive of fungous diseases. As such, it must be applied before sign of infection appears. The branches, leaves and fruit must be kept covered with it; otherwise, the spores of the fungus may fall upon an uncoated portion and infect the fruit or leaf. Particularly is this liable to happen during damp, muggy weather. Imperfect spraying may result in clean fruit, or it may not. To be sure we must be thorough. Unfortunately, spraying is not a reliable safeguard against the codling moth, but even here it is a help, and the striking instances that have been frequently given in this paper should convince everyone that spraying to prevent scab is an unmistakable success. Where the results have been unsatisfactory there is always a cause, such as poor materials, a poor pump, improper preparation of the spraying mixture, imperfect application, failure to spray at the right time, or some other reason which, while puzzling to the novice, is plain as day to the experienced orchardist. The sensible course, then, is not to discard spraying because of a failure or two, but to set to work to find out and remedy the defects. Until one has seen what his trees can do, thus protected from insects and fungi, he has no right to say that an orchard is poor property. The greatest benefit is the salability of the crop, due partly to the increased vigor of the trees, as the result of the present and previous seasons' protection of the leaves from fungus, and partly to the freedom of the fruit from blemishes. It is unlikely there will ever be a time when fruit from well-sprayed orchards will not sell at a fair price, if enterprise is exercised in marketing. There is big money in spraying.

To a professional orchardist, the cultivation given the average farm orchard is wretched. Plowed, perhaps, in May, left lying fallow for a time in the sun, and then worked up and planted to buckwheat or hoed crop, it is in an excellent condition to lose moisture right along. Frequently it is subjected to the usual system of field cropping. Until we can get rid of the persistent idea that an orchard is hardly worth the ground it occupies, there is little hope for the apple crop. There are two well-recognized systems of orchard culture. One is the sod mulch, leaving the grass to grow, to be cut and spread under the trees as a mulch. The other, and most widely favored way, is to cultivate lightly but frequently all through the early summer, keeping the ground loose and friable, as for a root crop. This conserves moisture, permits aeration, and results in setting free a generous share of plant food for the exclusive use of the trees. Along in July a cover crop is sown of vetches or crimson clover, to take up some of the moisture and plant food, tending thus to the ripening of the new growth of wood, to gather nitrogen from the atmosphere, and to serve as a winter protection against frost. This is plowed down the next spring, and the cultivation repeated. Under such a system, the application of light dressings of ashes and bone meal will build up soil fertility, induce vigorous growth, and, if the other requisites are attended to, heavy crops of first-class fruit.

We sometimes hear that the orchard is not worth looking after. It scarcely is worth looking after unless one is prepared to do better than the prevailing practice; but no field on the farm will respond so generously to intelligent care. Down in the Annapolis Valley, in Nova Scotia, where up-to-date fruit-growing methods are practiced, they value their bearing orchard at a thousand dollars an acre. Recently we were shown the statement—equalled by others with which we are acquainted—of a Valley orchardist who, in an average of seven years, after recouping himself for all expenses, including labor, had cleared a sum equal to an annual interest of 15 per cent. on a valuation of \$1,000 an acre. In Ontario we can hardly do so well as that, for we have not, perhaps, quite so good an apple country, and our growers have not, in the past, been accustomed to realize nearly so good prices. But the co-operative associations are practicing better methods of picking, grading, packing and selling, thus realizing most encouraging returns, and where one of these is established the orchard can be made the most profitable asset on the farm.

A Broadening Public Opinion.

The outlook for the Canadian farmer is bright. We are leaving behind the chronic pessimism of the past, and, while not overlooking the economic evils of which we, as a class, are the victims, are divesting ourselves of the prejudice which formerly weakened agricultural public opinion, and are yearly becoming less prone to heed the rantings of the extremist. Just in proportion as agricultural opinion is informed, broadened and tempered, will it command respect and wield influence in the councils of the nation.

HORSES.

Moral of the Market Report.

The fortieth annual report, 1905, of the Union Stock-yards and Transit Co., Chicago, gives the following actual average of horse prices in the years 1902 to 1905:

	Draft horses.	Carriage pairs.	Drivers.	General use.	Busses and Trammers.	Saddlers.	Southern Chunks.
Av. 1905...	\$186	\$486	\$156	\$132	\$145	\$172	\$70.50
" 1904...	177	475	150	140	140	160	64
" 1903...	171	455	150	122	140	156	62
" 1902...	166	450	145	117	135	151	57
Valuation of horses, 1905, \$18,133,125.							

The above figures teach that the man who would make money must breed for a purpose. A glance at the table shows that the highest price, \$243, was obtained for the matched carriage horse, the normal products of the Hackney sire. The next highest, \$186, was realized on the drafter, a horse that farmers can raise to better advantage than any other. The third position, in point of value, is occupied by the saddler, a horse that most of us do well to leave alone. The respectable average of \$156 was paid for the drivers, which will long continue to hold a place in country as well as town. The lowest price of all is for the Southern chunks, and the next lowest average is for that general utility grade, classified general use. The most eloquent lesson is that the American farmer should make freer use of Clydesdale and other draft sires on good, strong-framed mares, and then feed the colts better, so as to put on them that extra hundred or two hundred pounds of weight which draws the extra twenty-five or fifty dollars from the buyer's pocket. There is money in raising a good draft horse.

The Company's report states that "The stability of the horse industry was never more signally emphasized than in the broader demand that has featured the trade from all quarters during the current (1905) season."

The Claims of the Shire.

Breeders of Shire horses in England have been discussing the reasons why Shires do not commend themselves more strongly to the American public, and what can be done to create a market for Shires on this side the water. The breeders of Shires, being Englishmen, naturally think the trouble is all with the other fellow, and that the goods they have to offer cannot be improved upon at the present time at least. Americans have not been buying so extensively of Shires as of Percherons, and Canadians have bought more Clydesdales than Shires, but this does not prove that the Shire as a breed is not so good as the others.

Throughout the Englishmen's discussion of the question, there has prevailed a determination to stick to the type they are now producing, and we think they should. The Shire to-day is the largest and most powerfully-built of horses. He is also one of the most sound in body and bone, and for these characteristics he should be invaluable for use where greater size, bolder spirit and deeper body are required. Excessive size and hairy legs have been the two great objections to the Shire in America, but we are assured by an English breeder that with line breeding the Shire will eventually be as clean and fine in feather as the Clyde, as indeed some are now. He does not say there will be any reduction in size or shortening of rib with the lessening of feather, but if there is a probability of this being the case, we should be sorry to see line breeding carried very far with the English drafters.

But what the English breeders want is an immediate demand for their horses. To create and stimulate this, we could suggest nothing better than for them to make a display of draft geldings at Provincial and Dominion fairs in Canada, and at State fairs and the International Show at Chicago. At the latter show there is usually a very creditable display of stallions and a few mares, but the horse-breeding public want to see what the Shire breed produces in the way of draft geldings.

With live stock, as with men, the day has come when better pasture comes for much without extra cost. The twentieth century has brought the horse's call.

Hints from a Horseman.

Editor "The Farmer's Advocate":

In a recent issue of your esteemed paper I noticed an invitation to readers to contribute to your columns any facts they think would be of use. I often see questions which I have had to answer for myself. I will try to do a little in this line, hoping that others will do likewise.

A very common question is about the scabby legs on some heavy-draft horses. Black oil, rubbed in often, is the best thing I know of, and also the cheapest. Get your veterinarian to prescribe for your blood, or give the following: One pound soda, 1/2 pound gentian, 1/4 pound saltpetre, 1/2 pound sulphur, 1/4 pound copperas, 1 pound flax meal; 1 tablespoonful twice a day.

Another man wants to know about a lump on a colt's stifle; I can tell him from experience. I have one (coming two years old now) which got that way when six weeks old. He had soft puff front. Veterinarian said it was joint-oil, and gave me some liniment, but the colt got worse. When I weaned her, I put her in a large box stall, and she got all right, and is sound now. They don't need anything but exercise; and that was the way with a neighbor's colt, also. Keep them alone; others will hurt them over again.

I might give a few other hints on the horse. If your horse is high-headed, in putting on the bridle, likely the bridle is too short. Make it long enough, and pet your horse, and he will likely be all right; and if not, use a snap on one side so you can put on the bridle, putting the bit in his mouth afterwards. If he will not open his teeth easily for the bit, try this plan: We will suppose that you are holding the bridle up with the right hand. Now take the bit between the thumb and forefinger of the left; pass up between the lips until the bit strikes the teeth. Now turn the end of your left forefinger down so the nail will press into the lower jaw behind the nippers and he will open his mouth, and the trick is done. I have tried it on horses that had the habit very badly, and they soon yield. A very good rule is, "Put yourself in your horse's place," in your imagination, at least. Some men blanket their driving horse at home in a warm stable, and then talk on the road twenty or thirty minutes at a time, while the horse faces the cold wind, and the man wonders where the horse got the cough, or why his hair don't look just exactly right. Others let the horse take his own gait (which is generally a fast one) the first part of the journey, with the result that he is soon wet with sweat, looks shabby, and walks the last part of the journey. To such men I would say, let the horse do his walking first; and when in town, put the horse in a livery where he will be safe and comfortable. Five dollars goes a long way for livery accommodation, and it doesn't go far on a sick horse. Never blanket your horse until he quits steaming. If he is inclined to scour on the road, feed some flour that has been browned, in oat chop, and always water before feeding. Never start a few minutes late and expect the horse to make it up. Practice the reverse of this. By observing a few humane, common-sense rules, you will always keep your horse in a salable and serviceable condition, and he will be better value at twelve years old than the other fellow's at eight years.

HORSEMAN.

We Need a Horse Like the Morgan.

Fortunately, there has been of late years a marked revival of interest in the breeding of the old Morgan horse, which seemed at one time destined to be relegated to obscurity by the craze for producing trotting horses of phenomenal speed. For symmetry, docility, intelligence, steadiness, speed, endurance, and all-round light-horse serviceability, the Morgans have always been noted and are considered by many to be as good a general utility horse as America has ever seen. The merit of this stock has once more brought it to the front, and it is to be hoped that it will be perpetuated extensively, and by selection developed to a still greater degree of usefulness than was possessed by the original strain.

Profitless Fatigue.

It is not work so much as fatigue that wears a horse out. It is the strain he is subjected to in order to accomplish just a little more than he can do with ease that puts him out of condition and cuts the years off his life. Particularly is this the case in spring when he is first put to steady work. Gradual increase of work, along with increase of feed, toughens, making him more efficient, and injuring him in no way. It is the injudicious crowding which tries his wind, lathers him up, galls his shoulders and neck, and soon makes him a plug.

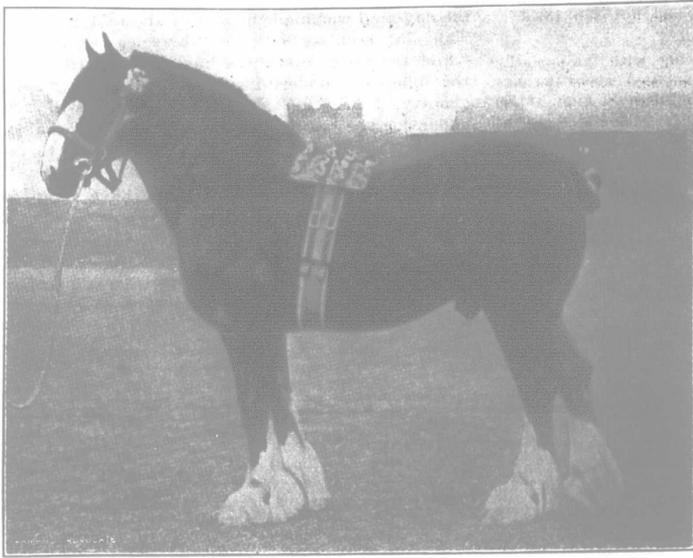
The British Government has reappointed the Royal Commission on Horse-breeding to ascertain how best to expend the King's premiums at the chief agricultural shows, in order to advance the horse-breeding interests.

Draft Horses: Origin and Characteristics

THE CLYDESDALE.

A great deal has been written about the origin of the Clydesdale. To the Scotchman is due his origin and his improvement, by careful breeding, until he has gained his present high-class characteristics as a draft horse, surpassed by none, if equalled by any breed. The high-class modern Clydesdale owes many of his desirable characteristics, as quality of bone and feather, obliquity of shoulder and pastern, action and general quality, to generations of careful selection in mating. In these and

one time a war horse capable of carrying a heavy man in heavy armor was wanted; at another a horse for draft purposes, and at another one in whom speed was a necessary qualification. While history does not fully establish the importation of horses from Flanders and Normandy into Scotland, and those who wish to deny these facts have grounds for claiming them as traditional, it is generally conceded that as late as the eighteenth century such importations were made, and that the foundation stock of the modern Clydesdale was produced by mating the native mares of Scotland with these importations, and, probably, the native stallions with mares imported from these countries. The Englishman was at the same time breeding a draft horse, or cart horse, of the same general type, and he was doubtless producing him in the same way, and it is practically an undisputed fact that until about 1877 or '78, when the Clydesdale and Shire Studbooks were introduced, there was a more or less constant importation of Shires into Scotland and Clydesdales into England, and that mares of each country were mated with sires of the other. In this manner it will be seen that the draft horse of each country was instrumental to a greater or less extent in the formation of the native draft horse of the other. In order to prove this statement, it is only necessary to state that a large percentage of the noted Clydesdale sires and dams trace, and many not far back, to Shire blood. The noted Clydesdale sire, Prince of Wales, whose reputation as a sire is probably exceeded only by that of the present-day sire, Baron's Pride, was produced by



Marcellus 11110.

Champion Clydesdale stallion, Glasgow, 1905. Foaled in 1898, by Hiawatha (10067).

other qualities he has been greatly improved, while in general type he resembles the Scotch draft horse of centuries ago.

Notwithstanding the boasted purity of breeding the modern Clydesdale possesses, it is generally conceded that the breed is a composite one, and that the first recorded element in its composition was the use of Flemish stallions on the native mares of Lanarkshire about the latter part of the seventeenth and early years of the eighteenth centuries. There are reasons for believing that Flemish stallions had been imported into Scotland long before the dates mentioned; and records

sire and dam the dams of whom are generally conceded to have been Shire mares. The late Lawrence Drew, who died in 1884, and who owned Prince of Wales, claimed that the Clydesdale and the Shire were one and the same breed, and that the best draft horse could be produced by a fusion of the two. He made an effort to found a distinct breed of Scotch draft horses, by an amalgamation of the modern Clydesdale and the modern Shire. He succeeded in producing some excellent animals by Prince of Wales out of good Shire mares, but his death cut short the experiment when he was apparently about to establish, by practical results, the truth of his theory. As the horses so produced would not register in either stud-book, the line of breeding was not continued after Mr. Drew's death.

Space will not permit of a history of individual horses and families since the establishment of the Clydesdale Studbook. This, of course, contains many horses born and dead many years before its introduction. The earliest known head of a Clydesdale family is Glancer (335), generally known as "Thompson's Black Horse," who is supposed to have been foaled about 1810. A great deal of pains was necessarily taken in compiling the pedigrees of horses so long dead, and as there were no public records, those interested in the scheme had to depend upon the memory of men and records kept by the families for the breeding and individuality of those horses considered worthy of registration. Since the inauguration of the "Studbook," the infusion of foreign blood into the breed has not been allowed, or at least those with foreign blood close

up have not been eligible for registration. By careful and intelligent breeding, breeding with the idea of improving the quality of the breed, and at the same time not to too great an extent sacrificing size, the Scotsman has produced the "modern Clydesdale," than whom no better draft horse exists, and many claim none so good.

CHARACTERISTICS OF THE CLYDESDALE STALLION.

Head—Ear, of medium size and pointed; cranium,



Cherry Startle.

Champion Clydesdale mare Toronto and International Exhibition, Chicago, 1901. Shown by Graham Bros., Claremont, Ont.

of an earlier period show that Scotland was recognized as a horse-breeding country during the early Stuart reigns. During the reign of James I., in the 15th century, all horses over three years old were permitted to be sold for exportation, but during the Regency of the Earl of Moray, in 1567, an Act was passed prohibiting exportation. Following this date efforts were apparently made to improve the breed, but, as the methods adopted depended largely upon the individual tastes of the reigning monarch, little headway was made. At

nicely rounded; forehead, broad and flat; eye, full, prominent and mild; nasal bones, straight in front; nostrils, large, firm and flexible; muzzle, rather small; mouth, of medium depth; lips, compact; muscles of cheek, well developed; space between branches of lower jaw wide at angles. The general appearance of head strongly masculine.

Neck—Of medium length, deep and full where it joins the body; crest, well developed, well arched, broad and strong, but not so heavy as to turn to either side; the whole neck to be powerfully muscled and strongly masculine in appearance, and surmounted by a full mane of hair of good quality; the neck attached to the head in a graceful manner, well carried and not too thick at the throat.

Withers and Back—Withers in line with the posterior border of the neck, without a depression where the neck ceases and the withers commence, tolerably high, rather broad and well muscled; back straight and rather short; loins, broad, strong, and well muscled.

Croup—Rather long, well muscled, not too drooping; dock coming out rather well up, and well clothed with straight and not too coarse hair, and well carried.

Chest—Ribs long and well sprung, with well-marked angles; false ribs long; deep through girth; breast broad and well muscled, but not so broad as to give the fore limbs the appearance of being attached to the sides rather than underneath the body.

Shoulder—Moderately oblique from above downwards and forwards, and heavily muscled; an upright shoulder very objectionable.

Forearm—Large and strong; rather short and well clothed with prominent muscles extending well down towards the knee.

Knee—Straight; deep from before backwards, and wide from side to side; large and strong in all directions; not inclined to kneesprung, nor yet to calf knee.

Knee to Foot—Cannon bone rather short, broad, strong and flat, with an absence of beefiness; ligament and tendons well developed, and not too much tied in below the knee; skin lying close to bone and tendon; the posterior border from knee to fetlock pad to be well feathered with a moderate quantity of straight, silky hair, especially in the region of the fetlock (wavy, woolly or coarse hair very objectionable). Fetlock joint large and strong; pasterns, of medium length, and well-marked obliquity (short, upright pasterns cannot be tolerated; at the same time, it is quite possible to have too much length and obliquity).

Foot—Of medium size, rather round, with well-developed coronet, the wall strong and moderately deep; sole not flat; frog, well developed and strong; heels, broad and strong and not too deep. There must be an absence of any indication of hardening or thickening of the lateral cartilages. He must not turn the toes either inwards or outwards when standing; must stand straight, with feet firmly planted, not too far apart nor yet too close. The whole limb from knee to foot should be perpendicular, not deviating either inwards or outwards from above downwards. Feet must be of equal size.

Haunch or Upper Thigh—Strong and heavily muscled, thick through ham; quarters broad and strong.

Stifle—Strong, compact and well muscled; an absence of puffiness.

Gaskin or Lower Thigh—Muscles large and strong, and extending well down the limb; bone, large; hamstring, prominent and strong.

Hock—Large, strong and well developed in all directions, angular, an absence of coarseness or puffiness; point well developed, and posterior border straight; must stand with hocks well together.

Hock to Foot—Same general characteristics as from knee to foot; must not have a tied-in appearance below hock.

Foot—Smaller, narrower and more concave in sole than fore foot, otherwise the same, but should stand somewhat like a soldier at attention, with heels slightly turned inwards and toes outwards.

Color—Bay, chestnut, brown, black, roan, gray, with reasonable modifications; reasonable white markings not objectionable.

Skin—Soft, mellow, loose; not like parchment.

Temperament—Energetic, docile; not nervous.

Style and Action—General appearance attractive; movements firm, smart and elastic; must be a good walker, all joints moving freely; knees and pasterns and hocks and pasterns well flexed, showing the soles of the feet plainly; must not roll or paddle with the fore feet, but lift them smartly from the ground, fetch them forward in a straight line and plant them firmly; must not go wide with hocks or hind feet, nor yet close enough with feet to interfere. In the trot, these movements to be carried out in a more marked manner.

Weight—Say, 1,800 lbs. and upwards. The heavier the better, so long as he retains the desirable quality.

Height—Say, 16½ to 17½ hands.

The desirable points in a mare or gelding of this breed differ from those of the stallion only in the absence of the masculine appearance noticeable in the head, neck and general physiognomy. The head lacks this appearance, which is more easily recognized than described. The neck is not so massive in general, nor the crest so highly developed, the withers not so broad, nor so heavily muscled. In temperament there is less impetuosity and more docility. The weight is usually less, and the action not so heavy.

A Horsewoman's View of Horse-training

Mrs. Virge Steger, of Bonham, Texas, contributes the following interesting article to the Horse Show Monthly:

The period at which the horse was first brought into subjection for the use of man is lost in the mazes of antiquity, but when we remember the beautiful tribute to him in the book of Job, and the sculptured images of horses found in the ruins of the cities of the desert, we can but believe that he has been the servant of man since the day man was made master of all created things. This has been called the "horseless age," and, while the horse doubtless has powerful rivals in the different wonderful contrivances of man's ingenuity, I have no fear that anything will ever supersede the beautiful, well-bred, perfectly-trained animal that responds as nothing else can to the will and pleasure of its owner.

From my earliest childhood I have been in close association with horses, and when but a mere child broke and rode colts on the farm—and, par parenthesis, always "sidewise."

I have never had any trouble in subduing, or, as I prefer to say, educating a horse, and I have handled some vicious animals. I try to show them that I am their friend, thus gaining their love and confidence, and I never let them think for one moment that I fear them.

Every person is born with a certain amount of magnetism, which the force of will develops. That there is such a power no successful trainer of horses will deny, and the more magnetic the rider or driver, the easier for him or her to control the horse. I never use the whip, but train my horse to answer to the pull on the lines, at the same time talking to him in kindly, encouraging tones. I also think much depends on the horse-woman having good hands and flexible wrists, though this qualification is hard to define. A good rider never pulls at her horse's mouth so as to make him afraid "to go up to his bit," and should only use enough force to accomplish her design; and right here comes into prominence the part hands play in the management of horses. There is something unaccountable and not to be described about the man or woman with "good hands," and while with care and practice, they can, to a certain extent, be acquired, yet, in the highest perfection, it is a gift.

Some day take your stand on a street corner, and observe the men and women riding and driving by. How few know how to handle the horse! One of the most pitiful sights is that of an ignorant barbarian on a gaited horse. Perhaps he will urge him into a single-foot with rein hanging loose, the horse striking the gait for a few yards, then a skip, hop and jump into a lope; then the rider jerks the reins, giving a sudden shock to the sensitive mouth, and again a repetition of the performance. Haven't you seen this? I never use the whip on my horse when he is afraid of anything. I slow him down, or, if necessary, stop him, and let him take in the situation, all the time talking in a low, soothing tone to encourage him. I already have his confidence, so he throws back his ears to listen to me, then forward to take another look at me, to him, a frightful object. When I see a tendency to go forward, I urge him with a quicker, louder tone, "Go on, my boy; it will not hurt you." I have never had a horse that I have trained deliberately refuse to pass anything when I am riding or driving him—train, electric car or automobile.

I am now training a colt that was raised in town, so found her difficulties in the country. When I first began to drive her out the fields were white with opening cotton, and the novel spectacle appalled her. At first she wished to turn back; as she would turn, I would pull on the opposite rein, all the while talking to her in a quiet, gentle voice, and urging her on. Soon she made up her mind that it was nothing that would hurt her, and passed on. She is very sensible, but nervous and high-strung. Suppose I had whipped her; the next time she saw a cotton field she would have been afraid of it, and of a whipping too. I am having no trouble in training her at all, and am now teaching her to go against the bit. I never jerk her. She is tender-mouthed, and to have a horse's mouth ruined will simply spoil a good driver, and make him a puller. She is already a good saddler, and she is going to make a very fast roadster.

Let's learn to educate instead of breaking the horse. There are a very few horses that are naturally vicious, but all can be easily made so by unkind, or—what is equally unfortunate for the poor animal—unwise treatment.

That is the reason I never allow any other woman, and very few men, to handle my horses. Anybody can "make a fool" of them, but it takes art, science and patient companionship to make a gentle, kind, safe animal. Sometimes in my indignant moments I declare the horse has more sense than half the people trying to handle him.

Work In-foal Mares.

Those new to mares in foal are often so anxious about them that they are not allowed to do any work for a month or two before foaling, and are treated as more or less of an invalid. If a mare is old or disabled, and only fit for a brood mare, let her have ease by all means, but when the in-foal mare is one of a team, long idleness before foaling disarranges the conditions of things to her disadvantage, and a long rest before foaling is quite unnecessary. If the mare is one that is driven or ridden, give her a chance, and do not hurry or bustle her about during the last month or six weeks of her carrying the foal, but she can be used quietly all the same. If she is employed for harrowing or plowing, etc., on the land, avoid giving her jerky work. This may cause premature birth, but steady employment will do her harm whatever—indeed, have an opposite tendency, particularly if she is kept on farms where many foals are bred. If it is absolutely necessary that the mares should do much work previous to foaling, in such cases it is common for the mares to drop their foals when in the plow or harrows; or if brought in from work one evening she may have a foal by her side next morning, and, as a rule, matters go on quite satisfactorily.

We come to something quite different after the foal has arrived, for after foaling there must be complete idleness for a time. The mare must not be heated when the foal is very young, as her milk, when in that state, is bad for the foal. The foal is a frequent feeder, and the mare should be available for nursing, almost constantly, for the first month or six weeks, at least. We have known them worked two or three days after foaling, but this is very unwise, as the foal is sure to get upset, and what is gained in work will be all lost in the unprogressive condition of the foal. As in all live stock, a good start is of immense advantage to a foal, and if put well on their legs during the first few weeks, they will be better prepared to bear the mother's absence for intervals later, particularly when the haying begins, which is work that all capable mares with foals are put to. To keep a mare away from a very young foal for a great length of time results in the foal sucking an excessive quantity of milk, then indigestion and other internal complaints are generated. That is one very bad result of the mother's absence. Another is that if the intervals between feeding are too long, there is still the fact that the foal worries and frets beyond soothing when the mother is away, and this, too, has a bad effect.

Breeding Draft Horses.

It is generally agreed by breeders of draft horses, says a writer in an English exchange, that fat is no friend of fecundity. This is more particularly the case as regards the mare, and many a real good filly which might have won honors as a matron has been ruined for breeding purposes by overfeeding. In the old days, a filly of bone, substance and action might be pulled out at the local district show. If placed in the front rank, she would be given a chance at the annual county exhibition, and if the Royal happened to be in the neighborhood, would possibly take the highest possible honors. She had always, however, to wear her harness, as well as her rosettes, and so in time was found in the brood-mare class with a good strong foal at her side. It was formerly held by many that a first-class filly should not be worked at all till she was four years old, it being thought that straining in the collar put her out of shape. This was, in many cases, done at a great sacrifice, barrenness or weak foals, no matter how mated, being often the result. There is a medium to be observed in all things, however, and a filly two years old, if served after being broken to the plow, carefully tended and rested when carrying, will most likely prove a healthy breeder, and, with a strong colt foal by her side when four or five years old, draw honors more valuable to the stud than those she might have gained when spared and pampered.

In regard to the early service of fillies, this practice is now very common amongst breeders, and, if well mated, the stock, when they reach maturity, are quite as large and powerful as those from mares of an older age.

It has been said that the best results in draft-horse breeding are obtained by mating a comparatively old horse to a young mare. It would be wise to lay down a hard-and-fast rule on the subject, as some "gots" by three-year-olds have been successful both in show-ring and at stud. It is notorious, however, that the best others, again, have earned renown through the fillies are the result, it will generally be found that the dam and grandam of this particular horse are from rooney, well-furnished mares.

As a rule, it is found that foal-getting is safest when the mares are in the most robust state of health and otherwise suitable, which, as a rule, taking one season with another, and allowing for unevenness of climate and temperature, foals are got in the last three weeks of June and the early part of July than

during all the rest of the season put together. Keeping this in view, a stallion would be better not to leave his box till the end of April. He should then remain out until the end of July.

The Hackney in England and Elsewhere.

Many are apt to confuse the two words, "Hack" and "Hackney." At the time of the Norman conquest (1066), we find the first introduction of the word "haquenee," continuing, uninterrupted, to the end of the 13th century, at which time Robert de Brume shows in his writings the use of the word "hackneye." Piers Plowman, too, who wrote a few years later, namely, about 1350, and Chaucer, also, each made use of the word "hackneye," and each and all of these old writers invariably used the word as distinctive of a horse for riding, as separated from the war-horse and the general-utility slave. The Norman-French word, "haquenee," too, before referred to, also implies a horse for the purpose of riding. If we look further into the matter, e. g., Taplin's "Rural Repository of General Information," published about 1803, the two words in question are again clearly distinguished and distinguishable. "Hack" is there shown to signify a horse appropriated to any and every kind of purpose, and upon which no great estimation of value is placed. So much for "Hack." The same writer also defines "Hackney" thus: A horse superior to all others upon the score of utility, and it is his province to carry his master twelve or fifteen miles an hour; to encounter and overcome emergencies of every description; his constitution should be excellent and his spirit invincible, and he must be able to go five-and-twenty or thirty miles at a stage without drawing it.

Here, in England, the original purpose of the Hackney was unquestionably for saddle work, as instanced by the numerous records of our forefathers, completing lengthy journeys over bad roads by that means of progression, and it will, I think, be admitted by all, that in those days the Hackney was, without doubt, the saddle horse of this country, and recognized as one of the necessities of life, upon which men spent a good deal of their time when going upon business journeys from place to place.

There is no doubt whatever that Hackneys generally, and Hackney breeders in particular, have been subjected, of late years, to the somewhat fierce light of criticism. It is the fact that the popularity of the Hackney, outside of his own immediate breeding districts, has been of a varied quantity, but it is a popularity that, when once thoroughly and genuinely established, is not likely to wane. If the statement had been made a few years ago to members of the hunting fraternity that an exhibition would be held in London, whereat some 500 Hackney stallions, mares, geldings and fillies would be shown, and which would, in itself, draw an attendance of some 7,000 people, and maintain an unflagging popularity over four successive days, it would have been received with derision. But it is none the less the fact, and the genuine, continuing and tried supporters of the Hackney, as distinguished from the evanescent and twenty-minutes commodity, have to-day the satisfaction of knowing that they and their representatives have gradually lived down a great deal of former public prejudice; and, notwithstanding anything detractors may advance to the contrary, from being received some sixteen or eighteen years ago, upon exhibition at any County Agricultural Show (outside the limits of his own northern breeding-grounds), with an apologetic shrug of the shoulders, this class of horse to-day, in no matter what department he may be known, is the popular attraction at the ringside of all our greatest equine exhibitions. The Hackney of to-day, however, is a vastly different type of animal to that of twenty or thirty years ago, and is judged literally from a different standpoint. The competitors under this classification in former days were legion, and comprised all sorts and conditions, whilst those adjudicating, save in special districts, seldom moved from the center of the exhibition ring, and were content to give in their awards solely from the gyrations they beheld.

The Hackney of to-day is bred upon a different mould, and upon different lines. The judges at all the best practical, as distinguished from Society Shows, are chosen from practical breeders, instead of having the sole qualification of being Squires of the county, or possessing handles to their names. Years ago, so long as an exhibit in harness could pound away, pulling a gig along, with high action in front, or at the end of a line, little else was looked for. The questions of a good lookout, wearing both ends, flexing the hocks up and down, high, true action, and absence of rocking, were points seldom or never seen or looked for; but to-day, at any of the best shows, including minor exhibitions, in the north of England, where prizes are given for Hackneys, either in hand, in saddle, or in leather, a far different state of affairs obtains. All the best and recognized characteristics of the breed must be correctly filled before there can be any expectation of obtaining the coveted red rosette.

Alford, England. S. B. COMLEY.

Action in Draft Horses.

Action, says an English exchange, is of much importance in cart horses. Buyers of heavy-draft horses for town work lay a great deal of stress on it, and require that they should be good walkers, bad walking action being a serious fault in their eyes, and considerably depreciating the value. In the show-ring, also, the way in which a draft horse moves counts for much. A bad mover stands very little chance at a show in a passable class of drafters. Various things go to make up good walking action, such as is required in the heavy-draft horse. Above all, it is necessary that the animal should be a fast walker, taking nice long strides, so as to get over the ground well, and travelling at a satisfactory rate of speed. A sufficiently long stride is the foundation of good action in the cart horse. Then, springy, the horse moving with plenty of spring, and putting the feet down lightly upon the ground. When a draft horse is a clumsy mover, and lacks lightness and elasticity of action, planking down its feet in ponderous fashion, like dead weights, the feet and legs are subjected to a great amount of concussion, being severely jarred each time they come down on hard ground, and they wear out comparatively quickly as a consequence. The feet and legs of cart horses which have clumsy or stumpy action never wear well upon the hard road or on the streets, and such poor walking action is often the cause of unsoundness of foot. The action requires to be spring or elastic if the limbs of a heavy-draft horse are to wear well and last their full time. Springiness of action is, in a large measure, dependent on the way in which the shoulder-blades and pasterns are placed. In order that the action may have plenty of spring about it, it is necessary that these parts should be sufficiently oblique. When the shoulders and the pasterns—more especially the latter—are straight, there can be no spring, and the action is bound to be clumsy and heavy. The Clydesdale breed affords a striking example of the fact that sloping pasterns and shoulders in heavy-draft horses are conducive to good and light walking action. Clydesdale horses have what for cart horses are remarkably oblique pasterns and shoulders, while they are noted for their good action, and one is due, in a large measure, to the other. A further requirement of good action in cart horses is that the feet be well picked up at each stride, so as to clear the ground well. In the show-ring, especially, judges and breeders of Shires lay considerable stress upon this point. Any excessive lifting of the feet—though it certainly looks well, and makes the action appear more energetic—is not, however, desirable from a practical point of view, because it involves a useless expenditure of energy, and is needlessly tiring. All that is required for practical purposes is that the feet should be lifted sufficiently to clear the ground well, and thus to ensure safe travelling over rough ground. When one is standing behind the horse and watching it walk away, the soles of the feet should be visible at each stride. If this is not the case, the animal does not pick up its feet as well as it ought to do. The knees and hocks must be sufficiently flexed, and the feet should be swung forward in vigorous fashion, and in a straight line. "Dishing" of the fore feet is an objectionable fault. A still more objectionable fault is it when the hocks and hind feet are twisted outwards at the completion of a stride, and after the foot has been placed on the ground. This defect in the hind action is often a result of weakness of the hock, and it, in all cases, entails extra wear of the hind limbs.

The action should be very powerful in heavy-draft horses, as their powers of draft are proportionate to the propelling power of the hind limbs. A cart horse should make full use of its hocks, and the hind feet should be placed well forward under the body at every stride. Great muscularity of the quarters, thighs and gaskins, as well as broad and strong hocks, are essential to powerful hind action. Any tendency to brush either in front or behind is a very serious fault, as it may interfere with their usefulness. The fore feet and the hind feet, respectively, should be kept well clear of one another when the horse walks, this being among the most important requirements of good action. On the other hand, the action must not be unduly wide, because in that case the horse is usually apt to roll in its gait, which means a loss of power, while it looks most ungainly. Clicking or forging is also a defect of action which is objectionable in cart horses, but which is not of very frequent occurrence.

The Same Old Story."

Editor "The Farmer's Advocate":

You will please receive my thanks for the beautiful knife you sent me as a premium for one new subscriber for "The Farmer's Advocate." It is a very nice knife. Every farmer, for his own benefit, ought to take "The Farmer's Advocate." We often find advice in it which to us is worth more than a year's subscription.

Northumberland Co.

J. B. STONE.

Start the Teams Easy.

Editor "The Farmer's Advocate":

Perhaps it will not yet be too late to remind your readers to start their teams easy at the work. Give them all the exercise they can, such as going to town, to mill, scraping the lane—in fact, anything but idleness. Toughen them in this way, but not enough to fatigue them. Keep them in good heart, with good feed and light work, and be careful not to take the tuck out of them on some over-load or big job; then when work on the fields starts, spare them the first two or three days, even more than they appear to need. Bring them to it by degrees, and what you lose the first days will be gained many times over afterwards. Carry a woollen cloth, and rub their shoulders off, also the collars, and rest often. Instead of giving them a good rest every two hours, try giving them a little rest every ten minutes.

R. O.

LIVE STOCK.

Infectious Abortion.

Abortion of a contagious or infectious character offers such a menace to profitable dairy and beef cattle breeding that stockmen generally are studying the matter diligently, and seeking far and near for a remedy. Thus far it must be confessed that but little progress has been made towards eradicating the disease or actually curing a cow infected by it, but much has been learned relative to the course taken by the malady, and one measure, at least, has been devised whereby affected cattle may in time become immune to the effects of the germ.

Cause.—Difference of opinion exists in this country and Europe regarding the exact identity of the microbe causing infectious abortion, and little is known as to the exact manner in which it produces the abortive act. Evidence leads to the supposition that the European disease is even more virulent than that experienced with us, but so far as America is concerned, scientists have about decided that the germ is a bacillus akin to bacillus coli, that its habitat is the womb, and that it doubtless invades, also, the horns of the womb, the Fallopian tubes and the ovaries themselves. The bacillus (germ) may be found in the discharges of a cow that has aborted, upon the lining membrane of her vagina and womb, and, in some instances, at least, between the cotyledons of the womb and the membranes containing the unborn calf. In Europe it has been found in the alimentary canal of the calf, but our scientists have not made a similar discovery.

Spread.—The disease gains access to a herd in one of several ways. The commonest manner of introduction is through an affected cow or bull. From these disease is spread to sound cattle, until, from one-to another, it may affect the entire herd. The cow discharges from her vagina matter in which germs abound. This falls upon the ground, dries, and may be conveyed to the vagina of a healthy cow. Where cows stand in a stable, the gutter catches the impregnated matter, which is moved back of sound cows as the manure is shovelled out daily. Thereupon cows switch their tails into the gutter, wet them with tainted material, contaminate their vaginas, and so contract the disease. The germs are living organisms, and when introduced into the vagina multiply rapidly and find their way into the inner parts of the generative organs. The bull, by serving a cow infected with the disease, contaminates his penis, and by this means inoculates cows subsequently served. The germ may also be contracted from the clothes of an attendant, tainted hands or instruments, and is doubtless frequently contracted in shipping chutes, cars, and similar places in transit, as fairs, sales, etc.

Effects Produced by Germ.—Soon after the introduction of the germ small blisters may be seen upon the lining membrane of the vagina, and a discharge of varying appearance follows. As the blisters (vesicles) burst, ulcers form and gradually heal, while fresh clusters of vesicles appear, or may be found further in. According to the severity of the condition created by the germs, and the irritation consequent upon inflammation, abortion then takes place early or late in the period of gestation.

Gradual Immunity of Cow.—Having become infected, and having aborted once, the cow continues affected, but aborts later during next gestation, and even later the following one, until, after several abortions she may carry the calf the full period, but is still infested by the germ of the disease. Experience goes to show that affected cows in time become immune to the irritating effects of the germ, and are then able to successfully withstand its presence, and consequently become regular breeders. There is an exception to this rule, and that is where the Fallopian tubes become invaded by the disease, and are so altered in function—which may include the ovaries—or obliterated or blocked up by the products of the inflammation that they cause barrenness. Such cases are seen in most outbreaks of the disease. During the time that a cow is becoming immune she continues to discharge germ-laden material from her vagina, and this discharge contaminates

susceptible cows with which she is stabled or pastured and bulls with which she is mated. For these reasons, the disease continues to make itself evident in a herd so long as fresh material is introduced upon which the germs can act. As a fire dies out when combustible material is exhausted, so infectious abortion ceases to detrimentally affect cows when all have become germ-impregnated and immune. Each cow, however, will have aborted several times before this stage of immunity is arrived at.

Staying the Effects of the Germ.—While working towards final immunity of each cow in the herd, much may be done to lessen the irritation caused by the germ's presence, and, if successful, such measures prevent abortion when its premonitory symptoms are detected in time. Where abortion happens at a very early stage of pregnancy threatening symptoms are difficult to detect, but later such symptoms precede the abortive act by several days, and in such instances the act may be itself avoided by suitable treatment. The following symptoms may be taken as indicative of threatened abortion: Sudden relaxing of the vulva and pelvic ligaments; increase in milk flow, or sudden appearance of milk in the udder; restlessness; stepping up and down with hind feet; looking around at the sides; increased or changed appearing discharge from vagina; bellowing, and, in short, any of the characteristic symptoms of either "heat" or calving. Following these symptoms the cow commences to strain, and the calf is born. In early gestation the calf is usually aborted without straining.

Treatment of Threatened Abortion.—Instantly isolate cow in secluded box stall, and administer one ounce of fluid extract of black haw. If she is restless add a wineglassful of laudanum. Repeat dose every two or three hours until restlessness and aggravated symptoms subside, then drop out the laudanum and go on with the black haw in half ounce dose three times daily until vulva purses up and all remaining symptoms of threatened abortion disappear. When cow is again in the condition existing prior to alarming symptoms, she may be returned to the herd, and will then, as a rule, go through safely to her proper time of parturition. In extremely urgent cases the above mentioned doses may be doubled, or given once an hour, until the desired effect is obtained. Fluid extract of cannabis indica is as effective as laudanum, if of first-class quality. It is, however, more expensive and less reliable in quality.

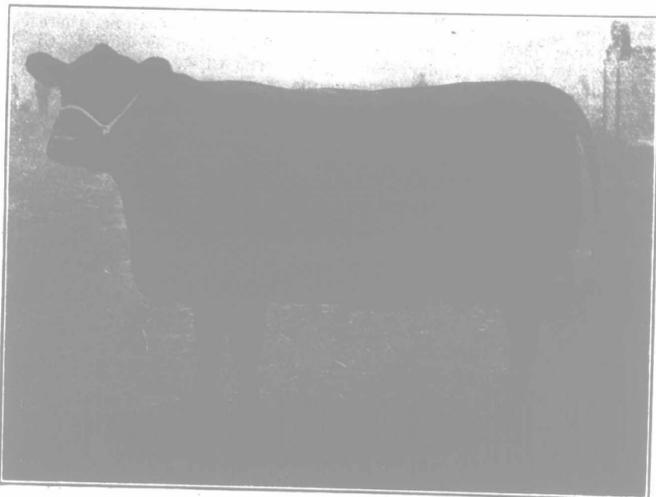
General Preventive Measures.—While we do not consider it possible to kill out the germ present in any cow fully impregnated so that the womb and Fallopian tubes have become invaded, disinfectants may afford some hope of lessening irritation and preventing further contamination or spread of germs to less affected or clean cows. Carbolic acid has been much used with these ends in view. Injecting two drams of a 3-per-cent. solution under the skin of the cow's neck or side every ten days throughout pregnancy, is alleged to prevent abortion. The administration of pure carbolic acid in feed also has its devotees, and we have for years advocated the administration of this preparation in the following way: One-half dram each other day, night and morning, to pregnant cows from first to last of pregnancy, mixing it in water and then with feed, if they will take it that way, or as a drench in water, from a bottle, or sprayed upon their hay or other food, or mixed in salt when they are at grass, at the rate of one pound of pure carbolic acid mixed in 50 pounds of salt. One dram twice daily every day for cows that have recently aborted or that have a discharge from the vagina constituting the disease known as leucorrhoea (whites); in the first instance the treatment to be continued for at least two weeks, and then given every other day until again bred, and in the second instance to be kept up until leucorrhoea disappears. In addition to this precautionary treatment, the cow that has once aborted and is again in calf may be kept isolated and treated with black haw and laudanum for a couple of weeks at the time when she would be liable to abort during the second pregnancy. This time is about one month later than the period at which she aborted during the previous pregnancy.

External Preventive Measures.—Scrupulous cleanliness must be maintained in the stable occupied by cows. Every day the vulva, inside of tail and thighs of each cow should be washed, sponged or sprayed with a two-per-cent. solution of zenoleum or similar tar product disinfectant, or with a 1-1000 solution of chloride of zinc, or 1-3000 solution of bichloride of mercury. Gutters should be cleaned daily without moving manure along gutter from one cow to another, and the cleansing should be followed by the free use of a strong disinfecting solution, such as 1-50 solution of zenoleum, or "four pounds each of powdered bluestone (sulphate of copper) and fresh lime in forty gallons of water." (Bulletin 125, Alabama Experiment Station.) Walls and woodwork should be frequently whitewashed with a mixture of ordinary lime wash containing a quarter of a pound of chloride of lime to the gallon. A spray pump may be used for this purpose.

Disinfection of Bull.—The bull is to have a large box stall to himself, with ample yard attached for exercise, and is not to run with cows at pasture. Service to neighbors' bulls is to be avoided, and herd bull should not be allowed to serve strange cows or home cows having a discharge from the vagina or known to have recently aborted. After each service, the sheath and penis of bull are to be thoroughly flushed or washed with a disinfecting solution. For this purpose use half a gallon of a 1-1000 solution of chloride of zinc, or two-per-cent. solution of tar-product disinfectant. It is best introduced into sheath by means of a nozzle attached to a six-foot length of half-inch rubber hose fitted to a spout let into the rim at bottom of a large, clean pail, to be hoisted above animal's back by means of a small rope and pulley. Insert end of nozzle in end of sheath. Hold skin tightly about end of nozzle to cause retention of the fluid, which should then be allowed to flow in until sheath is distended, when nozzle may be withdrawn and the fluid allowed to gush forth. Repeat the cleansing at least twice at each time of operating.

Treatment Following Abortion.—When a cow aborts remove her to a box stall. By means of apparatus already described flush out womb and vagina with two gallons of milk-warm disinfecting solution (1-1000 solution of chloride of zinc preferred), remove afterbirth by hand if it does not come away promptly, repeat irrigation of womb once daily for two weeks, then every other day for two weeks, then twice a week until time arrives when cow would have been bred had she not aborted, and at which time she should again be bred if perfectly free from discharge.

Additional Management.—Quarantine each newly-purchased cow and bull, and prove former to be free from taint of abortion before she is allowed



Mabel 8th of Knapperana.

Aberdeen-Angus cow; first at the Royal Show, England, 1904, and champion at Bath and West of England Show, 1905. Shown by Mr. J. J. Cridlan, Gloucester.

to enter herd, and at that time commence and persistently follow instructions as to external disinfection and internal use of carbolic acid. It is best, however, to avoid purchase of new stock as much as possible where treatment has been commenced towards the attainment of immunity. Treat sheath of new bull with disinfecting solution for at least ten days before he is allowed to serve a cow in herd. Follow above instructions in clean herds to avoid introduction of abortion. Disinfect clothing and boots of new herdsman or other assistant before he is allowed to go among the cattle for the first time. Keep pregnant cows together, heifers in separate enclosure and stables, cows that have aborted isolated from all other cattle, and allow no cow to calve in sight, sound or smelling distance of pregnant cows. Lastly, protect pregnant cattle against all conditions, circumstances and influences liable to cause abortion in animals known to be especially susceptible to that accident.—[A. S. Alexander, V. S., in Live-stock Report.

At the New Brunswick Farmers' and Dairymen's Convention, held at Fredericton last January, Robert Robertson, Superintendent Maritime Experimental Farm, Nappan, U. S., urged the need of more stock on New Brunswick farms. Dairying should be the staple industry, but beef production could also be made to pay if large crops of cheap fodder were raised. At the experimental farm, after charging market prices for all food consumed, and getting an average price of 5½ cents per pound for his cattle, he has made a clean profit over a period of five years of from \$2.47 to \$17.71 per head on steers fed for five months each winter.

Judging at Fairs.

Editor "The Farmer's Advocate":

The editorial in your issue of April 5th, headed "Appointment of Judges at Fairs," has been read with considerable interest. While the general tenor of the editorial is to be strongly commended, it contains a number of remarks in regard to the work of the Ontario Department of Agriculture that indicate that the writer of the editorial in question may have been misinformed on some points.

You state, "The system of appointing so-called expert judges by a Government official (known as Superintendent of Fairs), introduced under the Ontario Department of Agriculture, while appearing in theory an improvement on the late methods, cannot truly be said to be generally satisfactory, or to fully meet the needs of the situation."

While it is true that this system does not fully meet the needs of the situation, it is not due so much to any weakness in the system as it is to conditions that apparently cannot readily be overcome. The best evidence of the success of the system is offered by the rapid growth it has made. When it was first proposed a number of years ago, the suggestion was met with suspicion by many societies, who feared that just such political influence might be brought to bear on the appointment of the judges as is hinted at further on in your article. In 1901, the first year this system was tried, the number of fairs applying for the judges was 9. Since then the increase has been as follows: In 1902, 52; in 1903, 117; in 1904, 152, and in 1905, 183. As it is not possible for the judges to satisfy every exhibitor, it means that at a number of the exhibitions there are always a few dissatisfied exhibitors, who frequently make a great deal of noise. The best judge, however, of whether the judges have done satisfactory work or not, is the board of directors of the society. The Department of Agriculture each year writes

each of the societies that has had any of the judges, and asks for a report in regard to the work of the judges. Last year, of the 183 societies that applied for the services of judges, complaints were received in regard to only 6 judges, although the societies were urged to report fully in regard to the judges, and were informed that their reports would be considered confidential. In one or two cases these judges had officiated at several fairs before reports concerning their poor work were received by the Department. As soon as word was received that their work was not satisfactory they were recalled.

Your editorial claims also that the Department pays little attention to the nominations of the Breeders' Associations, and that in some cases it employs men whose names have never appeared on the breeders' lists. This is true to a certain extent, but there are reasons for it. In a number of cases the Department has applied direct to the associations for lists of judges. Mr. Wade has been asked each year to furnish lists of expert judges on horses. The difficulty lies in the fact that the great majority of the societies are unable to afford to defray the expenses of separate judges for each class of stock. Most of them ask for a judge who is able to handle both light and heavy horses, and for a judge who can take beef cattle and sheep, or dairy cattle and swine. In the case of the large proportion of the judges recommended by the Breeders' Associations, they are experts in one line only. For instance, a man who is an expert judge on beef cattle may not care to undertake to judge sheep as well.

The Department realizes that it is a very difficult matter for a judge to give satisfaction in two classes, and has pointed this fact out to the societies repeatedly. During the last few years there has been a great increase in the number of applications for extra judges on light horses, and in certain of the other classes, and a gradual improvement in this respect is taking place. As an instance of the fact that the Department does ask the Breeders' Associations for judges, I might state that last year Mr. G. W. Clemons, of St. George, the Secretary of the Holstein Breeders' Association, was asked to submit a list of names of leading breeders, recommended by his association. Out of this list such well-known judges as the following were utilized: Mr. R. S. Stevenson, of Ancaster; A. C. Hallman, of Breslau; James Rettie, of Norwich; H. Bollert, of Cassel, and B. Malloy, of Belleville.

You assume in your editorial that the Department gives the preference to a judge who is able to give his reasons for his decisions publicly, rather than to a judge who, while being an expert as a judge, may not be a ready speaker. Proceeding from this point, you ask the question, "Is not the consequence that many men better qualified as judges than some of those chosen are unavailable?" I might state that in every case the Department gives the preference to a judge who is known to be capable as a judge, rather than to a man who has the reputation of being a fluent speaker. The fact

THE FARM.

Clearing Land in Algoma.

Editor "The Farmer's Advocate":

Perhaps I cannot describe the best method and implements for the clearing of land in this new district, but I will give my experience. When I came here some told me one way and others told another. My timber was a mixture of birch, hemlock, spruce, balsam and cedar. In the fall I went through and cut down all the underbrush and piled it up in convenient piles. Birch was cut in 20-inch wood, which is worth \$2.50 per cord single length. I cut the tree well up into limbs, as "no waste" is my motto. If it is convenient to have it made into lumber, so much the better, as it is valuable. Hemlock, anything that is good, is cut into logs for lumber; the poor into wood, 4 feet. Spruce is cut for pulp wood, 4 feet, worth \$4 cord. Balsam, if large, is made into lumber, small into wood, 4 feet. The best butts of cedar I saved for shingles, the balance for rails, posts, stakes and wood, 4 feet. Ash was made into 4-foot wood. All the 4-foot wood is mixed, and worth \$2.25 per cord. I wasted nothing. I cut all winter, and about June, or when dry, I burn it, and one can nearly always get a good burn, as there is so much green top in the brush. What is left is logged up, and some small stumps can be easily taken out. Next spring a crop of oats are put in with spring-tooth harrows and seeded down. You will get a good crop of hay for six years or so; by that time all the stumps, excepting pine, will pull or burn out. I have one field on which I have cut hay for nine years. Last year fire got in and burned out every stump.

Protection from Lightning.

It will be only two or three months until we will again read in the daily papers that this, that and the other set of farm buildings had been totally destroyed by fire caused by lightning. It is no exaggeration to say that during the summer months not a week passes in Ontario without some, and often many, such disasters being recorded. The financial loss during the season must be enormous. Very seldom do we hear of any buildings except churches being struck in towns and cities, but the losses in farm buildings from lightning strokes seem to be on the increase. This is just what might be expected. The forests, which conveyed many an electric bolt harmlessly to the earth, and thus furnished a measure of protection to buildings, have almost reached the vanishing point, and old barns are being pulled down, and greater ones—greater in height, especially—built in their stead. Scarcely anything more likely to attract the thunderbolt can be imagined than these isolated, towering structures, many of them with not a tree about. It is believed also, and with reason, that the moist, warm-air current ascending from newly-stored hay and grain, furnishes a specially favorable medium for the descent of destructive fire. Certainly more barns than houses are destroyed by lightning, and these disasters generally occur when newly filled, and when the loss is greatest.

Many excellent authorities believe that these losses can be almost entirely prevented by the use of lightning rods. In this opinion I think I have reason to heartily agree. While it cannot be denied that some buildings equipped with rods have been destroyed by lightning, yet the number has been so very limited as not to break the rule that rods are a real protection.

At the house of a near neighbor, a little girl was sitting during a storm near a window, when all were startled by a blinding flash, with accompanying thunder. The little girl was of all the most alarmed, for, she said, something had struck the window. On examination it was found that the earth at the foot of an old-fashioned iron lightning rod had been plowed up by the force of the discharge, which had been safely carried off, and that it was the dirt thus thrown up which had scared the little girl by striking the window. I give this as one of several instances coming under my own observation, where a metallic connection with the earth has evidently saved the building. How many rodless buildings have been thus saved without any outward evidence of the fact can only be guessed at, but, no doubt, the number is very considerable.

It ought, in fairness, to be mentioned that while authorities are agreed that buildings can be protected from lightning, some of them think that it can be done only at a cost greater than is warranted by the results. Such believe that a single rod is of little use, that there must be a great number to be effective.

"Doctors differ." There is complete agreement on two points, so far as I have been able to learn: That rods furnish a measure of protection, and if grounded in moist earth and not disconnected, are in no degree a source of danger, and that it matters nothing whether the rods be of iron or copper. In the words of the Encyclopædia Americana, "A number of metallic points, whether of iron or of copper, is immaterial, and iron is cheaper." A third point which I would impress is, that any farmer can make and put up as effective a lightning rod as any that can be bought, and at but a fraction of the cost.

In constructing a rod, the first thing to do is to find the length of cable needed, as for any ordinary barn the full length may as well be made at one operation. Liberal allowance should be made for grounded ends, as a connection with damp earth at a sufficient number of places is of first importance. If a small well auger can be got and a hole bored to a depth of seven feet for each end entering the ground, it will be all right. If not, then a hole four or five feet deep can be dug, and the end of the rod coiled into a flat spiral. Highest lines and projecting points should be specially guarded, and it is, therefore, well to have rods on all ridge boards. For the plain barn, with one ridge and two gable ends, the rod can be run the whole length of the ridge, descending and entering the ground at both ends. Quite often barns are T shaped, a straw shed running out from the main building at right angles to it. In such a case, in addition to the rod with two grounded ends, already mentioned, another with end in the earth at the outer end of straw shed, should be run up the gable end to the ridge, then along the whole length of ridge, and connected with rod on main building. There would thus be three earth terminals, and all ridges protected. Upright points can be added afterwards. They may be five feet high, and not more than twenty feet apart. To make these, lengths of six and a half feet can be cut off, and a sharp bend made a

is, we never enquire into the public speaking abilities of the judges. Every judge, however, is urged to give his reasons for his decisions whenever the opportunity offers.

I might state that remarks such as those contained in your editorial have been made at one time and another at the conventions of the Ontario Associations of Fairs and Exhibitions, and in each case the great majority of the directors of the societies present have expressed themselves as being strongly of the opinion that the judging system inaugurated by the Department of Agriculture has been a pronounced success. This was the case this year at the meeting of the Eastern Ontario Fairs Association, when a criticism, made by one delegate, brought about a dozen delegates to their feet to support the expert-judge system.

In conclusion, I might state that a careful record is kept of the work of each judge, and if complaints are received from the boards of directors of societies at which he acts, his services are soon dispensed with. A great improvement in the system will follow as soon as more of the societies are able to engage a larger number of judges so that it will be possible to have experts in charge of each important class.

H. B. COWAN, Supt. Agri. Societies.

[Note.—Since the owners of pure-bred live stock are the ones most directly concerned in the proper placing of the awards at our exhibitions, and in the establishment and maintenance of the most approved types, it is now very evident that all the breed associations should take up the question of nominating approved lists of judges more seriously and systematically than heretofore. The other contention of "The Farmer's Advocate," that politicians, as such, should keep their fingers out of the stock-judging pie, is too self-evident to require reiteration.—Editor.]

The U. S. Sheep Situation.

The sheep situation in 1905 was one of unclouded prosperity for American breeders and flock-owners. Never was there a year when the demand for both wool and mutton was so great and prices so encouraging in consequence. The only disappointment seemed to be on the part of the buyers of feeding sheep and lambs and breeding stock, because there was not enough to go around. The demand was tremendous for every class of sheep and lambs, and the supply inadequate, notwithstanding that the number sent to market broke all records.

More than 850,000 feeding sheep and lambs and breeding ewes were purchased on the Chicago market and shipped during the year, against 690,000 in 1904. Of this number over 740,000 head were dipped by the Union Stock-yards and Transit Company, under U. S. Government supervision, before shipment. It is estimated that fully 100,000 were breeding ewes. Feeder prices were the highest ever paid—wethers around \$5, yearlings in fleece up to \$6.35 and \$6.60, and lambs up to \$6.85, with possibly 80 per cent. of the feeding lambs at a range of \$6 and \$6.00. Breeding ewes were sold as high as \$6 to \$6.25, and up to \$7 for pure-bred stock, with the bulk at \$4.50 to \$5.40, as against \$4 for the best, and bulk at \$3.25 to \$3.85 in 1904.

Owing to high prices, shipments of export sheep fell from 148,000 in 1904 to 60,000 in 1905.

In mutton sheep and lambs for slaughter, it was a year of unprecedented high prices. In a general way it may be stated that a large share of the good lambs marketed sold at \$7.50 and \$8, sheep at \$5.50 and \$5.90, and ewes at \$5.40 and \$5.80. The whole market averaged \$1.50 to \$2 per 100 pounds above 1904 prices.—Union Stock-yards and Transit Company's 1905 report.

To Remove the Afterbirth.

Editor "The Farmer's Advocate":

I note the article in a recent issue about cows retaining the afterbirth. As the removal is not a very pleasant task to one not used to taking it away with the hand, I will give you my way of proceeding, which has been effective with us up to the present, and was in use long before I was born. Take a green smooth-bark piece of wood, such as beech, two or three feet long, and, say, four inches thick. Place in the oven, and heat all you can. When hot, roll the afterbirth on the heated stick, just one roll deep, and up to her body. Keep just a little pressure on by rolling, and it will soon come away. The heat follows up the nerves, I suppose, and it soon lets go. Last summer I had a mare which had to be treated this way. She foaled early in the night, and at morning the colt was smart and running round, and she was all right but had not cleaned. I had to go away that forenoon, and at noon she had made no progress. I got a green stick, also a sack of hot salt over her kidneys, over which I put two blankets to keep the heat in, and gave her a hot bran mash. In a very few minutes it came right away. The stick alone will usually do it, though.

I think the paper gets better all the time, and I have been much interested in the "hog discussion," also the "horse we should raise," and equally as much in the dairy test. All these are vital questions to the farmer. Wishing you every success.

Essex Co., Ont. SUBSCRIBER.

Teach the plow exercise as carefully as you do the sword exercise, and let the officers of the troops of life be held as much gentlemen as the officers of the troops of death.—[John Ruskin.]

Sour milk, at irregular intervals, results in the bot-bellied calf.



Warrior.

First-prize yearling Shorthorn bull at Birmingham Show and Sale, 1906. Sold for export to Argentina for \$2,500.

After a person gets some cleared, then the best plan would be to seed down and pasture for a few years, then burn and pull out everything, making it ready for the plow. In clearing, we get enough returns to pay for our work, sometimes more. I might say that I have a lot of cedar, and am offered \$1.10 each for poles, 35 feet, 7 inches at top, to be drawn only 2 1/2 miles. So you see it counts up. There is a good demand for all kinds of timber. In some places there is what we call burnt land, and is covered with a growth of poplars, cherry and alder. I think this is worth about \$6 per acre to cut and pile. I am sure this district is good for the poor man. A. G. HOPKINS, Algoma District, Ont.

Does it Pay to Treat Seed Grain for Smut?

One pound of formalin (costing about 75 cents in the drug store), in 32 gallons of water, will, according to Dr. Jas. Fletcher, be sufficient to treat 27 bushels of seed oats, or 32 bushels of wheat. At ordinary rate of sowing, this would mean the seed for 12 to 18 acres. A few hours in shovelling the grain is the extent of the labor item, making a total expense of, say, \$2.00. A frequent loss by smut is five to ten per cent. of the crop. This, on a 40-bushel-per-acre oat crop, in a field of 15 acres, would be 30 or 60 bushels of oats, and these, at 25 cents per bushel, would amount to \$7.50 or \$15.00. These calculations are very moderate, as we all know the loss frequently exceeds this sum. But take the lower figures, and we have \$7.50 saved by a total expenditure of \$2.00—interest equal to 275 per cent., earned in less than 12 months, to say nothing of the pleasure of having no smutty crop to handle. There is no excuse for the man who has smutted grain.

foot and a half from one end, this extra length to be opened out and wrapped around the rod where attached. This makes all solid, and forms good electric connection. At the upper end of point the wires should be opened out a few inches, and spread apart in all directions. Having got the full length required, you can begin to manufacture the rod. Use soft galvanized number nine wire, nine strands. A wagon wheel answers very well for twisting. Set the wagon in a convenient place, and raise the wheel as if for greasing. Measure out the needed length, and drive a stake with a hole bored in it, through which the ends of wires can be passed and bent around. The other ends of wires can be hooked, each one around a spoke of the wheel close to hub. In measuring the wires, care should be taken to have them of equal length, and an allowance made of one foot in 200 for shrink in twisting. Now, having the nine wires stretched out and fastened securely, before beginning to twist, brace well both wagon and stake, for there will be considerable draw. It is well, also, to throw across under the wires some old rails, to keep them out of the mud or grass. Turn the wheel until the cable is sufficiently twisted to hold together, and the job is done.

The rod can be stapled closely to building, or a cork can be put under at each staple if desired. The old idea of the necessity of insulation has been entirely abandoned. To hold the points upright, get the blacksmith to make for each an iron tripod. Have the rods run in as direct a course as possible, the fewer sharp turns there are the better.

A rod such as described will weigh one-half pound per foot, and the cost of material, fittings included, for a barn 70 feet long, 40 feet high, will be less than \$5.00. T. BATY.

Plant Trees.

We have been pleased to note through the country of late signs of an awakening interest in the preservation of the farm wood-lot. Here and there is to be found a bush whose owner has been keeping the stock out of it, and in every such case the dense growth of saplings and increased vigor of the old trees demonstrates the wisdom of the plan.

But duty to oneself, wife and children does not end here. More attention must be given to the planting of trees about the buildings if we are to make this country a charming place to live in. Plant trees, grouped, scattered or in rows, about the house, around the barn, along the lanes and roadsides. For such planting, nothing else, in our mind, can touch that grand, clean, beautiful tree, the hard maple, whose leaf is our national emblem, whose sap yields our most delicious sweet, whose foliage forms such delightful shade, and whose wood makes not only the best of fuel, but one of the most valuable kinds of lumber. Plant maples around the south and east sides of the home to provide shade in summer; on the north and west a belt of Norway spruce is a quick-growing and first-class protection against winter storms. About the barn, also, plant trees. The time is coming when no barnyard will be considered complete unless it is protected by a shelter-belt to shut out the winter winds and make the barnyard a pleasant exercising place for stock, and a comfortable working place for the owner.

It should not be forgotten that trees are a great protection against lightning. Plant trees this spring about the homestead—maples and other hard woods on the south and east, and evergreens on the exposed sides. There is nothing like trees to make the home homelike. Flowers wither and die. Shrubs last longer, but, sooner or later, die too, and if neglected give a place a dilapidated look; the tree stands like a stalwart, defying time, growing in grace and stately beauty year by year—an object of interest to its planter and protector, a comfort, a joy, a blessing to all.

Let Us Grow More Corn.

One objection raised by Ontario farmers against the three-year rotation of clover, hood crop and grain, is that one-third the farm area in potatoes, corn and roots, means too large an acreage of corn. Some of us get around the difficulty by using peas, or some other crop, on part of the land in the second year. Out in the Western States, where they know the value of the corn plant better, they are so anxious to have a large acreage that they deem it a hardship to be obliged to adopt a rotation which does not bring corn at least twice in succession on the same land. Of course their climate is much better adapted to this crop than is ours, but when we can grow, as some of us do, and more of us might, an average of eighteen or twenty tons of ensilage corn per acre, does it not seem as though our pultry acreage of this king of grasses could be profitably increased?

Does Seed Selection Pay?

At the 1905 annual convention of the New Brunswick Farmers' and Dairy-men's convention, Donald Innes, of Victoria Co., told how by following the system of seed selection recommended for the Macdonald Seed Competition, he had increased the yield of his wheat and oats in four years by 17 bushels per acre.

Again the Split-log Drag.

The siege of bad roads endured this spring in many districts should serve to attract attention to the split-log drag as a cheap and simple means of improving the common clay roads of the country. The originator of the split-log idea writes of its use as follows:

My interests demanded frequent travel over the road between my farmhouse and the village, and I always felt a keen resentment when bad roads made it difficult or impossible to drive to town—a state of things that was altogether too frequent.

A little investigation and experience demonstrated to me that this was by no means the result of indifference or inactivity on the part of our road commissioners. Then I reached the conviction that it was the fate of the farmer to spend \$1,500 to \$3,000 a mile for macadamized road or else travel in the mud in all periods of continued wet weather—which is to say a very large proportion of the year. This conviction is almost universal amongst farmers who have really wrestled with the road problem and know from experience its difficulties.

However, this state of doubt and discouragement did not long continue, and I began to investigate and experiment in an irregular sort of way. Acting under this persistent impulse to experiment, I one day hitched my team to a drag made of a frost-spoiled wooden pump stock and an old post, held parallel to each other by three pieces of fence boards about three feet long. Smooth wire served in place of a chain, and a strip of plank laid between the post and the pump stock gave me a rough platform upon which to stand.

The horses were attached at such a point of the wire as to give the drag a slant of about forty-five degrees in the direction required to force the earth that it would gather from the side of the road up into the center. We had just had a soaking rain, and the earth was in a plastic condition. I had driven this drag but a few rods when I was fully aware that it was serving at least the initial purpose for which it was intended—that of levelling down the wheel rut and pushing the surplus dirt into the center of the road.

At my neighbor's gate, toward town, I turned around and took the other side of the road back to my home. The result was simply astonishing. More rain fell upon this road, but it "ran off like water from a duck's back." From that time forward, after every rain or wet spell, I dragged the half mile of my road covered by my original experiment.

At the end of three months the road was better than when it had been dragged for three weeks, and at the end of three years it was immensely improved over its condition at the end of the first year's work. I studied the result of each step in my experiment, and finally learned that three elements are required to make a perfect earth road, and that the lack of one of them is fatal to the result. To be perfect, an earth road must be at one and the same time oval, hard and smooth. All of these indispensables are acquired by the use of the split-log drag in any soil that I have ever come in contact with—and I have worked in the various kinds of clay soils, in the gumbo of the swampy lowlands, and in the black mud of the prairies.

Observation of my experiment taught me that two weeks of rain would not put this bit of road in bad condition at a time when the highway at either end of it was impassable for a wagon. Of course, it was plain that the reason the road was not bad was that there was no mud in it. But why mud would not collect in it was not clear to me until I was taught my lesson by the very humble means of the hog wallow. One day I chanced to notice that water was standing in one of these wallows long after the ground all about it had become dry. Probably I had many times before observed this fact, but not until now had it occurred to me to enquire into its cause. Examining the edges of the wallow, I was impressed with the fact that it was almost as hard as a piece of earthenware. Clearly this was because the wallowing of the hogs had mixed or "puddled" the earth and the water together, forming a kind of cement which dried into a hard and practically waterproof surface.

The next important lesson in my understanding of the real elements of roadmaking was taught me by studying what we farmers call a "spouty spot" in the side of a clay hill. All who live in a clay country know the unspeakable stickiness of one of these spouty places, and are familiar with the fact that after ten days or two weeks of bright, hot sunshine you can take an axe and break from one of these spots a clod so hard that with it you can almost drive a tenony nail into a pine plank. Naturally, it occurred to me that if this puddled clay soil would stay hard for three months when left in a rough condition, it would surely stay longer if moulded into the form of a smooth roof, so that the water which fell upon it would easily run off.

This original ½-mile of road was dragged steadily for four years before I had a single active rut in my new crusade. At first my neighbors

poked good-natured fun at me, probably because the thing was so new, and so absurdly simple, and, perhaps, also, because I did the work without pay or any expectation of it.

Old Tobacco-plant Beds versus New Ones.

Tobacco-growers experience great trouble from weeds, owing to seeds in soil of new plant-beds. In old plant-beds, when the weeds are about cleaned out, the young tobacco plants often damp off and destroy stand, while giving, out of those remaining, plants with sore-shin sickness. The diseased conditions arise from parasitic fungi which develop in the soil and accumulate from year to year, until plant-growing becomes difficult in the old beds. A similar difficulty confronts greenhouse lettuce-growers, and infests both the plant-bed and the house beds, or areas in which the crop is brought to final development. The difficulty has been greatly reduced, or overcome, by sterilizing the soil of these beds. While steaming is a most excellent method for this, a solution of formalin in water, applied to the soil by sprinkling with this solution, has also been fairly effective. For this reason, it seems worth while to try the formalin method on old tobacco-plant beds, at least in an experimental way. One and one-half or two pints or pounds of formalin is to be added to fifty gallons of water (or in like proportion to smaller amounts) and thoroughly stirred. The solution thus made is to be applied upon deeply-stirred bed-soil, until the whole is thoroughly wetted to a depth of six to eight inches. This will require, approximately, three-fourths to one gallon of water solution per square foot of surface area. After the treatment the soil is allowed to dry for about a week, or for a longer period, after which the seed may be sown in the usual manner. If sown too soon after treatment with formalin, seed germination may be impaired. The treatment is simply to destroy the fungous parasites contained in the soil.—[Ohio Experiment Station Bulletin.

When and How to Apply Manure.

Editor "The Farmer's Advocate":

It has been with much interest that I have watched the discussion in your valuable paper concerning the best method of applying manure. There are a number of methods, and some widely different. The rule that applies best to one part of the country is very often the worst for another; and, judging from the methods set forth by the majority of Ontario farmers, it is plain that the conditions in Ontario and Nova Scotia are not at all alike. If we Nova Scotia farmers should spread our manure as Mr. Lawson does, we should have to search for it in the spring, for it would have found salt water long before. Such a method would ruin us. Our land is more or less undulating, some places very hilly, and in time of freshets the strength of the manure would all wash away into the river. Mr. Lawson, in criticising Mr. Thomson, says that he need not be scared of the colored water running from the manure. Now, what is it that colors the water? Is it not the best of the manure? After a few rains have leached through spreaded manure (in this locality) there is nothing left but the straw and fiber. Mr. C. H. Black's method of piling the manure is a good one, in case one has no manure cellar, but with one of these all troubles are overcome. How can a well-ventilated manure cellar hurt stock, of any kind whatever, over it? The manure neither leaches nor ferments in a properly-constructed manure cellar; therefore, it is the best way to keep manure. To add to its value, let the pigs run in it (especially in horse manure, which is thus kept from fermenting); the value of it then cannot be beaten by any other fertilizer, for any crop whatever. One of Mr. Lawson's arguments is the expensiveness of help. What signifies the extra wage paid in the spring when the manure is so much better? The extra gain greatly exceeds the extra cost. I have seen it tried, and am convinced that this is the best method of taking care of the manure.

I think it a good plan to apply manure in the fall for potatoes (plowing it in) and other crops, when it is possible. But applying it in the winter time here is the worst form of wastefulness. J. F. SHAW, Hants Co., N.S.

Have the Name on the Gate.

Editor "The Farmer's Advocate":

Your suggestion, in your issue of March 29th, about farmers putting their names on the gates, is certainly a good idea. How very convenient and helpful it would be to strangers passing along the road to know without asking, who lives here or who lives there? In travelling on some of the roads in our county, where I am not much acquainted, I have often wished I knew the name of people living on certain farms; having the names on or beside the gates would make travelling more enjoyable to the public. I would suggest, also, that the number of the lot and the distance to nearest town or village be placed alongside the name. If there is a gate room or gate, have a neat painted board fastened to gate post. W. E. WEBBER, Ontario Co., Ont.

Beating the hay stack along without the bush pasture

Spring Suggestions.

Editor "The Farmer's Advocate":

Here we are again with spring almost upon us! We have had an open winter, with very little snow. How nice to get around through the woods, getting the firewood out; the bogholes frozen over, and no snowbanks to wade through! We are surely losing our reputation as "Lady of the Snows!" How it gladdens the heart to feel the warm rays of the sun, hear the robins again, and see the grass shoot up as if by magic! As we drive along the roads, and pass the farmyards, we hear the tender bleat of the lambskins. The kine look longingly over the yard fences that have enclosed them through the long winter months, and seem to be welcoming the open fields and green grass.

The wide-awake farmer is already making plans for the coming season. How about the seed grain? Is it all thoroughly cleaned, ready for sowing? Care should be exercised in buying seed grain, as this is one of the many ways in which weed seeds travel from farm to farm. Thanks to the "Seed Control Act," we are now in a better position to combat the weed evil. Clover seed is high this year; don't buy the cheapest—the best is none too good for the careful farmer. One Farmers' Institute speaker said he had bought seed grain (supposed to be some new prolific variety), paying a big price for a few bushels, which, when sown and harvested, turned out to be the same as he already had. Moral: Don't pay a long price for a cat in a bag. Changing seed grain every year or two isn't what it's cracked up to be either. Sometimes you get seed of poorer quality than your own; occasionally you get more than you buy—a lot of weed seeds. Here's a better plan: Clean up a small quantity of seed—say enough for an acre or two—run it through the fanning mill two or three times—or, better yet, hand pick it if possible—then select a clean, rich piece of land (the best you have), cultivate thoroughly, sow your seed upon it, harvest and thresh separately, and take your seed grain from this the following year. Pick out a good, rich field each year (presumably one following a hog crop) to grow your seed grain on; follow this up every year, not forgetting to clean grain and cultivate land thoroughly, and we will hear no more about "seed grain running out." Of course, an occasional change of seed is all right; but buy only enough to sow your "seed-grain" patch. After a few years you may be in a position to enlarge the "seed-grain" patch to four or five acres, or even larger—although not sacrificing thoroughness for area—and thus do away with the inconvenience of harvesting and threshing an acre or so separately. A great many farmers exercise little or no care in the cleaning of seed grain; a still greater number do not go to the trouble of keeping their best field of grain separate in the granary from which to take their seed grain the following year. No wonder we hear of poor crops! It costs about as much to grow a poor crop as a good one. Any increase in yield, the result of extra cultivation of land and more careful selection and cleaning of seed, means clear profit. Some farmers, by practicing careless and indifferent methods, leave off right where profit begins. Don't stop short of the goal. Thoroughness pays.

Have you joined the ranks of the Experimental Union workers this year? Capital idea! Send in your name for material for one of the many experiments, which will be furnished free of charge. You will find a list of these in a recent issue of this paper. You will be surprised what an interest the boys will take in looking after the plots through the summer; and, besides, you will be getting a start in good, pure seed. A good way of helping to keep the boys on the farm, isn't it? And then you will feel more like an up-to-date farmer yourself.

How about the roads in your district? Are they made to shed the water; or do they hold it like a basin, until it evaporates? The best of them are, to say the least, a little trying on our patience at the "breaking-up" time in spring; but they will soon be hard and dry again, and then we will see our old friend, the chauffeur, driving his automobile up and down as usual, quite regardless of our welfare or safety. What a pity to have the farm women folks driven to the back roads! The writer has known them to walk three or four miles rather than run the risk of meeting the ill-smelling monster. Now, just another word about highway nuisances! Have you ever, dear reader, while driving to or from town, or when on pleasure bent, been greeted by that abominable pest that comes darting out from behind the lilac bush, outbuilding or stone-pile, and follows along, barking and snapping, for a hundred yards or so? Why some farmers, who refuse to spend the first twenty-five cents towards the cost of a lawn mower, or on other improvements or comforts, will pay taxes on and feed one or two of these worse than useless curs, is more than the writer can comprehend. Some horses become quite irritable when swooped upon by one of these badly-trained canines. If the dog is an otherwise valuable one, but has gotten into this bad habit, a month or two should break him of it; if this does not suffice, he is better under ground, for, unlike the auto, he is with us the year round.

What a controversy we have been having in the agricultural papers on the bacon hog! How the lanky Yorks and Tams would roll up the white of their eyes could they but hear half that has been said! Some of the hog-raisers claimed they would have to get more fat pound for the bacon hog than their fellow farmers get for the thicker type, or they would be compelled to go back on the former and raise the latter; and then,

again, they tell us the bacon hog costs no more to raise than does the thick-fat kind. If this be true, and as the Scotchman said, "I hae me doots," why are they clamoring for the discrimination in price, in order to keep their margin of profit up to that of their fellow farmers? Of course, the above-mentioned discrimination in price would encourage the raising of the leaner type. After all, I think the farmers of Canada, and especially of this Province, deserve credit for the production of such uniformity of type as is seen in the hog markets, considering the thousands of hogs that are marketed annually. The observant farmer must admit that there is, taking one year with another, about as much profit in hog-raising as in any other branch of farming, and his porcine majesty is deserving of more patronage than is at present accorded him. The writer has kept continuously since 1899, the year of low prices, three or four brood sows, and, taking each year through, has never failed to make the hog returns swell the right side of the ledger. He has, however, had no experience with the razor-back hog. Again, if you are breeding one of the thicker breeds—say, for instance, Berkshire—you will have to be more careful in selecting, mating, etc., in order to get the bacon type, and keep them from running to thickness. It is claimed by some that the Yorks and Tams can be pushed harder—viz., fed more concentrated food—than can the above-mentioned breed, especially up to four or five months of age. This, I consider, a point in favor of the latter, as being capable of consuming to advantage more cheap, bulky food.

Waterloo Co., Ont.

FARMER JOHN.

Coloring for Concrete Finish.

The following is taken from an American cement catalogue, and is offered for what it may be worth. We should be pleased to have our readers try one or more of the coloring materials mentioned, and report results:

The use of colored concrete, up to the present time, has not been general, and the effect of coloring ingredients upon the strength of concrete is not definitely known. In his book on "Cement and Concrete," Mr. L. C. Sabin, an eminent authority, states that the dry mineral colors, mixed with the water in the proportions by weight of from two to ten per cent. of the cement, give shades approaching the color used, with no apparent effect on the early hardening of the mortar. Mr. Sabin also gives the following table, showing the result obtained from a dry mortar (wet mortars give a darker shade).

COLORING MORTARS.—Colors given to Portland cement mortars, containing two parts river sand to one cement.

Dry material used.	1 lb.	2 lbs.	4 lbs.	Cost of Coloring Matter per lb.
Lamp Black	Light Slate	Blue Slate	Dark Blue Slate	15c.
Prussian Blue	Light Green Slate	Blue Slate	Bright Blue Slate	50c.
Uranium Blue	Light Blue Slate	Blue Slate	Bright Blue Slate	20c.
Yellow Ochre	Light Green	Light Blue Slate	Light Buff	3c.
Burnt Umber	Light Pinkish Slate	Pinkish Slate	Dull Lavender Pink	10c.
Venetian Red	Slate, Pink Tinge	Bright Pinkish Slate	Light Dull Pink	24c.
Chattanooga Iron Ore	Light Pinkish Slate	Dull Pink	Light Terra Cotta	2c.
Red Iron Ore	Pinkish Slate	Dull Pink	Light Terra Cotta	24c.

"Can I afford a manure-spreader?" is a question that few men should ask themselves. "Can I afford to do without it?" should rather be one's thought.

Growing Rape.

To supplement pasture, and for many kinds of stock, there is nothing we can grow better than rape. For hogs from 50 to 150 pounds, there is nothing we can give them in the summer time that will aid us to make pork cheaper. Fed with about half the grain ration, the cost of a pound of pork can be considerably reduced. Besides, there are many waste spots around the barn that will probably grow weeds that might much better be growing something that is valuable, and also remove an eyesore. Then, for young cattle six months and over, given a run on a field where they will get plenty of rape for feed, they will thrive and grow about twice as fast as they will on pasture. It is also great for dry cows. If cows are freshening in the fall and winter, and are consequently dry along in the fall, instead of having them on short pasture, as there is apt to be in the fall, I prefer to have them run on a field of rape and get up in good order, and be in great shape for work when they freshen. Circumstances alter cases, and every man cannot follow the same plan, but can modify the same to suit his own conditions. My plan is to sow rape on some of our hog pasture the very first seed we sow in the spring. Then, two or three weeks later, we sow other plots. We have here on the Annandale Farm a great many hog-yards, as a great many hogs have been kept here for years, until the land is almost poisoned. In order to sweeten it up, the last year we broke up each yard and plot that was not covered with trees; plowed some of the smaller lots with a one-horse plow, scratched it over with the harrows, sowed the seed, and gave it another stroke with the harrows. Where possible, it is better rolled also. We had a great lot of feed all through the summer, and right up till snow came. We sowed some seed in April for hogs, and one pasture lot, in which the grass was getting run out, we broke up early in July and sowed rape on there. Where the ground is rich, it can be fed down with hogs, and then, if they are shut off for a while, it will grow up fresh and green again in a couple of weeks. Where we had our early potatoes we sowed rape in July, and had a good deal of good feed there. Then, our fall-wheat stubble that was not seeded, and we wanted to fit for potatoes next year, we skimmed over with a plow to kill the grass, harrowing it over well, and sowed some rape on it, and let the wheat and rape grow up and make a nice bite for late October or November feeding. I have several pieces of old pasture land here that have not been broken up for perhaps 20 or 30 years—rather far from the barn to be profitable to work for any other crop. I shall plow them up this year where the ground is smooth enough to plow, and work it up for rape. Will sow the rape for this lot in June; then in August and September I shall have a fine feed to supplement the pasture that is then becoming dry and short for the young cattle, and can keep them growing. If I had not this land to break up, but had a field from which I was taking hay, and intended to break it up the next year, I would plow it just as soon as the hay was off, and work it down and put rape on it. It would make good returns in the fall, because it is a good feed longer than even grass, as the frost does not hurt it. The ground, also, would be in better shape for a crop the next year. It is a great feed for all kinds of stock, but we cannot recommend it to make milk, as it will make the milk a bad flavor; but we can put our milk cows on the second crop of clover, and the young stock and the dry cows on the rape and old pasture. A little experience will soon show one just how to grow rape to best advantage.

When putting cattle on rape for the first, it is best to put them on in the afternoon, and with a full stomach, and perhaps it would be safest to give them a good supply of common salt the day before, so that there will be no impaction of the stomach on the first start. If there is no trouble the first day, and they are kept on the rape every day, there will be no trouble afterwards. We have had no trouble with stock bloating on rape, but we have exercised this simple precaution. If cattle were put on hungry in the morning, when the dew was on, they would be more likely to bloat.

Three years ago I sowed about half a bushel of rape seed. Last year I sowed a bushel, and this year I will sow two bushels, and perhaps twice that. From 4 to 6 pounds to the acre, sowed broadcast, is plenty. The finer the soil is worked up, the better. It grows best and strongest on rich land, but will make as good growth as anything else on any kind of land. Can be sowed any time from the first thing in spring till August, but, of course, when sowed late in August, there is not time for much growth. Still, a little pasture late in October, when the rest of the pasture is frozen, does a wonderful lot of good. Young cattle that are taken off the pasture fat and in good order, winter so much easier and do so much better during the winter.

GEO. RICE.

Pointers About Underdraining.

Size of Tile.—The size of tile to be placed in a drain, says Prof. J. B. Reynolds, of the Ontario Agricultural College, Guelph, will depend upon a number of factors:

1. The length of the drain.
2. The depth and distance apart of drains.
3. The fall of the drain.
4. The character of the soil above.
5. The maximum amount of rainfall to be provided for in a given time.

The rate at which water will flow in a tile of given diameter, with a given grade, and the amount of water likely to reach the drain in certain extreme circumstances, have been made the subject of careful investigation, so that the following relations may be confidently stated:

- A two-inch tile will drain two acres, but should not be laid in a drain more than 500 feet long.
- A three-inch tile will drain five acres, but the drain should not be more than 1,000 feet long.
- A four-inch tile will drain twelve acres.
- A five-inch tile will drain 20 acres.
- A six-inch tile will drain 40 acres.

These rules apply primarily to mains and sub-mains. For laterals, the limits as to length above stated will apply, provided there is a good fall. Where the fall is slight, a larger size of tile is to be preferred.

Junctions.—Faulty junctions of laterals with mains are the cause of impeding the flow of water in the main, and of lodging silt and finally blocking the drain. It is sometimes best, when the lateral has plenty of fall, to make the junction two inches above the bed of the main. In any event, the junction should not be right-angled, but at an angle of 30 degrees, preferably. The silt basin is a valuable device in draining, and its use and importance cannot be too well understood. It may be used (1) at the junction of two or more drains; (2) in a line of drain where it is necessary to change the grade from a steeper to a less steep one.

Silt Basins.—The purpose of the silt basin is to collect silt or mud in a part of the basin below the line of tile, and thus prevent the silt from lodging in the drain and finally blocking the flow. In form, the silt basin is a small well, 12 to 14 inches in diameter, extending from 12 inches below the line of tile to the ground surface, where it is provided with a movable cover to allow occasional cleaning. It may be constructed of brick, stone or plank.

Practical Hints on Underdrainage.

Editor "The Farmer's Advocate":

One of the first things necessary in beginning underdraining, is to carefully ascertain where it is needful for the drains to be laid, so as to give the proper results. My own mode of placing drains is to put them where there is need of an open water furrow. An important part of the work is having a good outlet in the main drain, which should be a few inches deeper than the laterals.

The best time of year for underdraining is early in the spring, often before cultivation begins, and late in the fall. Also at these times there is sufficient water collected to make the levelling of the drains an easy matter. Besides, the work can be more speedily done when the ground is moist. In the absence of water in drain, the fall can be easily found by placing a spirit-level on a straightedge ten or twelve feet long, and putting it along the bottom of the drain.

For the digging of the drains, all that is required is a ditcher's outfit, which may be purchased at any hardware store for a sum not exceeding ten dollars.

Sometimes in beginning our drains we plow two depths with the plow, but the remainder, except the filling in, is done by hand. In digging laterals, always commence at main drain and dig against the slope. The depth of drain will be determined by the distance it is to draw water. A drain in our soil in Oxford County, from 2½ to 3 feet deep, is said to draw an area of from 30 to 60 feet. All my drains are 2½ feet, except the mains, which are a trifle deeper. The bottom of the drain must have a continuous gradual rise sufficient for water to run.

The next step is the laying of the tile, by all means the most important part of the work. Have the tile placed conveniently along one side of the drain, so that the man in drain can reach them easily and put them in place. He begins at the lower end, by making connection with main drain. This is of importance, and if done imperfectly often leads to trouble. A hole is made in tile in main drain large enough to enter tile from lateral. This hole is made with a chisel and hammer. The connection made, he proceeds up the lateral, laying each tile on the bottom of drain, and puts his foot firmly on each tile as he proceeds, thus making them firm, and making sure that the ends are pressed closely together.

Next thing done is the filling in of the drains. Go along the drain with spade, loosening enough of the top soil to cover the tile and keep them in place. The reason for putting the top soil on first is that it is more porous than other soil, and causes the drain to work better. The remainder of filling in is done with a team and plow.

Sometimes it might be advisable for a novice to leave the main drain till the last, so as to see if the

other drains are working properly. Thus far in this part of Ontario ditching machines have not been a success, costing more to do the job than hand work. The drains that I have laid cost from 16c. to 20c. per rod. Around here nearly all draining is done with three-inch tile, which are thought to give better results than a smaller size. Three-inch tile are \$10 per thousand; four-inch tile, \$16 per thousand; five-inch tile, \$25, and six-inch, \$36, and up to \$100 per thousand, loaded on cars.

The drainage I have been speaking of is for general farming, and is less thorough than for gardening or orchard work. I might add that drains give better results after the first year. J. C. SHAW, Oxford Co., Ont.

[Note.—Tile can be purchased for making connections of branch with main drains, having a crotch or T shape. It is better to use such a tile than to chip a hole out of a main-drain tile.—Editor.]

Plowing Matches and Prize Farms.

The spring is upon us, and many farm boys are looking forward to the day when they will go to plow for the first time; that is to say, to be in charge of the team, and wholly responsible for the work done. Many boys, when plowing, so long as they keep the team going and turn the soil over, think that this is all that is needed; and there are also many farmers satisfied with this condition of things. Others will try to cut a straight, clean, neat furrow; these are the boys that make plowing a pleasure instead of hard work, and, as a rule, they will be driving a good clean, neat team. Not only that, but we also find the boys that drive such teams drawing their numbers for the plowing-match ground, where there is such a competition held within reasonable distance. There is nothing that a young plowman enjoys better, when he has plowed a field, than to be able to say that he has not put a crook in it; that is to say, he has cut every furrow true and plowed each land square. When the writer was seventeen years of age, three other teamsters and himself would compete for small prizes each day they went to plow. They would arrange the matter among themselves, and quite as much excitement would be caused as though a general plowing-match was taking place. Not only had we the satisfaction of seeing neat work done, but also there were the benefits which the master reaped—the effects of good plowing.

Now, the first step to be taken to encourage the young plowman is the organization of more plowing-matches. This requires the aid of only a few farmers in every district. Perhaps some farmers will think it would not pay them to give prizes, but those concerned in a plowing-match not only get their funds returned, but fifty times their value. In fact, the full value obtained from well-plowed land is not known. There are several reasons why plowing matches should be held more often in Canada: First, they stimulate the plowman's mind; secondly, they teach boys to take an interest in their work; thirdly, they help to increase the value of the farms which have made Canada what she is to-day.

Another suggestion, Mr. Editor, I would like to make, is a competition among farmers themselves, to demonstrate who can grow the best crops and show the cleanest farms.

I believe this subject is before the Ontario Agricultural and Experimental Union at present, and it should be encouraged as much as possible by all interested in farming.

T. H. TWELTRIDGE.

Improvement Discouraged by Taxation.

Editor "The Farmer's Advocate":

I think that the question referred to by "FARMER" in your issue of March 29th is a very important one, and is a question which requires attention at the present time. The "building" taxation is not the only troublesome feature of the system. One of the most noticeable evils of the present system can be seen when we look over some districts, and find a great deal of untilled land—not wood-lots, but swamp-lots. We have land right in our township that is of the very best for raising grain and hay, which can be put in a tillable state for \$15.00 per acre, and yet areas of 50 acres—yes, even 100 acres—are still untouched. Why is this? There may be more reasons than one, but to my mind the chief reason is this plan of taxing a man a little extra every time he causes something to grow where nothing has grown in the past. This surely seems unreasonable. The thought given out by Henry George, viz.: "That a system whereby a man is taxed for making two blades of grass grow where only one grew before, is barbarous," should be pondered over by every progressive farmer. Now, it has been proven in the past that one of the best ways of making a subject of this nature a live one is to have it discussed in "The Farmer's Advocate," and I sincerely hope that other subscribers will give their views, and that we may have some result, in the way of legislation, from the discussion. G. A. McCULLOUGH, Russell Co., Ont.

Cuts His Straw at Threshing.

Editor "The Farmer's Advocate":

I have been much interested in the discussion of how to apply farmyard manure. For a number of years we have hauled our manure direct from stable to field, and spread on ground intended for hoed and spring crop. I notice that a number of your correspondents object to putting manure on spring crop, because it clogs the cultivator and seed drill. This trouble we overcame by cutting all our straw short at threshing.

I often wonder why the practice of cutting the straw is not more general. It will pay many times over. First, at the threshing, it will go into much less than one-half the space, and can be kept under the roof. We set a cutting-box right behind machine, and one man at cutter will take care of the straw. The less labor required in straw-mow more than pays the five dollars extra charged for cutter. All authorities agree that the liquid manure is the more valuable. If this is true the short straw has an immense advantage over long straw, because it absorbs the liquids a great deal better. If you have a wet stable floor, try short straw—the shorter the better. It makes much nicer bedding, and does not slip and get pushed back like long straw. I claim that pulling manure made with long straw out of a pile is the hardest work on the farm. With short straw it becomes one of the easiest; the time and elbow grease saved in handling it is considerable. But the greatest advantage of short over long straw is that it may be spread thickly on the land, and does not in the least interfere with spring cultivation. It mixes easily with the surface soil, and rots more quickly.

Waterloo Co., Ont.

YOUNG FARMER.

Try the Split-log Drag.

Our American exchanges are still loud in their praises of the split-log road drag, illustrated in our issue of April 12th. "Begin at your own road gate," is the rallying cry, "and drag to your neighbor's gate in the direction of town." Do it when the roads are muddy; pass along one rut going, and return along the other. Do another round and quit for the day. When the road begins to dry after the next rain go over it again, and so on throughout the season, especially during the fall and spring. They say no one will believe how effective the drag is. It will not make a good road out of sand, for sand does not make a stiff mud. It will not make a good road where there is not sufficient drainage. It will not work well among stumps and stones, nor where the road is covered with grass. But it will prevent grass growing in the roadway, will preserve a crown where there is one, and will keep clay roads in better condition than any other means of road-working. Let some of our readers try it, and report results to "The Farmer's Advocate."

Tarring Fence Posts.

Editor "The Farmer's Advocate":

At this season of the year, when so many are building fences, perhaps a word of advice which observation has taught me to be all right would not be out of place re tarring the posts. A neighbor has a fence which was built about ten years ago with very small, inferior posts, but which were tarred, and is standing the test thoroughly. There is not any decayed wood on these, while others which were put in about the same time, but without the coat of tar, have decayed badly, especially near the surface. When we take the trouble to put up a post fence we want it to be as durable as possible, and this will save the posts. Tar can be bought from any hardware merchant, and is easily applied.

Peel Co., Ont.

JAS. B. ROSS.

Poor Seed Dear at Any Price.

Order the seed corn early, and make a germination test. Place a hundred representative grains between moist cloths in a plate set in the window. Invert another plate over it. Keep the cloths moist, but not covered with water. In a few days count the number of kernels that have germinated, and calculate the percentage of vital seeds. It is well to conduct the test in duplicate. There is no money in planting seed that will not grow, no matter how high a price was paid for it. If it was dear to buy, it will be a good deal dearer to plant.

Never Throw a Smut Ball on the Manure Pile.

Treating seed corn for smut does no good, says the Minnesota Experiment Station. The only way to decrease the amount of smut in corn is to pluck off the smut balls and burn them. Corn smut spreads rapidly, if the smut balls are thrown on the manure pile and the manure spread on corn fields.

"Is there much corn grown in your section?" we asked a farmer of our acquaintance the other day. "Yes, quite a lot." "Many silos?" "Several." "Those who haven't silos shock the corn and burn it, leaving it out all winter for the birds to eat, and in spring they burn it to get rid of the crop."

THE DAIRY.

Cheese an Economical Food.

In an address by Miss Emma Conley, at the Wisconsin Cheesemakers' convention, reported by The New York Produce Review, are some valuable facts on the food value and digestibility of cheese. We quote a few excerpts, as follows:

As to nutritive ingredients, cheese contains twice as much nutrition as beef, mutton or fish; four times as much as chicken, for it contains no refuse. It is both nutritious and economical.

As far as completeness of digestibility is concerned, the nutrients of cheese have a high degree of digestibility, the protein being 93.36 per cent., and the fat, 94.50 per cent. digestible. Ordinarily cheese is considered indigestible, but it is not indigestible in the sense of lack of completeness of the digestion processes. It is slow of digestion, and has a tendency to cause constipation if used in extensive amounts, or if not properly combined with other foods. Experiments have shown that when well-ripened cheese is used to the extent of 1 to 3 ozs. per day, it does not unfavorably affect the digestion, but, if anything, it favorably influences the process of digestion.

Cheese is not a luxury, but ordinarily it is one of the cheapest and most nutritious human foods that can be produced. A pound of cheese, costing 15c., will contain nearly a quarter of a pound of protein, and over a third of a pound of fat. For the same amount of money it is possible to secure a larger amount of digestible nutrients and available energy from cheese costing 15c. a pound than from meat costing 10c. per pound. In the use of cheese in the dietary, the same precaution should be observed as are exercised by successful feeders of animals, namely, to begin gradually and not to use a concentrated food in excessive amounts. The amount of cheese that can be used in a ration can be determined only by the individual.

In cooking cheese, care must be taken not to subject it to a high degree of temperature, for it makes the casein indigestible. If cooked at a low temperature it is melted and delicately cooked.

Nutrient in one pound of various foods:

	Refuse.	Water.	Protein.	Fat.
Cheese.....	—	34	26	34
Beef (round)	8	61	18	12
Mutton	19	43	13	24
Chicken	35	48	15	1
Beans	—	13	22	—
Bread	—	35	10	1
Mackerel (salt).....	23	38	17	17

Cream Grading in Minnesota.

The Dairy and Food Department of the State of Minnesota has had the question of cream supply at creameries under consideration for some time, and Commissioner Slater, after consulting with the principal creamerymen and centralizing plants, has concluded to recommend that cream be hereafter bought by grade, and suggests the following grades, urging all creameries to follow this plan:

"Extra quality or premium cream" shall be sweet or slightly sour cream, of good quality, testing 25 per cent. of above in butter-fat.

"Grade No. 1" shall be sweet or slightly sour cream, of good flavor, testing 20 per cent. or less than 25 per cent.

"Grade No. 2" shall be cream slightly old or off flavor, of any test, and which cannot be classed as impure or wholesome.

"Rejected cream" shall be cream that is unwholesome and unlawful.

He says the above system of grading conforms to the laws of the State of Minnesota, which provide that impure, adulterated or unwholesome cream shall not be used for the manufacture of any food product.

All cream producers using hand separators should endeavor to produce only "extra quality or premium cream." The Dairy and Food Department also calls attention to special instructions regarding the care of cream:

1. Adjust your cream separator so that the cream will test between 25 and 40 per cent. fat.

2. Wash the separator thoroughly every time it is used.

3. Skim your milk twice a day while it is fresh and warm, and then cool cream thoroughly before mixing with the older cream.

4. Before starting to fill your delivery, see that it is thoroughly sealed and perfectly clean and sweet.

5. Keep the cream as cold as possible without freezing, in a place free from all odors such as emanate from the barn, kitchen or cellar.

6. Ship or deliver at least twice each week in winter, and three times per week in summer.

Mr. Slater says that the inspectors of the Dairy and Food Department will enforce the law to the letter, and producers of cream which must be placed in the "rejected" class will be prosecuted to the full extent of the law. The same will apply to creamery proprietors or buttermakers who manufacture this grade of cream into butter.

Provide Summer Feed for Milk Cows.

"In time of peace prepare for war," is the motto of nations. The motto for stockmen should be, "In time of plenty of moisture prepare against drought." Stockmen, if caught with a shortage of pasture, often lose more than they are aware. From a breeding standpoint, if a herd is allowed to get in poor condition it is greatly injured. A great loss is also occasioned by their lower production at a time when the value for milk is sure to be the greatest in the case of milk cows. While I do not think that any soiling crop can take the place of good pasture, still, in a very dry season, one may be unable to have good pasture. I believe, though, in first doing our utmost in keeping the pasture good throughout the summer. We must look ahead and provide for something fresh in the pasture line in August, and if people would cut their clover a week earlier than it is generally cut, they would get a large aftergrowth which would more than make up for the loss, if there were any, by cutting early. Of course, I am aware that it is sometimes hard to get suitable weather to cure hay in the last week of June or first of July, but if it is wet and damp then we are not likely to have short pasture for a considerable spell, and can meet the conditions as we find them at that time. I think it a wasteful method many dairymen have of turning the cows into a hay field after the middle of June or first of July; the grass has then got too hard for them, and they do not really need it very badly at that time. If the field was clipped, then the second growth would be much fresher and nicer later on when they needed it more. If corn is grown where it can readily be available for feed before the clover is eaten off too short, it will prove of great advantage in the event of a very dry summer. Still, if on account of limited acreage, or a failure of the clover crop, it is necessary to provide other feed, the best feed to supplement short pasture is undoubtedly ensilage. It is, in fact, just as good to feed in the summer time as it is in the winter time, and requires much less labor feeding it out than the daily cutting and carrying of small quantities of any green feed. If a dairyman has not a silo, he is certainly away behind the times. It will be well to put in a piece of peas and oats where it will be handy to get for feed, and, if not needed, it will be of equal value to any other crop for the grain it will bear. In feeding soiling crop, it must be remembered that it takes cows a considerable time to get accustomed to eating any considerable quantity of it, and the mistake is often made of waiting too long before starting to feed it. In the case of peas and oats, if it is likely to be necessary to feed the cows on it, it would be well to start cutting and giving them a small quantity about as soon as the oats were coming out in head, then, a little later, they would be accustomed to eating this feed when it was at about its best feeding value. If some hay is cut early and put in in very nice condition, it will be found, in the case of short pasture, that a little of this nice hay given daily will do the cattle a wonderful lot of good and help to keep up the milk flow. Then, a plot of corn should be handy to the barn, and this can be put in quite early, so that it will be available for feeding during the fall. The stockman will look ahead, study his own conditions, and work out a system that is most convenient in his own case. That is, after all, the main thing to do—to see the necessity of looking ahead, and to provide for short pasture is a very important point. A man who don't look ahead and don't think, is apt to get left many a time. In the case of providing for my own stock, I have solved my problem thus: Last year I had a large field of clover quite near the barn, and had a great amount of pasture from the second growth; but as we grow 80 acres of corn, potatoes and beets, we require the land near the barns for these crops, as they require lots of manure, and there are a great many tons of crop to remove, so that I have planned to grow my hay on the fields furthest away from the barn. This year, one 35-acre field, in clover, across the road, is over a mile from the barn. I shall cut the first growth for hay, and plow the second growth down in that field. Another field of 23 acres I intend to clip about the 10th to 15th of June, and let it lie for a mulch. That field is too far away to draw manure to, and it needs something left on it. Cut this early, the second growth will get a good start, and be fresh when most needed. We have a large acreage of unbroken pasture land which is good for the fore part of the year, but if we are expecting milk cows to keep up the flow of milk, we want good fresh pasture during August and September. We have, also, a third clover field available for pasture after the hay is removed, and which should make a nice fresh bite in August and September; so I think we have provided a fairly good bill of fare for the milk cows. We have ensilage to fall back on, if need be. For dry cows and young stock, we provide rape, leaving the clover for the milkers.

GEO. RICE.

The world has small use for imitators.

The Man as a Factor in Successful Dairying.

There has been a great deal of time and breath and talk spent on the dairy cow, to try to improve her and to induce men to feed her and care for her better, so that she may be able to bring more profitable results, said C. P. Goodrich, before the Wisconsin Round-up Institute, at Plymouth. Now, this is all right; there has been none too much said or done in this line. At the same time, I will say that there has not been enough said about the dairyman. Good dairy cows will bring no profit unless handled by a good dairyman.

Some years ago I attended the meeting of the Indiana State Dairymen's Association. I talked about the cow, the breeding, feeding and care of her that would insure profitable returns. The audience were all strangers to me; I was unable to arouse much enthusiasm. They seemed—with two or three exceptions—to be cold-hearted on this subject. After I had finished my speech, a gentleman in the audience arose and said:

"Mr. Goodrich does not understand the situation here. Now, he is a dairyman, I know it; for otherwise he could not talk in such a way about the cow. I have no doubt his father was a dairyman before him, and quite likely his grandfather. And I will still further venture the guess that he and his people came from the State of New York, or some other Eastern State, where they have been dairying for generations. But we Hoosiers are different; we hate the sight of the dairy cow. I tell you, Mr. President, the man must be bred right as well as the cow. It would take 200 years to breed us Hoosiers up so that we could love the dairy cow as Mr. Goodrich does."

I have thought of what this man said many, many times, and the longer I live, the more I am impressed with the truth of what he said. For many years I have made a study of the cow; studied how to provide her with proper feed to enable her to do her best in giving milk; studied her likes and dislikes; observed how she craves a variety of food; how she likes a good, clean, healthy stable, and how she enjoys a good bed. I have studied the form of the best producers by the hour in my own stable, and at every other place where I had opportunity. The cow stable is a delightful place for the true dairyman.

Of late years I have been studying men as well as cows, and I find that the man who dislikes the dairy cow, and spends as little time as possible in her society at the cow stable, will not succeed well with her. If he hates the cow she will hate him, and will not do well for him. If he loves his cow she will come to him when he returns home from a few days' absence to be petted and talked kindly to.

I must tell you about a farmer I visited in this State while taking a cow census. He had a large farm, good buildings, good horses, a fine flock of Shropshire sheep, and good hogs. When I came to look at his cows, I saw they were blocky, broad-backed, beefy cows. I said to him, "You don't like dairy cows?" He said emphatically:

"I have no love for a dairy cow."

When he saw I was about to write down what he said, he modified it a little by saying:

"Say I have not much love for them."

As I looked around I saw off at the further end of the row of cows a grade Guernsey, a fine-looking dairy cow. I said, "What have you there?" "Oh!" he replied, "The old woman claims her. She milks her and feeds her and pets and thinks the world of her, and so I keep her. But I hate her; she looks so like the devil."

The returns from the creamery showed that this herd barely paid for the feed they ate. Now, does anybody suppose that this man could ever succeed with a dairy herd? If he were given the best herd of dairy cows in the State, they would rapidly deteriorate as dairy animals, because his breeding, selection and feeding would all tend toward making a beef herd.

Wisconsin Jersey Breeders Commend Official Yearly Babcock Testing.

That the Jersey Bulletin's persistent campaign in decrying the Babcock test as a means of determining the butter-producing value of dairy cows, does not commend itself to enterprising Jersey breeders in the United States is shown by the following unanimous resolution passed by the Wisconsin Jersey Breeders' Association, in their recent annual meeting at Madison:

Whereas, the Babcock test is the recognized standard by which the commercial value of milk is determined, and the breeders of all dairy cattle, with the exception of Jersey breeders, have accepted it as the standard by which to judge the butter production of cows; and

Whereas, we believe the stand taken by the Jersey Bulletin in regard to the Babcock test has created the impression in the minds of many that we were afraid to meet other breeds on the same ground, and has wrought great harm to the Jersey breed, as they have been able to hold their own with all breeds when judged by the Babcock test; therefore be it

Resolved, that we commend the official Babcock work that has been done, especially yearly tests, and would advise and encourage breeders to do more of it, believing it will create greater confidence in our tests, and be the cheapest and surest

way to demonstrate that the Jersey is the greatest butter cow on earth.

We are pleased to note that the Wisconsin brethren are following the lead of the Canadian Jersey breeders in the matter of the official yearly testing of cows with milk scales and Babcock test. Any individual association or paper which opposes the Babcock, stands in its own light.

Bonuses for Cold Storage at Creameries.

I am directed by the Honorable the Minister of Agriculture, to state that Parliament will be asked to extend the bonus of \$100 on cold storage at creameries to the year 1906.

CONDITIONS OF PAYMENT.

Payment of the full amount of the bonus will be made at the close of the buttermaking season, upon fulfilment of the following conditions, viz:

(1) An efficient cold storage must be built according to plans and specifications supplied, or approved, by the Dairy Commissioner, Ottawa.

(2) A sufficiently low temperature must be maintained in the cold storage to protect the butter against injury for a reasonable length of time.

Creamery owners desiring to take advantage of this bonus will be required:

(1) To make application before July 1st, 1906, on forms provided for the purpose;

(2) To send in a daily record of temperature maintained in the cold storage, once a month during the season.

The construction of the cold storage will have to pass inspection by an officer of the Department, or some person designated to make a report on it. The efficiency of the cold storage will be determined by this report, and by the monthly reports of temperature.

Inspectors of the Department of Agriculture, Ottawa, must be permitted to examine the construction of the cold storage and to make tests of temperature at any time during reasonable working hours.

The temperature of the butter in any package which has been three days in the cold storage will be taken as representing the average temperature of the cold storage.

Revised plans and specifications for creamery cold storages, on the "Air Circulation" system and the "Cylinder" system, will be furnished on application.

Some experiments in insulation were conducted by the Cold Storage Division last summer, and as a result of the information thus obtained, we are able to recommend a rather cheaper form of construction than has hitherto been considered advisable. The plans have been revised accordingly.

The Inspector of Creamery Cold Storages will visit on request, as far as possible, all creameries applying for the bonus, for the purpose of giving assistance in the planning and construction of the cold storage.

The necessary forms will be supplied. All subject to ratification by Parliament. Address all communications to the Dairy Commissioner, Ottawa, Ont.

J. A. RUDDICK, Dairy Commissioner.

Cream Separator Instructions.

To the farmer who has six cows or more, the most satisfactory method of skimming is by the use of a good hand or power separator. It will soon pay for itself, because there will be practically no butter-fat left in the skim milk, a better and higher-testing quality of cream, and, consequently, of butter obtained; the cost of various utensils and the labor in washing the same is saved; and, as the separating is done at once after milking, the skim milk is always fresh and sweet for feeding calves and pigs. It is calculated that a separator means an increase of revenue from a cow of from \$5 to \$10 a year, according to her milk flow. The dairyman with only six cows would thus soon have his separator paid for. As regards capacity, one of 450 pounds an hour is sufficient for 10 cows. Select one with a capacity slightly greater than is really required, because, by closing the feed tap a little and running the separator below its capacity, it does closer skimming and produces richer cream. The speed should be uniform, and a little faster than that stated in the instructions furnished by the manufacturers. In tests made, an extra speed of five revolutions a minute has caused an increase of butter-fat in the cream to the extent of six per cent. The cream should test from 25 per cent. to 35 per cent., because the higher the quality of the cream, the better the butter. Immediately after separation the can should be set in cold water and the cream stirred until its temperature is about 50 degrees. A fresh lot of cream should not be added to that previously separated until the new has been cooled down to at least sixty degrees.—[Ontario Farmers' Institute Report, 1905.]

[Note.—While the above statement about an increase in speed of separator causing a closer skimming is no doubt correct, it should not pass without a warning. The pressure on the inside of a separator bowl is enormous, and more than one has burst, with fatal consequences, while being run at too high a speed.—Editor.]

Keeping Milk Records is Work that Pays.

Editor "The Farmer's Advocate":

The reasons that led us to commence keeping individual daily milk records were that, in the first place, we thought there must be an individuality, or that some cows were better than others, and we tried to get from the exhibitions somewhat of an idea which were the best cows, but were disappointed, for we noticed that many a good producer was turned down to make a place for her inferior sister. Therefore, we adopted the scale as a means of finding the cows which were paying their board, also those which were boarding at our expense. No thought is given to the question of the time which this system takes. The question is, "Is it worth doing?" If it is, then do it like anything else on the farm. If it doesn't pay a reasonable wage it had better not be done. To my mind there is a great deal of labor expended on the farm without counting the cost. Custom has handed down practices from generation to generation, and they have become (without our knowledge), as it were, part of us; and we go on like machines, performing our duties in the same way, without a thought as to the ways, not questioning—merely doing—because it is part of our nature.

If we, ourselves, kept an account of our work, so that we could tell what paid and what didn't pay, there would be a lot left undone, and we would, naturally, lend our energies to that which paid.

The weighing and testing of each cow's milk has a number of advantages. First, it gives you business ideas—you know just what each is doing. Then you have a chance to cull; and no herd can be maintained at a profit without disposing of the poor or unprofitable ones (like Pharaoh's lean kind—there will always be some). But with a knowledge of your cows it is easy to dispose of the unprofitable ones. This is the only way discovered yet of finding what each individual cow is doing. By knowing these things, we cannot add or subtract to or from her; but we can put the herd on a higher plane of usefulness. It seems to me to be the foundation of successful dairying. A system which will give you a knowledge of your business is not a bad system to pursue. We have been at it for about ten years. When we started to weigh, our herd averaged only 125 pounds per cow, but now we are not content unless they double that amount. Of course, the weighing is not altogether responsible for that change, but it was a factor in it, and a big one, too.

There is one more advantage obtained by this system, and that is the interest manifested by the members of the family. You hear them discussing certain cows, then the records are produced to settle the matter. This is stimulating, and a little stimulus is always good if properly applied.

BYRON McLEOD,
King's Co., N. B.

APIARY.

How Far do Bees Forage Profitably?

An item of interest that I came across while with Mr. W. H. Laws in some of his outyards, about twenty miles west of Beville, was the following: The bees in his Dowd yard were being fed, giving them several hundred pounds of syrup in a trough outside, and some little distance from the apiary. All colonies were soon busily at work storing it away. When they were well under way, or about the second day, a visit was made to neighboring yards to ascertain to what extent the bees there might be partaking in the fray. Another apiary belonging to Mr. Laws, half a mile away, was working as busily in storing the syrup as the first. An apiary belonging to a neighbor one mile distant also worked as busily at it, the whole number of colonies in the yard engaging in it. But of an apiary of 75 colonies, 1½ miles away, only 14 found the syrup being fed, while only 7 out of 60 colonies 2 miles from where the syrup was being fed, found it. These few colonies worked just as busily as those in the Dowd yard, but on account of the distance, and, probably, a later discovery of the syrup, they did not store as large an amount per colony. The remaining colonies of the two latter yards, 1½ and 2 miles distant, did not discover the syrup at all during the three days of feeding. This should help us in getting at an idea of how far bees may forage profitably, and also the distance out-apis should be located from each other. It should also give us a store more surplus during some seasons than others in the same yard. While there may be no bloom in the immediate vicinity of an apiary, some colonies may find plenty to do some distance away.—[Gleanings in Bee Culture.]

"Timely, Pointed, and Practical."

Editor "The Farmer's Advocate":

Your premium knife arrived, and is fully equal to what you represented. "The Farmer's Advocate" is a first-class journal, and much prized in our home. Your editorials are timely, pointed and practical. The various subjects bearing on farm operations and stock-raising are most helpful—the moral tone a credit to any publication. In fact, all in the general make-up of the paper would be hard to surpass. Wishing you continued success.

JOHN A. COCKBURN,
Wellington Co., Ont.

POULTRY.

"Some Things I Think."

A friend one day said to me, "John, I cannot afford to buy blood meal, grit and oyster-shell for my hens." Well, if we cannot afford to supply the hens with those things which nature demands, we had better banish the idea of keeping them on the place. It is true a flock of hens will live through the winter on grain and snow, and roost in the apple trees for that matter, and lay eggs during the spring—sufficient to hatch out some chickens to supply the family with an occasional potpie—but there is no profit in this way. The eggs are laid at a time of year when they can be bought for less than they cost, with such management as indicated above. Yes, sir, any person who wants to make a profit from fowls, will find (if he keeps proper accounts) that he can afford to supply them with anything and everything they require, and it is only by doing so that a constant yearly profit can be realized. Some may get eggs for two or three months, and at first thought may conclude they are doing well, but if the hen has not had a balanced ration she is laying eggs at the expense of her system, and this being the case, will be idle for a long time, or, perhaps, die from exhaustion. The egg contains certain ingredients. If any of these are lacking in the food, then they must be made up from the hen's system, so long as the system contains them. When these ingredients are all drawn away from the system, then laying must cease.

Now the natural food for the hen is grain, grass, insects and water, along with grit. If any one of these is lacking, it must be supplied in some other form. In the summer she cannot get grain unless supplied, and, consequently, there will not be a continuous supply of eggs even in the warm weather. Likewise in the winter, insects are not found, and something must be supplied to take their place. This must be animal food, as green bone, meat scrap or blood meal. These are essential, and yet very dangerous foods to be placed in the hands of careless feeders. They are concentrated foods, and require the utmost care, or liver trouble and other ailments will follow, which will be most unsatisfactory. There is a safe limit, which will be found most economical, and beyond this is dangerous ground. One pound green ground bone, or one-half pound dried meat meal, or one-quarter pound blood meal will be sufficient for 30 hens daily, and this amount must be worked up to gradually, and fed regularly. If fed one day and neglected for two or three days, it is bad policy, and is apt to work troubles to the owner.

Good food is necessary, but not the only requirement. Well-bred fowl must be kept for best results. Some say any hen will lay if fed properly. This is not so, or how do you account for the fact that one hen in a flock will lay upwards of 200 eggs in a year, and another in the same flock, with same care and food, will not lay over fifty.

Then we should start the chicks right when first hatched, and keep them right to maturity. They should be fed so as to promote growth and activity, and not allowed to become fat at any time of their lives. Fat will destroy the productive organs. If the digestive system is ruined, we cannot expect heavy producers, because the heavy producer must manufacture a lot of raw material (food) into eggs. But if she has weak digestive organs she cannot convert large quantities of food into eggs and maintain the body in a healthy condition at the same time.—Written by J. R. Houry, and read before the Farmers' Club, Waterdown, Ont.

Setting a Hen.

My first experience with a sitting hen in Alberta was a great surprise to me. I had been in the habit of setting hens by a method which fitted a climate where nights were not much cooler than the days. I used to make a nest of sand or fine earth which fitted the size of the hen, and deep enough so that it would hold the eggs up about as high as could be without allowing the outside eggs to drop when the hen left the nest. I lined this nest with fine litter. The number of chicks I sometimes hatched in this way, with a large Langshan hen, was larger than I care to write, lest some reader should suspect that there is an impediment in my veracity.

I found a good many who had come to Alberta earlier than I having trouble to get good hatches, but I set the first hen with a good deal of confidence, as I did not think my luck would go back on me, but she hatched only three chicks, although all the other eggs but one had begun incubation, and nine of them had fully-developed dead chicks in the shell.

The next time I set a hen I watched her very closely, and felt the eggs frequently. I found that those at the outside were always cooler than those in the middle of the nest. As the hen moved the eggs about, they were all cooled at some time during incubation. A few days before coming out of the shell a chick is in a condition which will not permit of cooling. After that I set hens in the same way, but gave a smaller number to each hen. As the sand or earth is usually a little damp, it keeps the chick from drying so that it cannot get out of the shell. Keeping the eggs shaped up to the hen's body keeps them warmer than when they are spread out flat, but there must not be eggs enough so that some of them get too near the outside air.

W. I. THOMAS.

Should we Raise More Ducks?

Editor "The Farmer's Advocate":

As one sees and hears so little in regard to the raising of ducks for market purposes, and as our neighbors across the line raise them so extensively, and apparently with profit, I have been led to wonder at the neglect of this particular branch of poultry-raising.

Since a stream or pond of water is not necessary for success, and as any land suitable for chicken-raising will do equally well for ducks, and as they are more immune from disease, are harder and easier raised than chickens, they prove very profitable. But it is important that a ready market be available before they can be raised extensively. This is of more importance in regard to ducks than chickens, as ducks, to be profitable, must be marketed as soon as they are fully feathered; that is, at about nine or ten weeks old.

Much good work has been done by our experimental farms and poultry stations towards teaching proper methods of raising and marketing chickens, and in developing our markets. Would it not be well to do more towards encouraging the raising of ducks?
King's Co., P. E. I. C. P.

Eggs Bring the Money.

Editor "The Farmer's Advocate":

It is very gratifying to the farmer, when his friends step on the place and he can show them, among other things of interest, a flock of hens of beautiful color, but it is far more satisfactory if he knows he has a strain of superior layers. Eggs, and not nice plumage, bring him his dollars and buy groceries. But eggs cannot be secured in paying quantities by any haphazard methods of breeding. The science of breeding for eggs is just the same as that of breeding for milk. The only way to succeed is to breed from producers, if you want to raise producers, whether it be cows or hens.

As to my own experience, I may say I always get my full share of eggs, and my hens have done well all winter. But I find, upon looking over the record sheets, that if my whole flock had made the average which was made by my 229-egg Barred Rock hen and her daughters, I would have had 27 1/2 dozen eggs more during December, January and February. These, at 25 cents per dozen, would bring \$7.00. However, the price I got would average 32c., or a difference of \$8.80 for only three months of the year. Is it not worth while improving the flock?

They were all fed and housed alike, and it does seem to me there is a great future for the Canadian hen, if we would arouse ourselves to the opportunities we have at hand for improving the laying qualities of our flocks.

These who are too busy to operate "trap nests" should secure cockerels or eggs for hatching from men who have given their time and attention to the work of development and improvement.
J. R. HENRY,
Wentworth Co., Ont.

The Sitting Hen.

Although artificial incubation is now almost universally adopted by all poultry farmers and fanciers, there are many who still trust to the "old hen." This may not be from any sentimental motives, but such people as cottagers and farmers, who keep a few poultry only, still find the broody hen most suitable for their circumstances. Success in natural incubation depends largely upon the nest. It must be properly made, and placed in a suitable spot. There need be no elaboration about the box. Size is the main thing, and it must be large enough to allow the hen to turn round comfortably. For preference place it upon the ground, and it may be closed in on all sides but the front, which should consist of a door, composed of bars of wood or fine-mesh wire netting. Just inside, at the front of the box, nail a strip of wood about three inches high, to prevent the nest from falling out or being drawn out of shape. Fill the box to a depth of about three inches with soil, and work it with the hand into a saucer-shaped hollow, pressing the earth well down. The hollow must not be too concave nor too flat. If the former, some of the outside eggs will roll down upon the others, and will be eventually broken; if the latter, the eggs will spread out to such an extent that the hen cannot cover them properly. Having formed the nest with the soil, the next thing to do is to line it with soft hay. Shake the latter out so that it contains no lumps, and then spread it evenly over the nest, working it down somewhat firm with the open hand. In winter time and early spring allow more hay than in summer. It is not necessary to damp the nest; in fact, the latter is far better left perfectly dry.

Always handle the broodies carefully. They are usually extremely excitable, and anyone who easily loses his temper would do well to entrust the management of this department to someone else. Place the hen for the first day or two on dummy eggs, and do not entrust her with more valuable ones until she has settled down, and become accustomed to the new nest. If she is very wild, it may be necessary to hang a sack or shutter over the door of the nest-box, so as to exclude the light.

The sitting hens should always be given a room or building to themselves, away from the other stock. Any kind of shed will do, so long as it is not too drafty,

and is kept clean and free from vermin of all kinds. A dust bath, grit and water must be supplied. One meal a day is sufficient for the sitters, and it may either consist of barley or cracked maize. Always feed at the same time each day, and if the hens will not leave the nests themselves, they must be gently lifted off. While they are feeding and dusting themselves, examine all the nests for any trace of vermin or broken eggs. In the case of the latter, or when a hen has fouled her nest, the eggs must be washed in tepid water, and clean hay supplied. During the first week of incubation, about ten minutes' cooling will be long enough for the eggs, but after that the hens may be allowed off for fifteen to twenty minutes in genial weather. It is a good plan to mark each nest-box with the date of setting and the time when the clutch is due to hatch, using white chalk.

On the twentieth day, hens' eggs should commence to hatch, and from that time until the whole of the live eggs are hatched the hen may be left undisturbed. It may sometimes be necessary, as in the case of a prolonged hatch, to place a little corn within her reach. Duck eggs may be treated in precisely the same manner as I have advised for hens. It is a mistake to suppose the former require additional moisture sprinkled upon them, and I am convinced that there are more failures in incubation through excess of moisture than through lack of it.

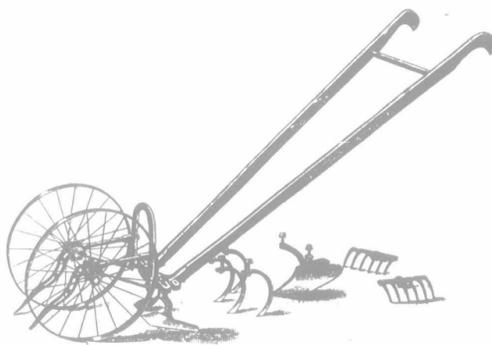
Everyone should make a practice of testing the eggs during incubation. At about the seventh day, if a fertile egg is held between the finger and thumb before a candle in a dark room, a black speck will be observed, and at the larger end the air-cell will be distinctly visible. An unfertile egg, on the contrary, is clear, and exactly like a fresh one. These, if removed on the seventh day or sooner, are perfectly good for culinary purposes. An egg that is added—that is, one in which the germ has died—has a dark shadow in the center, which fades off towards the edges. It also emits a most offensive smell. The removing of unfertile and added eggs is of great importance. The former can be put to some use, and the latter, if allowed to remain in the nest, poison the atmosphere by the gases they give off. Then, if two hens are set the same day, and there happen to be a large number of unfertile and "bad" eggs, the live ones that remain may often be given to one hen, and the other supplied with a fresh lot. Thus there is a great saving of time. To be able to test eggs quickly and correctly, one only needs practice, and, except in the case of eggs which have very thick, dark-brown shells, no elaborate testing apparatus is necessary.—A. T. J., in Ag. Gazette.

GARDEN AND ORCHARD.

The Farmer's Vegetable Garden.

As outlined in a previous issue, the farmer's vegetable garden should, for ease of handling, be laid out in the form of a long rectangle, say 75 by 300 feet, with the rows running lengthwise of the piece, and all rows placed sufficiently far apart to admit of horse cultivation. Mention was also made of the fact that a ridge in the field alongside the root or potato crop would be quite suitable if a more liberal amount of manure than that usually given to these crops is applied and well worked in. So, too, is it important to defer the planting of the vegetable garden until such time as the ground can be well worked. The planting of vegetables early on a piece of ground that is wet and has been hastily worked, is seldom productive of good results.

Generally speaking, the running of drills three feet apart, and raking them down to almost level, will give most satisfactory returns. On the other hand, however, especially on light soils, planting on the level is advisable. For this purpose the ground can be easily marked off with a sled



WHEEL HOE.
An invaluable tool for keeping a garden clean.

marker, which is easily and cheaply made, marking three rows at a time. For marking rows on a raked-off drill, I find a light hand marker, made of 1 1/2-inch wood, 4 inches deep, and about a foot long, rounded on the bottom and at the end, to which a handle is attached—a good device. After a little practice one can run rows straight and, at the required depth very quickly.

One of the handiest implement for garden work, if the ground has been properly prepared, is the 12-tooth horse cultivator. The two-wheel hoe,

too, is a great labor-saver, and should be included amongst the tools necessary for the proper care of the vegetable garden. With these two implements, very little hand hoeing will be necessary. Of course, it should be borne in mind that to allow weeds to get a start into vigorous growth increases the cost of cultivation, and, furthermore, these tools do not work well where such growth is rampant. Like the "Breed" weeder, they do satisfactory work only when the weeds are small. The fact is, that one of the chief causes for such unsatisfactory results from the average vegetable garden is that the weeds are allowed to get too much start of the crop before an attempt is made to subdue them. If the work is done when it should be with these two implements, one would be surprised at the small cost of labor required to keep a garden, even of this size, in perfect condition.

I do not wish to be misunderstood as saying that there is any danger of making soil too rich for vegetables, for seldom will any vegetable produce too rampant vegetative growth. But, on the other hand, it is surprising what good results can be had on a moderately fertile piece of ground by giving proper attention to cultivation.

It is entirely unnecessary to use hand tools in preparing the soil for the vegetable garden, if the work is not done until the soil is fit to work, when it can be put into perfect tilth to the depth required in a much better manner than any hand labor could possibly do it.

The following list of vegetables are those given in my annual report for 1905, when Horticulturist of the Maritime Experimental Farm, as the most suitable for the Maritime Provinces:

Peas.—Tall: Extra early, Surprise; early, Thomas Laxton; medium, Admiral Dewey; late, Telephone. Dwarf: Extra early, Early Excelsior; early, Mott's Excelsior; medium, Rivenhall Wonder; late, Juno.

Tomatoes.—Spark's Earliana.
Beans.—Green Pod: Early, Bountiful and Lightning; late, Refuge, or 1000 to 1. Golden Pod: Market Wax and Valentine Wax.

Corn.—Extra early: Extra Early Beverly and Peep o' Day. Early: Extra Early Cory and Premo. Medium: Crosby's Early.

Cucumbers.—White Spine.
Squash.—Autumn: Boston Marrow and Golden Hubbard. Late: Hubbard.

Parsnips.—Hollow Crown and Improved Half-long.

Carrots.—Chantenay or Early Gem.
Onions.—Australian Brown and Prizetaker.
Lettuce.—Curled: Grand Rapids. Cabbage: Improved Salamander.

Cabbage.—Extra Early: Paris Market. Early: Jersey Wakefield. Medium: Early Spring and Succession. Late: Late Flat Dutch. Red: Mammoth Rock Red.

Celery.—Paris Golden Yellow, Self-blanching.
Cauliflower.—Erfurt.

Beets.—Extra Early: Egyptian Turnip. Early: Eclipse.

Spinach.—Victoria.
Radish.—French Breakfast and Icicle.

Parsley.—Double Curled.
Citron Melon.—Colorado Mammoth.
Watermelon.—Cole's Early.

Eggplant.—New York, Improved Purple.
Brussels Sprouts.—Improved Dwarf.
Kale.—Dwarf Green Curled.

Turnips.—Golden Ball and Selected Purple-top Swede.

Rhubarb.—Linnaeus.

Asparagus.—Conover's Colossal and Argentile.

W. S. BLAIR,
Macdonald College, Ste. Anne de Bellevue, Que.

Cultivate the Orchard.

"The question of orchard-culture," says the veteran fruit-grower, J. H. Hale, "is one of the important things in connection with successful fruit-culture. If you don't intend to give your orchards the cultivation they need, to keep the soil stirred during the growing months, then don't plant an orchard. You must cultivate for the food of the plant and for moisture. A wonderful amount of moisture is required for the growth of trees and plants. If I were to choose between culture for three or four months during the growth of the fruit, and a ton or a ton and a half of fertilizer to the acre free of cost, without it, I would take the culture every time, and I am as much a buyer of fertilizer as anyone in America."

Good Prices for Apples.

The Georgian Bay Fruit Growers, Ltd., are again to the front, with highest prices in British market. March shipments of Spy, Ben Davis and Mann net average in all grades of \$4.55. In your issue of April 12th, re The Georgian Bay Fruit Growers, Ltd., where it reads, "shareholders receive from 25 to 40 per cent., as to variety, above buyers' prices," should have been 25 to 400 per cent., or, in other words, net us from \$1.25 to \$5.00 per barrel, clear of all expenses. Some of our apples sold as high as \$8.00. Buyers' highest prices were \$1.00 per barrel.
J. G. MITCHELL, Gen. Man.

The Fruit and Vegetable Garden.

The old system of planting most vegetables in raised beds, as our grandmothers did, says J. L. Hilborn, in the Ontario Farmers' Institute Report for 1905, is still practiced by many, but it is far too expensive and tedious an operation to be desirable on the farm. While it may still be practiced to advantage in small gardens, if the land is very flat and wet, I would not think of trying it under any other conditions. Even for the small garden, worked entirely by hand, I can see no excuse for the small raised beds, and am convinced much better results can be obtained if level culture is practiced.

No work about the farm will yield so much profit and pleasure as that applied to the garden. There should always be a small spot convenient to the buildings set aside as a place to grow all the small fruit and vegetables that the family can consume in a year. As this will be far the most profitable spot on the farm even from a financial standpoint, it should be well drained and well fitted up.

Select a piece that is eight or ten rods in length, so that it will be convenient to work with a horse. Get it well tilled early in the spring, and begin planting at one side with a row of blackberries; the Snyder is the best for this purpose of any variety that I have tried. It is smaller than some of the others, but it is sweet and hardy, and will succeed where many others fail. Next plant a row of red raspberries, if you like them (or if the family is small, half a row might be sufficient) of an early sort, the other half of a late kind, so as to lengthen the season. Turner, Brandywine and Marlboro are all good early sorts, while Cuthbert is the best late variety. A few bushes of Golden Queen will produce fine large berries, like the Cuthbert, only yellow in color. These are very attractive when mixed with the red and used raw. We much prefer the black raspberries, chiefly because they are the more wholesome. Plant two rows of these, including three varieties, to make a long season. Palmer for first early, Hilborn for medium, and Gregg for late.

Next to these plant a row made up of different varieties of currants and gooseberries, if you like them; and, last, but not least, one row of strawberries. For these I prefer to mix three or four varieties together, early, medium and late sorts; this will give a better yield and a longer season. Beder Wood, Bubach, Sharpless and Williams are excellent sorts. In clay soil I would plant Captain Jack instead of Bubach.

The rows of berries should not be less than six feet apart, and about three and a half feet in rows; strawberries about two feet apart in row. The cane berries will last for eight or ten years, if properly attended to. The strawberries should be replanted every two years. This is why I advise planting the patch close to the vegetable garden, as it can be changed among the vegetables when necessary to replant.

We always plant our vegetables beside the berry garden for convenience in cultivation, and, for the same reason, we run the rows right through the entire length of the garden. We plant the first two rows of vegetables one foot apart, then allow a space of three feet for cultivation, then two more rows one foot apart, another three feet space, and so on until all are planted.

We grow everything we want in the garden in this way—onions, lettuce, beets, parsnips, carrots, etc. If we do not want a full row of one kind we put two or more in a row. Plant several rows of good garden peas—early, medium and late. I also grow one row of sweet potatoes, and several rows of Irish potatoes for early use; also a few rows of early, medium and late sweet corn.

I put in the seed for the small vegetables very quickly, by using a line the length of the garden. Make a marker by using a three-sided stick of about twelve inches long and three inches wide on either side. Take an axe and dress one end the shape of a sleigh runner; bore an inch hole in the other end in a slanting direction, so that you can insert a handle that will allow you to walk upright, pushing the marker ahead of you and under the line as fast as you walk, making the mark deep or shallow as you want it for the different seeds; drop your seeds in this and cover with the back of the hoe.

If the land is well fitted, you will be surprised how quickly you can put in your garden in this way. A handy person can plant the whole list in two or three hours, and when it is put in in this shape, it requires very little time to run through it with the horse and cultivator once every week. If this is done, very little hand work is necessary, and excellent results will be obtained.

If the spaces between the rows are kept well cultivated, neither drouth nor weeds cause any check. One who has never tried this system will be surprised at the quantity and quality that can be produced for the amount of labor applied, and, also, at the improvement it makes in the bill of fare, to have an abundance of fresh vegetables and small fruits always on hand. Think, also, of the great saving in the grocer's and butcher's bills!

I have practiced this system just about as outlined for many years, and know whereof I speak, and am convinced that any family which has not in the past kept their table well supplied with fruits and vegetables grown in this way, will be delighted with the results, if this method is adopted and well carried out.

In my article on "Vegetables for the Farmer," "Half a dozen cauliflower seeds," instead of "one-half ounce." Lettuce to be planted outside is Nonpareil and Denver Market. J. W. RUSH.

High or Low Heading of Fruit Trees.

We quote as follows from a letter by Prof. H. L. Hutt, Horticulturist, of the O. A. C., Guelph, to whom we had written for his opinion on high versus low heading of fruit trees:

Much can be said in favor of low heads in fruit trees. In the bulletin, Apple Culture, this point is dealt with as follows:

"Closely associated with the heading back of the top at the initial pruning of the tree, is the question of determining the HEIGHT AT WHICH THE HEAD SHOULD BE FORMED. On this, as in many other points of orchard management, there is a variety of opinions. Some prefer high heads, because of the greater convenience for cultivation and working underneath; while others prefer them low, because of the greater convenience in pruning, spraying and harvesting. There are other reasons, however, why low-headed trees are preferable; in exposed locations the trees and crop are less likely to suffer from violent winds, and in northern localities the trees, with short trunks and low-spreading branches, are much less subject to injury from sunscald, the most serious tree trouble of the north. At the Algoma Fruit Experiment Station it has been found advisable to start the head not more than a couple of feet from the ground, while in the more favored sections the custom is to have at least four feet of trunk. This is the height at which the head is usually started on two- or three-year-old trees as obtained from the nursery, and for this reason it is better for the northern planter to get two-year-old rather than three- or four-year-old trees, so that he can start the head at whatever height he wishes. In this connection it may be stated that tree trunks do not lengthen, except by pruning off the lower branches, so that at whatever distance from the ground the lower branches are left, that will be the permanent length of the trunk.

"Three branches are enough to leave to form the main limbs or framework of the tree top. These should be evenly spaced around the trunk, to give a well-balanced and symmetrical top, and they should also be placed on the trunk, so as to distribute evenly the weight of the top and avoid bad crotches, which are liable to split down with weight of crop. It is particularly important at this stage that great care should be taken to trim the young tree in the way it should go, and much can be done in training and directing growth by heading back to buds pointing in the direction we wish the new branch to take."

Our circulars giving instructions to co-operative experimenters recommend the low heads (about 2 feet from the ground) for the northern districts, and leave it to the choice of the growers in the southern districts whether they adopt the high or low head. In most of the large orchards in the Western States they have adopted the low head, not only because of the protection of the trees from sunscald, but because of the greater convenience in pruning, spraying and harvesting the crop, and also less loss from windstorms.

With regard to the difficulty of cultivating under the trees, this is overcome to some extent by the use of special cultivators, which may be worked underneath the low-hanging branches. Then, again, there is not the same necessity for cultivation around the trunks, as the shade of the trees keeps down growth of weeds and grass.

THE FARM BULLETIN.

The annual meeting of the American Guernsey Cattle Club will be held at the Fifth Avenue Hotel, New York City, Wednesday, May 16th, 1906, at 10.30 a.m. The year now closing will mark a great gain in the Guernsey interests. During the year one Guernsey cow has given 14,920 lbs. milk that contained 857 lbs. of butter-fat, that is equivalent to 1,000 lbs. butter. More entries and transfers have been recorded than in any previous year. Mr. Wm. H. Caldwell, of Peterboro, N. H., is the secretary.

The total immigrant arrivals from the United States for the nine months ending March 31st, were 30,971, an increase of 5,731 over the same period of the previous fiscal year. From Great Britain and the continent the arrivals were 54,778, a gain of 3,898. The increase in arrivals for the nine months was, therefore, 9,629. For March alone the arrivals by ocean ports were 14,241, showing an increase of 6,299. Apparently there is no great need for haste in giving away land to induce immigration.

The National White Wyandotte Club, with headquarters at St. Louis, Mo.—R. C. H. Hallock, Secretary—claims to have the largest membership of any specialty poultry club in the world, viz., 1,543.

Twelfth Annual Canadian Horse Show.

The twelfth annual Canadian Horse Show will be held at the Armories, Toronto, Ont., Wednesday, Thursday, Friday and Saturday, April 25th to 28th. \$8,000 are offered in prizes, and every class is said to be well filled. Reduced rates may be obtained on the railways, as follows: Return tickets at single fare, good until April 25th; at fare and a third, good going April 26th, 27th and 28th. All tickets good to return up to Monday, April 30th. The show will be formally opened on Wednesday afternoon, by H. B. H. Prime, Attorney of Connaught.

Irish Migratory Laborers.

According to a report presented to the British Houses of Parliament on the Irish migratory agricultural laborers, in 1905, there is, in addition to a wide class of free and floating laborers, common in some degree to all countries, an annual movement of a large number of agricultural workers from Connaught and parts of Ulster, who find temporary employment mainly as potato diggers and harvesters, and who at the close of the season return for several months to their homes, chiefly in the west and north-west of Ireland. It is estimated that, approximately, 25,000 went to England and Scotland last year. Of these, over 20,000 went to England, while about 4,500 went to Scotland. It is estimated that the savings remitted or brought back to Ireland amount to not less than £275,000.

Results of inquiries made by the constabulary as to the number of migratory laborers who are landholders, and the size of their holdings, show that of the migratory laborers from Connaught, 2,599, or 23 per cent., were landholders; from Ulster, 404, or 14 per cent. As to the size of the holdings, the number of laborers having holdings "not exceeding 5 acres," was, in Connaught, 341, as against 2,258 with holdings "exceeding 5 acres." Of the holdings in Ireland exceeding 5 acres, which belong to migratory laborers, 88 per cent. are of a size not exceeding 20 acres. There are, however, cases in which holders of large tracts of land, exceeding 100 acres in extent, make a living out of their earnings as migratory laborers—the land of such holders consisting almost entirely of what is classified in the agricultural statistics as "barren mountain" and "waste." Thus it was found that on 24 holdings, exceeding each 100 acres, of which the occupants were returned as migratory laborers, a total of 60 acres represented the amount cultivated for grain and root crops, while the area under hay amounted to 65 acres, the remainder consisting of poor pasture and of waste and barren mountain land.

To a very large extent the non-landholding migratory laborers consist of the sons and daughters of holders, and that they are returned as working when at home on their parents' farms.

Sow Clover-seeded Grain Early.

Throughout March and April we had about as much winter as in all the other months before. Roads have been very bad, and heavy loads of lumber work them up terribly. How hay lands have stood the mild open winter is an unanswered question at time of writing. Some clover fields have rather a sickly look, and it is feared have not come through very well. But speaking of clover reminds me that farmers in this section are not doing one-half nor one-quarter what they might in the way of growing clover, which would produce for them much more abundant crops of hay, besides enriching their land in a way not even dreamed of by most of us. In the majority of cases, if a farmer has to buy several bushels of seed, or has a number of acres to seed down, he will buy his timothy seed, say a bag or two or three, as the case may be, and take his clover seed home in a paper bag, instead of, I was going to say, reversing the order, and this year, with clover seed at 20 cents per pound, the probabilities are we will rob ourselves still more. There does seem to be one great mistake, either not understood generally, or overlooked in some way, viz., that clover seed, to do its best, should be got in as early as possible in the spring. Of course, that means early seeding of grain—almost, invariably, the best—and a cooler time for the horses harrowing, which is quite an advantage. On the other hand, it may make a rush of work before the hay is all cut. But it will pay to sow clover first, last and always, whatever the price. Of course, Mr. Editor, there are a number of farmers growing considerable clover, but not so many as should. In beef, there is not much doing, only in local trade. In pork very little is offering; 8½c. to 9c. paid here. Butter has kept up well, and is still a good price; a great many are buying separators at present. Eggs, 16c.; potatoes, slow sale, around \$1 per bush. Horses seem to be on top at present. \$100 is asked for almost anything, and as high as \$200 has been paid, and is asked for large, sound horses, but they are few and far between now. Men are asking from \$20 to \$25 per month for the season. H. J. H. King's Co., N. B.

Put Your Name on the Gate.

Some weeks ago my attention was directed to the clause in your publisher's announcement, where you offer to pay for contributed matter of real value. I would never think of taking anything for myself. While the columns of your paper are free to all to ask, and you place all the information you have at our disposal, what more does any farmer want?

With regard to placing the names of the owner or occupant at the road gate of the farm, it could be done this way. Let each municipal council empower the pathmaster to reduce the number of days by, say, one day's work, to all who put up their name in a plain and neat manner at the road, and it would soon be done. Anyone would rather do that than a day's work. Where they do not have statute labor, each man might be entitled to a rebate of, say, one dollar in taxes, after putting up his board, the board, in both cases, to be maintained from year to year without any additional cost. What a lot of directing and mistakes it would prevent! And what interest it would add to travel to know whose people lived. COUSIN BILL. (Does not sign)

The Young Man on the Farm.

Editor "The Farmer's Advocate":

As a farmer's son, and constant reader of your valuable paper (which I consider an ideal one for the farmer or his son), I venture to offer a few suggestions regarding the boy on the farm, and the keeping of him there. I have been much interested in a recent article on this subject, by "Senecus," and though I cannot, from personal experience, look at the question from the man's point of view, yet I think that in some of his views your correspondent is a little too conservative.

In the first place, the farmer often makes a mistake in the very thing which he thinks will keep his boys at home. Before his sons have come to an age to decide for themselves, he adds, as fast as he can, to his farm, which, perhaps, is already large enough for his purpose. So the boy is sickened of farming by an overdose right on the start, and seeing before him the prospect of more land and more hard labor, he is, naturally enough, anxious to turn to other fields.

Just here let me say that we cannot expect all our young men to stay behind the plow. In the past history of our country the professional and commercial men of greatest ability have been raised on the farm, and these must still be supplied by the tillers of the soil, who are and must continue to be the backbone of our nation.

So, if a farmer finds that his son is more adapted to handle the pen than the hoe, he should do all in his power to help him, and feel as well satisfied as if he had stayed with him while his heart and interest were elsewhere.

A great many also object to our boys seeking homes in the far West. Now, I believe that the western districts of Canada offer more inducements to an energetic young man of small means than the older-settled Provinces; and, truly, if we wish to Canadianize and make useful, law-abiding citizens of the vast throngs of foreigners daily pouring into our great Northwest, we should be willing to spare some of our home-bred boys to settle among them, and show by their example what we expect every settler to become.

Then for the boy who remains at home: To succeed in this age of scientific farming, he should be equipped with such training as will best fit him for his work. I would strongly advise every boy who intends to farm to take a course in one of our first-class agricultural colleges, if possible, and take the best procurable farm periodical, of which, I think, he will find none to suit his purpose better than "The Farmer's Advocate." With such preparation, and by concentrating his energies on his work, he should be able to successfully compete with his fellow farmers in an art which is fast rising to take an honored place among the different pursuits of our land.

However, a farmer's son need not necessarily be found at home on every one of the three hundred and sixty-five days of the year. We all know the old saying, that, "Home-keeping youths have homely wits," and the man who never casts aside, for a time, all thoughts of work and worry, becomes, through time, like "The man behind the hoe," stupid and stolid; a brother to the ox, which no man should be.

As regards the class of boys who desire to continually drive on the roads (though I think they are not so numerous as some people imagine), I say let them try a travelling agency, or something of that sort. It may suit their abilities better than the steady routine

of farm life; but let our fathers look back to the time when they drove, or, perhaps, walked, at least once a week to the place which held for them the chief of all attractions, and I think they will not object very strongly to their sons following their example in this respect.

The subject is inexhaustible, which, perhaps, the editor's patience and space is not, so enough for this time.

Durham Co., Ont.

The Quebec Bacon Hog Sales.

(Ottawa correspondence.)

The Government sales of bacon hogs, held at Quebec centers this month, were successful in their main object of distributing a class of hogs that will help to keep the eastern factories going in the future. Sixty-five boars and forty sows of the Yorkshire or Tamworth breeds were sold. A large proportion of them went to the Ste. Hyacinthe and Joliette districts. The two other distributing centers were Cowansville and Huntingdon. The attendance varied from 250 at Cowansville to 500 or more at Ste. Hyacinthe. While high prices were not received or expected, fair returns were realized. On an average the loss per head over the purchase price was about \$3.25. Boars sold at prices varying from \$10 to \$25 per head, and sows at prices ranging from \$15 to \$50 per head. Of the 40 females, 25 were in farrow, and for these there was a keen demand. Following up the work of these sales, it is the intention of the Department to have introduced the most suitable systems of feeding and housing, with a view to producing hogs for which the market calls. There are now in the Province of Quebec three packing-houses, two in Montreal and one in Hull, with a capacity of 17,000 hogs weekly. The supply of these now is drawn almost entirely from Ontario.

It is likely that the Department will hold a series of Farmers' Institute meetings in Quebec in June next, with a view to the delivery of lectures and other instruction on raising hogs for bacon.

More Thinking Done on the Farm.

The past winter has been an exceptional one. During the whole winter there was not a week's sleighing. The weather has been so mild since New Year's that it has seemed really more like spring than winter. Wheat had a good start last fall, and if we do not get some great setback yet, the prospects will be good for a wheat crop. There was an unusual amount of plowing done last fall, and seeding should soon commence. Oats, round peas, barley and spelt are the only spring crops sown to any extent. Grass peas did well for a few years, some seasons yielding from 25 to 30 bushels per acre, but they were short lived, and where there used to be twenty acres sown there is not one now. Spelt is being sown quite extensively, as it makes splendid chop when mixed with other grains. The principal varieties of oats are the American Banner, Twentieth Century and Australian. Other new varieties are being introduced from time to time, but the above are the main sorts. No spring wheat is sown of any account. The idea of the general farmer at present is to do more thinking, and using the head as well as the hands. Grains are fed instead of being taken to market, thus keeping up the farm. Cattle and pigs are grown more extensively than a few years ago. Nearly all the hogs grown are shipped alive. Before we close we must say that a great deal of the success that the farmer is attaining is through the instrumentality of "The Farmer's Advocate"; wherever taken there is no paper more appreciated.

Lincoln Co., Ont.

Don't and Do.

Editor "The Farmer's Advocate":

I would like to write a few pointers for the help of young farmers starting in life. I have had 30 years' experience, and 12 years on the farm before that. I know what it is to be in debt, and I know how to enjoy being out of debt, and not without a large family could my home be so happy as it is.

After buying your farm, buy only these things that you really need. Do not go in debt to build.

If your old buildings are poor, it may pay you to get a few rolls of tar paper and some second-class lumber and shingle nails to line them up in the inside, and if you are handy at all you can make it warm for cattle, pigs or fowl, as well as for horses.

Keep the roof patched and waterproof.

Don't sign your name to any paper at all, without taking time and advice.

Don't try growing any new thing only on a small scale. Better a little at a profit than much at a loss.

Don't try to do too much, as the result will be as bad as trying to do too little.

Don't stay around the shop or store any longer than you have to, else your cattle, horses and pigs will be looking for their dinner or supper.

Don't wait till you want that plow or harrow, or any other implement, before you have it in perfect working order.

Don't wait till you want the seed; have it all ready in the bags to sow.

Don't trade, but sell and buy.

When you have an animal ready to sell, get all you can for it, but it don't often pay to wait for higher prices.

Don't work your wife or children to make money for you to buy tobacco or spend at the hotel.

Don't linger too long about thy neighbor's house, lest they or your dear wife will be weary.

Don't lose your temper when everything seems to go against you. We all have troubles.

Don't start out in winter on a journey, either alone or with your wife, without heating the feed of oats that you take in a pan in the oven good and hot. Put them in the bag; lay them on a blanket, and they will keep the feet warm for twenty miles, and then be warm for the horses. Also bring the cushion in the night before and warm it.

Don't skimp yourself of wholesome board, and go thinly clad, then pay the doctor a big bill next fall.

I enjoy your paper very much. If I had Andrew Carnegie's money, I would send "The Farmer's Advocate" to every farmer in Canada. Wishing you every success.

T. B.

Enforcing the Fruit Marks Act.

The Fruit Division reports the following prosecutions under the Fruit Marks Act:

Geo. Vipond, of Montreal, P.Q., was convicted, April 10th, of violating section 6 of the Fruit Marks Act, and was fined 25c. per package.

Geo. A. Aulsebrook, of Burford, Ontario, was convicted, April 14th, of marking inferior fruit "No. 1," and for this offence was fined \$1.00 per barrel. These apples were examined by Mr. J. J. Philp, Dominion Fruit Inspector, in Sault Ste. Marie. The Fruit Division has a large number of complaints of violations of the Fruit Marks Act in that town. It is insinuated that the absence of a fruit inspector in that district accounts for the fact that a poorer sample of apples has been sent there, apparently, than to places likely to be visited by an inspector.

A. McNEILL, Chief, Fruit Division.

MARKETS.

Toronto.

LIVE STOCK.

Cattle—Receipts of cattle at the Union Stock-yards and Toronto markets were not so large last week. The bulk of the best export and butchers' cattle go to the Union Stock-yards, while the bulk of common butchers', with a few odd loads of good butchers' and exporters, and nearly all stockers and feeders, sheep, lambs and calves go to the old city market.

Cattle receipts have not been so heavy, nor trade so brisk, owing to dull foreign markets for exporters, and local dealers having bought liberally for the Easter trade. Exporters sold, last week, at \$4.75 to \$5.15, the bulk going at \$5 per cwt. Export bulls sold at \$3.50 to \$4.12 1/2 per cwt. Choice picked lots of butchers' cattle sold from \$4.75 to \$5 per cwt; loads of good butchers' sold at \$1.50 to \$4.70 per cwt; medium butchers' at \$4.25 to \$4.40; common mixed loads at \$3.50 to \$4; fat cows sold from \$3 to \$4.25 per cwt.; butcher bulls, 1,000 to 1,300 lbs. each at \$2.50 to \$3.25 per cwt.

Stockers and Feeders—Trade in stockers and feeders has been about steady. The chief demand at present is for good-quality, short-keep feeders. About 600 changed hands at the following quotations: Best feeders, 1,100 to

1,200 lbs., at \$4.50 to \$4.75; best feeders, 1,000 to 1,100 lbs., at \$4.25 to \$4.60; best feeders, 900 to 1,000 lbs., at \$4 to \$4.25; best feeders, 800 to 900 lbs., at \$3.85 to \$4.10; best stockers, 500 to 700 lbs., at \$3.50 to \$3.65; common stockers, 400 to 600 lbs., at \$3.

Milk Cows—Trade in milk cows and springers has not been brisk, owing to a shortage in the supply of those of good quality. Buyers were on the market for a carload of choice cows to go to Cuba, which cost, on an average, \$50 each. This is the second shipment bought for that market. Prices ranged from \$30 to \$50 each, with an occasional cow of extra quality reaching \$60.

Veal Calves—Receipts have been large during the past week, nearly 1,200. Prices for the bulk ranged from \$3 to \$6.25 per cwt. An occasional new-milked calf brought \$7 per cwt.

Sheep and Lambs—Receipts light, with prices lower all round. Export ewes sold at \$4.50 to \$5 per cwt; bucks at \$3.50 to \$3.75; yearling lambs, \$6.25 to \$6.75 per cwt.; and spring lambs sold at \$3 to \$6 each. Two loads of American-fed yearling lambs were received on this market during the past week which were reported to be of fine quality.

Hogs—The packers have been trying to get hogs at lower prices, and have been quoting \$7.15 per cwt for hogs, fed and watered. Drovers report having paid from \$6.90 to \$7 per cwt. to farmers in

the country, which would mean that packers should be quoting \$7.25 to \$7.37 1/2, fed and watered at Toronto.

HORSES.

There was a good trade in horses last week; especially has the demand been good for drafters and delivery horses. Berns & Sheppard report the following prices prevailing this past week: Single realsters, 15 to 16 hands, \$125 to \$175; single cobs and carriage horses, 15 to 16.1 hands, \$140 to \$180; matched pairs and carriage horses, 15 to 16.1 hands, \$300 to \$500; delivery horses, 1,100 to 1,200 lbs., \$160 to \$175; general-purpose and express horses, 1,200 to 1,350 lbs., \$150 to \$180; draft horses, 1,350 to 1,750 lbs., \$170 to \$200; serviceable second-hand workers, \$70 to \$100; serviceable second-hand drivers, \$60 to \$90.

COUNTRY PRODUCE.

Butter—Stocks are increasing, and prices are slightly easier. Good demand for creamery prints at 23c. to 24c.; creamery boxes, 22c. to 23c.; large rolls, 20c. to 21c.; dairy lb. rolls, 21c. to 22c.; bakers', 17c. to 18c.

Cheese—Market steady; large at 14c., and twins at 14 1/2c., with fair supplies.

Eggs—Receipts large, with prices easier at 16c. for new-laid; cold-storage at 13c. to 14c.; limed, 12c. to 13c.

Poultry—Poultry of choice quality are scarce, with prices firm at 16c. to 17c.;

turkey gobblers, 15c. to 16c. per lb.; hens, 18c. to 22c. per lb.

Potatoes—Prices firmer, Ontario car lots, 75c. to 82c. per bag, and Eastern Delawares, 85c. to 90c. per bag, on track at Toronto. Quebec stock, 72c. per bag; Nova Scotia stock, 75c. per bag, in car lots, on track at Toronto.

Hay—Car lots of No. 1 timothy are quoted at \$8 to \$9, on track at Toronto; No. 2 at \$6.50 to \$7.

Straw—Good demand, at \$5.50 to \$6 per ton.

Beans—Hand-picked, \$1.50 to \$1.60 per bushel; under-grades, \$1.20 to \$1.35 per bushel.

Honey—Market firm for strained, at 9c. per lb., and \$2 per doz. for combs.

Vegetables—Turnips, per bag, 25c. to 35c.; cabbage, old, 40c. to 50c. per doz.; beets, per bag, 50c. to 60c.; onions, \$1 to \$1.25 per bag.

BREADSTUFFS.

Grain—Wheat firmer, at unchanged quotations. Wheat, No. 2 white, offered at 80c. outside; No. 3 red, 78c. 1/4; spring wheat, No. 2, 73c. bid; Manitoba, No. 1, 84c. bid, 85c. asked; No. 2 northern, 83c. bid.

Oats—No. 2 white, 37c. bid, outside; No. 2, mixed, 37c. bid, outside.

Corn—No. 2 yellow, 55c. bid, Toronto. Buckwheat—No. 2, 51c. offered, outside, 48c. bid.

Feedstuffs—Ontario bran, in Meyer's

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bags, on track at Toronto, \$21 per ton; shorts, \$22 per ton, on track here.

SEEDS.

The following are dealers' selling prices to farmers for seeding purposes: Alsike, No. 1, per bushel, \$7 to \$9; alsike, No. 2, per bushel, \$5.50 to \$6.50; red, choice, No. 1, per bushel, \$7.50 to \$9.30; timothy flail-threshed, \$2 to \$2.40.

HIDES AND TALLOW.

E. T. Carter & Co., wholesale dealers in wool, etc., have been paying: Inspected hides, No. 1 steers, 11c.; inspected hides, No. 2, steers, 10c.; inspected hides, No. 1 cows, 10c.; inspected hides, No. 2 cows, 9c.; country hides, flat, 8c.; calf skins, No. 1, city, 14c.; calf skins, country, 13c.; sheep skins, \$1.45 to \$1.65; horse hides, \$3.15 to \$3.50; tallow, rendered, 4c. to 4 1/2c.; wool, unwashed, fleece, 16c.; wool, washed, 25c.

Montreal.

Live Stock—Advises from England have indicated a rather firm market for cattle. The local market has settled back since the Easter trade. Offerings of choice stock small. Choicest steers, 5 1/2c., in a few cases; fine, 5c. to 5 1/2c.; good cattle about 4 1/2c. to 5c.; medium, 4c. to 4 1/2c.; common, 2 1/2c. to 3 1/2c. quality of the calves offering poor; only poor, young stock being in evidence. These ranged from \$1.50 to \$4 each. Spring lambs sold at \$4 to \$6 each, the supply being light, and sheep at \$5 to \$7 each. Hogs were rather easier in price, selects ranging around 7 1/2c., and mixed around 7c. to a shade lower.

Horses—Supplies light, and market firm. Heavy-draft, weighing 1,500 to 1,700 lbs. each, are quoted at \$250 to \$300 each; light-draft, or coal-cart horses, weighing 1,400 to 1,500 each, \$175 to \$225; express horses, 1,100 to 1,300 lbs. each, \$150 to \$200; choice saddle or carriage horses, \$350 to \$500 each, and old, broken-down animals, \$75 to \$125 each.

Butter—Market weaker. Choice creamery, 2 1/2c. to 2 3/4c.; fresh rolls, 20c. to 2 1/2c., with demand good, and supplies light. Old creamery about out of stock.

Cheese—New cheese, 12 1/2c. to 12 3/4c. Old cheese practically, if not entirely, sold out. Country boards are opening up.

Eggs—Market unsettled. Production large, but demand active. Price ranges about 15c.

Maple Product—Supply fair, and demand good, but consumers are afraid of not getting a pure article. Syrup, in wood, about 6c. to 6 1/2c. per lb.; in tins, 7c. to 7 1/2c. Sugar, 9c. to 11c. per lb. The syrup offered this year seems to be less adulterated than usual.

Dressed Hogs—Dressed hogs easier; 10c. to 10 1/2c. for finest, fresh-killed abattoir stock.

Seeds—Purchase-price quotations are succeeded about this season by dealers' prices to farmers. No clover seed arriving, and but little timothy.

Hay—No. 1 timothy, \$9 to \$9.50 per ton; No. 2, \$8 to \$8.50; clover and clover-mixed, \$6.50 to \$7.

Grain—Oat market unsettled. No. 4 store, 38 1/2c. to 39c. asked; No. 3, 39 1/2c. to 40c.; No. 2, 40 1/2c. to 41c. Wheat

markets stronger than a week ago. Manitoba about 93c., store, for No. 1 northern; Ontario white wheat held at 85 1/2c., store.

Hides—Dealers paying 9c., 10c. and 11c. per lb. for Nos. 3, 2 and 1, respectively, and selling to tanners at 4c. advance. Sheep skins are \$1.15 to \$1.20 each, clips and lamb skins being 10c. each, and calf skins, 13c. for No. 1, and 11c. for No. 2.

Buffalo.

Cattle—Prime steers, \$5.25 to \$5.75; shipping, \$4.75 to \$5.15; butchers', \$4.25 to \$5; heifers, \$3.75 to \$5; cows, \$3 to \$4.60.

Veals—\$5 to \$6.25, a few at \$6.50. Hogs—Heavy and mixed, \$6.90 to \$7; Yorkers, \$6.85 to \$6.90; pigs, \$6.80; roughs, \$6 to \$6.20; stags, \$4.25 to \$4.75.

Sheep and Lambs—Lambs, \$6.25 to \$7.30; yearlings, \$6.25 to \$6.50; wethers, \$6 to \$6.25; ewes, \$5.50 to \$5.75; sheep, mixed, \$3 to \$5.75.

Chicago.

Cattle—Common to choice steers, \$4 to \$6.25; cows, \$3.25 to \$4.30; heifers, \$2.75 to \$3.35; bulls, \$2.60 to \$4.25; calves, \$2.75 to \$3.25; stockers and feeders, \$2.75 to \$4.75.

Hogs—Choice to prime heavy, \$6.55 to \$6.72 1/2; medium to good heavy, \$6.60 to \$6.65; butchers' weights, \$6.65 to \$6.70; good to choice heavy, mixed, \$6.60 to \$6.65; packing, \$5.75 to \$6.65.

Sheep and Lambs—Sheep, \$4.25 to \$5.50; yearlings, \$5 to \$6.25; lambs, \$4.75 to \$7.05.

British Cattle Market.

London.—Cattle are quoted at 10c. to 11 1/2c. per lb.; refrigerator beef, 8 1/2c. per lb.; sheep, dressed, 13c. to 13 1/2c. per lb.; lambs, 14c., dressed weight.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.

2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1 must be enclosed.

Miscellaneous.

BEANS.

I have been reading in "The Farmer's Advocate" about a farmer in Elgin County having good success in bean-growing. I would like to grow some this year. Could you tell me the best kind to sow, and how many bushels to the acre, and where would be the best place to get them? J. P.

Ans.—A good rich, gravelly or sandy loam is best adapted for the production of beans, although in the bean district of Kent and Elgin there is nothing better than a well-drained black clay loam, but in some other parts they do not seem to do well on this kind of land, as they blight and rust. Heavy clays should be avoided. There are many varieties of beans grown. The Yellow Eye, Red Kidney, Turtle-roup pea beans, etc. The general favorite and the sort most extensively grown is the pea bean. They are good yielders, early to ripen, and have always a market. The other varieties are later, and the demand for them is somewhat limited, but the prices are often higher. About three pecks of pea beans, by measure, is considered nearly the right amount per acre. Yellow Eye and Red Kidney, from one to one and a half bushels per acre, as they are larger. There is nothing better to plant beans than an ordinary grain drill (eleven-hoe the best), using the 2nd, 6th and 10th tubes for planting. The wheel will then follow back in its own track each time. The eleven-hoe drill, set at about 3 1/2 bushels per acre, with three tubes running, will sow about 1/2 bushel per acre. Planting should be done about 1st of June. Beans can be had from bean buyers or seedsmen who advertise in "The Farmer's Advocate." GEO. L. LAIRD, Elgin Co., Ont.

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Life, Literature
and Education.



Charlotte Bronte (Currer Bell).

(Born, 1816; died, 1854.)

Reader, had you travelled in the right direction, upwards of 100 years ago, you might have come to a spot in West York, England, where, leaving the more sequestered vales and tree-covered slopes of kinder Britannia, you came to the bleak moors of the Northern country, marked, even then, by the villages of the manufacturing people, and the bare, unsightly walls of the woollen mills, scattered, with a practical disregard of the artistic, over the stubborn Northern wolds. And yet, too, when the wild heath was thick in flower, and the sky purple and gold with sunset, you might have thought this moorland country beautiful. Had your home been there you might have loved it.

In the very midst of the bare land, in the village of Haworth, stood an old, square, massive-looking house, unshaded by tree or vine. Haworth in those days was neither a pleasing nor, despite its fine airs, a beautiful spot. Its one curving street ran abruptly up and up a very steep hill, along which the houses clung as if by tooth and nail. At the very top stood the church, with a graveyard literally paved with graves, and beside the church stood the old house above referred to. On two sides of the little, treeless garden-plot about the house stretched the graveyard, but beyond that, "up above the whole world and the very realms of silence," reached the heather-covered moors and the breath of God's own heaven.

Had you gone into the stone house on a certain day at that time, you would have come upon a scene that would not likely have left you. You would have observed serious faces passing in and out of the rooms, and heard quiet feet stepping lightly over the stone floors, and by and by you would have seen a coffin carried mournfully out, with a solitary mourner following, and six little motherless children watching from the win-

dows. Afterwards, as has been told, it was pitiful, day by day, to watch the same six little creatures "walking out hand in hand towards the glorious moors which in after days they loved so passionately, the elder ones taking thoughtful care for the toddling wee things."

This sad death took place in September, 1821, and from that day the little Brontes grew up almost without the affectionate care and happy gaiety of home which come into the lives of most children. The father, the Rev. Patrick Bronte, though an Irishman by birth, appears to have been a man of singularly stern and austere character. He was not fond of children. Even his own were not permitted to eat with him, hence it is not wonderful that they held aloof from him, regarding him as a judge, rather than a father. As an example of the peculiar relationship between Mr. Bronte and his little ones, may be related one instance in which he put a mask on each child in turn, in order, as he thought, to reduce its bashfulness before him while he questioned it. And were ever such questions asked or such answers given by little, motherless bairns? Of the youngest he enquired, "What does a little girl like you most need?" "Age and experience," the answer, without a moment's hesitation. Of the next, "What should I do to your little brother when he is naughty?"—and the answer, "Reason with him, and if he refuses to listen to reason, whip him." And of the third (little Charlotte), "What is the best book in the world?" "The Bible." "And the next?" "The book of Nature." And so on, throughout the almost uncannily precocious six.

Of such extraordinary children something extraordinary was to be expected. As a matter of fact, of the five girls three became famous; two, equally promising, died before they came to womanhood. The one boy, with gifts uniquely, variously brilliant, threw all his talents to the wind, and, after a career of vice that made him a living death to his family, died, unhonored, if not unwept, at the age of 30.

As educational advantages were not to be had at Haworth, Mr. Bronte sent his three eldest daughters to school at Cowan Bridge, the institution since immortalized as "Lowood," in "Jane Eyre." Here it was that the two eldest sickened and died. In "Helen Burns" we see Maria Bronte. Consequently, Charlotte was brought home, and here, under the guidance of their father and their aunt, Miss Branwell, the education of the remaining children went on in its desultory way, which advanced them far beyond ordinary children in some things, leaving them lamentably ignorant in others. At this time, too, was it that the three, Charlotte, Emily and Anne, began the little Magazine, for which they wrote some of the strangest compositions ever penned by little hands—a pastime which, no doubt, suggested to them the career which was afterwards to become theirs.

In 1831 Charlotte was again sent to school, this time at Roe Head. "I first saw her coming out of a covered cart," says one of her schoolmates, "in very old-fashioned clothes, and looking very cold and miserable.

When she appeared in the school-room her dress was changed, but just as old. She looked a little old woman, so short-sighted that she always appeared to be seeking something, and moving her head from side to side to catch a sight of it.

She was very shy and nervous, and spoke with a strong Irish accent. When a book was given her, she dropped her head over it until her nose nearly touched it, and when she was told to hold her head up, up went the book after it, still close to her nose, so that it was not possible to help laughing." Nevertheless, during her several years in this school, as pupil, and then as teacher, there were many who learned to love the shy, clever, short-sighted little girl, and to give her the friendship, not only of a period, but of a lifetime. Emily, too, tried going to this school, and, later, teaching, but for Emily, "that free, wild, untamable spirit, never happy nor well but on the sweeping moors that gathered round her home—that hater of strangers, doomed to live amongst them, and not merely to live, but to slave, in their service"—there was no place but Haworth, and to Haworth, accordingly, she returned.

After leaving Roe Head, Charlotte spent some time as a governess, thus coming into contact with some of those women, narrow-minded, shallow, though gifted with wealth and position, whom she has since scored so mercilessly in her books. A terribly homesick time this was for the girl. "I could like to be at home," she writes. "I could like to work in a mill. I could like to feel some mental liberty." And yet she was obliged, at every spare minute, to busy herself with "oceans of needlework, yards of cambric to hem, muslin nightcaps to make, dolls to dress." "I used to think," she writes, "that I should like to be in grand folk's society; but I have had enough of it." Nevertheless, Charlotte Bronte was seeing life—the inner as well as the outer of it. She was, if unconsciously, gathering material for the "Jane Eyre," "Shirley" and "Vilette" of the future.

Weary of the life, she returned again to Haworth, and, under the necessity of making money in some way, the three sisters began to form plans for starting a school of their own. Feeling in need of further learning before setting the project afoot, Charlotte and Emily resolved to go to the Continent. Finally they settled upon Brussels, and here, accordingly, they spent some time in study, Charlotte afterwards remaining a term or two as teacher of English. To the friendship which was here formed between the young teacher and M. Heger, the principal of the school, those who would turn the limelight into the very heart and soul of those who have achieved, have professed to discover, upon the part of Miss Bronte, an unhappy and unrequited love. Regarding this, however, Mrs. Gaskell, in her exhaustive "Life of Charlotte Bronte," says not a word, and it is to be presumed that the story of a natural friendship has been grossly exaggerated.

Upon Miss Bronte's return from Brussels, the three sisters began to have new aims and aspirations.

Probably each was conscious of the possession of a talent which must find the ear of the world. At all events, Charlotte at last wrote to Southey regarding the advisability of a literary career for women. The long-delayed answer, if kind, was discouraging. "Literature cannot be the business of a woman's life," wrote the poet, "and it ought not to be." She was advised, moreover, to "keep a quiet mind." Subsequently she wrote to Wordsworth, with little better encouragement. But the brave hearts were hard to kill, and we read of the three, in the face of all this opposition, walking up and down the little parlor at Haworth, when night came and the room was lighted only by the fire from the grate, with arms about one another, discussing the plans of their future books.

Charlotte's first book, "The Professor," found no open door among the publishers. Nevertheless, in the very face of its refusal, at a time, too, of peculiar trial, when she had gone to Manchester with her father, who was becoming blind of cataract, she began "Jane Eyre." It was accepted at once, as were also "Wuthering Heights" and "Agnes Grey," by Emily and Anne, and soon all England, and America, too, were in a ferment to know who were these three "brothers,"—"Currer," "Ellis" and "Acton Bell," whose books were achieving such marvellous popularity. Of the three, however, Currer Bell (Charlotte) was most called for. "Jane Eyre" was slashed, hacked, riddled by the critics, yet it would persist in "selling," and publishers would persist in calling for more by the same facile pen.

Charlotte Bronte never wrote such another book. In her next, "Shirley," she tried to conform to the ideal set up by these critics. Her heroine became beautiful and more conventional than the plain and rather startling "Jane Eyre," but her work lost in strength. "Vilette" appealed more to the artistic literary model than either, yet it never was so taken up by the mass of the people. In our day we can see faults in "Jane Eyre." Its somewhat stilted style does not conform to modern ideas of ease in literature. Its characters often talk with a wisdom and solemnity beyond their years, and we wish the writer had not so often yielded to the then popular affectation of writing in French. Nevertheless, we find the story interesting throughout, and we recognize in it the strength which made Haworth a Mecca, not only of the casual sightseer, but of the literati of Charlotte Bronte's day and ours.

Haworth, however, had become expressively lonely to Miss Bronte. Her brother died in 1847, and quickly following him, Emily and Anne, of consumption. Charlotte was now left, broken in health, to walk alone in the little parlor. But she could not leave, because of her aged father. Judging from her description of the Messrs. Donne, Sweeting and Malone, and the hard, cold St. John Rivers, the writer had little love for curates as a class. Nevertheless, in 1854 she quietly married a Mr. Nichols, a curate of her father's who had long cared for her. Her

married life, though happy, was short. Before the year was out she slipped as quietly over the great dim bourne. Charlotte Bronte was dead; but her works still live.

The Record of Vesuvius.

The recent eruption of Vesuvius has given a new interest to the past record of Italy's great volcano, and at this time, the following, as compiled by the New York Sun, may be interesting. The Prof. Mattucci referred to is the same who has held his post at the Observatory during the recent time of terror with such indomitable perseverance and bravery:

For several years Vesuvius has been almost constantly in eruption, coming out of a long sleep on September 7, 1902, at a time when all the volcanoes of the world, both those known to be living and those reported dead, seemed to start into simultaneous activity. It was in the summer of 1902 that Mont Pelee erupted and destroyed St. Pierre, Martinique.

As early as 1901, Prof. Mattucci, a well-known student of Vesuvius, warned the Italian Government that the volcano was awakening from its long sleep, and that a break might be expected at any time. The activity which started again in September, 1902, has continued, with intervals of quiet, until the present eruption, which is said to be the most violent for many years.

This is the record of Vesuvius: In 63 A. D., during the reign of Nero, the volcanic nature of Mount Vesuvius first manifested itself in a series of earthquakes, which destroyed much property and damaged villas at Pompeii and Herculaneum.

In 64 A. D., an eruption and earthquake damaged Naples, and frightened the people.

On August 24, 79, in the reign of Titus, the volcano erupted with its most appalling fury, overwhelming Pompeii, Herculaneum, Stabiae and other villages of the district.

Vesuvius went into a sleep of 124 years, and let go in the year 203, during the reign of Alexander Severus. In the year 472 an eruption took place which was so violent that stories were told of ashes being carried as far as Constantinople. Between 472 and 1500 nine eruptions are recorded.

Vesuvius slept again from 1500 to 1631. On December 16 of the latter year a terrible outbreak of lava occurred. Huge clouds of smoke and ashes cast a gloom over Naples in the middle of the day, and extended with remarkable rapidity over the southern part of Italy, as far as Tarentum. The earth was convulsed by violent earthquakes, and seven streams of lava poured from the crater, overwhelming Bosco, Torre Annunziata, Torre del Greco, Resina and Portici. At least 3,000 persons lost their lives.

In 1767 there was an eruption of a violent nature which lasted nearly four months, and covered Naples with dense showers of ashes, greatly terrifying the citizens.

There were eruptions in 1737, 1760 and 1767, in which streams of lava poured from the crater, and showers of ashes descended on Portici, and even reached Naples.

In August, 1779, the outburst of the volcano was so violent that red-hot stones were thrown 2,000 feet in the air, and the country was covered with ashes and mud. The eruption of 1794 destroyed 400 lives. Lava flowed to the sea, and ashes were carried many miles.

Eruptions occurred in 1804, 1805, 1822, 1850 and 1855. During another, in 1858, the crater sank about 195 feet below its former elevation. December 8, 1861, an outbreak occurred which devastated Torre del Greco.

There was a period of quiescence, but the volcano became active once more in January, 1871. The eruption culminated on April 26, 1872. A huge stream of lava issued so suddenly from the mountain as to overwhelm twenty persons who were

watching the spectacle. Mass and San Sebastiano were partly destroyed. Red-hot stones and lava were hurled over 4,000 feet in the air. Terrific earthquake shocks accompanied the eruption.

Old Vesuvius nodded for thirteen years, but the eruptions which started in 1885 were comparatively mild. From 1891 till 1894 there was a series of outbreaks, which formed a great hill of slag, 3,143 feet high. A similar hill was formed from 1895 until 1899, nearly 3,600 feet high. In May, 1900, there was an eruption of some violence.

From September 7, 1902, until August 26, 1903, the volcano was almost constantly active, threatening Ottajano, and even Naples. Several times the inhabitants of the district were thrown into a panic. After a rest, the volcano became active in September, 1904. In May, 1905, there were a number of violent outbursts, and Vesuvius has continued to erupt at short intervals since

The veriest trifle becomes a mountain of difficulty, and the most open and honest act is construed as hiding the worst of motives. Where suspicion comes, love dies and jealousy reigns.

This mutual confidence is no mere happy accident. True, there are some natures so open and trustful that they never seek to analyze their friends' words or conduct. They take things at their apparent value, and have no suspicion. On the whole, these are the happiest natures, for what they suffer by being deceived, they escape by having minds that are free from mistrust. At the same time, confidence is built upon a solid foundation of fact and truth. The child believes the parent who has never deceived him, and the parent has no anxiety about the conduct of the child who has been habitually candid and open. Nothing can be of greater value, as far as the happiness of the home is concerned, than this fine old quality of honesty. All of us make mistakes; all of us do

are scores of men and women in your neighborhood worthy of your fullest confidence. Let these be your associates, and clear your mind once and forever of soul-destroying suspicion. J. A.

News of the Day.

THE CONVULSION AT SAN FRANCISCO.

Perhaps never in the history of North America was known such a terrifying convulsion of Nature as that which, on April 18th, devastated the City of San Francisco.

On the preceding evening the sun had set on one of the fairest cities in the world. Situated at the extremity of a peninsula, with the beautiful waters of the bay and the picturesque channel of the Golden Gate leading out to the ocean upon the one hand, upon the other the peaceful hills rising everywhere, the intervening space filled with handsome residences, parks gay with the rich beauty of California flora, crowded business thoroughfares, interspersed with buildings such as those shown in our illustrations—it seemed that San Francisco was surely one of earth's chosen places.

Then, before sunrise, in the gray and even more peaceful dawn, that sudden and terrible upheaval, beggaring imagination to follow. For three minutes—minutes which must have seemed like so many ages—the earth heaving and cracking; subterranean noises; buildings reeling, tottering, crashing to the ground; the shrieks of terrified people, and groans of the injured.

And yet, perhaps, the full horror was still to be realized. Before an hour, fires bursting forth everywhere, licking up edifices, and swooping down often upon human beings imprisoned in the wreck of beams and timbers; people searching madly for relatives, besieging the telegraph offices and the banks, which shut their doors upon them, or hurrying disconsolately to the hills, where thousands sat huddled beside such household effects as they could carry with them, looking down upon the awful conflagration now raging below. The roar of the flames could, even there, be distinctly heard, and ever and anon came the heavy shock of a dynamite explosion, as building after building, in a vain effort to stay the flames—for the water mains were broken—was blown up.

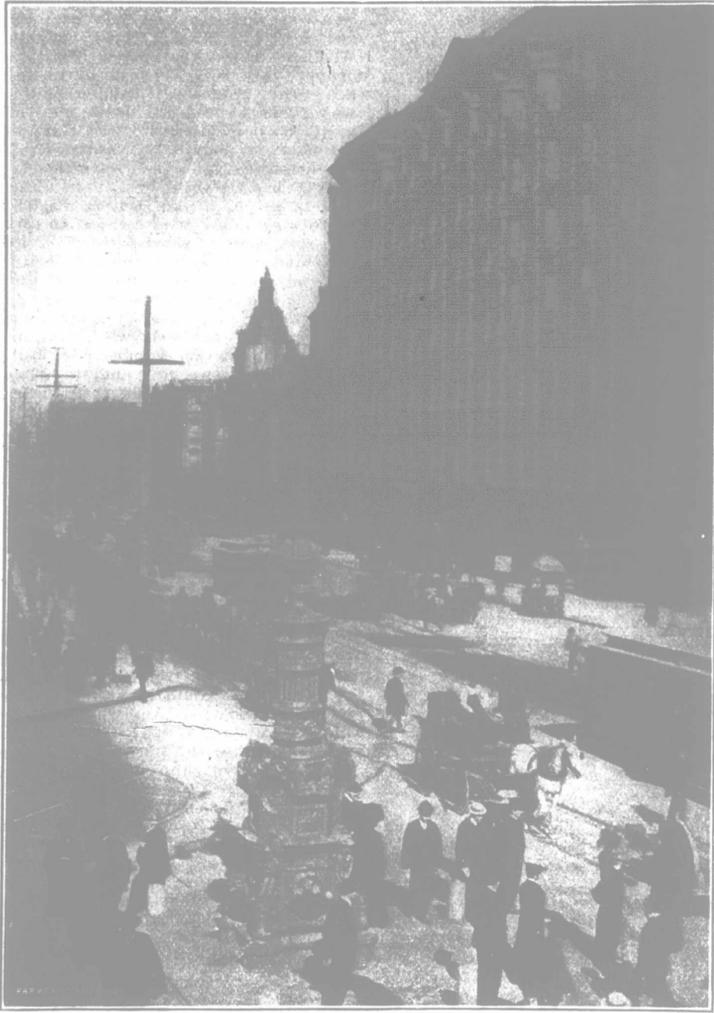
Those who ventured within the precincts of the doomed city have told, too, of revolting horrors only to be seen at close quarters—of thieves, prowling among the dead and into the deserted homes, gloating over the catastrophe that had thrown open to them the possibility of ill-gotten gain, and only to be stopped when the soldiery, as soon as the burning city was put under martial law, were ordered to shoot down all thieves without quarter.

And in almost every town within a radius of 60 miles of San Francisco a somewhat similar terror was experienced. At Palo Alto, 33 miles south of the city, the famous Stanford University was almost demolished. San Jose, Santa Rosa, Watsonville, Holister, Salinas, Berkeley—all suffered, and in nearly all lives were lost.

At latest reports, the total death roll has been put at several hundreds in the city, and over two hundred elsewhere in the State, although it may be some time before the exact number will be known.

It is interesting to note that, in Toronto, the seismograph in the Observatory registered a violent disturbance at 8.13 a. m. The earthquake, it will be remembered, occurred at 5.13 a. m. In Ottawa, the disturbance was registered at 8.30 a. m., while in England, the seismograph in the Wight Observatory showed fluctuations at 1.30 p. m.

As regards the possible connection between the earthquake and the eruption of Vesuvius, there is some difference of opinion among scientists. Sir John Milne, of the Wight Observatory, holds that the one was a concomitant of the other,



Palace Hotel, San Francisco, California.

Completely destroyed by fire.

then. On February 13 last the funicular railroad was destroyed by lava flow. It was repaired.

Confidence in the Home

Nothing has more to do with domestic happiness than mutual confidence among the various members of the family. If the various members of the household believe in each other, and have no worry about the conduct of their absent ones, there is scarcely any condition of life that may be feared. Sickness and poverty, even death itself, quite fail to shatter the bond that holds together the family that is united by mutual confidence—a bond that is lighter than the air, yet stronger than iron. On the other hand, no one can tell the bitterness and heartache that result when suspicion and distrust do their corroding work in the home.

wrong at times. Why should we add deceit to our wrongdoing? Let parents encourage children to own their faults, and then do all that love can do to correct these faults. Under all conditions, let the truth be told; nothing needs a lie. When absent from one another, let the same high standard of honor be maintained. If those at home think the absent one is hiding any misfortune or misconduct, the suspense and the suspicion are many times over harder to bear than the truth of the naked fact, however harrowing that grim actuality may be. And the same thing applies all through our lives, particularly in the realm of friendship. Give no one the place of friend till you have reason to trust him. Once your friend, trust him, for better or for worse. Employ only those you believe in, whether he be your grocer, your clergyman, your doctor or your hired help. There

while the Superintendent of the Greenwich Observatory believes that the earthquake was a direct consequence of the misbehavior of Vesuvius; and each has his followers. However it may be, scientists will be provided with a new impetus to study for long enough to come.

British and Foreign.

President Castro, of Venezuela, has retired for a time, owing to ill-health, and has been succeeded by Vice-Pres. Gomez.

Several Americans are taking part in the Olympic Games at Athens, Greece.

Four hundred thousand coal miners have been on strike in Pennsylvania during the past fortnight, and, as a result of riots, several lives have been lost.

It is, perhaps, necessary to correct a mistake in last week's issue, in which it was stated that Prof. Matteucci, the now famous scientist, was compelled to leave his post for a time during the worst of the eruption of Mt. Vesuvius. As a matter of fact, the Professor, his assistant, Prof. Perret, of New York, and two domestics, never once deserted the Observatory, even at the worst, when streams of lava could be seen issuing from the giant jaws of the volcano, and huge pieces of rock were being hurled 2,500 feet from the crater, while the very sun itself was hidden from view by the inky volumes of ashes and smoke which threw the earth below in the shadow of midnight, a midnight pierced with shafts of red light, and cut by the flashes of lightning which occurred ceaselessly throughout the eruption.

There seems to be something in the nature of men all over the world which steels them to the sticking-point in just such calamities as this. Another instance has been afforded by the telegraph operators of San Francisco, who, at imminent risk of their lives, stuck to their posts until further work was impossible because of the destruction of the wires. The operators of the Postal Telegraph Co., opposite the Palace Hotel, remained in the office until ordered out of the building because of danger from dynamite explosions. They then proceeded to Oakland, across the bay, and took possession of the office there.

The Sin of Worrying.

Some people seem to rake up all the sorrows of the past; to them they add the burdens of the present; then they look ahead, and anticipate a great many more trials than they will ever experience in the future.—[D. L. Moody.

How Humming Birds Hatch Out.

William Lovell Finley, the new naturalist-photographer, writes as follows in the Country Calendar for June, describing baby humming birds:

"At first the little capsules of eggs had a wonderfully delicate flesh tint of pink. Then, one morning, I stooped over the nest like Thomas of old. Someone had replaced the eggs with two tiny black bugs! There was a tiny knob on the end of each little bug that looked as if it might be the beginning of a bill. Each little creature resembled a black bean more

little mother darted at me, and poised a foot from my nose, as if to stare me out of countenance. She looked me all over from head to foot twice, then she seemed convinced that I was harmless.

"So she whirled and sat on the nest-edge. The bantlings opened wide their hungry mouths. She spread her tail like a flicker, braced herself against the nest-side, craned her neck, and drew her dagger-like bill straight up above the nest. Then she plunged it down the baby's throat to the hilt, and started a series of gestures that seemed fashioned to puncture him to the toes.



City Hall, San Francisco.

Cost \$7,000,000. Twenty years in building. Completely destroyed.

than a bird, for each possessed a light streak of brown down the middle of the back. They couldn't be beans, for they were pulsing with life in a lumpy sort of way.

"I went frequently to look at them. In a few days the little nestlings began to fork out all over with tiny black horns, until they would have looked like prickly pears had they been the right color. At the next stage each tiny horn began to blossom out into a spray of brown down, the yellow at one end grew into a bill, the black skin cracked a trifle, and showed two eyes. It was hard to see just how these black bugs could turn into birds, but day after day the miracle worked, till I really saw two young humming birds.

"When I first crawled in among the bushes close to the nest, the

Then she stabbed the other baby until it made me shudder. It looked like the murder of the infants. But they were not mangled and bloody; they were getting a square meal after the usual humming-bird method of regurgitation. They ran out their slender tongues to lick the honey from their lips. How they liked it!

"Then she settled down and ruffled up her breast feathers to let her labies cuddle close to her bosom. Occasionally she reached under to caress them with whisperings of mother-love."

If a man can only have one kind of sense, let him have common sense. If he has that and uncommon sense too, he is not far from genius.—Henry Ward Beecher.

How to Open a Book.

Here are a well-known bookseller's directions for opening a new book:

"Hold the book with its back on a smooth or covered table; let the front board down, then the other, holding the leaves in one hand, while you open a few leaves at the back, then a few at the front, and so on, alternately opening back and front, gently pressing open the sections till you reach the center of the volume.

"Do this two or three times, and you will obtain the best results.

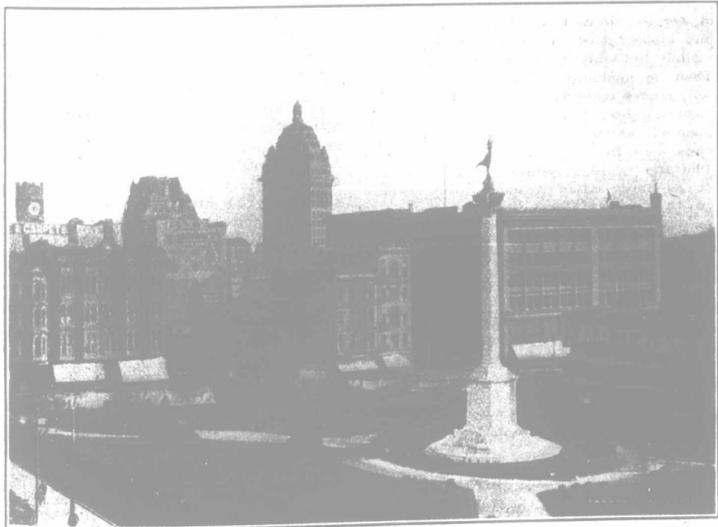
"Open the volume violently or carelessly in any one place, and you will likely break the back and cause a start in the leaves. Never force the back of the book.

"Many years ago, an excellent customer of mine, who thought he knew perfectly how to handle books, came into my office when I had an expensive binding just brought from the bindery ready to be sent home; he, before my eyes, took hold of the volume, and, tightly holding the leaves in each hand, instead of allowing them free play, violently opened it in the center, and exclaimed: 'How beautifully your bindings open!'

"I almost fainted. He had broken the back of the volume, and it had to be rebound."

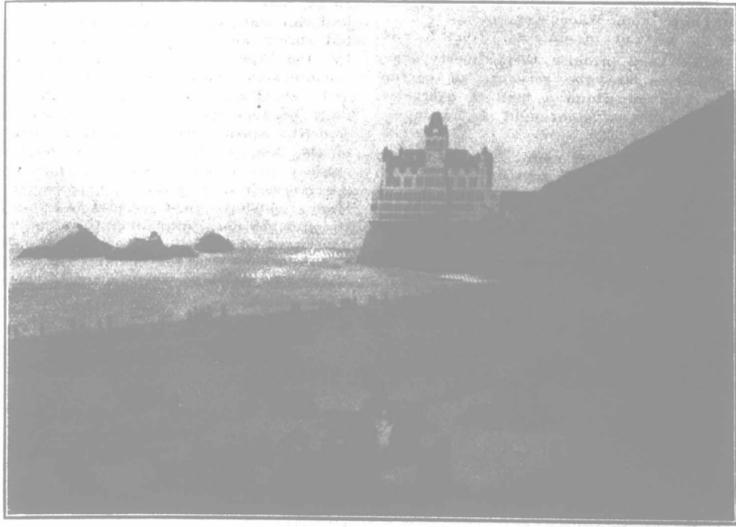
Facial Expression.

A man's occupation or condition has a good deal to do with making his facial expression. Intellectual pursuits, like studies or the scholarly professions, when occupied with temperance and moral habits of life, brighten the face and give a person a superior look. Magnanimity of nature or love of studies will make a bright, glad face; but, contrary to this, a man may have a face that does not please anybody, because of a love of self to the exclusion of all others, notwithstanding his learning and worldly shrewdness. Soldiers get a hard, severe look; overworked laborers constantly look tired; reporters look inquisitive; mathematicians look studious. Judges become grave, even when off the bench; the man who has had domestic troubles looks all broken up. An example of the ludicrous side of this subject is to see a third-class lawyer stalking around a police court looking wise as an owl. The business makes the face, I say. There is the butcher's face, the saloon-keeper's face, the beggar's face, the ministerial face, the lawyer's face, the doctor's face; all so distinct each from the other and singly, that one seldom fails to recognize those callings showing through the faces. And what city boy cannot recognize a genuine farmer on the street as a farmer the moment he sees him?—[The Churchman.



Union Square, San Francisco.

In the very heart of the shopping district. The tower in the distance is the noted "Call Building" tower. All destroyed by fire.



Cliff House, San Francisco.

San Francisco's famous summer resort on the edge of the bay. Reported swept into the sea by the recent earthquake.

About the House.

Article No. 3—Meats.

(Continued.)

Last week we dealt particularly with the roasting and boiling of meat. This week we propose to deal briefly with steaks, soups, stews, etc.

It is, for a great many people, a very difficult task to have beefsteak just as tender and juicy as desired. Usually the fault is that the fire is not hot enough. The steak "sizzles," the juice boils out, and the result is a tough, gray, unappetizing mass, instead of the rich brown article, deliciously juicy, with tints of rich pink in its depths. Occasionally, too, steak is fried to death, browned throughout, hard almost as a chip, and scarcely more digestible. Just here it may be noted that a taste should be cultivated for rather rare beefsteak, which is much more nutritious and much more easily digested than the well-cooked article.

Beefsteak should always be cut in rather thick slices, then pounded well across the cut ends, to break up the long fibres, so that the gastric juices may more readily reach them in the stomach. One authority states that the necessary tenderness may be obtained by soaking the steak 1½ hours before cooking in olive oil, but this, possibly, is not a plan which will be readily adopted by people who are obliged to economize.

Having wiped and pounded the meat, then, it may be either broiled or fried. To accomplish the former, have a good fire of clear coals, place the meat in a broiler (a wire toaster will do). Sear on one side, then on the other, as quickly as possible, so that none of the juices may escape, then continue to turn frequently until cooked. According as each piece is broiled, place on a hot frying-pan, season with salt, pepper and butter, and serve as quickly as possible.

To fry steak, have the pan very hot, either dry or greased, but never "swimming" with fat. Toss the steak on and sear well on each side, then cook VERY QUICKLY until brown on the outside. Season and serve at once.

STEWES.

In making stews, the meat should always be cut into small bits and thoroughly browned, along with any juicy vegetables that are to be used, e. g., onions. Next, the flour, a tablespoonful or so, should be added and browned. Then the water should be put on, sliced potato, carrot, etc., added, and the whole simmered for

two or three hours, the result being a rich brown, appetizing stew. As bits of the neck and cheaper parts of the meat may be thus cooked, stews are very economical, as well as nutritious.

SOUPS.

In making soup, it is, of course, not necessary that the juices should be retained in the meat at all. On the contrary, the object now is to get them out of the meat and into the soup, hence the meat used for soup should never be put into boiling, but always into cold water. When thus treated, as will be seen, the meat itself will be comparatively useless, and the foolishness of ever using a good cut for soup will appear. The water from a "boil" is, of course, to some extent, useful to serve as a vehicle in which vegetables, rice, etc., may be cooked to form a vegetable soup; but for richer meat soups, or when the water from a boil is not on hand, soup-bones, scraps, etc., of little use for anything else, should always be used.

Just here, however, we may say that soups (except when made of milk) are not very nutritious, the proportion of nutritive matter, unless when peas, beans, lentils, etc., are added in quantity, being very small. Even beef tea, when carefully made, has been proved, by chemical analysis, to contain only about two per cent. of nutritive material.

The deficiency is, of course, due to the excessive proportion of water. For this reason, it will be seen that beef tea, soups, etc., except when by direction of a physician, should never be depended upon to furnish nutriment to the sick. A distinguished English physician has said: "All the bloodshed caused by the warlike ambition of Napoleon is as nothing compared to the myriads of persons who have sunk into their graves from a misplaced confidence in the food value of beef tea." This is probably overdrawn, but it serves to emphasize the point. Beef tea may be rendered much more valuable by adding to it the beaten white of an egg; the latter must not, however, be put in until the tea has cooled somewhat, else it will harden.

It must not be inferred from all this, however, that soups are of no value. When used in moderate quantity at the beginning of a meal, they stimulate the flow of gastric juice in the stomach, and so assist in the digestion of the food subsequently taken. For this reason, a small quantity of soup might very advantageously form the introduction to each dinner.

PORK AND OTHER MEATS.

In regard to other meats not yet touched upon, it may be said that pork, with the exception of bacon, is one of the most indigestible. Bacon, strangely enough, is, when well crisped,

not only very easily digested, but exceedingly nutritious. Mutton, especially if fat, is not generally considered as digestible as beef. Veal is quite hard to digest. Breast of chicken and game, sweetbread and tripe, are all very easy of digestion, and quite valuable foods. Kidney and liver are not very readily digested, except when well chewed, or minced very finely before cooking. In all cases, they must not be fried in a quantity of fat. Fat, although valuable as a source of heat and energy, when taken in moderate quantities, is, when used to excess, very bad for the digestive organs, especially when cooked at a very high temperature. In winter it may be used more freely than in summer, a rule which may apply to all the parts of meat, as well as to the fat.

We hope, soon, to give a number of ways of cooking the different species of meats which may afford a variety that may be appreciated for the daily menu.

The Metamorphosis of an Old Brass Kettle.

An old brass kettle? The graceful, glittering jardiniere shown in our illustration does not look much like one, does it? And yet, the body of this jardiniere is nothing more nor less than an old brass kettle, which has seen its day of pickling and preserving—and, yes, perhaps, dyeing—just as any other old brass kettle of your grandmother's or mine. With new feet and graceful handles of brass, with its dull old sides polished to a glittering brightness, it has been metamorphosed almost as much as the chrysalis that burst forth as a butterfly from the gray homespun of the cocoon.

To come down to the prosaic fact, these kettle jardiniere are becoming very popular. We were told by a friend who travelled much last summer, that she saw them everywhere, even in our Eastern Canadian cities, sometimes in residences, sometimes in art-store windows, where, occasionally, they were "put up" at the modest little price of \$35 or \$40 each. When it is considered that these old kettles were probably bought up in the farming communities for 75 cents or a dollar, the profit will appear.

So now, when some one comes along wanting to know if you have "any old brass kettles lying around," you may be reasonably sure that the sly buyer is only after your Aladdin's lamp, and if you want to have a handsome jardiniere in your own house, be careful how you exchange "old lamps for new."



An Old Brass Kettle.

Photo by W. R. Marshall, London, Ont.

The Quiet Hour.

The Bondage of Sin.

Jesus answered them, Verily, verily, I say unto you, Whosoever committeth sin is the servant of sin.—St. John 8: 34.

While they promise them liberty, they themselves are the servants of corruption: for of whom a man is overcome, of the same is he brought in bondage.—2 St. Pet. 2: 19.

We hardly need our Lord's solemn "Verily, verily, I say unto you," to convince us that one who carelessly or daringly yields to the temptations of the world, the flesh and the devil soon becomes a slave, tied and bound with the chain of his sins. St. Peter's warning is a matter of everyday experience—those who give way to sinful self-indulgence have a false promise of liberty held out to them, only to find themselves entrapped and held fast in a cruel bondage. On all sides danger-signals are displayed, beacon lights warning men to avoid the hidden rocks which are sure to make shipwreck of happiness and real prosperity. Go into the slums of any great city, and you will see these danger-signals on all sides. They are written plainly on the dirty walls of comfortless rooms, on the hardened faces of men and the bold faces of women, on the swollen features, the shaky hand and with unsteady gait of the habitual drunkard. Miserable, neglected children,

with worse than no parents, find the sins of their fathers visited on their heads. One must be blind indeed who can shut his eyes to the fact that shame and misery dog the footsteps of sin, refusing to be shaken off. Even an animal or a fool can learn by his own sad experience, but surely we are wise enough to profit by the experience of others, and avoid the breakers which have ruined their lives and shattered their hopes. But this must be done in good time. It is folly to drift pleasantly down the swift current of the Niagara River, intending to row against the stream when the rapids are nearly reached, and it is far more recklessly foolish to yield without a struggle to temptation, intending to stop the downward course before the glory of manhood or womanhood is in danger of being lost. Sowing wild oats is not a harmless pastime, for what we sow that we shall most certainly reap, and no deliberate sin in deed or word or thought can fail to leave an ugly mark on soul and body. And to yield to small temptations without a struggle is a sure way of blinding the soul to danger ahead. Does anyone think that the poor drunkard, the miserable miser, the broken-down gambler or the hardened criminal had any expectation of falling so low when he let himself drift without self-restraint. He saw the danger-signals as plainly as you do, and had no intention of becoming a slave to his favorite pursuit. Sin promised to make him free, to give him pleasure, money

or power, if only he would disobey his conscience and God's commandments in a few trifling matters—all these things will I give thee," says the tempter, "if thou wilt fall down and worship me." It seems liberal payment for a small amount of service; but, too late, he awakes to find himself tied and bound with the invisible but mighty chain of bad habits. Then he probably struggles to free himself, makes resolution after resolution to reform, but the apparently easy-going master, whom he had willingly obeyed, rises up in his true colors, and, like Pharaoh of old, refuses to let him go. It is never safe to deliberately choose to do a wrong thing, thinking that it is only a small matter and you will not let it become a habit. Disobedience to our higher instincts is never trifling. That was the lie the Serpent used successfully in the Garden of Eden. He persuaded Eve that the wages of a small disobedience could not possibly be fatal. She accepted the subtle, lying logic—as many have done since—and found out that shame, disgrace, degradation and banishment followed swiftly. Is the punishment for sin too heavy in proportion to the guilt? Surely we can see in it the sternness of merciful love, the awful mercy of a wise surgeon who cuts swiftly and deeply to remove a deadly cancer while there is yet time. Well, indeed, it is for weak humanity that the downward path is paved with shame and misery, which cut deeply into body and soul. Like Balaam, those who try to

get what they want, when they know it is displeasing to God and contrary to their own higher nature, are stoppel over and over again by the dumb body on which the soul rides. The body is holy, being the temple of the Holy Ghost, and no one can indulge in the lusts of the flesh—in thought or word or deed—without losing something in the matter of physical vitality and gladness of spirit. Sins of the flesh, which may seem very trifling such as injudicious diet or laziness in the matter of healthy exercise, bring their own punishment, as all sins do. The man cannot do his work properly unless he keep the body, through which his soul must work, in as good condition as possible. One who drifts along in easy self-indulgent sonnets, that his will is a slave to his temperate body, and it is indeed a perilous time when the will gives its order and soul obeys.

How sad is the history of the weak-willed who, by giving away the reins, let an ignorant strength of his governing faculties, carelessly putting them to the test of temptation, and choosing the easy, ungodly companions, The tempter says to him, "No, I have not done enough to deserve your punishment, and help-deserve your punishment." It is strange to think that you can promise to do a thing, and then slip away from it.

enough to keep your footing where many have fallen. It is folly to think you can go just as far as you please, and stop when you choose. Others have thought so, too, and have wrecked the happiness of themselves and those who loved or followed them—for no one can sin without directly or indirectly injuring others,—we are members one of another, and if one member suffer, all the members suffer with it.

Let us take warning by the danger-signals, and never play with temptation, lest our life too become a blazing ruin, a beacon light to warn others that sin is a terrible slavery.

"As the foolish moth returning
To its Moloch and its burning,
Wheeling nigh and ever nigher,
Falls at last into the fire,
Flame in flame;
So the soul that doth begin
Making orbits round a sin,
Ends the same."

But I must change this doleful strain,
Or I shall hardly dare to sign myself
"Hope." Though we may of our own
free will deliver ourselves bound
and helpless into a tyrant's power, God is
our Father, the Great Saviour is our
Brother, the Holy Spirit is our Sancti-
fier—Three Persons, yet one in God, bent
on delivering us. The man sick of the
palsy was helpless, and another im-

perfect man had been enslaved for 38
years, yet He who came into the world
to set the captives free gave them
strength to arise and walk. Such
miracles still take place in the spiritual
world. Though men have to suffer for
their sins, they may, by God's help, be
delivered from the power of them. The
penitent thief was fully and instantly
forgiven, yet he died a death of physical
agony and public shame as the direct
consequence of his misdeeds, and, on his
own confession, this punishment was his
just reward. David's repentance was
met instantly by full and free forgive-
ness, yet his punishment was terrible
enough to stand as a warning for all
time to come. First came the death of
his child as the direct consequence of his
sin, then followed a long series of
trouble, rebellion and unnatural crime
among his own children—and David was
passionately fond of his children. The
judgment of God was literally fulfilled:
"The sword shall never depart from
thine house; because thou hast despised
Me, and hast taken the wife of Uriah the
Hittite to be thy wife." In addition to
all these sorrows, he suffered an intense
agony of spirit, as is revealed in the
penitential psalms. He felt that all
God's waves and storms had over-
whelmed him, and that his sins were a
sore burden too heavy for him to bear.
And yet many people think that David's
sin was lightly condoned and passed over.

He suffered terribly, though as a for-
given, not as an unforgiven sinner, and
warm at his heart all the time was the
knowledge of God's love towards him.
Real repentance is always met by full
and instant forgiveness, but that does
not stop by a miracle the natural conse-
quences of sin. A man may commit
murder in a fit of passion and repent
instantly, but that repentance will not
bring back life to his victim, give back
to the murderer the honor and respect
of his fellows, nor even save him from
the awful punishment of execution.
Though he may be sure of God's forgive-
ness, life can never be what it was be-
fore, repentance cannot undo the act; so
it is madness to sin wilfully, thinking
that repentance and absolution can be
easily obtained at any moment. God is
indeed very merciful, and His love is
shown as truly in making the way of
transgressors hard and painful as in
meeting the returning prodigal with a
Father's kiss of reconciliation.

"Fire proves the iron,
And trial proves the good.
Often we know not what our powers
may be,
But trial shows us what we really are.
Yet must we keep a careful watch to
meet the first approach,
For then an enemy is vanquished with
more ease;

If we will give no entrance at the gate-
way of the mind,
But meet him at his knock beyond the
lintel of the door.
And one has said,—
'Withstand disease's onslaught at the
gate,
The leech's after-thought may be too
late.'
For first upon the mind the simple
thought beats in,
Then comes the stronger picture of the
sin,
Then comes delight in it, and then
We basely meet it, and we yield.
And thus by slow degrees the wicked
foe gets in with all his power,
If at the first he finds no enemy;
And he who lazily puts off the fight be-
comes
Weaker and weaker every day;
Stronger and stronger is his foe."

Strong indeed is the foe, but God is
far stronger—and so are we if we hold
fast to Him. Those who draw nigh to
God will find to their joy that He has
in very truth drawn nigh to them; and
those who, in His strength, resist the
devil, will surely find that he can be
overcome.

"God makes for us chances to fight—
that we may win."

HOPE.

Glengarry School Days.

CHAPTER XIV.—Continued.

"Thanks, mother. That's the kind
of talk we like," said Hughie, who
had been a little depressed by his
father's rather gloomy views. "I'm
awfully sorry you can't stay."

"And so am I, but we must go.
But we shall be back in time for sup-
per, and you will ask all the team
to come down to celebrate their vic-
tory."

"Good for you, mother, I'll tell
them, and I bet they'll play!"
Meantime the team from the Front
had been having something of a jolli-
fication in their quarters. They
were sure of victory, and in spite of
their captain's remonstrances, had
already begun to pass round the
bottle in the way of celebration.

"They're having something strong
in there," said little Mac McGregor.
"Wish they'd pass some this way."

"Let them have it," said Johnnie
Big Duncan, whose whole family ever
since the revival had taken a total-
abstinence pledge, although this was
looked upon as a very extreme posi-
tion, indeed, by almost all the com-
munity. But Big Duncan Campbell
had learned by very bitter experience
that for him, at least, there was no
safety in a moderate use of "God's
good creature," as many of his fellow
church members designated the
"mountain dew," and his sons had
loyally backed him up in this atti-
tude.

"Quite right!" said the master,
emphatically. "And if they had
any sense they would know that with
every drink they are throwing away
a big chance of winning."

"Horo, you fellows!" shouted big
Hee Ross across to them, "aren't
you going to play any more? Have
you got enough of it already?"

"We will not be caring for any
more of you kind," said Johnnie Big
Duncan, good-naturedly, "and we
were thinking of giving you a
change."

"Come away and be at it, then,"
said Hee, "for we're all getting
cold."

"That's easily cured," said Dan,
as they sallied forth to the ice again.
"For I warrant you will not be suffer-
ing from the cold in five minutes."

When the teams took up their posi-
tions, it was discovered that Dan
had fallen back to center, and Hughie
was at a loss to know how to
meet this new disposition of the
enemy's force.

"Let them go on," said the mas-
ter, with whom Hughie was holding
a hurried consultation. "You stick

to him, and we'll play defense till
they develop their plan."

The tactics of the Front became
immediately apparent upon the drop
of the ball, and proved to be what
the master had foretold. No
sooner had the game begun than
the big defense men advanced with
the centers to the attack, and when
Hughie followed up his plan of sticking
closely to Dan Munro and hampering
him, he found Jimmie Ben upon him,
swiping furiously with his club at
his shins, with evident intention of
intimidating him, as well as reliev-
ing Dan from his attentions. But
if Jimmie Ben thought by his noisy
shouting and furious swiping to
strike terror to the heart of the
Twentieth captain, he entirely mis-
judged his man; for, without seek-
ing to give him back what he re-
ceived in kind, Hughie played his
game with such skill and pluck that,
although he was considerably batted
about the shins, he was never-
theless able to prevent Dan from
making any of his dangerous rushes.

Craven, meantime, if he noticed
Hughie's hard case, was so fully oc-
cupied with the defense of the goal
that he could give no thought to
anything else. Shot after shot came
in upon Thomas, and so savage and
reckless was the charge of the Front
that their big defense men, Hee Ross
and Jimmie Ben, abandoning their
own positions, were foremost in the
melee before the Twentieth goal.
For fully fifteen minutes the ball
was kept in the Twentieth territory,
and only the steady coolness of
Craven and Johnnie Big Duncan,
backed by Hughie's persistent check-
ing of the Front captain, and the
magnificent steadiness of Thomas in
goal, saved the game.

At length, as the fury of the charge
began to expend itself a little, Craven
got his chance. The ball had been
passed out to Dan upon the left wing
of the Front forward line. At once
Hughie was upon him, but Jimmie
Ben, following hard, with a cruel
swipe at Hughie's skates, laid him
flat, but not until he had succeeded
in hindering to some degree Dan's
escape with the ball. Before the
Front captain could make use of his
advantage and get clear away, the
master bore down upon him like a
whirlwind, hurled him clear off his
feet, secured the ball, dashed up the
open field, and eluding the two cen-
ters, who had been instructed to
cover the goal, easily shot between
the balsam trees.

For a few moments the Twentieth
men went mad, for they all felt that
a crisis had been passed. The failure
of the Front in what had evi-
dently been a preconcerted and very
general attack, was accepted as an
omen of victory.

The Front men, on the other hand,

were bitterly chagrined. They had
come so near it, and yet had failed.
Jimmie Ben was especially savage.
He came down the ice toward the
center, yelling defiance and threats of
vengeance. "Come on here Don't
waste time. Let us at them. We'll
knock them clear off the ice."

It was Dan's drop. As he was
preparing to face off, the master
skated up and asked the umpire for
time. At once the crowd gathered
round.

"What's the matter?" "What's
up?" "What do you want?" came
on all sides from the Front team,
now thoroughly aroused and thirst-
ing for vengeance.

"Mr. Umpire," said the master, "I
want to call your attention to a bit
of foul play that must not be al-
lowed to go on." And then he de-
scribed Jimmie Ben's furious attack
upon Hughie.

"It was a deliberate trip, as well
as a savage swipe at a man's shins
when the ball was not near."
At once Jimmie Ben gave him the
lie, and throwing down his club,
slammed his cap upon the ice, and
proceeded to execute a war dance
about it.

For a few moments there was a
great uproar, and then the master's
voice was heard again addressing the
umpire.

"I want to know your ruling upon
this, Mr. Umpire," and somehow his
voice commanded perfect stillness.

"Well," said the umpire, hesitat-
ing, "of course—if a man trips it is
foul play, but—I did not see any
tripping. And of course—swiping at
a man's shins is not allowed, al-
though, sometimes—it can't very well
be helped in a scrimmage."

"I merely want to call your atten-
tion to it," said the master. "My
understanding of our arrangements,
Mr. Munro," he said, addressing the
Front captain, "is that we are here
to play shinny. You have come up
here, I believe, to win the game by
playing shinny, and we are here to
prevent you. If you have any other
purpose, or if any of your men have
any other purpose, we would be glad
to know it now, for we entered this
game with the intention of playing
straight, clean shinny."

"That's right!" called out Hee
Ross, "that's what we're here for."
And his answer was echoed on every
side, except by Jimmie Ben, who
continued to bluster and offer fight.

"Oh, shut your gab!" finally said
Farquhar Bheg, impatiently. "If
you want to fight, wait till after the
game is done."

"Here's your cap, Jimmie," piped
a thin little voice. "You'll take
cold in your head." It was little
French Fusie, holding up Jimmie's
cap on the end of his shinny club,
and smiling with the utmost good

nature, but with infinite impudence,
into Jimmie's face.

At once there was a general laugh
at Jimmie Ben's expense, who, with
a growl, seized his cap, and putting
it on his head, skated off to his
place.

"Now," said Hughie, calling his
men together for a moment, "let us
crowd them hard, and let's give the
master every chance we can."

"No," said the master, "they are
waiting for me. Suppose you leave
Dan to me for a while. You go up
and play your forward combination.
They are not paying so much atten-
tion to you. Make the attack from
your wing."

At the drop Dan secured the ball
and, followed by Fusie, flew up the
center with one of the Reds on either
hand. Immediately the master
crossed to meet him, checked him
hard, and gave Fusie a chance, who,
seizing the ball, passed far up to
Hughie on the right.

Immediately the Twentieth forward
line rushed, and by a beautiful bit
of combined play, brought the ball
directly before the Front goal, when
Don, holding it for a moment till
Hughie charged in upon Farquhar
Bheg, shot, and scored.

The result of their combination at
once inspired the Twentieth team
with fresh confidence, and proved
most disconcerting to their oppo-
nents.

"That's the game, boys," said the
master, delightedly. "Keep your
heads and play your positions." And
so well did the forward line respond
that for the next ten minutes the
game was reduced to a series of at-
tacks upon the Front goal, and had
it not been for the dashing play of
their captain, and the heavy check-
ing of the Front defense, the result
would have been most disastrous to
them.

Meantime, the Twentieth support-
ers, lined along either edge, became
more and more vociferous as they be-
gan to see that their men were get-
ting the game well into their own
hands. That steady, cool, systema-
tic play of man to man was some-
thing quite new to those accustomed
to the old style of the game, and
aroused the greatest enthusiasm.

Gradually the Front were forced to
fall back into their territory, and to
play upon the defensive, while the
master and Johnnie Big Duncan,
moving up toward the center, kept
their forward line so strongly sup-
ported, and checked so effectually any
attempts to break through, that
thick and fast the shots fell upon
the enemy's goal.

There remained only fifteen minutes
to play. The hard pace was begin-
ning to tell upon the big men, and
the inevitable reaction following their
unwise "celebrating" began to show

itself in their stale and spiritless play. On the other hand, the Twentieth were as fresh as ever, and pressed the game with greater spirit every moment.

"Play out toward the side," urged Dan, despairing of victory, but determined to avert defeat, and at every opportunity the ball was knocked out of play. But like wolves the Twentieth forwards were upon the ball, striving to keep it in play, and steadily forcing it toward the enemy's goal.

Dan became desperate. He was wet with perspiration, and his breath was coming in hard gasps. He looked at his team. The little Reds were fit enough, but the others were jaded and pumped out. Behind him stood Jimmie Ben, savage, wet and weary.

At one of the pauses, when the ball was out of play, Dan dropped on his knee.

"Hold on there a minute," he cried; "I want to fix this skate of mine."

Very deliberately he removed his strap, readjusted his skate, and began slowly to set the strap in place again.

"They want a rest, I guess. Better take off the time, umpire," sang out Fusie, dancing as lively as a cricket around Jimmie Ben, who looked as if he would like to devour him bodily.

"Shut up, Fusie!" said Hughie. "We've got all the time we need."

"You have, eh?" said Jimmie Ben, savagely.

"Yes," said Hughie, in sudden anger, for he had not forgotten Jimmie Ben's cruel swipe. "We don't need any more time than we've got, and we don't need to play any dirty tricks, either. We're going to beat you. We've got you beaten now."

"Blank your impudent face! Wait you! I'll show you!" said Jimmie Ben.

"You can't scare me, Jimmie Ben," said Hughie, white with rage. "You tried your best and you couldn't do it."

"Play the game, Hughie," said the master, in a low tone, skating round him, while Hec Ross said, good-naturedly, "Shut up, Jimmie Ben. You'll need all your wind for your heels," at which all but Jimmie Ben laughed.

For a moment Dan drew his men together.

"Our only chance," he said, "is in a rush. Now, I want every man to make for that goal. Never mind the ball. I'll get the ball there. And then you, Jimmie Ben, and a couple of you centers, make right back here on guard."

"They're going to rush," said Hughie to his team. "Don't all go back. Centers fall back with me. You forwards keep up."

At the Drop Dan secured the ball, and in a moment the Front rush came. With a simultaneous yell the whole ten men came roaring down the ice, waving their clubs and flinging aside their lightweight opponents. It was a dangerous moment, but with a cry of "All steady, boys!" Hughie threw himself right into Dan's way. But just for such a chance Jimmie Ben was watching, and, rushing upon Hughie, caught him fairly with his shoulder and hurled him to the ice, while the attacking line swept over him.

For a single moment Hughie lay dazed, but before any one could offer help he rose slowly, and, after a few

deep breaths, set off for the scrimmage.

There was a wild five minutes. Eighteen or twenty men were massed in front of the Twentieth goal, striking, shoving, yelling, the solid weight of the Front defense forcing the ball ever nearer the goal. In the center of the mass were Craven, Johnnie Big Duncan and Don, fighting every inch.

For a few moments Hughie hovered behind his goal, his heart full of black rage, waiting his chance. At length he saw an opening. Jimmie Ben, slashing heavily, regardless of injury to himself or any others, had edged the ball toward the Twentieth left. Taking a short run, Hughie, reckless of consequences, launched himself head-first into Jimmie Ben's stomach, swiping viciously at the same time at the ball. For a moment Jimmie Ben was flung back, and but for Johnnie Big Duncan would have fallen, but before he could regain his feet, the ball was set free of the scrimmage and away. Fusie, rushing in, had snapped it up and had gone scuttling down the ice, followed by Hughie and the master.

(To be continued.)

Ingle Nook Chats.

Aunt Patsy's Meat Pie—Chocolate Cake.

Dear Dame Durden.—Here is another lover of Ingle Nook chats, I enjoy them so very much. And now I want to thank Aunt Patsy for her meat-pie recipe. It is delicious. I hope she will soon tell us how she makes her puff-pie paste. I think there are a good many "Totties" who need lessons on making good pie-crust.

I was just thinking to-day that our dear Dame Durden must require a great deal of patience to be so considerate of everybody, and she certainly deserves credit.

I wonder can someone tell me how to fry beefsteak so as it will be nice and tender. I have tried nice tender beef several times, and it would always be tough.

I have not noticed a recipe for chocolate cake in your columns, so will give mine, which I think is very good, and it may be a benefit to someone.

Five cents' worth of baking chocolate, 1½ cups raw sugar, yolks of 2 eggs, ¼ cup butter, ¼ cup sweet milk, 2 cups flour, with 1 teaspoon soda and 1 of vanilla.

Grate the chocolate in a granite dish. Put yolks of eggs in that, also ¼ cup sweet milk. Cook on the stove until it thickens; then take off, and add butter and rest of the milk. Mix well, and add the rest. Bake in layers.

Icing sugar, mixed with a little cream, makes a nice icing.

Now, Dame Durden, I shall not be at all offended if this letter is laid aside for one of more importance.

MOTHER'S HELP.

Grey Co., Ont.

A good method for cooking beefsteak will be found in this issue in "About the House." I think you must be a jewel of a "Mother's Help."

Cider Vinegar.

I have read in "The Farmer's Advocate" of March 1st and of March 22nd, recipes about making cider vinegar. We saw a recipe two or three year's ago, and have made cider vinegar since, and always get the best of vinegar. It is strong and very nice and clear-looking. Here is the recipe as it was in "The Farmer's Advocate": To every 10 gallons of fresh cider add one gallon of fresh soft water (boiling hot). Toast a large, thick slice of bread; soak thoroughly in good, fresh yeast; put into the barrel with some mother vinegar. Keep the bung-hole open with a piece of cheese-cloth tacked over the hole to keep out dust and flies. Not good in less than two or three months. Try it, it will make very good vinegar. This recipe alone was good for. The Farmer's Advocate, March 1st, 1904. JOHN COOK.

Macaroni—Charlotte Russe—Rhubarb Wine—Pancakes.

Would you please give me, through your columns, the following recipes: Macaroni cheese, Charlotte Russe, rhubarb wine, also a good recipe for pancakes? Smith's Falls, Ont. M. C.

Macaroni and Cheese.—In this recipe, the ham may be omitted, if preferred: Half a pound ham, 2 ounces grated cheese, a little onion and parsley, and some boiled macaroni, pepper and salt. Grease a mould. Chop onion and parsley, grate cheese, chop ham. Put some macaroni at bottom of mould, then a little ham, cheese, parsley, onion, pepper and salt. Repeat this until the mould is full. Then whip up three eggs with half cup (or more) of sweet milk. Pour in, and steam one hour. Turn out, and serve with a little tomato sauce poured round.

Pancakes.—(1) One quart sweet milk. Add crumbs to make a thin batter, 3 eggs (beaten), a little salt, and 2 table-spoons flour. Mix, and fry by spoonfuls on a hot, well-greased griddle. (2) Two cups flour, ½ teaspoon salt, 1 level teaspoon soda, 1 teaspoon baking powder, 2 cups sour (thick) milk.—From Boston Cooking School.

Rhubarb Wine.—Cut stalks, and boil in proportion of 6 lbs. to the gallon of water. Add 4 lbs. sugar, or 6 lbs. raisins, to each gallon of strained liquor. Boil again. Put in crock or keg; cover the opening with cheese-cloth, and set in a warm place until fermentation ceases; then bottle, seal, and put in a cool, dark cellar.

Can anyone send a good recipe for Charlotte Russe?

Stains in Clothing.

Dear Dame Durden.—Can anyone tell me what will take the yellow stains from clothes, caused from boiling in a brass kettle? SUBSCRIBER.

We do not know what will remove this kind of stain. Can anyone answer?

"A New Canadian Friend."

Dear Dame Durden.—I have long been a reader of your Ingle Nook chats, and am so delighted to read your interesting letters. Glengarry School Days is very interesting. May I come in for a wee chat with you? We have taken "The Farmer's Advocate" for over three years. We were delighted with the letters the Alberta Nurse put in, and the answers. I don't think I missed one of them. I have tried the flour on pie tins, and find it far ahead of greasing them. Please, can anyone give me a good recipe for making Johnnycake?

Wishing your Ingle Nook every success. A NEW CANADA FRIEND.

A Good Recipe for Johnnycake.—One large cup corn meal, 1 small cup flour, ½ cup sugar, 2 eggs, 2 teaspoons baking powder, 3 table-spoons melted butter, 1 teaspoon salt, milk to make a thin batter. Bake in a biscuit tin.

Raising Money for Church.

Dear Dame Durden and Chatterers All,—I have been enjoying the Ingle Nook chats so much that I would like to help a little if you will permit me. It is my first attempt. I will talk a while to Trix in regard to raising money for church purposes. We were once in need of money for our church, and the members were unwilling to collect. No one made any move to help, and I felt worried, and thought out a plan to raise the needed money. Two of the members had already said what they would subscribe, so I asked if they would sign their names to a subscription list, and pass it on. It took a few weeks to get around the neighborhood; other kindly neighbors helping as well as members. A member would take the list and ask the neighbor or friend if they would like to help. The result was more than was asked for. "Bring ye all the tithes into the storehouse that there may be meat in mine house, and prove me now herewith, saith the Lord of hosts, if I will not open the windows of heaven and pour you out a blessing that there shall not be room enough to receive it."—Mal. 3: 10.

Giving brings with it a blessing richer than pen can describe, and I never felt any blessing result from raising money by ice-cream socials and parties for God's House. I believe in church members having social gatherings and very happy times together, but let us be careful how we raise money for God's House. Fearing I have written at too great length, I will thank you all for your nice replies and helpful suggestions. I have been shut in, but am raised up again to minister to my family. Those verses were beautiful, by "A Farmer's Wife." I am also— A FARMER'S WIFE.

From Another.

Dear Dame Durden and Ingle Nookers.—I did not intend coming again so soon, but as Trix is asking for suggestions along the line of raising money for church purposes, our experience may help. Our Ladies' Aid held a handkerchief bazaar. We bought 100 post cards, had them printed with verses from a copy-card. Distributed these among the members and others, asking them to send them to their friends. These verses asked the friends to send a handkerchief for our bazaar. They were sold at reasonable prices, and amounted to \$73. I would gladly correspond with Trix, sending her a copy of the cards, if she thought best to allow you, Dame Durden, to give me her address. I may, some time, send a recipe for bread house, but must hurry away now. RUBY. Middlesex Co., Ont.

A Good Suggestion.

Dear Dame Durden. Now that the momentous question of Banbury tarts is satisfactorily settled, may I venture to introduce another topic, and if it will arouse one-half the interest which they did, I will be pleased.

My! what a rallying there was to the rescue of "our chief" over these tarts.

Why! they acted as that veritable "touch of nature" which stirs up our kinship in such a general way, you know, and our cousins from "over the border" heard the call, and furnished their quota, and even our friend, Wingham, "sat up and took notice."

I have wanted to write for some time, but I really felt it would not be quite "the thing," unless I could bring a Banbury tart in my hand—sort of a passport, you know, and certain sure I was, that I knew of nothing of a Banbury nature (pretty name, too, is it not?) except the old nursery rhyme we used to sing. And if I attempted to conjure up a recipe different to the variety already in, I fear it would tax the skill of the proverbial Philadelphia lawyer. So you will understand my reason when I inferred that, perhaps, there had been "enough said."

Now, my query is this: Would someone kindly say what she has seen or even thought of as a practical, instructive and really interesting "special attraction" at a country fall fair?

Something of interest to women in general, and the "farmer women" in particular. We have had practical demonstrations of cooking at times, and they were excellent, but a suggestion as to something different will be most acceptable. A plan that has pleased you and others at some fair, perhaps your own, or if your idea has never been tried, why, tell us anyway, please.

Bruce Co., Ont.

BERNICE.

Cream Puffs.

Dear Dame Durden.—I have taken much interest in your Ingle Nook chats, but have never seen a recipe for cream puffs. I would like to have the recipe very much, and would be much obliged if you could help me. GERTRUDE. Huron Co., Ont.

The following is a very good recipe for cream puffs.

Put 1 cup of boiling water in a granite saucepan on the stove, and keep it boiling fast. Put into it ½ cup butter, and when boiling again, add 1 cup flour, stirring briskly. When this seems cooked, set away to cool. When cold, mix in three eggs (without beating them first), one by one, and when thoroughly blended, drop in rough spoonfuls on a buttered baking-pan, and bake in a rather hot oven for 25 minutes. When cold, cut open a little at the side and insert custard or stiff whipped cream, sweetened and flavored.

Recipes.

Roll Jelly Cake.—Three eggs, beaten with 1 cup sugar; 1 cup "Five Roses" flour; 1 teaspoon cream tartar; ½ teaspoon soda, dissolved in water.

Tea Cake.—Break an egg in a cup, fill with sugar, beat thoroughly. Add 1 cup thick sour cream, 1 teaspoon soda, a little salt, half a nutmeg, and "Five Roses" flour to make a stiff batter. Bake 20 minutes in a moderate oven.



A Lover's Tale.

I wrote a letter to my love,
But as I had no stamp, miss,
I thought I'd take it her myself;
So started on the tramp, miss.

But when I came to where she dwelt,
I thought it wouldn't do, miss,
To write a letter to your love
And go and take it, too, miss.

So when I saw the telegraph,
I clambered up the pole, miss,
But in my coat I got a skag,
And in my thumb a hole, miss.

I left the letter on the wires—
You hear how loud they buzz, miss,
I think it means they're taking it—
In fact, I'm sure it does, miss.

They'll bring me back an answer soon;
I 'spose they'll not be late, miss,
I ought to be at school at nine,
But here I mean to wait, miss.

Old Whackelback has got a cane;
He uses it with force, miss;
But as I've written to my love,
He'll have to wait, of course, miss.

So tell her if you see her, miss—
Remember if you can, sir,
You've seen me by the telegraph,
Waiting for an answer.

Story of a Dog.

A Russian terrier one day entered the drawing-room where his mistress was sitting, and made signs for her to go to the door. When she paid little heed to him, he pulled her gown with his teeth, and she, thinking there must be some unusual reason for his earnestness, rose up and followed him. The instant she opened the door, he seated himself on the mat, joyfully thumping the floor with his tail, and looking first at his mistress, and then at six dead rats spread out before her, which he had killed and brought for her inspection.

WHAT PETS TO KEEP.

I suppose most of you have pets. I wish you would write and tell us what is the best kind of pet to have. It would, perhaps, help some cousin to make up his mind, and give us all new ideas about taking care of the pets we already have. COUSIN DOROTHY,
52 Victor Ave., Toronto.

Little Alice's Resolution.

Little Alice arose one bright May morning, just as the sun was peering through the white curtains of her little bed-room, and after offering a simple morning prayer from the depths of her happy heart, she said: "I will see if I cannot do good to someone this day. I know I am only a little girl, but I feel sure I can do something." And with this good resolution in her heart, she descended to the dining-room just as the bell rang for family worship.

When breakfast was ready, the baby cried, and would not sit on the carpet as usual, and amuse himself. Mother looked weary, and it was evident that she had a bad headache.

"Please let me take Willie, mother," said Alice. "I would rather wait, and I know he will be quiet with me."

"I should be very glad if you could divert him, Alice. Poor little fellow!" Alice borrowed Frank's marbles, and sat down with baby on the carpet. The bright-hued balls pleased him, and he loved to roll them about with his little fat hands. His sister patiently gathered them up when they rolled beyond his reach; and thus the meal-time passed. She did not envy her brother his warm breakfast; she thought of helping her dear, kind mother was a hundred times more satisfaction. The influence of a good example is often contagious; and, after breakfast, the usually careless, whistling Frank sat down and played with the baby while Alice was eating.

She did not think that now she had done enough for one day, but after baby had drunk his cup of new milk, she coaxed him into his cradle, giving him one of her gayest toys, and then sang a

sweet, lulling song, which presently soothed the restless little one into a quiet, refreshing slumber. It more than repaid all her trouble to hear the mother say:

"Dear Alice, you have helped me very much this morning, and your little brother will feel very much better for a good sleep."

Just then her grandfather entered, leaning on his staff, and walking feebly, as he felt more than usually unwell that morning. Alice sprang to his side, and assisted him to cross the room, where his easy-chair was placed by his favorite window.

"I will bring you in your toast and tea, grandfather, as soon as Margaret makes them," she said, cheerfully.

"Thank you, my child, but I do not care very much for them—my appetite is very poor to-day."

"Just try a little," she said, as she passed out into the kitchen. She returned presently with a nicely-laid tray, and placing it before him, she poured out a cup of fragrant tea, chatting pleasantly all the while. The old man's heart warmed as he listened to her sunny, cheering words. The breakfast was eaten with a relish he did not anticipate, and his wasted frame was refreshed and invigorated.

And thus she passed her day, going about the house with a sunny face, which delighted and did good to everyone around her. Not even the old cat and the chickens were forgotten. When she went to rest that night her heart was full of sunshine, and, with a thankful spirit, she renewed her good resolution for the coming day. Who of my little readers will form the same, and then carry it out as faithfully as did little Alice?

(Sent by) LIZZIE BENTLEY,
Harriston, Ont.

A Maple Sugaring.

I live in the town, and go to school every day. I am in the Fourth Reader. I passed in it at Christmas. We have been taking "The Farmer's Advocate" for about four years, and like it very much. I always read the "Children's Corner." One nice day last spring, I and some of my friends went down to my Uncle George's to spend the day making maple syrup. We got up early and went down to their place. We took some pails with us. On the way to the bush, we had lots of fun catching mice that were running under the thawing snow. When we got to the bush, we tapped the trees, and then began to boil. We were running around playing hide-and-go-seek among the large maple trees; then we made some taffy, and had a taffy-pull. We then went home, feeling very tired after our day of making maple sugar. EDNA SCHNEIDER (age 9),
Tavistock, Ont.

Another Book.

The book I like best is "A Peep Behind the Scenes." I like it because it is natural, and it also tells the wretched life that is led behind the scenes. There were the father, the mother, and the little girl. The father pretended to love his wife and child very much on the stage, but when he got behind the scenes, he said angry words to them, and while the mother was ill, he did not seem to care whether she died or not. He made the little girl dance and take part in the play, even while her mother was sick. The time came when the mother had to die, and she prayed that God would take care of her child, and lead her to heaven. She gave the little girl a locket, which her sister had given her, and told her not to let anybody see it, especially her father, for he would pawn it to make money. The mother had a sister still living, and she told the girl to try and get to her, which she managed after a long time. She spent the rest of her life there very happily. MIRIAM BROWN (age 12),
Chatham, Ontario.

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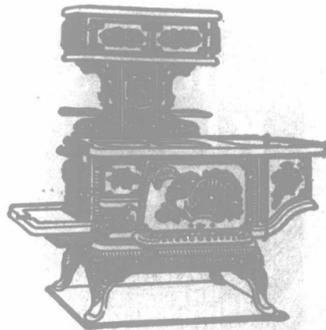
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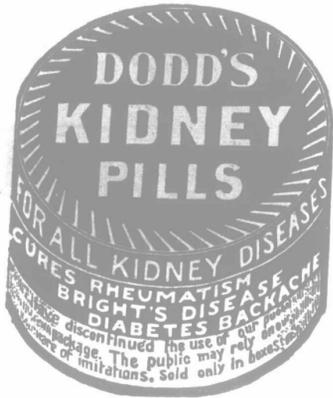
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With the Flowers.

Hollyhocks—Begonias.

Florist:—Have read your page in "The Farmer's Advocate" with much pleasure and profit, but do not remember every seeing anything about transplanting hollyhocks. I put in a few seeds last year, and they are too close together now that the plants have started. Would it be safe to transplant them? Can the roots be divided, or must the seed be sown to get plants always? How deep would the roots go into the ground? How far apart should the plants be. Do foliage and Begonia seeds come true to name, or is it better to buy the plants?

"SCOTCH THISTLE."

Brant Co., Ont.

Hollyhocks are biennials: that is, they grow for but two seasons, flowering the second. The root then dies, and unless you plant more seed, or it has seeded itself, you will have no more hollyhocks. Many kinds, however, keep on seeding themselves. Thus it is that you see them sometimes growing up in the same place for years. It is best to plant the seed in spring, so that good strong roots may be developed by winter. Then the roots should be hilled up and covered with straw or leaves, as a winter protection. When necessary to divide the roots, it is better, if possible, to perform the operation early in fall, but, with care, we think yours should do very well if separated now. Plant about two feet apart, just deep enough so that the crown from which the leaves spring will not be covered. Have you seen the few Alleghany varieties? They are very beautiful, semi-double, fringed and crinkled.

By "Foliage," we presume you mean Coleus, although there are very many kinds of foliage plants. As a rule, neither Coleus or Begonias come invariably true to name, although, among the plants raised from seed, there are likely to be several of the same variety. In general, however, the varieties are quite as beautiful as the parent plant, and the diversity only serves to make the experiment more interesting. Begonias may be nicely propagated by laying a leaf down on a flat of sand, covering the stem end. Keep the sand moist. The best soil for tuberous Begonias is pure leaf mould; for the other kinds, a mixture, 2 parts good loam, 1 part leaf mould, and 1 part sand. Do not expose to the hot sun.

SEASONABLE HINTS.

Alyssum, Mignonette, Poppies, Coreopsis—all flowers, in fact, which "seed themselves"—may be sown as early as the ground can be worked. Other seeds had better be kept back until danger of frost is past. When sowing very fine seed, which is difficult to sow thinly enough, try mixing it with sand. A teaspoonful of seed to a cupful of sand, then scatter in the bed.

Watch your plants in boxes or hotbed, and, as soon as ready, transplant into bags, bottomless cans, etc., as described in a previous number of "The Farmer's Advocate," but do not set out in the open until all danger of frost is past.

Cannas, Caladiums, Tuberous Begonias, Tigridias, may be yet started in the house. Gladioli and Montbretias, and summer hyacinths, may be set out in the open later, when danger of frost is past.

HEALTH IN THE HOME.

By a Trained Nurse

Constipation.

Constipation proceeds from a number of causes. The first one is deficiency of fluids in the intestines; another cause is the use of food which is too nutritious, astringent fluids—e.g., tea—lack of exercise, sedentary habits, the use of drugs, neglecting calls of nature, colds, excessive brain work, and irregular diet. The symptoms are easily discerned: Severe pain, headache, mental depression, crossness, tired feeling and general debility.

The treatment of habitual constipation is very tedious, for the difficulty seems so slight many people cannot be induced to try simple remedies, but rather resort to drugs, a plan which only secures immediate relief and aggravates the trouble. To remedy constipation, it is often necessary to effect a radical change in the personal habits, independent of medicine.

Hot applications over the bowels generally gives immediate relief in cases of pain. Flannel cloths wrung out of hot water, or hot sand bags, may be used. Every morning the bowels should be well kneaded or pressed for at least ten minutes. Cold-water bathing, with friction, aids, but many people cannot stand this shock to the nerves. Most people who suffer from constipation do not drink enough water. A glass of hot water in the morning, and several of cold during the day, will be found of great benefit. When a patient suffers from constipation and piles, I would advise the use, now and then, of the old-fashioned remedy, sulphur and molasses and cream of tartar. The diet is the most important ele-

ment in this treatment, as indeed it is in nearly all our ailments. Regularity of diet, laxative food, including vegetables, spinach, onions, tomatoes, cereals, brown bread; fruits—prunes, figs, apples raw or baked, berries, oranges. Beef and veal are slightly laxative. Milk (especially boiled), eggs, all pastry, puddings with rice, sago, tapioca, rich gravy, fried foods, should be avoided in cases of constipation.

DIETETIC DISHES FOR CONSTIPATION.

Fig Pudding—Two eggs separated, $\frac{1}{4}$ cup milk, 1 cup sugar, $\frac{3}{4}$ cup flour, $1\frac{1}{2}$ teaspoonful baking powder, 1 teaspoon mixed spice, $\frac{1}{4}$ cup melted butter, 1 cup chopped figs (floured). Method: Beat yolks, add milk, sugar, flour, spice, melted butter and figs; beaten whites added last. Steam $1\frac{1}{2}$ hours. Grease paper and tie over pudding while steaming.

Prune Pudding—One-half pound prunes, 2 cups water, 1 cup sugar, 1 stick cinnamon, 1 cup boiling water, $\frac{1}{4}$ cup cornstarch. Method: Soak prunes, boil till tender, remove stones and use kernels. Add sugar and cinnamon, then boiling water. Simmer about ten minutes, then blend and add cornstarch. Cook five minutes, remove cinnamon stick. Mould, and serve cold with cream sauce or whipped cream.

Prune Whip—Simply meringue and mashed fruit baked in the oven to set. **Apple Souffle**—Peel, core, and boil till tender apples in small amount of water. Season to taste. Strain, and cook till firm and dry. Fold in whites of eggs whipped with sugar. Bake in oven till brown.

Pineapple Whip—One pineapple,

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G. B. WYLLIE.

T. P. A., I. C. R. R.

Buffalo, N. Y.

grated; juice put through a bag. Boil with sugar (powdered). When syrup is cool, add the pulp and whites of three eggs, beaten. Baked in oven.

Graham Wafers.—One cup Graham flour, 1 cup white flour, salt, ½ cup butter, 1-3 cup sugar, ½ cup cold water. Mix dry materials with butter, add water, roll thin, cut and bake in quick oven.

Raspberry Cream.—One-half ounce of gelatine. Place in bowl and cover with milk; let stand half an hour. Pour over one cup sweetened milk, add to this one pint fresh raspberries, which have been cooked with a little sugar and strained. Stir in a cup of cream. Beat all together till thick, pour into mould and chill.

Carrot Soup.—One-half cup water, 1 carrot. Cook and strain; thicken with arrowroot, season.

Celery Bakod.—Cut into small pieces, boil till tender, drain off water. Pour over white sauce, and brown in hot oven.

Onion Soup.—One pint milk, 3 onions, yolks of two eggs, 2 tablespoons each of butter and flour, ½ cup cream, salt and pepper. Cook onions till tender, heat milk, add flour and onions, strain. Add beaten yolks and cream. Boil up quickly, and serve. This is excellent for fatigue.

Oatmeal Jelly.—Three-quarters cup oatmeal, 1 quart cold water, soak over night. Boil down to one pint, strain while hot, season. When cool, mould.

MARION DALLAS.

Tuberculosis.

In a paper read, recently, at Ottawa, by Sir James Grant, the following important points were dwelt upon, and will commend themselves to all who have anything to do with the fight against the white plague: "Most important points," said Sir James, "in the early discovery of lung disease are, separation from children in health, careful inspection from time to time of those who have been exposed to the disease, and most thorough enquiry into the standard of living in the residences of those diagnosed as consumptives." Disinfection of houses and strict examination of the food supply were urged.

"There are to-day," continued the speaker, "two well-established principles: First, that tuberculosis is preventable; and, second, that tuberculosis is curable. The problem of tuberculosis is, strictly speaking, one of prevention, and not one of cure alone. To prevent tuberculosis, we must get at the causes, and how are we to grapple with causes more directly than by the most careful and searching investigation of the manifestation of tuberculosis in school children."

Continuing, the speaker remarked that, with the measures now in operation, it was not surprising that the disease was still spreading, and that the weekly record was still unsatisfactory. The opinion of the recent Paris Tuberculosis Congress favored the idea that the question of healthy dwellings would always dominate the prevention of tuberculosis, and declared strongly in favor of the view that alcohol predisposed to tuberculosis, and aided the disease in the work of destruction.

"It is in vain to say human beings ought to be satisfied with tranquility; they must have action; and they will make it if they cannot find it. Millions are condemned to a stiller doom than mine, and millions are in silent revolt against their lot. Nobody knows how many rebellions, les-ties political rebellions, ferment in the masses of life which people earth. Women are supposed to be very calm generally. But women feel just as men feel; they need exercise for their faculties, and a field for their efforts as much as their brothers do; they suffer from too rigid a restraint, too absolute a stagnation, precisely as men would suffer. . . . It is thoughtless to condemn them, or laugh at them, if they seek to do more or learn more than custom has pronounced necessary for their sex."—C. Bronte, in "Jane Eyre."

The Lil' Brack Sheep.

(Re-published by request.)

"Po' lil' sheep dat stayed away
Done los' in de win' an' de rain—
And de Shepherd he say, 'O hirelin',
Go fin' my sheep again.'
An' de hirelin' say, 'O Shepherd,
Dat sheep am brack an' bad.'
But de Shepherd he smile, like dat lil'
brack sheep
Wuz de onliest lamb he had.

"An' he say, 'O hirelin', hasten,
For de win' an' de rain am col',
An' dat lil' brack sheep am lonesome
Out dere, so far f'um de fol'.
But de hirelin' frown, 'O Shepherd,
Dat sheep am ol' an' grey!'
But the Shepherd he smile, like dat lil'
brack sheep
Wuz fair as de break ob day.

"An' he say, 'O hirelin', hasten!
Lo! here is de ninety an' nine;
But dere, way off f'um de sheepfol',
Is dat lil' brack sheep ob mine!
An' de hirelin' frown: 'O Shepherd,
De res' ob de sheep am here!'
But de Shepherd he smile, like dat lil'
brack sheep
He hol' it de mostes' dear.

"An' de Shepherd go out in de darkness,
Where de night was col' an' bleak,
An' dat lil' brack shrep He fin' it,
An' lays it agains' his cheek,
An' de hirelin' frown: 'O Shepherd,
Don't bring dat shrep to me!'
But the Shepherd he smile, an' he hol'
it close,
An'—dat lil' brack sheep—wuz—me!"

The Plowman.

Clear the brown path to meet his coulter's gleam
Lo! on he comes, behind his smoking team

With toil's bright dewdrops on his sunburnt brow,
The lord of earth, the hero of the plow!

First in the field before the reddening sun,
Last in the shadows when the day is done,

Line after line, along the bursting sod,
Marks the broad acres where his feet have trod.

Still where he treads the stubborn clods divide,
The smooth, fresh furrow opens deep and wide;

Matted and dense the tangled turf upheaves,
Mellow and dark the ridgy corn-field cleaves;

Up the steep hillside, where the laboring train
Slants the long track that scores the level plain,

Through the moist valley, clogged with oozy clay,
The patient convoy breaks its destined way;

At every turn the loosening chains resound,
The swinging plowshare circles glistening round,

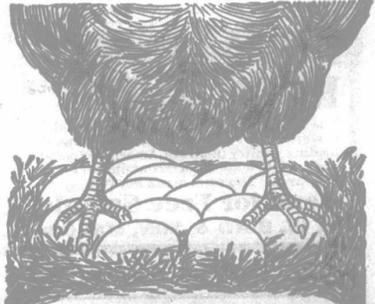
Till the wide field one billowy waste appears,
And weary hands unbind the panting steers.

—Oliver Wendell Holmes.

"God has given us, in a measure, the power to make our own fate; and when our energies seem to demand a sustenance they cannot get—when our will strains after a path we may not follow—we need neither starve from inanition nor stand still in despair; we have but to seek another nourishment for the mind as strong as the forbidden food it longed to taste—and perhaps purer; and to hew out for the adventurous foot a road as direct and broad as the one Fortune has blocked up against us, if rougher than it."—C. Bronte, in "Jane Eyre."

Speak to Him thou, for He hears, and Spirit with spirit can meet—
Closer is He than breathing, and nearer Than hands and feet.

—Alfred, Lord Tennyson.



A Setting Hen

would not be annoyed to death with lice if Instant Louse Killer was sprinkled over the hen and into the nest. She cannot get away; the lice feast happily on the feathered martyr to maternal instinct.

INSTANT LOUSE KILLER

(Powder or Liquid)

will make the setting hen and all her children happy. It destroys lice on poultry stock and ticks on sheep. It kills bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Instant Louse Killer is the original powder louse killer put up in round cans with perforated top. Be sure of the word "Instant" on the can—it has twenty-five imitations. If you will sprinkle Instant Louse Killer on the setting hen and nest, we will guarantee the brood will come off free from lice; it is also a reliable disinfectant and deodorizer.

1 lb. 35 cents
3 lbs. 85 cents

If your dealer cannot supply you send your order to us.

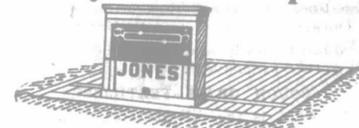
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Ashland, Ohio, U. S. A.

Well DRILLING & PROSPECTING MACHINES.

Fastest drillers known. Great money earners! LONNIS MACHINE CO., TIFFIN, OHIO.

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Scotch Shorthorns

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Young bulls and heifers from imported sires and dams for sale at reasonable prices. For particulars, write to

W. J. THOMPSON, Mitchell, Ont.

Stallion for Sale The imported Clydesdale stallion Duke of Avondale. Duke of Avondale is a beautiful dapple brown of commanding appearance, and weighs 1,900 pounds. He was foaled in 1900, and was imported in 1903. He has proved to be a first-class stock horse. If not sold privately he will be sold by public auction at the Mansion House, Uxbridge, on May 1st. For further particulars apply to the Secretary of the Uxbridge Clydesdale Horse Co., Uxbridge P. O., Geo. W. Lapp.

The Quincy Incubator, THE HATCHER YOU WANT.

Because it is easy to operate, being self regulating, self moderating and self ventilating. The ventilation is just like nothing left to chance. Recommended in the use of all.

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"Tweed" Steel Troughs



Your car, please—for 1905. The "Tweed" Steel Hog Trough made better, improved much, finished slicker, and the price reduced. "Quality up and price down." How is it? That magic word, "machinery," explains it. We have allowed no expense to hinder us making a perfect article at a low price. **50c. per ft.**—we should have more—**50c.** is even money, and it goes. It's the price you wanted. Send order and money, and we do the rest. Every trough guaranteed.

THE STEEL TROUGH & MACHINE CO., Limited, Tweed, Ont.

DIDSBURY FARM LANDS

A SAMPLE OF WHAT WE HAVE

390 acres, level land, partly fenced; some improvements; good spring; within 1/2 mile of store, creamery and post office. This is only a sample, we have scores of others. Write us for full particulars of Alberta Lands.

COLLISON & REED, Didsbury, Alta.

QUESTIONS AND ANSWERS. Miscellaneous.

DOMINION SWINE RECORD.

Would you please let me know the name and address of the Registrar of the Dominion Swine-breeders' Association?

H. D.

Ans.—Mr. J. W. Nimmo, Live-stock Records, Ottawa.

TREES ON LINE.

On my half of line fence, between my neighbor and myself, are trees growing. To whom do the trees belong that are on the line, to my neighbor or myself?

Ontario. SUBSCRIBER.

Ans.—To both, and not to either one or the other exclusively.

COUCH GRASS—FERTILIZERS.

1. What is the difference between couch grass and twitch grass, if any?
2. What is the best manner to get rid of either?

3. What is your opinion of fertilizers?

G. W.

Ans.—1. "Couch grass" and "twitch grass" are different names for the same weed. "Quack grass" is another common one; also "quitch grass," "quick grass," and "wheat grass." "Agropyrum repens (L.)" is the scientific name.

2. Give thorough shallow cultivation with spring-tooth or broad-share cultivator as a preparation for corn crop; thorough cultivation of corn all through the summer, rather shallow fall plowing, with early and thorough working next spring. Sow with barley, seeded to clover, unless the couch is very bad, in which case summer-fallow instead of sowing barley, and sow to fall wheat, seeding to clover in spring. Leave clover one year, then break up in fall or spring for another thoroughly-cultivated hoe crop, followed by grain seeded to clover again. Thoroughness is essential in eradicating couch. On light soil it is extremely persistent.

3. Commercial fertilizers are all right when used intelligently by a man who thoroughly understands his business. Gardeners and fruit-growers use them considerably, but the Ontario farmer who keeps stock and saves his manure has little occasion to bother his head about them, although it is probable that potassic and phosphatic fertilizers may come to be used in a limited way to balance up a soil composition made disproportionately rich in nitrogen by long continued clovering and barnyard manuring.

Special Offer

For Sale: The Famous Stock Bull, Full Bloom of Hindward (1893), Imp.

This is an excellent chance for anyone requiring an imported bull to head their herd with, at a Canadian-bred price. We have had this bull now for the past three years, and his qualifications as a good stock-getter are shown by the number of his calves now in use throughout Canada and the United States, also by his repeated successes in the show-ring. His career, in brief, is as follows: He was dropped in March, 1900, and was imported by us in 1903. In 1902 he won first at Ayr and Kilmarnock, the two principal show-rings in Scotland for Ayrshires. In 1903, at Three Rivers, he won first and diploma for best male any age, and at Sherbrooke, in the same year, he won first in aged class, and sweepstakes for best Ayrshire male. A good sire is the first step towards improving your herd, and here is your opportunity. We will offer this bull to the first bidder at the low figure of \$300. We are also offering a choice lot of young calves, sired by this bull, and out of some of our best dairy cows, at rock-bottom prices. Cheapness usually implies poor quality, unless there are reasons, and in our case there are many: 1. There are no culls kept, and, in consequence, our cows are all sure breeders, and so we have always a lot of calves for sale. 2. We breed more pure-bred Ayrshires than any other Canadian breeder, and so can afford to sell cheaper. 3. We have an exceptionally big crop of calves this year, and so must get rid of some of them to make barn room. Our specialty is foundation stock. Give us a trial, and you will be well pleased with the result. For fuller particulars, write at once to

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QUESTIONS AND ANSWERS. Veterinary.

POLYURIA.

Steer drinks great quantities of water, and passes large quantities of urine.

W. P. H.

Ans.—Give him 1 dram iodine in a quart of cold water as a drench three times daily, until his desire for large quantities of water disappears. Feed in small quantities, and often. If his bowels become constipated, give a pint of raw linseed oil.

INDIGESTION IN PIG.

Pig, six months old, about six weeks ago found her in a sort of fit. Examined her mouth, and found four black teeth. Broke them out; still she takes those fits; doesn't eat well.

A. C.

Ans.—Your pig is suffering from indigestion. Give a good laxative, as six ounces of raw linseed oil, or Epsom salts, 1/2 pound. Feed milk and bran and a small quantity of shorts. Turn out in a lot, and allow free access to ashes and charcoal.

R.

ITCHINESS.

I have a horse which has rubbed himself on his sides, back, tail and forehead for a year or more; appears to be getting worse. I clipped him last week, and I see small black spots along his back.

J. W. C.

Ans.—Make comfortable in stable, and wash thoroughly with strong warm soft-soap suds. Rub with cloths until dry. Follow by bathing occasionally with a five-per-cent. solution of Zenoleum or Phenyle.

TUBERCULOSIS.

Cows are troubled with a cough. Whom should I get to test them? Would any veterinary do? Would I receive any recompense should I have to destroy them? Is there any cure for it at commencement?

SUBSCRIBER.

Ans.—Any qualified veterinary surgeon can test them for you. The Government do not pay for animals affected with tuberculosis; neither do they compel you to kill them. They have the power to quarantine or brand them. It is incurable.

R.

CHRONIC SPINITIS.

I bought a mare nearly two years ago when she was three years old. That fall she seemed to lose the power of her hind legs, and last summer she seemed to get worse. She would work, but was easily tired out. I showed her to a vet., who told me to give saltpetre; she is no better yet.

1. Do you think she can be cured?
2. If I breed her, would she breed all right?
3. Would the colts take the disease when they grow up?
4. Is sulphur any benefit fed to pigs?

C. S.

Ans.—1, 2 and 3. Your mare is evidently suffering from chronic spinitis. It is at this stage incurable. We could not sanction the breeding of such a mare, as the brood mare should be the best animal on the farm. It is contrary to all ideas of breeding to expect a mare so sadly deficient in health, as this one is, to raise the colts a healthy mare would.

4. Yes, in judicious amounts.

TOO MEAGER DESCRIPTION OF SYMPTOMS.

One of my neighbors one year ago lost four yearlings, some steers and some heifers. This year the same man lost two cows—one had just come in, the other would not come in for about three months. After the cows were dead the farmer opened them, and found the first cow that had calved had her intestines all covered with black spots; the other, they found, had her bladder full of blood, though that might have been on account of her not having calved. Now, it is claimed, that the reason they had such trouble was because they fed all clover hay. The first yearlings seemed to act in the same way as did the cows. Are cattle fed on pure red-clover hay more liable to disease than those on other feed?

J. B.

Ans.—It is impossible to give you any idea as to the cause of death, as you give no symptoms. Properly cured red clover hay will not cause disease any more than any other kind, and is looked on as the best hay for cattle.

R.

Farm Lands

IN

SASKATCHEWAN

We have a number of well-improved farm lands for sale, at prices ranging from **\$17.00** up to **\$35.00 per acre.**

We have the exclusive agency of over 40,000 acres of land west of Davidson, Goose Lake, Eagle Lake and South Battleford district. Some splendid bargains in city property.

Balfour Broadfoot Land Co.

Box 293. **Hamilton Street, REGINA, SASK.**

Miscellaneous.

A NUISANCE.

1. There are some parties (A) hauling out and scattering under the apple trees offal and refuse of fish on lot adjoining B's lot, and when the wind blows to B's house the odor is very offensive. Can A be stopped from doing so?

2. Should he not pit the refuse, and give a liberal supply of slacked lime, and keep covered with manure until ready to turn over, or is there any better plan?

A 40 YEARS' SUBSCRIBER.

Ontario.

Ans.—1. Yes.

2. He cannot be compelled to adopt any special method, but B can prevent him from continuing what is legally considered a nuisance. Your suggestion re disposal of offal, is a right and proper one, and we can offer no better.

MUNICIPAL DITCHING CAUSING DAMAGE.

About twenty-five years ago the township council turned the water from its natural course across A's farm, by digging a ditch along the side of road and down a steep hill, which is washed out badly twenty feet deep, damaging the farm alongside, by the side continually slipping in. Now they propose buying a piece of land along the other side for the road, instead of fixing the ditch.

1. Can they legally do it?
2. Can I compel them to fix the wash-out, so that it will not damage my property?

A SUBSCRIBER.

Ontario.

Ans.—1. Yes.

2. Practically you can, as you are apparently in a position to proceed against the municipal corporation for damages.

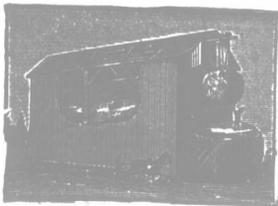
CIDER VINEGAR.

What should I do to get our cider to turn into vinegar? We have had it in our cellar in a barrel against the furnace since a year ago last fall, and it is not near vinegar yet.

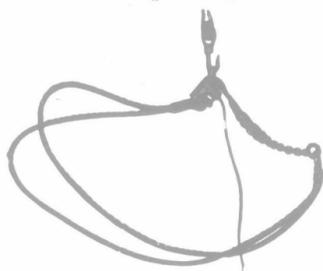
J. R. B.

Ans.—Possibly the barrel has been kept closed. The barrel should not be more than about half filled with vinegar, and the bung should be left open, except for a thin muslin covering to keep out the dust. Oxygen is essential for the conversion of sweet into vinegar. After the cider had been fermenting for a month or so, some old vinegar and a little "mother" should have been added. It may be done again, "mother" can be started by putting a narrow strip of one-half old vinegar and one-half hard cider in a shallow where the temperature will be about 80 degrees. In a few days a thin seam will form. Remove this, and lay it gently on the surface of the cider in the barrel. Do not stir it up. If the temperature is right—about 70 degrees—the fermentation should now be continued in a few months. If not satisfactory, add a few pounds of brown sugar may be put in to give more body.

BUCHANAN'S
(Malleable Improved)
PITCHING MACHINE
For unloading hay and all kinds of loose grain.



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



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

RESPONSIBLE AGENTS WANTED
Circulars, Prices and Terms on application to
M. T. BUCHANAN & CO., Ingersoll, Can.

FARM LABORERS

Farmers desiring help for the coming season should apply at once to the **Government Free Farm Labor Bureau**. Write for application form to

Thos. Southworth
Director of Colonization, Toronto.



FARMS

Send for our list of Alberta farms for sale.

Benson & Houlton, Calgary, Alta.

BOYS FOR FARM HELP

The managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The young immigrants are mostly between 11 and 13 years of age; all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained upon application to Mr. Alfred B. Owen, Agent Dr. Barnardo's Homes, 214 Parley Ave., Toronto.

Grow Mushrooms in spare time. A crop all year round. Anyone can grow them from our special spawn. Immense profit. Undersigned will buy your crop. For directions write to-day. Fungus Co., Tecumseh, London, Ont.

GOSSIP.

THE FARM BULLETIN.

Saskatchewan men are after an agricultural college; a most encouraging sign that this Province recognizes the importance of high-class agricultural education. Insurance investigations are causing considerable interest. Policy-holders will be foolish who drop out on account of the testimony so far offered. We are glad to note that fraternal society insurance will also receive attention. United States Farmers' Bulletin 239 treats of corrosion (eating away) of iron wire, and gives the following as the result of investigation: Iron wire, when it can be obtained, even at a large increase in price, is by far the cheapest. The life of a steel wire nail is six years. The life of the old-fashioned iron nail (and these can be had if the farmer will demand them) is forty years. The life of iron wire is from twenty to thirty years; the life of ordinary steel wire, from six to ten years.

Since April 15th, inst., personal application has to be made for homesteads in Western Canada. The Department of Interior, recognizing the abuses that have crept in through the old system, has been quick to make a change, with a view of remedying matters. The change will have several good effects, and is made in the interest of the actual settler. Another beneficial effect will be that it will tend to induce more careful selection by the new settler, and, as a result of that selection, will result in greater satisfaction on his part. The idea of a system of purchase, with settlement duties, recently suggested in the Winnipeg Free Press, is, we think, modern, just, and in the interest of the country as a whole. It is right in line with a suggestion of a recent correspondent to this paper.

Mr. H. W. Truman, manager, London, Ont., branch of Truman's Pioneer Stud, writes: Amongst my most recent sales is that of the imported Shire stallion, Prince Charles of Warsley (19028), which I consider by odds the best Shire stallion ever imported to Canada. He has only been shown twice, viz., at the Iowa State Fair last fall, where he stood second to our noted winner, Blaisdon Albert, and at London, Ont., where he was considered by competent judges the best draft horse on the ground; however, he had to be again contented to stand next to Blaisdon Albert. Prince Charles of Warsley is a beautiful brown, with almost perfect conformation, has good, hard, sound feet, nice quality of bone, and is a great all-round actor. The purchasers, Messrs. Johnson Bros., and Robt. Miller, of Rutherford, are to be congratulated on procuring this grand young horse, as I had refused several tempting offers for him, but as they were bent on getting the best they did not let the price stand in their way.

I leave this week for New York, to meet our sixth importation since December of Shire and Hackney stallions and mares. Included in this lot will be the noted London (Eng.) prizewinning Hackney stallion, Prickwillow Connaught (7573), sired by that noted horse, Forest King, the double champion of two continents. I have still a few good ones left, that I will sell right, to make room for others.

AMERICAN & ELLWOOD FENCES.—The Canadian Steel & Wire Co., Limited, Hamilton, Ont., started in a small way some four years ago to manufacture woven-wire fencing. Not knowing whether the "American" and "Ellwood" patterns of galvanized, high carbon, woven-wire fence and gates would sell well in Canada, they installed at first only a few weaving machines, and looked for business in Ontario alone. Their success has been far beyond their hopes, and they now have a large plant filled with machinery, and count their customers from Halifax to the Government Park at Banff, and from Banff to Vancouver. If the fencing already manufactured and sold by them to the farmers and railroads in Canada were built in a continuous line, it would reach from the coast of the Atlantic Ocean in Nova Scotia to the coast of the Pacific in British Columbia, twice over. This season they have put on the market another style of fencing, i.e., high carbon, woven of all No. 9 gauge heavy wire. This fencing has already proven a great seller.

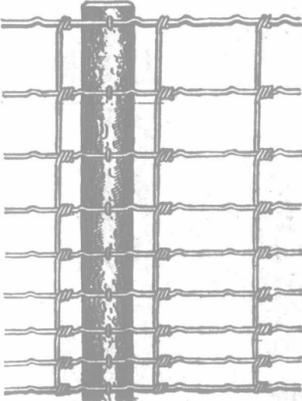
American Fence Talks

AMERICAN FENCE is standard of the world. More miles of it are in use than all other fences combined. It is made of steel that is exactly fitted for it. A woven-wire fence can be made of wire too soft or too hard. It must be exactly right to render good service.

The structure of the American Fence is perfect. It is built of big, solid, galvanized wires, all No. 9 gauge if you prefer it, with the upright or stay wires hinged; in all heights and for all purposes.

American Fence and Gates are for sale by dealers everywhere, or write us direct and we will send you a catalogue free, and tell you where you can get the fence and save money.

Manufactured by
The Canadian Steel & Wire Co., Limited,
HAMILTON, ONTARIO.



Our Model Incubators and Brooders

are the only **PANACEA** for failure—past, present and future. Just take a few minutes and read the following one of many hundreds of unsolicited testimonials from our customers:



Dear Sir,—

Masonville P. O., Ont., March 5, 1906.

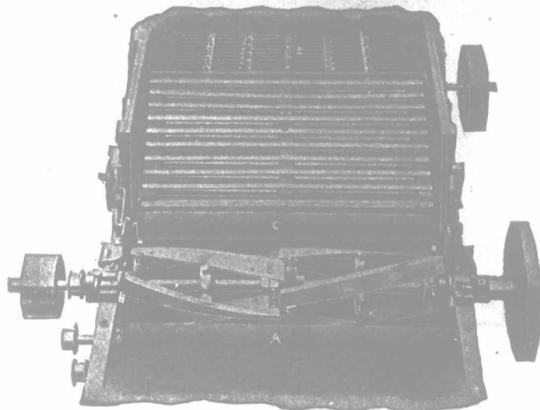
After trying an incubator for two years, and spoiling eight hatches of eggs, I threw the incubator away in disgust, never meaning to try again, knowing that it was not the fault of the eggs, as I raised over 400 under hens. Last December I read Chas. A. Cyphers' book, "Incubation and Its Natural Laws," after which I ordered a Model, which I had to work under trying conditions. First, I only had eggs from pullets mated with cockerels, mated up only five days before I set incubator. Second, the location in a room that varied from 65 to 28; for two days and nights the temperature was at 30 to 32, and your Model only lost one-half degree—from 103 to 102½. The results are just grand. Out of 71 eggs I got 65 of the strongest chicks I ever saw. All came out on the 20th of February, 1906, within five hours of each other. Two of the eggs I broke. The other four must have died about the 16th day (weak germ). They are now all safe in a Model Colony Brooder, and all 65 as healthy and well as though it were summer. Temperature inside brooder steady night and day at 90. Outside blowing and snowing as hard as it can.

R. H. CRUMP.

Send for our catalogue, and get the same treatment and results Mr. Crump has got. Manufactured by

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196-200 River Street, TORONTO, ONT.

CUT YOUR STRAW WHEN YOU THRESH

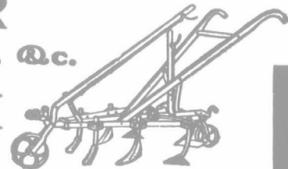


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BELL SCUFFLER

For Roots, Potatoes, &c.

Note front wheel and lever for raising and lowering, also lever for adjusting.



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These Bell
Tooth Clamps
Hold Teeth
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ESTABLISHED 1869.

"Everything for the Garden, Greenhouse and Farm."

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TIMOTHY, CLOVER and GRAIN.

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We shall be pleased to mail you our '06 Illustrated Seed Catalogue.

WRITE NOW—IT EXPLAINS.

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INCUBATORS AND BROODERS



"THE POULTRY-RAISER'S FAVORITE"

Built on Honor. Fully Guaranteed.

A Canadian Triumph in Artificial Incubation.

Our **Improved Chick Drawers** not only add 25 per cent. to the air capacity of the egg chamber, but permit the chicks to be removed without interfering with the hatching eggs.

Our **Tubular Copper Tank** is the best, most practical and most economical system of heating ever devised for incubator or brooder use.

Our **Regulator**, once adjusted, will permanently control the heat with a degree of accuracy heretofore considered impossible.

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ADVERTISE IN THE ADVOCATE

GOSSIP.

H. E. George, Crampton, Ont., reports sales of Improved Chester White pigs as very encouraging, enquiries pouring in every day, the price of live hogs making farmers anxious to breed the best class of hog they can find. Our sales reach from the Atlantic to the Pacific, also different parts of the United States. Our brood sows are a large, low-set, heavy sort, and their offspring are coming strong, with plenty of length and depth, such as farmers are seeking after to-day. Are easy feeders and very prolific. I have just imported four very choice brood sows, two of which farrowed in quarantine. The other two will be due in a few days. I made the selection of those sows personally, and spared no expense in buying the largest and strongest brood sows I could find, with the best of breeding. I will have 100 head of spring pigs to offer, of such breeding which, I think, will be the best lot of Chester pigs, taking size and quality into consideration, ever offered in Canada.

THE STABLE MICROBE.
(Parody on "Subway Microbe," in N. Y. World.)

I'm a stable microbe, yes, I am,
And really I don't care a lamb
For what the people think of me,
So long as I can get there. See?

The stable gets no sunlight, so
It's just the place for me to grow,
And don't I grow there? Well, I guess
My numbers are not growing less
Where these conditions have wide room
Which greatly magnify my boom,
And winter weather is the style
That makes the truly microbe smile.

I do not care for ozone, and
For oxygen make no demand;
Carbonic acid gas, by gee!
Is plenty good enough for me.
A stable microbe's appetite,
However, finds its chief delight
In hovins vitals, and right there
I love to stay and get my fare.
A good cow is to me
A revel and a revely;
And in a breathing lung I find
Choice food for body and for mind.

Oh, I'm a stable microbe, and
Am anybody's at command—
A sort of public servant that
Is always at where it is at.
—N. Y. Subscriber.

TRADE TOPIC.

A NECESSITY, NOT A LUXURY—
No longer is the telephone considered a luxury in rural communities, it is a necessity. One of the great independent companies is the Swedish-American Telephone Company, of Chicago, which for years has specialized on telephone systems for rural communities. If you and your neighbors are interested in establishing a line in your locality, you should outline the situation, giving the possible number of subscribers, distances, territory to be covered, and whatever you think would help the Company to arrive at an understanding of your wants, and they will send you the special information you desire, together with their free book, "Rural Telephone." The company makes no charge for advice or information. A telephone in the house enables the farmer to keep informed on market conditions, the price of products, and practically puts him in touch with the city. It saves time when machinery breaks down, when a doctor is wanted, when you want to talk to your neighbors on business or pleasure. Comparatively little cash capital is required for the establishment of a telephone system by the plan of the Swedish-American Telephone Company.

QUESTIONS AND ANSWERS.
Miscellaneous.

THE WAY OF THE TRESPASSER.

Can my neighbor forbid me to cross his land? I crossed it for 10 years, but changed the road at different times, but where the road goes now, it is for 12 years on the same place. I did not pay him for it. I made the road myself.

Ans.—For all that appears from your statement of the case, we would say that he can.

Heart Trouble

The heart itself has no power—no self-control. It is made to beat by a tender nerve so tiny that it is scarcely visible to the naked eye. Yet ten thousand times a day this delicate nerve must assist the heart to expand and contract.

This nerve is only one of the branches of the great sympathetic, or INSIDE, nerve system. Each branch of this system is so closely allied with the others that weakness or irregularity at any point is apt to spread. Heart trouble frequently arises from Stomach trouble through sympathy, and Kidney trouble may also follow. For each of these organs is operated by a branch of these same sympathetic nerves—the INSIDE NERVES.

In Heart, Kidney or Stomach troubles, it is of but little use to attempt to doctor the organ itself—the most permanent relief lies in restoring the INSIDE NERVES. Dr. Shoop regards these nerves to be the real cause of such troubles. The remedy—known by physicians and druggists everywhere as Dr. Shoop's Restorative—is the result of years of endeavor along this very line. It does not dose the organ to deaden the pain—but it aims to go at once to the nerve—the inside nerve—the power nerve—and builds it up, and strengthens it and makes it well.

Every heart sufferer may have Dr. Shoop's book on the Heart. It will be sent free, and with it you will receive the "Health Token," an intended passport to good health.

For the free book and the Health Token" you must address Dr. Shoop, Box 52, Racine, Wis. State which book you want.

Book 1 on Dyspepsia.
Book 2 on the Heart.
Book 3 on the Kidneys.
Book 4 for Women.
Book 5 for Men.
Book 6 on Rheumatism

Dr. Shoop's Restorative Tablets—give full three weeks' treatment. Each form—liquid or tablet—have equal merit. Druggists everywhere.

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80 PAGE RURAL TELEPHONE BOOK FREE

Farming is a business and should be considered so. Nothing will aid you more in systematizing your farm than a telephone. With the aid of a telephone you can communicate at any time with your grain, stock and produce buyer, your bank, your stationer, your implement store—in fact, everybody with whom you have business relations. Think of the time and energy saved in calling over the telephone for the market quotations, which will enable you to buy and sell at an advantage. What a blessing to you to order broken parts for your machinery by phone. And the trips to town which are saved. All this means convenience and less work. With a telephone you can run your farm like a business. You can get all the profit there is in the business of farming.

The telephone makes farm life pleasant, it brings you nearer to your neighbors. You can talk with your friends any hour of the day or night. You can instantly send an emergency call for a doctor when the life of loved ones is in danger. Don't think because of these many advantages that the telephone is expensive. It costs very little to have a telephone placed in your home.

Our 80-page Rural Telephone Book Sent Free



to you will fully explain how cheaply you can procure a **Hercules instrument** of the **Swedish-American make**. It also tells everything else you want to know about a telephone. Write for it right away as the supply is limited.

Rural Dept. T.
SWEDISH-AMERICAN TELEPHONE CO.
Chicago, Illinois

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COCHRANE - ALBERTA.

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11x14, on heavy plate paper, suitable for framing, together with memoir, the funeral service and written on the occasion; price \$1.00, the two sets, one address, \$1.50, each, with order.

The London Printing & Lithographing Co.
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Keep Your Racers Free From Aches



As the track season approaches, as horse-men everywhere are looking anxiously to the condition of old campaigners and new candidates that are expected to take the speed honors of the various circuits, Experienced Turfmen will not neglect to make

TUTTLE'S ELIXIR

one of the chief articles in the stock of their horses' medicine chests. Years of use in the leading stables of the country have proved the merits of Dr. S. A. Tuttle's Elixir as a

Leg and Body Wash

It is one of the old stand bys of horse-men—a household remedy. Why experiment with unknown cures when a reliable standard is at hand? It's a serious business. You cannot afford to take chances on the effect of doubtful preparations among your horses at any time—much less during the racing season when the horses' condition every day is a matter of the utmost importance.

Dr. Tuttle's Elixir is a remedy for sprains, rheumatism, bruises—for outside ailments of the horse as well as inside. Ask veterinarians anywhere. Farmers and breeders can use it as well as skilled practitioners. Besides the Elixir, the Tuttle Elixir Company offers

Tuttle's Family Elixir, for ills of men, women and children.
Tuttle's White Star, the best healing and drying liniment.
Tuttle's American Condition Powders, the best blood purifier for horses.

Tuttle's American Worm Powders, absolutely certain in their effect, guaranteed in every case to expel all worms.

Tuttle's Hoof and Healing Ointment, a perfect cure for hard and cracked hoofs and all diseases of the hoof.

Price on Tuttle's Remedies.

On and after this date the price of **Tuttle's Family and Horse Elixir** will be \$4.00 per dozen; **Condition Powders**, \$2.00 per dozen; **Worm Powders**, \$2.00 per dozen; **Hoof Ointment**, \$4.00; **White Star Liniment**, \$4.00. Bottle sent by mail, \$75.

Horse Book Free.

We publish a book of 100 pages entitled, "Veterinary Experience" which contains the experience of our Dr. S. A. Tuttle, who has for many years been a successful veterinary surgeon. It is a clear illustration and description of the horse and his diseases.

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Alfalfa in Central Ontario.

Editor "The Farmer's Advocate": The numerous letters appearing in your paper recently, in reply to enquiries as to the varieties of crops grown in the different districts, substantiate the astonishing fact that alfalfa is, as yet, very little cultivated; one of the chief reasons for its unpopularity appearing to be "interference with crop rotation." It seems rather strange that we should be so backward in appreciating the many good qualities of this, one of our greatest forage and soil-ing plants, which for pasturing purposes, especially for hogs, is without a peer. At present, when the bacon hog is receiving so much attention, especially the point of cost of production, it might be an opportune time to enumerate some of the virtues, and describe the method of cultivation, etc., of this legume, both as a hay crop and hog pasture; to the latter purpose it is particularly well adapted. The utilization of pasture, and the feeding of succulent and bulky feed, is slowly coming into practice, and will, in all probability, ere long, be largely resorted to as a means of producing pork at the minimum of cost; and among the many different crops used, the one here described should predominate. Also, in addition to being used for the above purpose, it furnishes a nutritious food, relished by all kinds of stock.

Alfalfa does best on loose-bottomed lands, and is perfectly at home on gravelly hills, yielding immense crops (when fully established in the soil) where grain would be short and spindly, especially in dry seasons. It does well, however, on almost any well-drained land (muck land excepted) where the water level is not too near the surface, and where there is not too much acid in the soil. It may be sown with or without a nurse crop, as desired, but succeeds best when sown alone, as it seems to be very sensitive to the effects of "smothering," caused by the lodging of the grain. If sown with a nurse crop, preferably barley, the grain should be cut as soon as it shows signs of lodging. The ground intended for seeding with alfalfa should be thoroughly cultivated the year previous, in order to get it in a friable condition and clear from weeds. Care should be taken to have the land clean, as a great many poor catches of alfalfa have been smothered out in a year or two by weeds.

If sown without a nurse crop, get on the land with the cultivator as soon as it dries off sufficiently in the spring, and work to a fine tilth; the roller should then be run over it, when it may be left until weather becomes warmer. This method will prevent baking, and when thoroughly cultivated in a week or two after, or when seed is to be sown, will present an ideal seed-bed. Rather sow late than too early, as the plants make very little progress in cold, wet weather; besides, the weeds are given a good start. Some sow as late as the middle of June, but the latter part of April or fore part of May, if season is normal, is a very suitable time. If the spring is very backward—cold and wet—it would be wise to defer the seeding until the later date, top-cultivating the ground in the meantime, and then plow before sowing. In this case the land should be plowed about a week and also well firmed before seed is applied. After sown it should be rolled, driving at right angles to the furrows. A great many opinions prevail as to the amount of seed to be sown per acre—all the way from 15 to 30 lbs. Those who advocate the lesser amount have never given us any satisfactory reasons for so doing, beyond, probably, "lessening the cost of seeding," and that it is "plenty thick enough." Not less than 25 to 30 pounds per acre should be sown. How often do we hear a farmer who has a patch of alfalfa say, "If I had to do it over again I would put on more seed?"

In the agricultural papers in the United States, where alfalfa is largely grown, we find numerous enquiries from farmers in regard to methods of "thickening up" their alfalfa fields without going to the trouble and expense of breaking and re-seeding. Besides, it should stand thick in order to keep the stems fine and palatable; they become coarse and woody when scattered. As soon as the young plants are about four or five inches high they should be clipped off with the mower. Continued on next page.

Drugs and Condition Powders.

Time was when condition powders were considered indispensable. Towards spring, it was considered necessary to fit horses with drugs for the spring work. Condition powders are now practically gone. Herbageum drove them out. Herbageum contains no drug, and it has demonstrated beyond doubt that drugs are unnecessary and injurious. No part of Herbageum has a direct action on the system. Any direct action causes a reaction, and a reaction is always injurious. Herbageum simply aids the digestion in a natural way by supplying the perfumes and flavors which are present in a good pasture, but of which the winter feed is entirely void. There is no direct action in this, and, therefore, there is no reaction and no injury from the regular use of Herbageum.

Feed an even tablespoonful of Herbageum twice daily to a horse or a cow. There are 64 feeds in a pound. A 50c. package is sufficient for one horse or one cow for four months.

For young calves, Herbageum is invaluable, and it is economical. It enables the feeder to raise good calves on separated milk. Begin with very young calves. Feed an even tablespoonful to three calves. Twenty-five cents' worth is enough for one and one-quarter tons of skim milk. There will be no scouring. This may be depended upon.

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Tubulars are different, very different. Just one Tubular—the Sharples. All others make bucket bowls—can't make Tubulars because they are patented. Ask for catalog Q-168.

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Treat servants as you would like to be treated yourself, were you in their place.

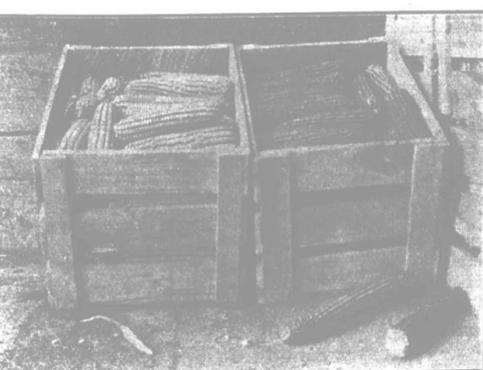
The word "potato" is a corruption of "batata," the original and correct name.

A CAMPBELLTOWN BUILDER SPEAKS

He Found Nothing to Equal Dodd's Kidney Pills, for They Cured Him of His Trouble.

Mr. W. H. Wallace is a Well Man To-day, but He was Pretty Bad Before He Got Cured by Dodd's Kidney Pills.

Campbelltown, N. B., April 23rd.—(Special)—"It was a cold started my trouble," says Mr. Wallace, of this place. "I am a contractor and builder, and my work causes me to be out and exposed to all weathers, so, I suppose, it was in that way I got my cold. Anyway, it settled in my kidneys and made me pretty sick. I got Lumbago in the back, cramp in the muscles, pains in the loins, shortness of breath, a dragging pain at the loins, and my urine was thick with a dark sediment. Then I knew the kidneys were to blame, so I took Dodd's Kidney Pills, and they soon put me in shape and cured me so that I have had no trouble with my kidneys since."



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Buy your corn on the cob and be sure of a crop. **Leaming, White Cap, Compton's Early.** Per half-bushel crate, 90c.
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Any person, however inexperienced, can readily cure either disease with Fleming's

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—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in Fleming's Vest-Pocket Veterinary Adviser. Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durable bound, indexed and illustrated.

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Dr. Page's English Spavin Cure.



For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements. This preparation (unlike others) acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents: om

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Auction Sales of
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Special Sales of Thoroughbred Stock conducted
Consignments solicited. Correspondence will receive prompt attention.

This is the best market in Canada for either buyer or seller. Nearly two hundred horses sold each week.

Shire Horses



We breed the very best and soundest, which from birth are kept in their natural condition, neither forcing nor overfeeding for showing purposes. Canadian buyers visiting England are invited to call and see what we have.

No fancy prices, and all delivered free Liverpool landing stage. Correspondence invited. om

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JOHN CHAMBERS & SONS,

Holdenby, Northampton, England

Clydesdales, etc.

To effect immediate sale I will offer some valuable stock at greatly reduced rates, far below their value. One 3-year-old Clyde stallion, good color; built like a draft horse, with the action of a Hackney, every joint working, at trot as well as walk; sire and dam imported. **Yorkshire Sows** now ready for service. Two **Short-horn** bull calves; also yearling heifer.

RICHARD CLASON, Delaware, Ont.

For Sale: Imp. German Coach Stallion, **Kaiser Wilhelm**, prizewinner and sure stock-getter; present weight, 1,400 lbs. For full description, etc., write
W. J. HARRIS, Schomberg, Ont.

the clippings being left on the field to form a mulch. This will check any weeds that may have put in an appearance, and also strengthen the plants, causing them to root deeper, which is an essential in getting them through the first winter, after which, with reasonable precaution, they will (with the exception of very hard winters) be safe. If this clipping is done early enough in the season, a crop of hay should be obtained the first year, care being taken, however, not to cut later than about the tenth of September (of course, varying with different seasons), to allow of an aftermath to form for protection from the winter, and to exclude the water from the crown, a condition which is so disastrous to the alfalfa plant. It should on no account be pastured the first year; neither closely cropped the second; and, except in unfavorable seasons, will produce three crops per season. The cutting should be done when the plants are about one-third in bloom; the hay, which should be shaken about as little as possible when dry, being put into coils before drying too much—the leaves, which are the most nutritious part of the plant, dropping off readily when allowed to become dry and crisp—and left to cure in the coil. This usually takes from four days to a week. The hay, unless spoiled in curing, is eaten up greedily by all kinds of stock, and when run through the cutting-box and mixed a meal ahead, with pulped mangels or sugar beets, or when dampened with hot water, makes an ideal cheap hog feed for the winter months. The writer has seen dry alfalfa hay fed in limited quantities to brood sows, which was eaten up readily.

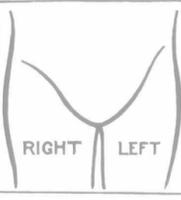
If intended for a hog pasture, the field or patch should be located conveniently near the buildings, and divided into two or three sections, to allow of the hogs being changed from one to the other, giving it a better chance to grow than when grazed continuously, and enabling it to carry more hogs per acre. The number of hogs that an acre should pasture depends on the stand, the season and the size and age of the hogs. On an average, where the hogs are changed about every two or three weeks, or as often as growth necessitates, a good stand should furnish sufficient grazing for from ten to fifteen hogs per acre, from the early spring till about the middle of September. The hogs should be provided with plenty of shade and water, and, of course, should receive a ration of grain.

We hear considerable in alfalfa discussions of the cost of seeding as compared with red clover. Let us see: Alfalfa seed generally runs about the same as red clover, and, occasionally, a trifle lower; at present both are about the same price per bushel. If thirty pounds of alfalfa seed per acre be sown, about double the amount of seed is used that is ordinarily sown of red clover. Now, a seeding of red clover will produce one crop. If sown with timothy, we find in most cases but a small amount of clover in the hay the second year. Some fall pasturage is also secured, and in some cases a second crop is cut. A good catch of alfalfa, if properly cared for the first year or two, will remain seeded for five or ten years, and even longer. As to its interfering with crop rotation: If a field will continue to grow good crops year after year, provided the weeds can be kept subdued, why should it be plowed up in two years in order to practice crop rotation on that particular piece of land? Another complaint often launched is the difficulty encountered in breaking the sod. I might here say that this is more pronounced in a thin seeding, where the roots have reached a good thickness, than where the plants stand closer and roots are finer. An alfalfa-grower has recently advocated, in case of breaking up the sod, close pasturage in fall with sheep or other stock, repeating again in spring until June, when it will be in the best condition for breaking. Alfalfa sod is at all times considerably harder to plow than ordinary sod; and this reminds us that we seldom receive any great blessing without its being accompanied by some slight inconvenience. Again, we occasionally hear of a farmer who, having given it a trial, has reported unfavorably, when if facts were investigated they would reveal that it had been sown in small quantities along with other grasses; or, if sown alone, on ground in unsuitable condition, and the seed applied too sparingly. Just here the writer has a recollection of seeing, some

Continued on next page.

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Is Without Operation, No Pain, No Danger, No Loss of time From Daily Work.

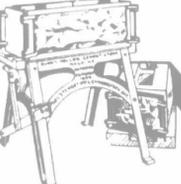


This Remarkable Simple NEW WAY TO CURE RUPTURE has opened up a new era in the treating of this terrible dangerous, dreaded, hitherto considered incurable malady, Rupture. You ruptured people who have borne the painful agonies of Rupture surely will be glad to see this notice, for it means a NEW lease of life for you—one free from pain and suffering. Won't it be grand to be cured? You can be sure—hundreds of Canadians have been. Cut out this notice. Mark on the diagram position of Rupture. Answer questions and send all to me at once. I will send you Free A FREE TEST to show you how quickly you can be cured right in your own home. I'll also send you a valuable Book of Information for the Ruptured. You must write for these at once. Remember they are FREE. No ruptured person who has had these would part with them for money. You wouldn't either. Write at once.

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On which side ruptured?..... Ever operated on for rupture?
Age..... Time ruptured.....
Name..... Address.....

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are in use from coast to coast, and every one giving the best of satisfaction. Concrete blocks make the handsomest, most durable and cheapest building material. They are simply and quickly made on the **Dunn Machine**; and the cost of outfit is very moderate. Full directions furnished.

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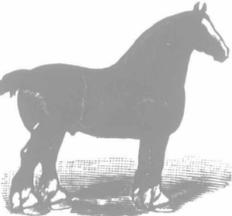
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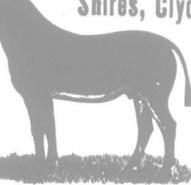


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"Cairnbrogie," CLAREMONT,
IMPORTERS OF
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Established 30 years, and winners at all large shows in Canada and United States. Best of stock always on hand for sale. New importation of Royal winners just arrived.

Clydesdales and French Coachers, Imp.



Scottish and Canadian winners at the leading shows of both countries. The Clydes represent the blood of such noted sires as Baron's Pride, Up-to-Time, Royal Favorite, Ethiope and Arnie. They combine size, quality and action. The French Coachers are a big, bushy, high-stepping Canada. Our prices are right and our horses are second to none.

ROBT. NESS & SON, Howick, Quebec.
Howick, Que. Telephone.

Trumans' Pioneer Stud Farm

Bushnell, Illinois.

AMERICA'S GREATEST IMPORTING FIRM

Come and see the grandest lot of

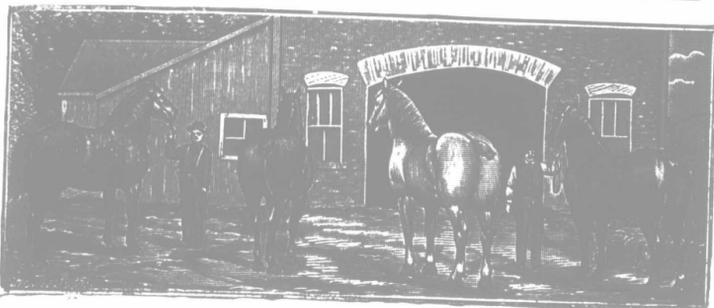
Shire, Percheron & Hackney Stallions

Ever seen in Canada, and which, for the next thirty days, will be sold at very reasonable prices. **Insurance** against death from any cause, if you so desire.

WE LEAD, OTHERS FOLLOW.

Don't buy a stallion until you see what we can do for you. Address:

H. W. TRUMAN, City Hotel, London, Ont.



25 Percherons, also French Coachers, Hackney and Clyde Stallions

Have just arrived, Aug. 16, 1965, from Great Britain and France with our new importation of high-class stallions, many of them prizewinners in their native lands, bred by the best breeders. The Percherons are large blocky fellows, 3 to 5 years old, descendants of such noted champions as Brilliant, Besique and Romulus. Blacks and dark dapple greys, weighing from 1,800 to 2,100 lbs., with the right kind of legs and feet, and can go like troopers. We personally selected every horse ourselves, using extraordinary caution to select nothing but good sound serviceable horses that will do our customers and the country good. The French Coachers, Hackneys and Clydes are also of our customers and the country good. The French Coachers, Hackneys and Clydes are also of our customers and the country good. The French Coachers, Hackneys and Clydes are also of our customers and the country good. We will sell you a better stallion for less money than any other importers in America, with a guarantee as good as gold. Intending purchasers should visit our stables before buying elsewhere. Inspect our stock and get our prices. Terms made to suit purchasers.

Hamilton & Hawthorne, Simcoe, Ont. 83 miles S.W. of Toronto, on G.T.R. & Wabash

THE VERY BEST SHIRE STALLIONS

and High-class Pedigree Colts



can now be seen at H. E. George's farm, Crampton, Ont. They are imported direct from Clement Keevil's Blagdon Stud, England. You are wanting a sound stallion and a sure stock-getter—I can suit you.

R. KEEVIL, Prop., Crampton, Ont., Seven miles from Ingersoll and two miles from Putnam, C.P.R.

HODGKINSON & TISDALE

Breeders of High-Class Clydesdales and Hackneys
BEAVERTON, ONT.

Our present stock of mares and fillies are the best lot we ever had together. Among them are championship, first, second and third prize-winners at Toronto. Our prices are consistent with quality. We have something that will suit you.

BEAVERTON P. O. & STATION. Long Distance Telephone.



Clydesdales & Hackneys

Our new importation of Clydes (stallions and fillies) combine size and quality to a marked degree. Their breeding is unsurpassed. Their individuality cannot be duplicated on the continent. Come and see them. We sell cheaper than any other importer. Also, we have a few gilt-edged Hackneys on hand.

G. & J. HAY, Lachute, Que. A few miles from Ottawa.

Graham & Renfrew's CLYDESDALES and HACKNEYS

Our Clydes now on hand are all prizewinners, their breeding is gilt-edged. Our Hackneys, both stallions and mares, are an exceedingly high-class lot. We also have a few high-steppers and carriage horses. Yonge Street cars pass the door every hour. Phone North 4483.

GRAHAM & RENFREW, BEDFORD PARK, ONT.

few years back, one of these "trial fields." The soil was of a hungry, sandy nature, and to judge by appearances, was scarcely able to sprout peas; but was seeded to alfalfa. The plants, which stood between three and four feet tall, and on an average about six feet apart each way, must have reached pretty well down to China, or, at least, had good connections below, for the stems were nearly as thick as one's finger. In fact, it more closely resembled a piece of waste land undergoing reforestation than an alfalfa field; and yet the owner boldly affirmed that he had tried alfalfa, and had come to the conclusion that it was unsuited to our climate, and belonged "away down south," where it should have stayed. Of course, we occasionally have a poor catch of alfalfa on suitable land, well cultivated, even as we do with red clover, but if proper precautions are taken, a good catch is reasonably sure. Now, if you are starting into the growing of alfalfa, go the whole hog or none—not as regards acreage, but as far as thoroughness is concerned. Don't sow half enough seed on poorly-drained, poorly-cultivated land, and then skin it to death with stock the first year. It does well here, in Central Ontario, and should succeed almost anywhere in the older parts of the Province; and it will be a happy day for the Ontario farmer when alfalfa is accorded the wider range to which it is justly entitled.

FARMER JOHN.

Waterloo Co., Ont.

Treatment of Lousy Live Stock.

Farm stock that become badly infested with lice during the winter months do not thrive as they should, and in the spring may show marked unthriftiness. This is especially true when stock are not well cared for and in young animals.

The sucking lice are more harmful than the biting varieties, as the former have mouth-parts adapted to penetrating the skin and sucking the blood of the host. However, the symptoms may be as marked in sheep and other animals that are badly infested with biting lice. In such cases the wool or coat becomes matted and detached, and the skin irritated and inflamed as a result of the animals rubbing, biting and scratching the parts.

Good care during the winter will prevent the lice from doing a great deal of harm, and the simpler remedies, such as mercurial and sulphur ointment, rubbed back of the horns or ears and along the mane and back, and insect powder dusted into the coat, may help in destroying them. A thorough treatment of the herd with dips or washes cannot be practiced during the winter months, unless the treated animals are prevented from catching cold. A favorable time to use this line of treatment is in the spring. Whatever method is used, the coat and skin must be thoroughly wet with the solution. Proper care should be taken in mixing the remedy, as there is danger of making it too strong and irritating the skin.

After treating the herd, the stables, sheds, or sleeping quarters, should be sprayed with about a two-per-cent. water solution of the disinfectant, or white-wash may be used instead. This is necessary in order to prevent re-infecting the herd from the surroundings. Tar disinfectants in one- or two-per-cent. solutions do not destroy the eggs or nits, hence it is necessary to treat the animals again in ten days or two weeks.

Stockmen sometimes ask if the feeding of sulphur to lousy animals will not drive away or destroy the lice. The feeding of small doses of sulphur will do no harm, neither will it help in getting rid of the lice, and it cannot be considered a remedy for this class of disorders when used in this way. Sulphur is effective, however, when used externally, and the addition of four ounces to every gallon of a tar disinfectant solution, greatly increases the effectiveness of the remedy.—R. A. Craig, Veterinarian, Purdue University Agricultural Experiment Station.

T. H. Medcraft & Sons, Sparta, Ont., write: "We have sold to L. S. Dunham, of Concord, Michigan, a carload of Shropshire ewes and lambs, sired by our two imported rams, Knox's and Dickens. Our Shorthorn cows are producing calves sired by our stock bull, Sunbeam's Champion. They are all thrifty, strong calves."

Horse Owners! Use

GOMBAULT'S

Caustic Balsam



A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe cases. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR ETCHING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. The Lawrence-Williams Co., Toronto, Ont.

HACKNEYS and CLYDESDALES



From such noted champions as Baron's Pride, Hiawatha, Marcellus, Macgregor, Baron's Fashion and Lord Lothian, etc. Inspection invited.

For fuller description and prices, write

T. H. HASSARD, Millbrook, Ont.

NEW IMPORTATION

I have landed one of the best importations of

CLYDESDALES, SHIRES

and HACKNEY STALLIONS,



males and fillies ever landed in America. They are got by such sires as Baron's Pride, Everlasting, Up-to-Time, Marcellus, Pride of Beacon and others, Scotland's greatest sires. Mares and fillies all bred in Scotland to the best sires obtainable. Have size and quantity, and I am offering these at just one half less than other importers are asking for theirs. For full particulars write

DUGALD ROSS, Streetsville, Ontario.

A BAD HITTER.

His Bunches and Bruises can be removed quickly without stopping work with

W.F. Young, P.D.F., 73 Monmouth St., Springfield, Mass. Canadian Agents, Lyman, Sons & Co., Montreal.

CLYDESDALES

Imp. Stallions and Fillies. The get of such notables as Baron's Pride, Prince Alexander, Moncrieffe Marquis, The Dean, Montrave Mac and Battle Axe; they combine size and quality, their breeding is unsurpassed, and I will sell them cheap. GEO. G. STEWART, Howick, Que. Long-distance Phone.

HACKNEY STALLION

Rising four. First at London, 1904 and 1905. Sire Langton's Danegilt.

IMP. SHIRE STALLION

First at London. A proved sire of quick-selling stock at highest prices. These will be sold well worth the money, as the owner, Mr. E. C. Attrill, is giving up farming. For prices, apply to

MR. CHAS. GARROW, AGENT, GODERICH, ONTARIO.

J. A. LATTIMER, box 16, Woodstock, Ont.

Clydesdales and Shorthorns

Has now to offer some good young bulls, sired by Imp. Bapton Chancellor. Speak quick if in need of such, as they will soon go at the price asked.

My motto: "The Best is None too Good." Imported and home-bred Clydesdale and Shire Horses, Scotch Shorthorn Cattle, Leicester Sheep. A choice lot of reg. fillies and Shorthorn calves to choose from. Our stock exhibited have won the highest honors at the largest shows in America.

WESTON P.O., C.P.R. and G.T.R. 10 miles west Toronto. Telephone at house and farm. J. M. GARDHOUSE.

23 Imported Clydesdale Stallions

for sale; also 8 Hackney Stallions. Inspection invited and prices right.

O. SORBY, GUELPH, ONTARIO.

No more blind horses—For Specific Ophthalmia, Moon Blindness and other sore eyes, BARRY CO., Iowa City, Iowa, have sure cure.

GOSSIP.

Collie pups (imported in dam), bred from first-class working stock, imported by Mr. S. J. Prouse, of Ingersoll, the widely-known importer of Clydesdales, are offered for sale by Fred McDiarmid, Ingersoll, Ont.

At the York, England, annual show and sale of Shorthorn bulls, on April 5th, the entries numbered 186, and good prices were realized, the 200-guinea mark being reached for two, taken by Mr. Miller, for Argentina, while three others sold for 100 to 120 guineas each.

Buff Orpington chickens (imported) and eggs for setting (from imported stock) are advertised by Fred McDiarmid, of Ingersoll. This stock was imported for Mr. McDiarmid by Mr. S. J. Prouse, the well-known importer of Clydesdale horses, and are said to be of the highest class of excellence.

AIR CURE FOR MILK FEVER.

We want to give to your readers a little experience we have had with milk fever. We have a very fine cow, Bessie's Ruth, which on March 20th dropped a calf. The next morning my man telephoned me that he thought she was acting rather strangely, and then I suspected she had milk fever. At about 1 o'clock he telephoned me to come out to the barn, as he thought she had the real thing. I happened to have a milk tube in my desk, and went down to the hardware store, got a bicycle pump for 15 cents, and when I got out to the barn she was lying on her left side. There was no doubt but what she had the fever, and by the time I got my milk tube scalded, she had straightened out, her limbs were getting cold, and it was 2 o'clock when we injected the air and kneaded the udder, and at 3 o'clock (just one hour later) she was up and eating. I want to say to you, it was really a great experience for a man to feel that he could cure this disease, and that he does not necessarily run a great risk in buying high-priced cows, on account of the chance of losing them by milk fever.—F. O. Chesney, in Jersey Bulletin.

COOPER DIP



350 Million Sheep Dipped in it Every Year.
Has no equal. One dipping kills ticks, lice and mites. Increases quantity and quality of wool. Improves appearance and condition of flock. If dealer can't supply, send \$1.75 for £2 (100 Gal.) Pkt. to Evans & Sons, Ltd., Montreal & Toronto.

BROXWOOD HEREFORDS.

A few choice bull calves from my imported stock.

R. J. PENHALL, NOBER P. O., ONT.

FIVE NICE, SMOOTH HEREFORD BULLS FOR SALE.

Two about 16 months and three from 8 to 10 months old. Priced right to do business.

W. BENNETT,

Box 428, Chatham, Ont.

THE SUNNYSIDE HEREFORDS

Twelve high-class bull calves and 4 yearling and 9 year-old bull, we will place at a price that will move them quick. Some choice cows and heifers are yet left for sale. Address: A. F. O'NEIL, Maple Grove P.O. or M. H. O'NEIL, Southgate P.O. Iderton Sta., L. H. & B.; Lucan Sta., G. T.

FOREST VIEW FARM HEREFORDS
Four bulls from 8 to 12 months old; prizewinners and from prizewinning stock. Several heifers bred on the same lines; choice individuals for sale. JOHN A. GOVENLOCK, Forest Sta. and P.O.

HEREFORDS—We are now offering a few thick, smooth young bulls and a number of females—a low-down, even, beefy lot. If in want of something extra good, correspond with us. We can please you. J. A. LOYERING, Coldwater P.O. and Sta.

QUESTIONS AND ANSWERS. Miscellaneous.

MUSHROOMS IN A ROOT-HOUSE.

Will mushrooms grow in a dark root-house, rather cool? Would old bricks be of any good for seed? J. S. K.

Ans.—Cellars or basement-rooms, where the temperature does not go below 55 degrees, nor rise above 65 degrees, are suitable places for growing mushrooms. In your district, we are afraid, from what you say, that the root-house would be a little too cold, although they may be grown successfully in stables which are rather warm. As in interjectory caution, do not make mushroom beds under the living part of the house, as the odor of the manure will fill the house. You might try the root cellar, experimenting in a small way. Bricks of mushroom spawn may be kept without injury for a number of years in a cool, dry place.

RAGWEED.

I have a field very bad with ragweed that I am going to summer-fallow. Could I work it with the cultivator, or would it be better to plow first? It was seeded last spring, but seed did not catch very well. There is wild grass in it. Ragweed seeded after harvest. How would rape do, say the middle of July, and cultivated in drills? J. B.

Ans.—It will probably be best to plow lightly in May, after the rush of seeding is over, follow plow with roller, and harrow, and keep stirring the soil at every opportunity with harrow, disc, spring-tooth and broad-share cultivator, as may seem to be needed. We consider the plan of sowing to rape in drills, and cultivating frequently, a good one. In eradicating ragweed, thorough fall cultivation to prevent seeding is very important, as the seeds have great vitality and may remain in the ground a long time, and then grow up and cause trouble. Experience of readers is invited on this subject of coping with ragweed.

Mr. J. W. Burt, Coningsby, Ont., advertises for sale three nice young Aberdeen-Angus bulls, fit for service, and has also a number of promising bull calves to dispose of.

Boog Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

Fleming's Spavin Cure (Liquid) is a special remedy for soft and semi-solid blemishes—Boog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser

describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write. FLEMING BROS., Chemists, 45 Church Street, Toronto, Ontario

ABERDEEN-ANGUS

Females; all ages, with calves at foot and safe in calf again. All bred by the leading sires and dams. Correspondence invited. GEO. DAVIS & SONS, Glengore Stock Farm, Aiton P.O. and Station, C.P.R.

For Aberdeen - Angus,

Young bulls and females—all ages, write JAMES SHARP, ROCKSIDE, ONTARIO, Cheltenham Station, C.P.R. and G.T.R.

Four Aberdeen-Angus Bulls—Two herd-headers and two useful bulls to use on grade cows. Barred Rock eggs at \$4.00 per 100.

JAMES BOWMAN, Elm Park, Guelph, Ontario.

Angus Cattle for Sale—Our present offering: Three young bulls and a few females of the best strains. Prices very reasonable. J. W. BURT, Coningsby P.O., Erin station, C.P.R.

Here's Two Durham bulls, 2 years old, and a snap; one 18 months, two sired by a Royal Sailor-bull that would weigh 2,300 lbs., and one by an imported sire. For quick sale, \$75 each. Barred Rock eggs, 5 settings for \$2. An imported Shoemaker and several home-bred roosters used in flock. W. R. BOWMAN, Mt. Forest, Ontario.

Aberdeen-Angus bull for sale, Black Diamond, No. 826, 3 years old this spring. A good individual and extra stock-getter; has never been beaten in showing. Price reasonable. Also one Chester White boar, old enough for service. A. G. SPAFFORD, Compton, Que.

SAILORS AND FARMERS ALIKE

APPRECIATE THE FARMER'S ADVOCATE KNIVES



WHAT A SATISFIED SAILOR-BOY HAS TO SAY:

S. S. "Coralia," Chicago, Ill.

I must say that "Farmer's Advocate knife," as I call it, that I received a couple of years ago is as good as new, and just the thing aboard a boat as well as on the farm.

Wishing The Farmer's Advocate success in the future, I am, your sailor-boy.

J. E. DUPUIS.

THE FAMOUS RODGERS MAKE

A Beautiful Knife, with nickel handle, finest steel blades, strong and durable. Should last a lifetime.

REGULAR PRICE, \$1.00.

If you want it, send us ONE new subscriber (not your own name) at \$1.50 per year and it is yours.

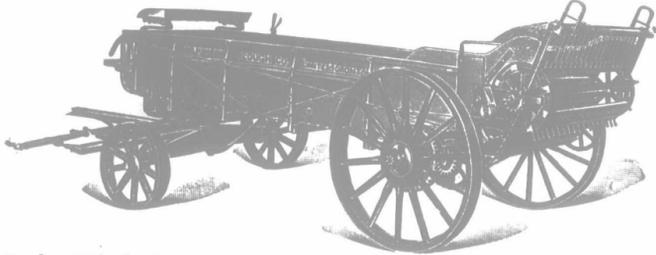
ONLY ONE NEW SUBSCRIBER

FILL OUT THE FOLLOWING BLANKS, AND RETURN TO US WITH \$1.50.

New Subscriber.....
P.O..... Province.....
Name of Sender.....
Date..... P.O..... Province.....
PLEASE SEND ME THE PREMIUM KNIFE.

THE WILLIAM WELD CO., LTD., London, Ontario, Canada.

FREE A SEVENTY-BUSHEL GREAT WESTERN SPREADER FREE



Have you 135 loads of manure, or more, to spread? Are you going to plant 25 or more acres of oats? If so, let us know, and we will show you how you can own a manure spreader absolutely FREE. Write just these words on a postal card or in a letter: I have ... loads of manure to spread this spring. I will plant ... acres of oats. I have ... acres of land; ... horses; ... cows, and ... small stock. Write to-day.

THE WILKINSON PLOUGH COMPANY, LTD., TORONTO, CAN.

Tudhope Carriages



There's a Tudhope in charge of Tudhope Carriages from start to finish. A Tudhope buys all the materials—a Tudhope superintends the construction—a Tudhope attends to the sales—and all know their business. Making a Tudhope Carriage has always been a family affair, since the first one was turned out in 1855.

TUDHOPE No. 85 Extension Top Surrey. Wide seats—high spring back and spring cushions. Top, as well as rear seat, may be detached when desired. Richly finished throughout. Most popular family carriage made. Write for our free illustrated catalogue. THE TUDHOPE CARRIAGE CO., Limited ORILLIA, Ont.

HANDY WAGONS and WIDE-TIRE IRON WHEELS FOR THE FARM



Made low to facilitate loading. They run easy, and carry a heavy load. Guaranteed to give satisfaction. Write for illustrated catalogue to DOMINION WROUGHT IRON WHEEL CO., Limited, ORILLIA, ONTARIO.

Riverview Shorthorns and Oxfords

Shorthorns represent Crimson Flowers, Athelstanes, Lady James and Roses. We have for sale eight bulls, including our stock bull, four yearlings, and the balance calves; also a few one, two and three year-old heifers. A thick, straight, mossy lot. Also some spring and one-year-old Oxford rams. Peter Cochran, Almonte P. O. and Sta.

Peargrove SHORTHORNS AND SHROPSHIRE

Have sold all the sheep we can spare at present, but have a few Shorthorn heifers. No fancy prices asked for quick sales. T. H. MEDCRAFT & SON, Sparta P. O. St. Thomas station. Long-distance telephone.



ROCK SALT for horses and cattle, in ton and car lots. Toronto Salt Works, Toronto

SHORTHORNS AND DORSETS

We are offering at living prices two 2-year-old and two 1-year-old heifers, a couple of young bulls and the stock bull, White Count 37871. The offering is a lot of good stuff and in good condition. Also a few Horned Dorsets. D. BARTLETT & SONS, Smithville P.O. and Sta.

Young Shorthorn Bulls for Sale

One 2 years old and several under one year. Also a number of females. Good milking strain. Prices right. GEORGE LEWIS, Ballymote, Ontario.

Sunnyside Stock Farm

8 superior young Shorthorn bulls for sale. All from imp. bulls, four from imp. cows. Good enough to place at head of any herd. Apply JAMES GIBB, Brookside P.O. and Telephone.

Shorthorns

One young bull, 14 months old; cows and heifers, all ages. Shropshires, all ages and both sexes. The Cedars' Stock Farm, Bradford, Ont.

Shorthorns

Have several good ones for sale between 5 and 10 months old. Also a few heifers at very reasonable prices, bred to sons of Imp. Royal Sailor and Imp. Wanderer's Lass. J. R. McCallum & Sons, Iona Sta., Ont.

PURE SCOTCH SHORTHORNS

Herd bulls: Imp. Prime Favorite =45214=, a Marr Princess Royal. Imp. Scottish Pride =36106=, a Marr Roan Lady. Present offering: 2 imported bulls. 15 young bulls. 10 imported cows with heifer calves at foot and bred again. 20 one- and two-year-old heifers. Visitors welcome. New catalogue just issued.

W. G. PETTIT & SONS, Freeman, Ont.

Burlington Jct. Sta. Long-distance telephone in residence.

Clover Lea Stock Farm SHORTHORNS

For Sale: One dark roan bull, got by Nonpareil Archer (imp.), out of a Duchess cow; also one show heifer. Prices reasonable. R. H. REID, Pine River, Ont. Ripley Sta., G. T. R.

Hillhurst Shorthorns

Registered bull calves for sale, by Broad Scotch =46315=, from imported English and home-bred dams of good milking strains. JAS. A. COCHRANE, Compton, P. Q.

Queenston Heights SHORTHORNS

One bull, 18 months, extra size and quality Got by Derby (imp.) =3,059=. Splendid value at price asked. HUDSON USHER, Queenston, Ont.

Bonnie Burn Stock Farm

offers Scotch and Scotch-topped Shorthorn heifers, some bred; also two bulls, one roan, one red, 13 and 25 months, sired by Director 2nd (imp.), and Rustic Chief (imp.), out of Miss 6th (imp.), all Scotch. A bargain, considering breeding. D. H. RUSSELL, Stouffville, Ont.

GOSSIP.

Volume 28 of the Clydesdale Studbook of Great Britain has by courtesy of the editor, Mr. Arch. McNeillage, 93 Hope St., Glasgow, been received at this office. It is the largest volume issued for many years, containing 761 pages, the pedigrees of mares numbering from 16,446 to 17,216, and of stallions numbering from 12,798 to 13,243.

Mr. W. J. McCallum, Brampton, Ont., writes that he has sold his entire importation of Clydsdals, 25 in number, that every person who bought is well satisfied, both in price and quality, and that the people say they were the best all-round lot that ever crossed the ocean. Mr. McCallum claims to have sold his importation quickest of any importer in America, and his motto is "small profits and quick returns." He is an enterprising young importer, and he intimates that his next importation will be here by June 1st.

Messrs. B. H. Bull & Son, Brampton, Ont., write: "Thanks to our advertisement in 'The Farmer's Advocate,' we have recently sold the following young bulls to head herds from here to Nova Scotia: To W. D. Stokes, Mount Albert, Brampton Tammany 72227. This bull honored the Brampton Jersey Herd in taking several first prizes last year in strong competition. His dam, Eye of Lake Roy, gave from 40 to 45 lbs. milk per day, and is very persistent. To J. R. Starr, Port Williams, N. S., Brampton Molina 70721, sired by the famous Brampton's Monarch (imp.). Jetsam's Molina, the dam of this young bull, is one of our best known foundation cows. Her record is 44 lbs. milk per day; estimated butter yield, 18 lbs. 10 ozs. per week. She is out of Imp. Jetsam, making this bull 75 per cent. Island blood. To Geo. Stokes, Uxbridge, Ont., Brampton Remus, a bull of strong conformation and rich quality. His dam, Terry's Tilly, is an excellent dairy cow, and he is sired by Norval Hero, a widely-known sire. Our stock has never been in greater demand. Sales never better. We would soon need to change our advertisement were it not for the 25 bull calves in the nursery."

An important purchase of imported Clydsdals was recently effected by Mr. Frank R. Heartz, of Charlottetown, P. E. I., consisting of the three-year-old stallion, Reformer (13151), and ten choice mares and fillies from the last importation of Messrs. Prouse & Innis, of Ingersoll and Woodstock, Ont. Reformer is a superior son of the noted sire, Moncreiffe Marquis (9953), first at the Highland Society Show, at Inverness, by Prince of Carruchan, by Prince of Wales, and his dam is descended from the celebrated champion, Topsman (846). Reformer is a grand young horse, typical of the best of the breed, combining size, quality and action in the highest degree, with the best of bone and feet, and should prove a sire of the first rank. The females, amongst which are such beautiful fillies as Blossom, Bonnie Lassie, Moldavea, Marmora and Atlanta, are the pick of an importation of fifty, personally selected, and said by competent authority to have been, perhaps, the best lot ever shipped to Canada, several of them having been winners at local and county shows in Scotland, and the breeding of most of them of the first rank in contemporary Clydesdale records, being sired by such noted horses as Clan Chattan, the sire of the H. & A. S. and Glasgow champion, Royal Chattan; Marmion, sire of the champion mare, Rosadora, at the Highland, 1905; the Glasgow premium horse, Sir Simon; the Darnley horse, Carthusian; Royal Cragie, the Stirling premium horse; Argosy, a very good son of Sir Everard, and others of equal note. The dams of several of these fillies are by such sterling sires as Sir Everard, the sire of Baron's Pride, and thrice first at the Glasgow Show; the famous Margaret's Mill horse, Prince Gallant, by Top Gallant; and Labori, the celebrated Glasgow 100-guinea challenge trophy winner. Mr. Heartz, who owns an extensive and valuable ranch in Southern Alberta, as well as a splendidly equipped farm in Prince Edward Island, is to be congratulated on his enterprising spirit and his good fortune in securing such a choice acquisition to his Clydesdale stud, which will, doubtless, prove an important factor in the improvement of the draft-horse stock of the Dominion.

DYSPEPSIA AND STOMACH DISORDERS

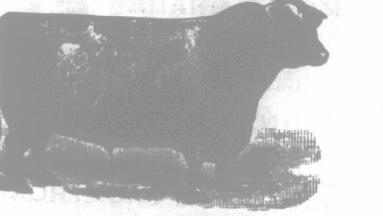
MAY BE QUICKLY AND PERMANENTLY CURED BY

BURDOCK BLOOD BITTERS.

Mr. P. A. Labelle, Maniwaki, Que., writes us as follows: "I desire to thank you for your wonderful cure, Burdock Blood Bitters."

Three years ago I had a very severe attack of Dyspepsia. I tried five of the best doctors I could find but they could do me no good. I was advised by a friend to try Burdock Blood Bitters and to my great surprise, after taking two bottles, I was so perfectly cured that I have not had a sign of Dyspepsia since. I cannot praise it too highly to all sufferers. In my experience it is the best I ever used. Nothing for me like B.B.B.

Don't accept a substitute for Burdock Blood Bitters. There is nothing "just as good."



ARTHUR JOHNSTON Greenwood, Ont.

Offers for sale, at moderate prices,

12 high-class yearling BULLS

All sired by imported bulls, and most of them from imported dams.

Also imported and home-bred cows and heifers of all ages.

CALF-SKINS HIDES, WOOL, ETC.

Consignments solicited. Write and get our prices. E. T. CARTER & CO., TORONTO.

CLEAR SPRING SHORTHORNS.

Imp Spicy Broadhorns at the head of herd. Young bulls from 6 to 11 months old, females all ages.

Prices reasonable. Call or write JAMES BROWN, Thorold.

SHORTHORNS AND LINCOLNS.

Present offerings: 4 choice young bulls 9 to 14 months; also a few good heifers, Lincolns, descended from the best English bloods. JOHN LEE & SONS, Highgate, Ont. 40 miles west St. Thomas, on M.C.R.R. & P.M. Ry.

KENWOOD STOCK FARM. SHORTHORNS.

Headed by (Imp.) Jilt Victor =45197=, 10 grand young bulls; also heifers; from imp. and home-bred cows, for sale. Choice Lincoln sheep; Berkshire and Tamworth hogs offered.

HAINING BROS., Highgate, Ont. Kent Co. SCOTCH SHORTHORNS.

RIVER VIEW STOCK FARM is offering young stock for sale from Marr Stamford, Scottish Maid and Rosemary dams, and sired by Scott's Choice =49670= A. J. ROWAND, Dumblane, Ont.

Shorthorns

Two choice young bulls for sale at moderate prices, from British Flag, imported. Write C. & J. CARRUTHERS, Cobourg, Ont.

Scotch Shorthorns

Present offering: Three bull calves (dark red), one red yearling heifer, all sired by "Scott's Choice" =49670=. JOHN SCOTT, Dumblane P.O. Port Elgin station.

DISPERSION SALE BY AUCTION

of 38 head of Scotch and Scotch-topped

SHORTHORNS

IMPORTED AND CANADIAN-BRED

Celtic, Fairy Maids, Clarissas, Margarets, Roses of Kentucky, Rose of Saxons and Zees, 28 females and 10 bulls, including the stock bulls, Imp. Prince Cruickshank and Imp. Cronje 2nd, all in the pink of condition and a high class lot, on

WEDNESDAY, MAY 16th, 1906

at Lot 11, Con. 2, W. Chinguacousy, Co. of Peel, 3 1/2 miles from Brampton, where conveyances will meet morning trains on C.P.R. and G.T.R. Terms: Six months, or 5 per cent. off for cash. Lunch provided. For catalogues and other information, address

MR. GUY BELL, Brampton P.O.



SCOTCH SHORTHORNS

9 heifers, yearlings. 4 bulls, yearlings.
29 heifers, calves. 27 bulls, calves.All out of imported sires and dams.
Prices easy. Catalogue.JOHN C'ANCY, H. CARGILL & SON,
Manager. Cargill, Ont.MAPLE SHADE
Cruickshank

SHORTHORNS

and SHROPSHIRE SHEEP

We have now for sale one (imp.) bull, 15 months; also a good roan junior yearling show bull. Catalogue on application.

JOHN DRYDEN & SON, Brooklin, Ont.

Stations Brooklin, G.T.R. Myrtle, C.P.R. Long-distance telephone.

CEDARDALE SHORTHORNS



For immediate sale: Four young bulls and a few heifers, a nice thick, well-put-up lot, and bred on heavy-milking lines. Will be sold cheap.

DR. T. S. SPROULE, M.P.
Markdale, Ont.

Shorthorn Cattle and Lincoln Sheep

Shorthorn bulls, cows and heifers for sale at greatly reduced prices for the next 60 days. om

J. T. GIBSON, Denfield, Ont.

A. EDWARD MEYER

Box 378. Guelph, Ont.

SCOTCH SHORTHORNS

specialty. Herd bulls—Scottish Hero (imp.), a Shethin Rosemary; Radium, a Cruickshank Myie. Correspondence solicited. Visitors welcome. Long-distance 'phone in house. o

Shorthorns and Berkshires

For Sale: The two-year-old show bull, Proud Archer =49812=, from an imported sire and dam of good milking strain, and ten fine young Berkshire sows, bred to our imported boar.

S. J. PEARSON, SON & CO.
Meadowvale, Ontario
Stations: Streetsville and Meadowvale, C.P.R.

GEORGE D. FLETCHER, Breeder of Scotch Shorthorn Cattle and Large English Yorkshire Swine. Herd headed by the Duthie-bred bull (imp.) Joy of Morning, winner of first prize at Dominion Exhibition, Toronto, 1905. Present offering: young Shorthorns of either sex; also a choice lot of Yorkshires of either sex, six months old, from imp. sire and dam. Prices easy. Binkham P. O., Ont. Erie Station and Tel.

Shorthorns for Sale

Two real good 12 and 13 months' old bulls, Strathallans, sired by the Brawith Bud bull "Golden Count" =44787=; also a 4-year-old Strathallan cow with a choice 2 months' old heifer calf at foot, sired by Golden Count. She has again been bred to same bull. Will sell a few 2-year-old Strathallan heifers, bred since the New Year.

JOHN CAMPBELL, Fairview Farm, Woodville, Ont.

Wm. Grainger & Son, Hawthorn Herd of deep-milking Shorthorns. Aberdeen Hero (imp.) at head of herd. Eight grand young bulls by Prince Misty =57864=. Prices reasonable. Lonsdaleboro Sta. and P.O. o

Oak Grove Shorthorns—Present offering: Several imp. cows, heifers and young bulls, all sired by Imp. Nonpareil Duke and out of imp. dams; also the stock bull, Imp. Nonpareil Duke, a choice offering. Prices right. W. J. ISAAC, Cobourg Station, Harwood P. O.

SHORTHORNS

One imported aged bull, grandly bred and a great sire.
One imported bull, three years old, a show bull and good sire.Four good big young bulls, from imported sires and dams, the kind we all want.
Three young bulls, with size and substance to get great feeders. Price very low.
Three imported cows, with calf or calf at foot, sold on an easy way to buy.Ask for catalogue of Straight Scotch Shorthorns, with lowest prices.
Will import Show and Breeding Sheep of all the mutton breeds, and am taking orders now.ROBERT MILLER, Ontario.
Stouffville, Telephone, Telegraph, Post Office & Railway Sta.

GREENGILL HERD

of high-class

SHORTHORNS



We offer ten young bulls ready for service, a number of them from imported sire and dam; also high-class females, all ages, either imported or Canadian bred. The herd is headed by (Imp.) Lord Roseberry. o

R. MITCHELL & SONS,
Nelson P.O., Ont.; Burlington Junc. Sta.T. DOUGLAS & SONS,
Strathroy, Ont.

SHORTHORNS and GLYDESDALES

Present offerings: 19 young bulls, of No. 1 quality, ready for immediate service; also cows and heifers of all ages. Also one imp. stallion and two brood mares. Prices reasonable. Visitors welcome. Farm one mile from town.

SHORTHORNS

The champion herd of Canada, 1905, is headed by the great show and breeding bulls Mildred's Royal and Springhurst. Cattle of all ages for sale, whether for the breeding herd or the show ring.

R. A. & J. A. WATT,
Salem Post and Telegraph Office, Elora Stn.
13 miles north of Guelph, on the G. T. R. & C.P.R.

SHORTHORN BULLS

FOR SALE

1 roan calf, 15 months old, of the Duchess of Gloster family.
1 roan, two years old, from imp. sire and dam. Also a number of good registered Clyde mares.

JOHN MILLER, Brougham, Ont.

SCOTCH-TOPPED SHORTHORNS.
Three young bulls, from nine to thirteen months old; also several young heifers by Scottish Baron (Imp.) for sale. Prices reasonable.H. GOLDING & SONS, Thamesford, Ont.
Stations, Thamesford, C.P.R.; Ingersoll, G.T.R.QUESTIONS AND ANSWERS.
Miscellaneous.

REGISTERING DOGS.

I have a pure-bred bob-tailed English sheep dog which I wish to get registered. Where would I have to send, and what would I send to get his pedigree?

T. S.

Ans.—Write for a blank form to H. B. Donovan, Victoria St., Toronto, or the Secretary, A. K. C., 55 Liberty St., New York.

VENEERING WITH CEMENT.

I built a house last summer, intending to veneer it with brick. Owing to the scarcity of brick and bricklayers, I did not get it done. It is finished inside. Would it do to veneer it with cement as a solid wall? I do not want to lath it, as I have roofing paper on the outside, and it is scarcely possible to get lath here now. Anyway, it would cost too much. Would water-lime do? It would cost less than half what cement would, and would not absorb rain as cement does. Would frost affect the water-lime? I don't think much of cement blocks, as rain goes right through them. Any information you may give, through your valuable paper, will be thankfully received.

A NOVICE.

Ans.—We know several houses that have been veneered with cement concrete, and they seem to be satisfactory. The veneer is about four inches thick. Ordinary gravel and cement concrete can be used, and a finish made afterwards, by plastering with a fine-grained concrete, and grooving to imitate mortar lines. Or by the use of cleats tacked on to the retaining planks, and a fairly-fine concrete, a wall resembling one built of stone blocks with bevelled corners can be built at one operation. We are not sure what is meant by water-lime unless it be rock cement. If such is used, a greater proportion has to be mixed in the concrete than is required of Portland cement.

T. B.

DRY BRAN OR MASH FOR HORSES—MIXED GRAIN FOR HOGS—TANNING COON SKIN WITH HAIR ON.

1. Is dry bran, fed with oats, good for horses and colts, say about a quart each night, or would it be better to feed bran mash?

2. What is the best way to grow barley and oats for hog feed? Would it be better to mix before sowing, or would it be better to sow separately? If mixed, how would you mix them?

3. Could you tell me how I could tan a couple of coon skins with the hair left on?

C. C. M.

Ans.—1. A quart of dry bran, mixed with the oat feed at night, is excellent for horses and colts. There is no need of making the bran into a mash.

2. The case of growing mixed grains for hogs is no different from growing them for other stock. A slightly larger yield, by weight, may be obtained, but the chances for success with clover and grass seeding are scarcely so good, although one of our correspondents suggests that this fact may be due to the greater thickness with which mixed grains are usually sown. However, it stands to reason that if the mixed grain gives a bigger yield than one kind alone, it must abstract more plant food and moisture from the soil, thus decreasing, to that extent, the chances of success with the clover seeding. If it is not desired to seed down with the grain crop, sow the oats and barley together, in proportion of 1 1/2 bushels barley to 1 1/2 bushels of oats. If seeding, do not sow more than 1 bushel of barley and 3 pecks of oats.

3. We always advise sending to a tannery. Three recipes for tanning such skins with the hair on were given in our issue of January 11th. We reprint one of them: Stretch the skin smoothly and tightly upon a board, hair side down, and tack it by the edges to its place. Scrape off the loose flesh and fat with a blunt knife, and work in chalk freely, with plenty of hard rubbing. When the chalk begins to powder and fall off, remove the skin from the board, rub in plenty of powdered alum, wrap up closely, and keep in a dry place for a couple of days. By this means it will be made pliable, and will retain the hair.



Health Insurance for Poultry

By correcting digestive troubles and destroying the poisonous germs of disease, Dr. Hess Poultry Pan-a-ce-a is a guarantee against loss. Every package is an insurance policy on the life of your poultry; on the health of every chick. By its action on the digestive organs it compels the system to extract the largest possible amount of nutrition from the food, and quickly convert it into bone, muscle, feathers, eggs, etc.

DR. HESS Poultry Pan-a-ce-a

is the prescription of Dr. Hess (M.D., D.V.S.) and cures gapes, cholera, roup, indigestion, leg weakness and the like. It is endorsed by leading poultry associations in the United States and Canada. Costs but a penny a day for about 30 fowls, and is sold on a written guarantee. In setting hens sprinkle both hen and nest with Instant Louse Killer, and the brood will come off free from lice.

1-2 lb. package 35c
5 lbs. 85c.
12 lbs. \$1.75
25 lb. pack \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,
Ashland, Ohio, U. S. A.

Instant Louse Killer Kills Lice

Shorthorns FOR SALE

Two red bull calves; 6 heifers, sired by that grand bull sire of unbeaten Fair Queen and sister, Queen Ideal. First prize senior heifer calf at the International, 1904. Also first prize and junior champion, and reserve grand champion at Winnipeg, 1905. o

H. K. FAIRBAIRN, Thedford, Ont.

Shorthorns, Cotswolds, Berkshires

Present offerings: Calves of both sexes, from 1 to 7 months; also cows and heifers, 56 head to select from. Nothing to offer in Berkshires or Cotswolds.

CHAS. E. BONNYCASTLE,
Station and Post Office: Campbellford, Ont.MAPLE + GROVE + STOCK + FARM
Scotch and
Scotch-Topped SHORTHORNS

Present offering: Two choice nine-months-old bulls, by Captain Mayfly 2nd; also young cows and heifers at very reasonable prices. For particulars write to

L. B. POWELL,
Elmira Stn. and Tel. Wallenstein P.O.

HIGH-CLASS SHORTHORNS.

The well-known Duthie-bred bull, Scottish Beau, imp. (36099), formerly at head of R. A. & J. A. Watt's herd, now heads my herd. Present offering: A few females of different ages. Also for sale, Clydesdale mare and yearling stallion colt; also choice Barred Plymouth Rock eggs for setting, \$1 per 15.

N. S. ROBERTSON, Arnprior, Ont.

SHORTHORNS, LINCOLNS & OXFORD DOWNS.

Herds headed by imp. Royal Prince and imp. Abbotsford Star. For sale: Nine bulls, six months to one year, three from imp. dams and imp. sires; also females. Oxford Down sheep and Barred Rock cockerels. JOHN McFARLANE & W. H. FORD, Dutton, Ont., Elgin County. o

SHORTHORNS AND LEICESTERS.

4 extra choice young bulls ready for service 4 Also bull calves, all from imp. sires. Leicester ewes and lambs of both sexes for sale. Address

W. A. DOUGLAS,
Caledonia Station, Tuscarora P.O.

Scotch-bred Shorthorns Four young bulls several cows and heifers in calf to Good Morning (imp.), now heading the herd, at let-live prices. L. K. WEBER, Hawksville P. O.

Shorthorn Bulls—Imp. Scottish Peer =40424=, 4 years old, sure, and a good sire. Also 3 excellent young bulls of his set, and an 8-year-old Clyde stallion. Come and see, or address,

JAMES SNELL, Clinton, Ont.

Galt Sure Grip Shingles



are made of best galvanized steel, and will not rust; are more quickly laid than any other, and are fire, lightning and storm proof. Our shingles grip tight, lie close, do not warp, and when properly applied will outlast any other roof. Best roof made to-day.

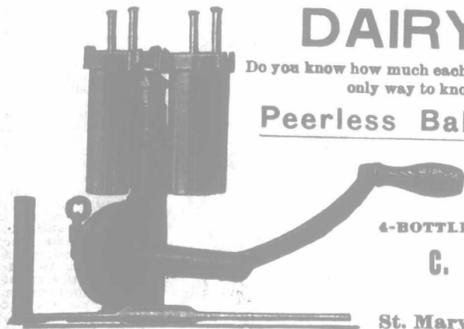
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DAIRYMEN

Do you know how much each cow is earning for you? The only way to know this is to buy a

Peerless Babcock Tester



IT WILL TELL YOU
ORDER TO-DAY

4-BOTTLE MACHINE, PRICE, \$5.00

C. Richardson & Co.,

Box 500
St. Mary's, Ontario.

SHORTHORNS

Still have a few bulls, one roan and three reds, one red from Imp. Mary Ann 6th, got by Kinellar Stamp; also a few females for sale, all by Kinellar Stamp.

SOLOMON SHANTZ, Haysville, Ont.
Plan Grove Stock Farm. Baden Station

ROWAN HILL SHORTHORNS

Herd bull for sale: Greengill Archer, imp., 45184, as some of his heifers are of breeding age, and herd is not large enough to keep more than one bull; also a few young bulls and heifers.

A. DUNCAN & SONS, Carleton Place, Ont.

J. Watt & Son SHORTHORNS

A number of extra good young cows for sale, three of them each raising a nice heifer calf; also a number of yearlings, just bred.

SALEM P.O. Elora Stations, G.T.R. and C.P.R.

SHORTHORNS and BERKSHIRES

Present offering: Several good young bulls, and a choice lot of young pigs.

JOHN RACEY, JR., Lennoxville, Que.

Willow Bank Stock Farm | Established 1885

Imp. Rosierian of Dalmeny - 45200 - at head of herd. Choice young stock for sale.

JAMES DOUGLAS, - Caledonia, Ont.

Brown Lee Shorthorns - Present offering is

3 young bulls from 9 to 15 months old, a nice straight, good-doing lot, sired by Blenheim Stamp; also females of all ages, daughters of Imp. Sir Christopher and Imp. Beaucamp. Prices very reasonable.

DOUGLAS BROWN, Ayr P.O. and Station.

SMITHFIELD FARM SHORTHORNS.

Herd headed by the Missie bull, Aberdeen Beau, by Imp. Scottish Beau. Present offering: One red 15 months' bull, good quality; also young Yorkshire pigs.

R. E. WHITE, BALDERSON, ONTARIO
Young bulls for sale, sired by Spectator, imp. Prices reasonable. Apply to

JOHN McCALLUM, Springbank Stock Farm
M.C.R. and P.M.R. Box 91. Iona Station.
MAPLE LEAF STOCK FARM
4 Choice Young Bulls for Sale. Also some cows and heifers, and prizewinning Berkshires pigs. Terms reasonable.

ISRAEL GROFF, Alma P.O. & Stn., G.T.R.

Maple Lodge Stock Farm.

1854.
An excellent lot of Shorthorn bulls and heifers for sale now. Have choice milking strains. Have a few Leicesters left yet. Bargains in ewes.

A. W. SMITH, Maple Lodge, Ont.

Pine Grove Stock Farm.

Breeders of High-class Scotch Shorthorns, Choice Shropshire Sheep, Clydesdale and Hackney Horses.

Herd catalogue on application. Address: **JAMES SMITH, Supt., Rockland, Ont.**
W. C. EDWARDS & Co., Limited Props. Ont.

SHORTHORN BULLS and HEIFERS

Sired by the Scotch bull, Scottish Lad 45061

FOR SALE.

S. DYMENT, Barrie, Ontario.

BELMAR FARM SHORTHORNS

10 bull calves, 16 heifers under two years. All of the choicest breeding and practically all of show-yard quality. You can buy anything in the herd at a reasonable figure.

JOHN DOUGLAS, PETER WHITE, JR., Manager, Pembroke, Ont.

JOHN GARDHOUSE & SONS, Highfield P.O., Ont.

Breeders of Scotch and Scotch-topped Shorthorns, Lincoln and Leicester Sheep and Shire Horses.

A good selection of young stock of both sexes always on hand for sale. Scottish Prince (imp.), Vol. 49, at head of herd. Royal Albert (imp.), 20267, at head of stud. Farms 3 1/2 miles from Weston, G.T.R. and C.P.R., and electric cars from Toronto.

SPRING VALLEY SHORTHORNS.

Herd headed by Imp. Bapton Chancellor - 43859 - (78296). A choice lot of females, mostly with calves at foot or safe in calf. Also a good six-month-old bull calf. Inspection and correspondence invited.

KYLE BROS., Ayr P.O.
Ayr, C.P.R.; Paris, G.T.R.

Glen Gow Shorthorns - Our present offering

is 9 bulls, from 6 to 14 months of age, sired by Imp. Ben Loman and Imp. Joy of Morning, and out of imp. and Canadian bred cows. Also a number of very choice heifers. No fancy prices asked. Long distance telephone. **WM. SMITH, Columbus, P.O.**
Brooklin and Myrtle Stns.

QUESTIONS AND ANSWERS. Miscellaneous.

AN UNOPENED ROAD.

A owns a farm and a marsh, with a river running through it, and the road running down through A's field to the marsh has never been opened. A forbids B to go through this unopened roadway to the marsh.

1. Can A prosecute B for going through it?
 2. Can B force A to open a road to the water?
 3. Who would he apply to to have the road opened?
- READER.
Ont.
Ans.—1. Yes.
2. No.
3. To the municipal council.

LIGHTNING PROTECTION FOR METAL-ROOFED BUILDING.

I have put a galvanized corrugated iron roof on my barn, and have no eavestrough on it. Am advised to put a No. 9 galvanized wire from each corner of roof to the ground.

1. Would that be a good protection from lightning?
 2. If so, how would you fasten wire to post on way to the ground?
 3. How deep would the wire have to be put in ground?
- W. A. M.
Ans.—1. If good connection is made between the wire and metal roofing, and also good ground connection secured, protection should be afforded by rods made of No. 9 wires twisted as described in this issue in article on "Protection from Lightning."
2. Staple the wire loosely to the weatherboards.
3. Run the rod down into earth that is always moist. Six or seven feet should be deep enough.

CEMENT CONCRETE FOR SAP ARCH.

How would you advise me to mix cement for a furnace to boil sap? Would it do to mix it the same as any other wall? Is there anything else beside sand and cement? I was told wood ashes is what is used to make fine brick. What proportion should it be mixed to withstand the heat?

J. C. W.
Ans.—We would advise using just neat cement to lay the bricks; that is, use no sand at all; have the beds and joints just as light as possible, and then back up with concrete, made of good, clean, coarse gravel (not sand). We might state that all of our boilers used in connection with our cement work and canning factory, and our kilns in which we burn our cement, are built this way. Our kilns, when an extremely high heat is necessary, are just faced up with fire brick set in neat cement and backed with concrete of good coarse gravel and Queenston cement, mixed 3 to 1. The syrup furnace will not be very large, and we would consider a wall 2 feet thick, plenty heavy enough. If there is a limestone in that section that stands fire very well, it could be used very successfully instead of brick, it will last a long time, and at less expense. Or build it all concrete, if it can be given a fair chance to set before using. Do not put a hot fire on a green concrete wall, as it is very liable to crack it up badly. **ISAAC USHER.**

"ABSORBINE WORKS LIKE MAGIC."

W. F. Young, P. D. F.:
Dear Sir,—I have been using Absorbine for four months on my carriage and saddle horses, and find it the best remedy yet for windgalls and swellings of all kinds. So far I have not had to use it for anything else, but am sure its curative properties are all and more than claimed. It works like magic, and a little goes a long way.

L. STROTHER,
92 Crescent Road, Toronto, Nov. 25th, 1905.

Get a bottle to-day from your druggist, or, if not to be obtained handily, send \$2 to my Canadian agents, Lyman, Sons & Co., Montreal, P. Q., and they will send you a bottle, express prepaid. Manufactured by W. F. Young, P. D. F., 73 Monmouth St., Springfield, Mass.

HIS WIFE'S LUNGS BOTH AFFECTED

But the Great Consumptive Preventative brought Health and Happiness to his Home

"Our doctor said there was no cure for my wife as both her lungs were affected," says Mr. L. H. Walter, of Pearl Street, Brockville, Ont. "It was a sad disappointment to us both, just starting out in life, only married a short time. But before she had finished the first bottle of Psychine the pain in her lungs quickly went away, and after taking six bottles Mrs. Walter was a new creature and perfectly well again."

That is just one of the many families into which Psychine has brought hope, health and happiness. It is a living proof that Psychine cures Consumption. But don't wait for Consumption. Cure your LaGrippe, your Cough, your Bronchitis, your Catarrh, or your Pneumonia with this remedy that never fails—

PSYCHINE

(Pronounced Si-keen)

50c. Per Bottle

Larger sizes \$1 and \$2—all druggists. **DR. T. A. SLOCUM, Limited, Toronto.**

GLENAVON STOCK FARM. Shorthorns and Berkshires

Will be sold cheap if sold before the 1st of April, the following: 3 bulls (Shorthorns) and one Berkshire boar. **W. B. ROBERTS, Sparta P.O.**
Sta.: St. Thomas, C.P.R., M.C.R., G.T.R.

PLEASANT VALLEY SHORTHORNS

Herd headed by imp. Old Lancaster - 50066 - Grand champion, Toronto, 1905, and consisting of females of the leading Scotch families; can spare a few young cows bred to imp. Old Lancaster. **GEO. AMOS & SON, Moffat Stn. and P.O., C.P.R.**

SHORTHORNS

Imp. Keith Baron 36050. Six young bulls from 10 to 18 months old. A lot of 2-year-old heifers in calf and a few young cows. A bunch of heifer calves, cheap.

CLYDESDALES
Just now: One pair of matched geldings 5 and 6 years old; show team.

JAS. McARTHUR, Goble's, Ont.

BARREN COW CURE

makes animals breed. Abortive Cow Cure prevents animals aborting. Cures guaranteed or money refunded.

L. F. SELLECK, Morrisburg, Ont.

Porter's Gold and Silver Fawn

St. Lambert Jersey Herd

I am still breeding and selling those St. Lambert beauties, and still have some of both sexes for sale. No better blood. No better cream and butter producers, and no better lookers. **T. PORTER, Carleton West, Ont.**
Toronto (Dundas St.) cars come out within half a mile of the farm.

DON JERSEYS

Don Jerseys rank second to none in Canada. Present offering is 3 year-old bulls, bred from prizewinners and producers, and are a grand lot; as herd headers they have few equals. A few females could be spared.

D. DUNCAN, Don P.O.
Close to Toronto.

HIGHGROVE JERSEY HERD.

Our present offering is: a few choice heifer calves from 3 to 8 months old, which, considering quality, will be sold reasonable.

ROBT. TUFTS & SON, Tweed P.O. & Sta.

Brampton Jersey Herd - We have now for immediate sale 10 bulls,

from 6 to 18 months old, descended from St. Lambert or imported stock; also females of all ages. In order to reduce our stock, we are making a special offer. For full particulars, address, **B. H. BULL & SON, Brampton, Ont.**
Phone 68.

An extra nice Jersey Bull, fit for yearling, also a few calves, also two bull calves. Prices reasonable.

F. S. WETHERALL, - Rushton Farm, Cookshire, Que.

Farm Labor Problem

The question with every farmer is what shall be done to solve the Farm Labor Problem?

The scarcity of help has made it necessary that every possible means for facilitating the work be employed.

We would like to help you out and would suggest that you buy a

National Cream Separator

It will save time and labor in your dairy, as well as increase the quantity of your cream.

The National

is easily operated, easily cleaned, and a perfect skimmer.

Manufactured by

The RAYMOND MFG. COMPANY OF GUELPH, Limited
GUELPH, CANADA.



4 SIZES:

National style B.
National style No. 1.
National style No. 1A.
National style No. 5.

HOLSTEINS FOR SALE

Four imported and one home-bred bulls, from 8 to 12 months old; also our entire crop of spring bull calves, from week old up to 12 months old. Sired by the grandly-bred imp. bull, Sir Howitz B. Plesierje, whose dam record is over 82 lbs. milk in one day, and from great-producing cows of the most fashionable strains. Can spare a few cows and heifers, from one year up; 75 head to select from. Cheese 13c. Don't delay if you want one from this herd.

M. E. GEORGE, Crampton, Ont.

The Ontario Veterinary College, Ltd.

Temperance St., TORONTO, Canada.

Affiliated with the University of Toronto.

Patrons: Governor-General of Canada, and

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session. Apply to ANDREW SMITH, F.R.C.V.S.,

Principal.

Maple Glen Holsteins—At present we can

offer three sons of

Sir Altra Posch Buts, whose grandam holds

world's largest official record for her age, and his

grand sire now has over 60 tested A. R. O. daugh-

ters—the most by any bull yet on record—and

he is a brother of Aggie Cornucopia, the cham-

pion record cow of the world. Secure the best.

C. J. GILROY & SON, Glen Buell, Ont.

Lyndale Holsteins.

For Sale A number of bull calves from

one to four months old, out of

Record of Merit cows, and sired by Beryl Wayne

Paul Concordia, whose four nearest dams have

official butter records averaging 23 lbs. 11 ozs.

each. We also have three young bulls fit for

service. BROWN BROS., LYN, ONT.

Grove Hill Holsteins—Herd contains 55 head

in the advanced registry. Our stock bulls have

all been backed up by high records. Present

offering: Several young bulls and a few females.

F. R. MALLORY, Frankford P.O. and Sta., C.O.R.

IMPERIAL STOCK FARM HOLSTEINS

A prizewinning herd of imported, officially

tested stock. Bulls of all ages for sale, also a few

cows. W. H. SIMMONS, New Durham, Ontario.

"GLENARCHY" HOLSTEINS

We have for immediate sale several young bulls,

and a number of young females, that for ideal

type and superior quality, backed up by gilt-

edged breeding, are unsurpassed.

G. MACINTYRE, Renfrew P.O. and Sta.

QUEEN CITY HOLSTEINS

If you would like to purchase a young Holstein

bull whose sire's dam has an official record of

550 pounds of milk and 26 pounds of butter in

seven days, write to R. F. HICKS, Newton

Brook P.O., York Co.

Holsteins at Ridgedale—A few choice bull and

heifer calves on hand for sale, sired

by Prince Pauline DeKol 6th. Ages up to ten

months. Write for what you want, or come and

see them. Shipping stations: Port Perry,

G. T. R., and Myrtle, C. P. R., Ontario Co.

R. W. WALKER, Utica P.O., Ont.

SPRINGBROOK HOLSTEINS & TANWORTHS

Two rich-bred bulls, ready for service, from

Official Record cows; also a few choice females.

One Tamworth boar ready for service. Some

nice spring pigs just weaned, both sexes. All

high-class stock. Come and make your own

choice.

A. C. Hallman, Breslau, Ont.

Cows from the ANNANDALE HOLSTEIN HERD

Have won during the past show season at Ottawa first and sweepstakes on cow, first on 3-year-old, first on 2-year-old class. At Guelph (dairy test) first and sweepstakes on cow, first and second in heifers. At Chicago (National) first and sweepstakes on cow, also second-prize cow, second and third on 2-year-olds, second on 1-year-old heifers, and a host of other prizes (different cows at different shows)

Bull calves, 4 months and under only, for sale from great dams and greatest of sires. Buy young if you want them from Annandale Stock Farm.

GEO. RICE, Tillsonburg, Ont.

RIVERSIDE HOLSTEINS

80 head to select from. Six young bulls, from 4 to 7 months old, whose dams have official weekly records from 16 to 31 lbs. butter; sired by Johanna Rue 4th's Lad, a son of Sarcastic Lad, Grand Champion prize bull at World's Fair, St. Louis, 1904.

MATT. RICHARDSON & SON,

Caledonia, Ontario.

WOODBINE HOLSTEINS

Herd headed by Sir Mechthilde Posch, absolutely the best official-backed sire in Canada. Dam Ianthe Jewel Mechthilde, 25.5 pounds butter in seven days. Champion cow of Canada over all breeds. Sire's dam, Aaltje Posch 4th, holds the world's largest two-day public test record—8.6 pounds butter. Young bulls of the choicest quality for sale.

A. KENNEDY, Ayr, Ont.

Ayr, C.P.R.; Paris, G.T.R.

HILL AND CENTRE VIEW HOLSTEINS

95 head. Stock bulls bred on high-producing

lines. Official records 15 to 22 1/2 lbs. 20 bulls, 4 to

16 months, by our stock bulls, out of Advanced

Registry dams, females, all ages. Write quick.

Guaranteed as represented.

P. D. EDE, Oxford Centre P.O.

Woodstock Station.

HOLSTEINS AND CHESTER WHITES.

Our Holsteins are producers and prizewinners

Young bulls and a few choice heifers for sale

also some extra good young Chester White pigs

both sexes. D. G. GODDERHAM, Thornhill P.O.

G. T. R. and street cars.

A FEW HOLSTEIN BULLS

fit for service, for sale at reasonable

prices. Choice females, all ages. If you

are willing to pay good prices for good

stuff, write me.

G. W. GLEMONS, St. George, Ont.

SPRINGBROOK AYRSHIRES.

Gave over 7,000 lbs. of milk, testing 3.9 per cent

butter-fat, during 1905. For sale: One bull 4

years old, Comrade's Fairy of Glenora 15790;

bull calves of this year; also, females of all ages.

W. F. STEPHEN,

P.O. Box 163, Huntingdon, Que.

AYRSHIRES FROM A PRIZEWINNING HERD

Have some nice bull and heifer calves for sale at

reasonable prices. For particulars, etc., write to

WM. STEWART & SON,

Campbellford Stn., Menie P.O., Ont.

MAPLE GROVE HOLSTEIN-FRIESIANS

For Sale: Three bull calves, sired by

Lord Wayne Mechthilde Colony, and

all out of Advanced Registry cows.

Apply

WALBURN RIVERS, Folden's Corners.

QUESTIONS AND ANSWERS. Veterinary.

NASAL GLEET.

Pregnant mare, 18 years old, discharges a foul-smelling matter from one nostril. C. M.

Ans.—This is nasal gleet, and the foul odor indicates that it is due to a decaying tooth. If this be the cause, it is necessary to extract the tooth. It is possible the discharge is due to irritation of the mucous membrane of the sinuses of the skull. Give her 1 dram each sulphate of copper and sulphate of iron twice daily. This will darken the color of the feces. If she becomes constipated, give a pint of raw linseed oil. If this treatment does not effect a cure, call your veterinarian in, and he will probably be able to locate a decaying tooth, and extract it. Do not have her operated on until after she foals. V.

THOROUGHPIN.

Three-year-old Clydesdale filly has an enlargement on inside of hock, just above the seat of thoroughpin. There is also a slight enlargement on opposite side of joint. They both disappear when weight is taken off the leg. I have used a bottle of Kendall's spavin cure, and have also blistered without result. She is not lame. C. K.

Ans.—Even though this appears to you to be too high for a thoroughpin, that is what it is. These are very hard to remove, especially in heavy horses. Repeated blistering is good practice, but as blistering has failed, try the following treatment: Four drams each resublimed crystals of iodine, iodide of potassium and iodide of ammonium, and 5 ounces each alcohol and glycerine. Apply a little with smart friction once daily. V.

DISEASED EYE.

In October last my mare's eye became diseased. I put burnt alum in it, and it got all right. In February last, the disease again appeared. The eye is hollow and glassy, with a pinkish appearance. She is four years old. I have had her to my veterinarian, but he has done her no good. W. J. C.

Ans.—I would advise you to allow your veterinarian to continue treatment, as he is in a much better position to treat than I to prescribe. He certainly did not tell you to put burnt alum in the eye. Anyone who treats that way should be prosecuted for cruelty to animals. I am of the opinion she has what is called periodic ophthalmia, and will go blind, notwithstanding treatment. She may recover this time, but will have future attacks, which will end in cataract and total blindness. I would advise putting a few drops of the following lotion into the eye twice daily, and keeping her in a partially-darkened stall: 15 grains sulphate of zinc, 20 drops fluid extract of belladonna, and 2 ounces distilled water. V.

SCOURS AND PARALYSIS.

We have taken "The Farmer's Advocate" for some years, and would not be without it. A neighbor is having a bad time with his cattle. He is feeding turnips, wheat and oat straw, clover hay, and oats and barley chop, and are turned out to water once a day. They start to scour, then take paralysis in hind quarters. They are sick about two weeks, and will eat till the last day. He has now lost eight head, and has more sick.

- 1. Is there any danger of this spreading?
- 2. What do you consider the cause?
- 3. What treatment would you advise?

Ans.—There is evidently something wrong with the quality of the food or drinking water. Be sure that the food is of the best quality, especially the turnips that they are not decayed, or have been frosted. Water from a spring, or well, that is a distance from barnyard. Give to those that are at present sick (unless too much weakened) a pint of raw linseed oil, then follow with whiskey, 3 ounces; prepared chalk, 4 ounces; linchona, 2 drams. Given in starch and three times daily. Feed liberally, but see that food is of the best. R.

MEN PAY WHEN CURED

So many men have been cheated out of their hard earned money by Quacks and fake Specialists, whose injurious dopes and so-called treatments are made to sell rather than to cure, and whose glowing promises and strong guarantees are never intended to be carried out, that they have almost lost faith in the honesty of physicians and in their ability to cure. In order to dispel all doubt, and prove to patients that he can really cure so-called incurable cases, no matter how many other treatments have failed to cure them, Dr. Goldberg offers patients a cure before they pay.



Dr. Goldberg has 14 Diplomas and Certificates from various Colleges and State Boards of Medical Examiners (a reproduction of which is sent with the first letter to each patient), and he has successfully treated men on his pay when cured plan for years, permanently curing patients suffering from severe nervous disorders resulting from overwork, business and domestic cares, dissipation, etc.

Nervous debility and all of the accompanying symptoms, such as headache, loss of memory, mental depression, strange sensations, irritability, sleeplessness, weakness, trembling, heart palpitation, cold limbs, physical exhaustion, etc., are promptly cured; and blood poison, prostatic trouble, early decay, skin diseases, bladder and kidney troubles are cured to stay cured. The prices are very reasonable, and no charge are made for examination and advice, no matter whether the patient takes the treatment or not. Dr. Goldberg has no free samples and no proprietary medicines to sell. He is strictly opposed to all stimulants which temporarily relieve, but after a short time leave the patient in a worse condition than before taken. His treatment is specially prepared for each individual case and goes to the bottom of the disease, purifying the blood, strengthening the nerves and general system. It eradicates all traces of disease, and makes men sound and healthy and able to meet their fellow men with a feeling that they are strong and manly and fit to cope with the most trying conditions before them.

The treatments are sent to patients in any part of the world under this pay when cured plan, and if you will write and state all about your case at once, your letter will receive prompt attention and you will be advised by return mail as to how long it will take to cure you, and how much the treatment will cost you.

Remember, you do not have to pay a cent for anything until you are cured. No matter how many others have treated you, or how serious your condition is, you should write today and take advantage of this liberal offer. All medicines for Canadian patients sent prepaid. Address DR. GOLDBERG, 206 Woodward Ave., Suite 631, Detroit, Mich., U. S. A.

AYRSHIRES

The famous Reford Herd at St. Anne de Bellevue, Que., now owned by Sir William C. Macdonald.

Several yearling bulls for sale; also a number of bull calves. Quality and appearance extra good, bred from the best milking strains, noted for robust constitution and large teats.

For particulars apply to MACDONALD COLLEGE St. Anne de Bellevue, Quebec.

THREE PRIZEWINNING AYRSHIRE BULLS FOR SALE

One 5-year-old bull, 3rd-prize winner at Central Canada Exposition; one 2-year-old bull, 1st-prize winner at Central Canada Exposition, and one bull calf, 19 months old, 3rd-prize winner at Central Canada Exposition. These bulls are fit to head any herd in Canada. Terms reasonable. Write

A. KENNEDY & SON, Hillview Stock Farm,

Winchester Stn., C. P. R. Vernon, Ont.

AYRSHIRES and YORKSHIRES

An August, 1904, bull of a choice dairy strain. A March, 1905, bull calf, very stylish, a winner. Several young calves of good breeding; cheap to quick buyers.

Some real good 2-year-old heifers in calf. Orders booked for young pigs. Correspondence solicited.

ALEX. HUME & CO., Menie P. O., Ont.

Ayrshire Bulls

For Sale 12 Ayrshire bulls one to two years old. Bred from deep milking stock, both by sire and dam. Price reasonable. Correspondence and inspection solicited.

W. Owens, Monte Bello, Que.

Riverside Farm,

Maple Cliff Dairy and Stock Farm

Breeders of Clydesdale Horses, Ayrshire

Cattle, Berkshire and Tamworth Pigs.

Young stock for sale at all times.

R. REID & CO., Hintonburg, Ont.

Farm adjoins Central Experimental Farm.

AYRSHIRES—Choice stock of either sex, different ages for sale. Prices reasonable. For particulars apply to

N. DYMONT, Hickory Hill Stock Farm,

Dundas Stn. & Tel. Clappison, Ont.

SHANNON BANK STOCK FARM

FOR AYRSHIRES and YORKSHIRES

Young stock of both sexes for sale from imported stock.

W. H. TRAN, Cedar Grove, Ont.

THINGS WORTH KNOWING

If you are going to buy A MANURE SPREADER

NO machine within his reach is capable of doing so much for the farmer as the modern manure spreader. But then it must be a machine with features—features of economy and efficiency. The I. H. C. Manure Spreader has such features.

Any man of experience knows that a spreader only works perfectly when the load is level. The I. H. C. Spreader is the only spreader with a vibrating rake in front of the beater or cylinder which levels every load and any load of manure.

Any man knows that the apron operates better when power is applied at both sides. The I. H. C. spreader apron is driven at both sides from both hind wheels.

This saves all torsion, binding, friction and undue strain, and consequently saves breakages and results in lighter draft.

One lever is better than many levers in operating any machine.

The I. H. C. spreader is the only spreader which is controlled and operated entirely with one lever.

It has ten different feeds—can be adjusted instantly while in motion to spread three to thirty loads per acre.

Large, solid, steel axles front and rear—front wheels cut under—turns very short.

Steel wheels—no rotting or drying out. Broad faced tires with turned in flange to keep out dirt, mud, etc. Lightest and strongest.

Provided with traction lugs on rear wheels—will work perfectly on hard, frozen or wet ground.

Made in various sizes to suit all requirements.

The I. H. C. spreader will distribute perfectly manure of all kinds—wet, dry, mixed, straw, full of stalks, frozen, caked, etc.

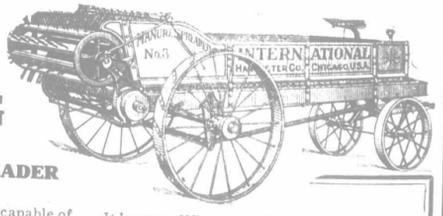
It may be equipped with special features known as lime and drill attachments for distributing broadcast, or in drills, fine manure, commercial fertilizers, lime, ashes, salt, cotton seed hulls, land plasters, etc.

Remember what we have told you—it is the manure spreader with special features which all make for success.

Call on the International Agent for information or write nearest branch house for catalog.

CANADIAN BRANCHES: Calgary, London, Montreal, Ottawa, Regina, St. John, Toronto, Winnipeg.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A. (INCORPORATED)



SAVE 20 CENTS PER SHEEP on every sheep you shear with

STEWART'S IMPROVED 1904 SHEEP SHEARING MACHINE

Price in Canada: **\$17**

For sale by all leading jobbers. The day of the old-fashioned hand shears is past. No owner of 10 sheep or more can afford to shear by hand, even though the shear with machine and get one pound of wool extra per head. It will more than cover the cost of shearing. It is free, and will save you money.

CHICAGO FLEXIBLE SHAFT CO., 110 LaSalle Ave., Chicago.

Shropshire & Cotswold Sheep

SCOTCH SHORTHORNS and CLYDESDALES

Choice ram and ewe lambs. Also 50 shearing ewes for sale. Apply to

JOHN BRIGHT,
Myrtle Station, Ontario.

The "STAY THERE" Aluminum Ear Markers

are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tag, catalogue and prices mailed free. Ask for them. Address

WILCOX & HARVEY MFG. CO.,
104 Lake St., Chicago, Ill.

Lincolns are Booming

We have only a few more ewe and ram lambs and breeding ewes for sale. We have seven choice young bulls, Scotch-topped, and a grand lot of heifers and young cows for sale at reasonable prices. Write or come and see us.

F. H. NEIL & SONS,
Lucan, Ont.

Sheep Breeders' Associations.

American Shropshire Registry Association, the largest live-stock organization in the world. Hon. John Dryden, President, Toronto, Can. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana.

Leicester Sheep—Choice ram and ewe lambs; also a few yearlings for sale. For particulars write to **CHAS. F. MAW,** Milton Stn. and Tel. Omagh P.O.

COTSWOLDS

Some good shearing ewes and ewe lambs, and a few choice ram lambs, right type, for sale. Prices moderate.

E. F. PARK, Burgessville, Ont.

Advertise in the Advocate

GOTSWOLD SHEEP

From one of the largest breeders in the home of the breed. We have bred the prizewinners at the leading English shows. Address:

W. HOULTON, Broadfield Farm, Northleach, Glos., ENGLAND; or S. HOULTON, Calgary, ALBERTA, Canadian representative.

SOUTHDOWNS COLLIES

Having sold short, I am now booking orders for future delivery of show and breeding flocks.

Robt. McEwen, Byron, Ont.

BROAD LEA OXFORDS.

Present offerings are 28 ranch shearing rams, seven shearing ewes, one show ewe four years old. Will also book orders for ewe and ram lambs from imported ram.

Correspondence promptly answered. Visitors always welcome.

B. E. Stations: Mildmay, G. T. R. Teeswater, C.P.R. **W. H. ARKELL,** Teeswater, Ont.

DORSET HORN SHEEP and SCOTCH SHORTHORNS

The latter representing the Nonpareil, Miss Ramden, Missie and Gloster families exclusively, and the former comprising more Royal winners and more St. Louis prizewinners than any other flock in the world. Stock for sale always on hand.

JOHN A. MCGILLIVRAY, North Toronto, Ontario

Seed Grains and Dorset Horn Rams

Emmer and Tartar King oats. All grains well cleaned. Write for samples and prices.

Glenair Farm, JAMES DICKSON, Orono, Ont.

SHROPSHIRE

Shearing ewes and rams for sale.

GEO. HINDMARSH, Ailsa Craig, Ont.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.

Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons,** Buena Vista Farm. o **Harriston, Ont.**

Sheep and Cattle Labels.

If you are putting stock out this spring you will need them. Sample and circular free.

F. G. JAMES, Bowmanville, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

BREEDING OF PRINCE OF WALES.

I am told that the dam of the old Prince of Wales 673 was a pure-bred Shire mare. Would you kindly let me know, through "The Farmer's Advocate" if the dam of Prince of Wales 673 was a Shire or a Clydesdale?

A subscriber for 28 years. N. B. S.

Ans.—We have no means of ascertaining. The Scottish Clydesdale Studbook says his dam, Darling, was bred by Robert Knox, Foreside, Neilston, and sired by Samson, alias Logan's Twin (741), who was by lofty (455), and the dam of Darling was Kate, purchased from Andrew Giffen, who purchased her in a Dumfries market.

CUSTODY AND SUPPORT OF CHILDREN.

1. A's wife died seven years ago, and left two children. A left one child with B, and one with C, and has not supported them. A has married again, and wants the children home, can he take them?

2. How much can B and C charge a year for the keep of the children?

Ont. D. J. T.

Ans.—1. Yes.

2. It is impossible to say what amount (if any) B and C may charge without knowing more of the circumstances, and especially the terms of the arrangement made at the outset.

CRIPPLED SOW—COW WITH ABNORMAL APPETITE.

1. Saw had litter of eight pigs seven weeks ago. About three days after weaning the pigs, she became all crippled up in the hind legs, and lost all power of them. She seemed to be in terrible pain when moving, squealing all the time she is moving. She will not take nourishment, only by forcing her. She is getting a little better now. Please give cause and the treatment for it.

2. Also have a cow that eats and chews all the boards she can find. What is the cause of it, and what is the best treatment?

3. Do you give premiums for getting new subscribers?

F. C. H.

Ans.—1. Probably the oversupply of milk in the sow's system after weaning the pigs was the cause of the trouble. It is a good plan to let the pigs to the sow once a day the first week when weaning, and once or twice the second week. Warm weather, and a run on grass, will probably bring her all right.

2. Give the cow some sulphur and wood ashes mixed with her salt.

3. Yes, our premium list has appeared in the advertising pages frequently in the last few months.

AGRICULTURAL STATISTICS.

What is import and export trade of Canada and United States for last year? What percentage of population is engaged in farming in Canada and United States? What is value of silver, gold, bacon, beef, butter, cheese, sheep, poultry, wool, eggs, wheat, oats, sugar, tobacco, flax, potatoes, clover, beans, millet, timothy and fruit, produced in Canada in 1905? The value of wheat and bacon consumed in Canada in 1905? The value of fruit produced in United States, and also wheat exported by the same?

W. S.

Ans.—1. The value of goods entered for home consumption in Canada for the fiscal year ending June 30th, 1905, was \$261,925,554, and the value of exports, produce of Canada, was \$190,854,946. The value of goods entered for consumption in the United States for the same period was \$1,087,118,133, and the value of exports, produce of the country, \$1,491,744,641.

2. No information is available of the value of products in your correspondent's list for 1905, nor for the value of wheat and bacon consumed in Canada, nor for the value of fruit produced in the United States for the same year. The value of wheat exported by the United States was \$3,905,579, and of wheat flour, \$40,176,136.

A. BLUE,
Census and Statistics Office, Ottawa.

LIVER COMPLAINT.

The liver is the largest gland in the body; its office is to take from the blood the properties which form bile. When the liver is torpid and inflamed it cannot furnish bile to the bowels, causing them to become bound and costive. The symptoms are a feeling of fulness or weight in the right side, and shooting pains in the same region, pains between the shoulders, yellowness of the skin and eyes, bowels irregular, coated tongue, bad taste in the morning, etc.

MILBURN'S LAXA-LIVER PILLS

are pleasant and easy to take, do not grip, weaken or sicken, never fall in their effects, and are by far the safest and quickest remedy for all diseases or disorders of the liver.

Price 25 cents, or 5 bottles for \$1.00, all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

Asthma CURED TO STAY CURED.

We give prompt relief and permanent freedom from Asthma. Our latest Book, No. 57F, will be mailed on request.

DR. HAYES, Buffalo, N. Y.

NEWCASTLE HERD OF Tamworth Swine and Shorthorn Cattle

Boars ready for service, and sows bred and ready to breed, and a whole lot of beauties from 3 to 4 months, both sexes. Pairs supplied not skin. Our younger stock are mostly all the get of Newcastle Warrior, winner of sweepstakes and silver medal at Toronto, 1905. We also offer our present stock bull, Donald of Hillhurst, No. 44690, son of Imp. Joy of Morning, as his heifers are now of breeding age, together with a few choice heifers and cows in calf to above bull. All inquiries answered promptly. Daily mail at our door.

COLWILL BROS., Newcastle, Ontario.

Mount Pleasant Herd of Tamworths and Heistines. A large herd of choice pigs of all ages on hand. Mount Pleasant type of hogs are profitable breeders and ideal bacon hogs. Pairs not skin. Herd headed by Colwill's Choice No. 1343. Won sweepstakes and silver medal at Toronto, 1901-2-3. Also a few bulls.

Bertram Hoskin, The Gully

Spring offering of LARGE WHITE YORKSHIRES

A fine lot of March pigs from imported stock, fit for show purposes; also some good young sows bred to a prizewinning imported boar.

Orders taken for imported hogs, to be imported in June. Write

H. J. DAVIS, Woodstock, Ontario.

GLENHODSON YORKSHIRES AND POULTRY.

Sows bred or ready to breed, from choice imported stock, also young pigs, for sale. Buff Orpington, B. P. Rock and White Wyandotte eggs for hatching at \$1 for 15.

GLENHODSON COMPANY, Myrtle Station, Ont. Long-distance phone at farm. Lorne Foster, Mgr.

Ohio Improved Chester Whites

100 Pigs to Offer of the long, deep, heavy sort. Breeding stock selected from the most noted families, with a view to size and quality. Booking orders for choice spring pigs; also a few fall pigs for sale. Pairs furnished not skin. Express charges prepaid. Pedigrees and safe arrival guaranteed.

H. E. GEORGE, Grampton, Ont.

Morrison Yorks. and Tams.

on hand, for sale. Are both sexes of both breeds. Bred from prizewinners and extra choice. Prices right.

Charles Currie, Morrison P. O., Schaw Sta., C. P. R.

CHESTER WHITE SWINE

Shropshire Sheep and Mammoth Bronze Turkey Eggs. Write for prices.

W. E. WRIGHT, Glanworth, Ont.

GOSSIP.

I recently picked up a small girl of about eight summers on her way home from school. She said she was a farmer's daughter. I asked her if they had any milch cows. She said they had six. It being a Shorthorn district, I asked her if their cows were Shorthorns. "No," says she, "they are all longhorns."

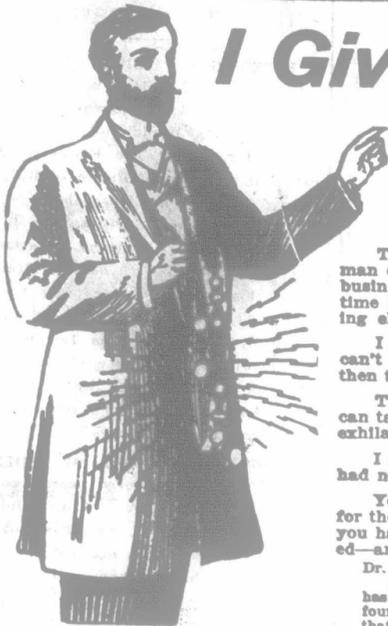
The Canadian White Wyandotte Club's catalogue has just been received. It is full of up-to-date Wyandotte news, setting forth the good qualities of the White Wyandotte. The Club has issued a large number of these catalogues, which are for free distribution, and those of our readers interested should apply for it to the Secretary, J. F. Daly, Seaforth, Ont.

CHICAGO'S LIVE-STOCK BUSINESS.

The fortieth annual report of the Union Stock-yards & Transit Co., Chicago, announces that receipts of stock of all kinds during forty years have amounted to 386,805,589 head, comprising: cattle, 78,169,550 head; calves, 3,690,102; hogs, 282,888,084; sheep, 70,482,381; horses, 2,080,522. Shipments during the same period have aggregated 116,598,108 head, composed of: cattle, 32,381,619; calves, 591,728; hogs, 64,848,776; sheep, 16,872,444; horses, 1,908,541. The grand total handled by the company, since its commencement, 503,408,697 head. In 1866, the valuation of the stock was \$42,765,328. In 1905, it aggregated \$300,472,490. Verily the live-stock business of the Windy City is stupendous. The scene of this activity is a place one inspects with amazement, and leaves with a breath of relief.

AN IMPORTANT SHORTHORN SALE.

At lot 11, con. 2, township of Chinguacousy, Peel County, Ont., 3 1/2 miles from Brampton, G. T. R. and C. P. R., 20 miles west of Toronto, on Wednesday, May 16th, Mr. Guy Bell, whose P. O. address is Brampton, will sell, without reserve, his entire herd of 88 head of imported and Canadian-bred Scotch and Scotch-topped Shorthorns—26 females and 12 bulls—including the stock bulls, Prince Cruickshank (imp-), a roan, by the massive show bull, Emperor, dam Golden Princess, by the Mina bull, Master of the Mint. Prince Cruickshank is now in his seven-year-old form, but is still active, and said to be sure and good for years' of service yet, and he has proven a sire of sterling worth, as the many good young things in the herd prove. The other sire in service is Imp. Cronje 2nd, a red, three years old, sired by Chief Mate, dam Crona, of the favorite Marr Clara tribe. He is an extra good type of the up-to-date Scotch Shorthorn, short-legged, thick-set, very evenly balanced; in fact, a show bull of the first order, and his calves are showing extra well. The other bulls range from 4 months to 2 years of age, nearly all sired by Prince Cruickshank, and two of them out of imported Scotch-bred cows in the herd, namely, Imp. Celia, by Sir James, dam by Ivanhoe, and Imp. Fairy Maid, by Clifton, dam by Lord Douglas. Besides an eight-months-old roan bull calf by Prince Cruickshank, out of one of these imported cows, there is a two-year-old red heifer, by Imp. Prince Cruickshank, and another by Imp. Nonpareil Archer, in calf to Cronje 2nd. The breeding cows are an exceptionally large, heavy-fleshed lot, some of them weighing up to 1,800 lbs., and all not having calves at foot are in calf to Imp. Cronje 2nd. In younger heifers, there are about a dozen from 1 to 3 years of age, a rare good lot, and all in grand condition. Besides the above named imported cows, the balance of the herd belong to the Margaret, Zee, Rose of Kentucky, Rose of Saxon, and Clarissa families, many of them being very heavy milkers. Mr. Bell, being alone has decided to go out of the business, consequently everything will be sold, and the sale presents a rare opportunity seldom offered to the public. The class cattle at the time of sale. The terms are: 6 months or 1 year per annum off for cash, or 12 months will meet all morning train, and roads on day of sale. Terms and conditions provided. See the advertisement and write for catalogue, which will be sent on application to Mr. Guy Bell, Brampton P. O., Ont.



I Give My Belt Free Until I Cure You

That's a fair and square proposition—FREE UNTIL I CURE YOU. No man can make it unless he knows what he can do. I'm no novice at the business of curing men. I've been at the business 24 years, and in that time have learned that Electricity will cure hundreds of cases where nothing else will.

I know what kind of cases I can cure and will not take a case that I can't. When I found that I could feel sure of success in certain cases, I saw then that it was possible to make this proposition—no pay unless I cure you.

There may be some people who would not pay me when I cured them. I can take chances on those, as there are very few men who when they feel the exhilaration from my Belt will not be glad to pay the small price it costs them.

I cure some men for \$5. My \$5 Belt cured one man of lame back who had not been able to bend over to unlace his shoes for five years.

You pay a doctor a little money every month, and a druggist some more for the stuff he sells you to dope your stomach. It's no fun to look back after you have taken this stuff for years and are just as bad off as when you started—and your stomach the worse from the poison you have put into it.

Dr. McLaughlin: Nipissing, Ont.
Dear Sir,—I have worn your Belt for two months steady, and must say that it has done me an awful lot of good. I am well satisfied with the Belt, and I have found what you said about your Belt to be true. I will give your Belt all the praise that it deserves. Wishing you every success, I remain, yours very truly,
WILLIAM BYERS.

Dr. McLaughlin: Hallville, Ont.
Dear Sir,—I am well pleased with your Belt; it has done its work perfectly. The losses are stopped; my stomach is better, and I feel better in every way. I no longer have those despondent spells, and life is a pleasure. I wish to thank you for what your Belt has done, and your honest dealing with me. Yours truly,
JAMES BROWN.

Dr. McLaughlin: Ashdod, Ont.
Dear Sir,—I have been greatly benefited by the Belt I purchased from you some time ago. My heart is much better, and the rheumatism in my arm has all left. I feel improved in every respect. It has done all you claim for it. Thanking you for the interest you have taken in my case, I remain, yours truly,
THOMAS BRIDGES.

I have been telling the readers of this paper what my Belt will do. If you don't believe me write to me. I will furnish you with the names of thousands of people, old men, who, out of gratitude, will write you. They will tell you just what they have told me. It has no equal. They feel as hearty and as youthful as they did at eighteen.

How often that is said by men who have been cured of Nervous Debility by the Dr. McLaughlin Electric Belt! They say it every day. Men who have been weak, gloomy, irresolute, and who had no confidence in themselves at all are now holding up their heads in pride, with the knowledge that perfect strength is restored; that they are as good as any man that walks and better than any man of their size. You know you are weak now, and wish you could say that you were as good as any man of your size. You can if you will use this grand invigorator. The proposition I make is a fair one, and should remove all doubt as to its ability to cure all forms of weakness in men and women.

A scientific man noted the world over—Prof. Loeb of California University—makes the assertion that "Electricity is the basis of human vitality." Coming from him, you believe it. I've been saying that for the past twenty years. Some didn't believe me. Some didn't say this now. Electricity is the power that drives every wheel in your body machinery, that enables you to talk, to walk, run, think, eat and everything else you do. To you it's like the steam in an engine. When you have enough you are strong—not enough, then you need my Belt. Maybe you believe that—or not. You will some day.

Anyhow, I am ready to back up everything I say, and all I ask you to spend is your time. And as you wear my Belt while you sleep, I don't use much of that.

Some of the things I can cure are: Debility of any organ of the body, decay of youthful vigor and every evidence of it; weakness of kidneys, stomach, liver, rheumatic pains, poor circulation, constipation and general ill-health.

I can give you the name of a man in your town that I have cured. I don't care where you are. Tell me and I'll give you his name, and you can ask him about me.

Now let's get together. If you would like to be a stronger, younger man than you are, come to me. Call and I'll give you all the satisfaction you want. If you can't call send this coupon and I'll send you, sealed, free a book that will tell you how I do these things and of men who have been cured by my Belt.

Office hours, 9 a.m. to 6 p.m.; Wednesday and Saturday till 9 p.m.; Sundays, 10 to 1. Consultation free.

DR. M. S. McLAUGHLIN,
112 Yonge St., Toronto.

Please send me your book, free.

Name

Address

BERKSHIRES

Imported and Canadian-bred
H. M. VANDERLIP, Gainsville,
on T. H. & B. and B. & G. division of Grand
Trunk. Telephone and telegraph, Gainsville,
Ont.

HILLCREST HERD OF ENGLISH BERKSHIRES

For Sale: A lot of very choice young things of various ages. We prepay express charges and guarantee satisfaction. Enquiries promptly answered.
Vine Stn., G. T. R., near Barrie. JOHN LAHMER, Vine P.O., Ont.

LARGE ENGLISH YORKSHIRES

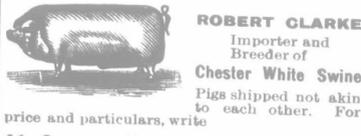


Pigs of the most improved type, of both sexes, all ages, for sale at all times. We have more imported animals in our herd than all other breeders in Canada combined. We won more first prizes at the large shows this year than all other breeders combined. We won every first but one and all silver medals and Bacon prizes at Toronto and London, and at St. Louis we furnished all the first-prize hogs in the breeding classes except two; also supplied both champion and grand champions. Prices reasonable.
D. C. FLATT & SON, Millgrove, Ont.

Glenburn Herd of YORKSHIRES

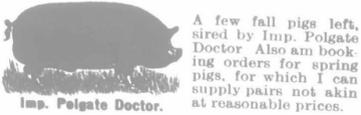
Now on hand, a number of sows, 5 and 8 months old, for spring farrow; also a number of September sows and making orders for spring pigs. o
Box 3, Renfrew, Ont.

RIVER VIEW FARM



ROBERT CLARKE
Importer and Breeder of
Chester White Swine
Pigs shipped not akin to each other. For price and particulars, write
41 Cooper Street, OTTAWA, ONT.

WOODSTOCK HERD OF BERKSHIRES



A few fall pigs left, sired by Imp. Polgate Doctor. Also am booking orders for spring pigs, for which I can supply pairs not akin at reasonable prices.
imp. Polgate Doctor.
DOUGLAS THOMSON, Woodstock, Ont.

YORKSHIRES

Two grand (imp. in dam) sows, bred to farrow in June, to a show boar; also a young litter ready to ship in April. Orders booked ahead and satisfaction guaranteed.
L. NOOYE, Powie's Corners P.O. Fenton Falls Station.

Oakdale Berkshires

Of the largest strain. Imported fresh from England. The produce of these and other noted winners for sale reasonable. Let me book your order for a pair or trio not akin.
L. E. MORGAN, Milliken Stn. and P. O.

MONKLAND YORKSHIRES

Imported and Canadian-bred. We keep 35 brood sows, and have constantly on hand between 100 and 200 to choose from. Can supply pairs and trios not akin. Quality and type unsurpassed. Prices right.
JAS. WILSON & SONS, FERGUS, ONT.
G. T. R. and C. P. R. Long-distance Phone

Hillfield Yorkshires

Have still a few choice young boars from Summer Hill Chester, some young sows from imp. sire and dam; also a fine lot of suckers coming on. A few sows 7 months old, bred again.
G. B. MUMA, Ayr P.O.
Ayr and Paris stations.

Rosebank Herd of LARGE ENGLISH BERKSHIRES

Present offering: Choice stock from 6 weeks to 5 months old, sired by Concord Professor and Willow Lodge Crown Stn. Can supply pairs and trios not akin. Satisfaction guaranteed. Express prepaid.
JOHN BOYES, Jr., Oshrothill, Ont.

For Sale—Ohio Improved Chester Whites, the largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not akin; express charges prepaid; postage and safe delivery guaranteed. Address:
E. D. GEORGE, Putnam, Ont.