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

Vol. LII.

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 LONDON, ONTARIO, FEBRUARY 1, 1917.

No. 1271

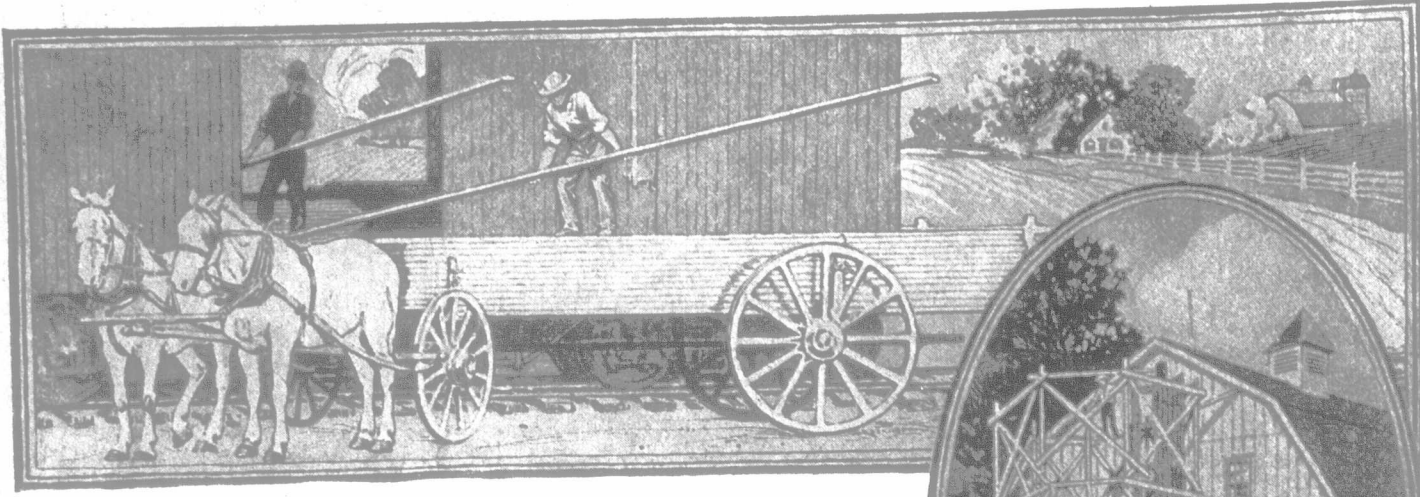


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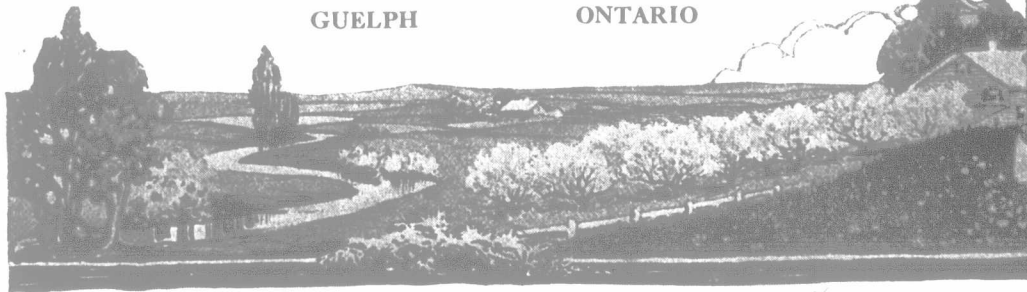
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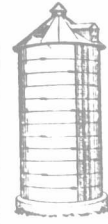
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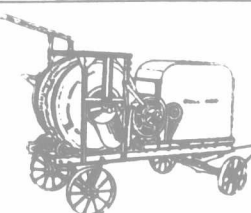
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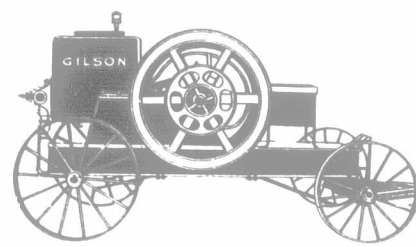
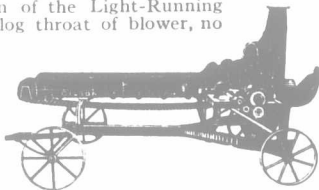
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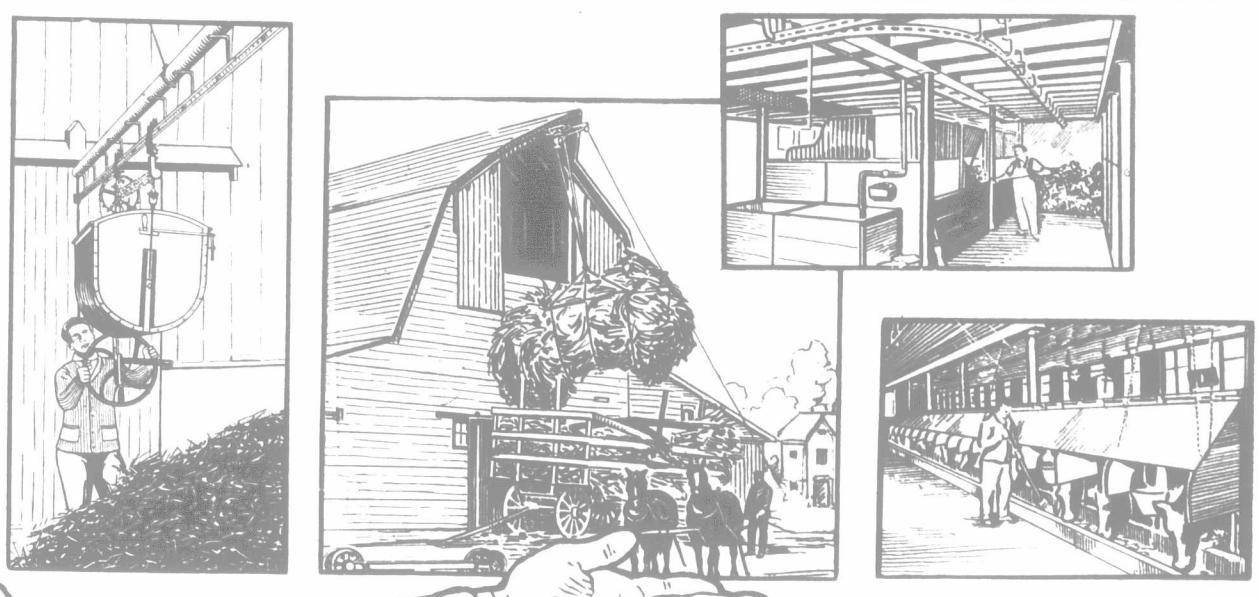
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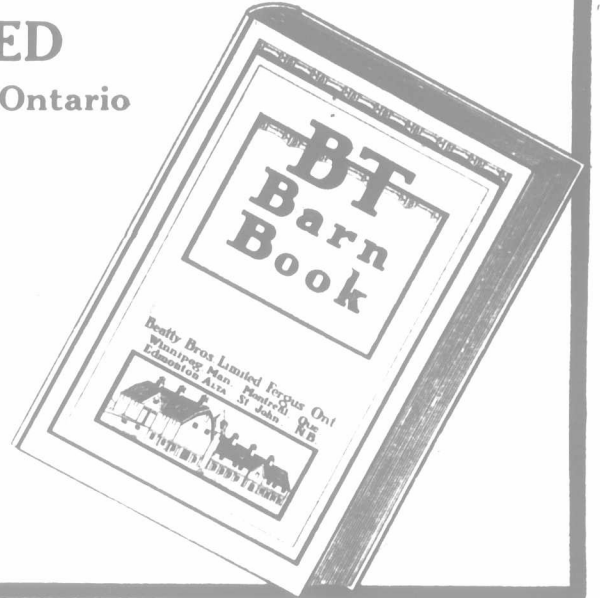
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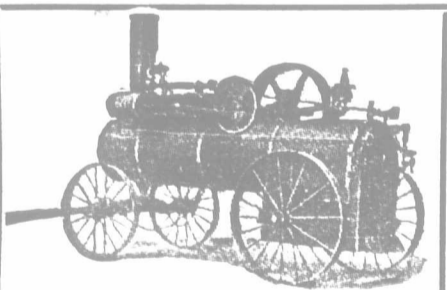
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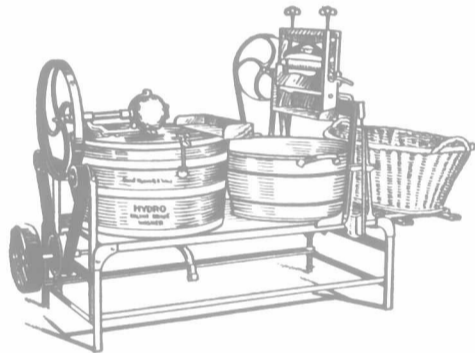
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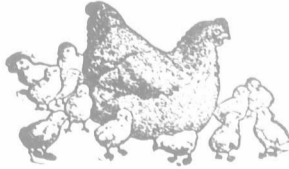
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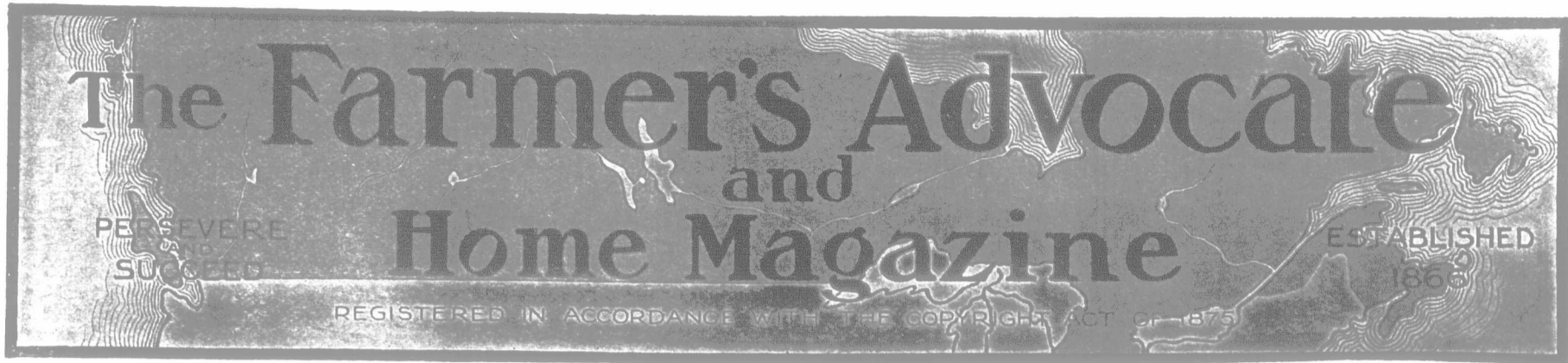
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LII.

LONDON, ONTARIO, FEBRUARY 1, 1917.

1271

EDITORIAL.

Canada can do better.

The Canadian farmer can improve, but not by senseless city advice.

If you are a live-stock breeder you'll be interested in the breed association meetings held next week in Toronto.

There will not be much time to split wood next summer. Do it now, and pile it handy to the summer kitchen.

Next summer those who have been wont to kick about the hired man will be kicking about the man they haven't got.

Some keep hens; others have hens keep them. Lewis N. Clark is in the latter class. Read the article on his plant in this issue.

There is considerable "sniping" going on between the two political parties, and the so-called "truce" seems to be near ending in open hostilities.

Those who blame the Canadian farmer for making large profits know at least enough about the economics of agriculture in this country to stay out of the farming game.

All those who had prophesied an "open" winter beat a hasty retreat in January. So did the fellow who said, we never get any "old-fashioned" winters any more.

Selling the brood sow seems a simple matter, but when it becomes necessary to replace her it requires time, trouble and much money. The far-seeing breeder will keep his breeding stock.

We have always maintained that the bacon hog was the only hog for Canada to specialize in, but we contend just as strongly that the farmer who produces the high-grade product should be paid a premium for doing so.

We advise all readers to save this and the preceding three issues. Whip's articles giving in concise form the necessary information on the commoner horse and live-stock diseases are worth saving for future reference.

The farmer cannot be accused of letting perishable products freeze or rot in order to force prices up, and yet, someone recently allowed several cars of potatoes to freeze in an Eastern city, and, it was said, for the express purpose of forcing higher prices.

Who is the aggressor in this war? The answer is easy, Germany. Watch Holland, Denmark and Switzerland quiver with fear of violation of their neutrality. What country do they fear? Germany. No nation has feared that any of the Entente Allies would violate her rights. In this the evidence is against the Hun.

Exaggeration is the bane of many a life. Present things as they are not as your imagination may paint. Some time ago a Quebec correspondent sent in records for a flock of hens which showed that each hen had produced an egg for every one of the 365 days in the year and had six or seven to the good. A few of these hens would be worth a fortune this winter only most hens do much less than half as well, but many imaginations are more than half as fertile.

Legislation Necessary to Secure Grading of Live Stock.

In our issue of January 4 there appeared an article in which it was suggested that bacon be sold from the farms on a quality basis, that is, if a man produces a high-class bacon hog he should get for that hog a higher market price per pound than if he produces a thick-fat or medium-fat hog. If the producer is to be paid according to grade for his bacon, that bacon must be properly graded at the packing plants; and this is important. Canada should have, right now and for the future, a uniform grading system for the bacon produced in this country, and particularly is this grading system important for that portion of the product which is marketed abroad, chiefly in the Old Land. The future of our bacon trade depends largely upon the position Canadian bacon is able to hold on the Old Country market in competition with Irish and Danish bacon, both very carefully graded. We must have that market, and to get it, only a uniform, high-class grade can be safely sent across the sea.

Grading is essential to the success of Canada's bacon industry. It means selling on a quality basis, the fairest and most satisfactory basis to producer and consumer. If grading of bacon is good practice, why not grade all live stock and live-stock products and pay those who produce the article which conforms to the requirements of the best grades the best price. No greater step forward for the improvement of Canada's live stock could be conceived than the bringing into actual existence of a practical plan for ensuring standard market grades for Canada's live stock and certain live-stock products, such as bacon, wool, eggs, etc. Wool-grading and the co-operative handling of this product has made rapid strides during recent years, as outlined in special articles recently published in this paper. It is admitted by both producer and consumer that the fairest way to handle eggs is on the quality basis. And so all through. The only drawback at present in the way is the lack of authority and machinery to carry out a grading system for all the various classes of live stock and the numerous live-stock products. With a large number of packing plants and numerous abattoir and stock-yards companies, the buyers for whom show very little inclination to pay the producer a premium for the high-class product, and all with their own systems of packing and marketing, it is rather a difficult task, at first sight, to establish uniform grades. However, it does seem that the Government, through the Minister of Agriculture, acting on the advice of the Live Stock Commissioner and his staff, might do a good work and one of lasting value to the country if they would pass an Act defining the standard market grades of live stock and live-stock products.

The mere passing of the Act would scarcely be enough. The carrying into effect of the system would be all important. It would be necessary for the Government to insist that stock-yards companies and abattoir companies comply with certain regulations which would necessarily have to be uniform for the Dominion. To make such an Act of greatest value, it would be necessary to have Government authority to regulate the marketing of live stock on a proper basis and in the working out of the plan a knowledge of the stocks on hand in the abattoirs and cold storages of the country would be essential to avoid the overstocking of the market at certain times and the resultant shortage in supply at others. This would mean a more uniform price to the producer and the consumer, with fewer chances of either being taken undue advantage of by those who know the inside of the market. By making the aggregate supplies on hand known periodically the Live Stock Branch would be in a position to put out market material of great value to the live-stock feeder.

It would be necessary that the stock-yards companies and abattoir companies co-operate. Inspection of their work throughout would be necessary and the Live Stock Branch should be given authority to carry this out. Products would have to be branded properly and inspected, and, as previously stated, a uniform set of rules would have to be laid down for all commission firms, stock yards and abattoir companies.

In the past, producers have had occasion to complain of alleged forcing down of prices by the packers, while the prices of the cured or dressed products remained practically the same. Proper control and inspection would reveal whether or not such allegations in the future were true, or better, would eliminate the cause for such. An unlimited amount of damage has been done the live-stock industry in the past by low prices and a rush of stock, including valuable breeding animals, to the market. Steady prices would avoid this, and proper control would ensure steadier prices. If necessary, some Government-owned abattoirs and stock yards might be acquired, but at any rate legislation leading toward the grading of all live stock and live-stock products, and giving the Minister of Agriculture power to carry out this grading through the Live Stock Branch, would seem a step in the right direction. It would be in the interests of the producers and the consumers and so in the best interests of the Dominion. Stock-yards companies and abattoir companies might object at first to allowing the Government to have the necessary intimate knowledge of their business, but they should have nothing to conceal. If they are afraid of what inspection will reveal that is all the more reason for inspection and control more in the interests of the people. Let us have grading and with it the necessary machinery to carry it out, even if it means that the people must own and operate their own stock yards and abattoirs. It is more than likely that legislation will not be heavy in this war session when all are desirous of putting all energy into the winning of the conflict, but an Act of this kind if the Government saw fit to bring it before the House would meet with the approval of producers and consumers—the bulk of the people of the Dominion.

Arrange Now to Change Work.

The summer months of 1917 will bring the farmers of Canada face to face with an unprecedented scarcity of labor and it will be more than ever necessary that they work together. Almost every public speaker who addresses an audience composed entirely, or even partly of farmers is, at this time, exhorting his hearers to produce more than ever before. Farm products are necessary to feed the people of the Allied countries and to ensure their safety through this war, but it is difficult to see how production can be increased very much with the present supply of available labor. In fact, it would seem that there is a danger of a falling off in the acreage of farm crops this year unless something is done by the farmers themselves to get in their crop and then harvest it securely. They cannot hire men and there are many jobs around the farm which necessitate at least two men to carry on. It would seem a good plan for those farmers living on certain concession lines to get together during the winter months and make some arrangements to work together next spring and summer. In every district there are certain farms which may be worked earlier in spring than certain other farms. Why not make arrangements for all hands to turn in and sow the land ready first and follow right on with the other when it is ready? Why not make arrangements for two or more farmers favorably located to change work in haying and harvest, and thus get over some of the difficulties caused by the shortage of available hired help? One man can cut and tie the crop but he cannot draw it in. If these problems were

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
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JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"
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THE WILLIAM WELD COMPANY (Limited),
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facéd co-operatively by the farmers in every neighborhood, it would facilitate matters greatly. It would of course necessitate that a little more of the give and take principle be followed, but this would be good for all. It would mean a larger acreage of crop and less difficulty in handling it when it matures. We see no other way out of the difficulty than that farmers, all of whom are anxious to produce all they can at this time, arrange to change work on a large scale during the coming summer.

Proper Organization Needed Now.

This paper has contained dozens of articles purporting to show the need of co-operation in Canadian agriculture. That need never was as imperative as it is at the present time, particularly in so far as Eastern Canada is concerned. Co-operative organizations are strong in the Western Provinces; co-operation in Ontario and the East has not made the headway which it should or might have done. At the present time speakers on both sides of the Atlantic, and business men in all the Allied countries are talking and planning ways and means of handling trade when the war is over. They all point with a degree of uncertainty to the conditions in which this and the other countries will find themselves when the period of reconstruction comes. In that time, where will Canadian agriculture stand? Complaints are often made that our representatives in Parliament do not represent the people, because agriculture, the largest industry in the country, and the one industry in which the majority of the population is employed, has a small representation compared with the professions and other industries. Complaints have been made in the past that legislation has favored city industries and these complaints have not been without foundation. Privileges have been granted to certain industries, and these in some cases have worked to the disadvantage of agriculture, but through it all the individual farmer stood alone, in many cases married to party, and in all cases unable to exercise the power which would have been his had he worked in harmony with others of his class.

The farmer must produce as economically as possible. Cost of production of farm crops in this country is

altogether too high, and this will be felt even more after the war than at the present time. It will be necessary to reduce this cost in many cases, and a proper degree of co-operation on a business basis will help bring this down. Working singly little more can be accomplished than has been done in the past, but with all agriculture properly organized the industry can then take its proper place in the affairs of the nation and the individual farmer as well as the individual consumer will profit thereby, for it is fast becoming understood that the problem of the individual in the country is the problem of the working man in the city.

Your Farm House.

At this season many of our readers are contemplating remodeling their houses, or building new, and consequently are studying plans for the same. Elsewhere in this issue we publish plans of ten different houses, which have been very kindly submitted to us by subscribers, and we would advise readers to look them over with a view to selecting the good points from each and incorporating them in so far as possible in their own particular plans. It must be remembered, however, in all farmhouse construction that the woman who labors in such house has plenty to do, no matter how convenient the house can be made, and it is therefore important that the house contain no waste space and that modern conveniences be installed wherever practicable. In the past many farm houses have been too small and consequently unhandy. These have been replaced in too many instances by structures which have gone to the other extreme and are altogether too large and still unhandy. A house, to be modern, does not require to be large, but there are a few things necessary and which should be in every new or remodeled farm house. First we would mention a basement in at least two parts, preferably three; one part to contain a furnace for heating purposes. The next convenience we would mention is running water throughout, and the third which goes with it is a bathroom complete, with all the devices of the modern city house. We might also throw out this hint, that in the building of all houses, even in the country, it would be good practice to wire for electric light, which seems to be the coming light. The house may be wired much more cheaply when under construction than later. None of these conveniences are beyond the reach of the farmer who can see his way clear to remodel his old house or build a new. The furnace is an economical, clean, sanitary and handy method of heating, whether a hot-air or hot-water system is used. Running water may be had from an elevated tank, or better from a complete water-pressure system, which would be found one of the greatest conveniences in the home. The bathroom, with closet and other fixtures, can be easily arranged for where the running water system is used. A septic tank outside forms a cheap, sanitary and entirely satisfactory method of sewage disposal. Every farmer who builds owes these things to himself, his wife, and the rest of the family, and he will find them a big asset for the future of his farm. With all, make the house compact so that it may be easily heated; build it well, for it is to last not one lifetime but for generations; build it for comfort and to save steps and hard work for the women who will labor therein; put in a dumb waiter, plenty of clothes closets, and arrange for proper ventilation. Make the farm home substantial, a model of compactness, handiness, sanitation and attractiveness.

Blizzard Bound.

BY PETER MCARTHUR.

Wow, what a morning! A roaring west wind is lashing the falling and drifting snow into a blinding, icy smother that makes the very thought of venturing outdoors send cold chills up and down one's spine. Even though the house is warm everyone huddles around the stove for the wind sounds cold and the glimpses we get through the white windows make us shiver. Of course the children couldn't go to school in such weather, and as they have nothing to do they add to the general morning confusion. To increase the trouble I stepped on their pet cat's pet tail a minute ago and I am no more popular with them than the cat is with me. Consarn that big, fat lummock of a cat anyway! I never knew a cat to be so careless about his tail or so indignant when it is stepped on. He let out a yowl that made me jump as if I had been torpedoed. But it seems as if he would never learn to take care of his tail. If he goes under a sofa he leaves his tail sticking out. If he goes under a chair or table it is just the same. He is all the time leaving his tail lying around carelessly and every once in a while I step on it—which brings howls from him and indignant protests from his loving

protectors. If this sort of thing keeps up all winter his tail will be flattened out like a beaver's before spring, and we will be able to enter a Canadian beaver-tailed cat at the Cat Show. Such a cat would be truly Canadian, because the beaver is our emblem and it would be as distinct a species as the tailless Manx cats. The idea appeals to me. I think I shall go and step on his tail again so as to develop him properly.

* * * *

There is one government job that no one is hankering for very much these days—that of rural mail-carrier. To start out on a morning like this to make a drive of twenty miles or so is enough to make a man doubt the value of the political pull that got him his job. For some time past I have been noticing with interest that men who get the mail-carrying jobs in country districts do not settle down to hold them for life as is the case with other government jobs. Some of them manage to hang on for a year or two but many change off in a month or so. The long lonely drive in all kinds of weather gives them loads of time to meditate on the vanity of human wishes and the nothingness of official life. Of course the pay is regular and fairly good, but what Shakespeare would call the "damnable iteration" of the job gets on their nerves. There is one good feature about this state of affairs. It enables the local patronage committees of the ruling political party to satisfy the cravings for office of their ambitious henchmen. If a man feels that he should have a job from his grateful party he is put on a mail-route. This makes him proud and happy for a while but a spell of such weather as we are having or a spell of bad roads makes him hanker for the obscurity of private life again, and he throws up the job in disgust. Then another man who is to be rewarded takes up the job in a proud and happy frame of mind and holds it until his limit of endurance is reached. I am told that in some districts where the roads are bad and there are long stretches of wind-swept hill-side, the patronage committees will soon be forced to go outside of their party to get victims. They can use the job to punish fellows in the other party who seemed too ambitious and busy. It is really too bad that men holding some of the indoor, cushioned-chair, government jobs could not be forced to put in a while on a rural mail route. A few months of the work might drive them to retire to some useful employment in private life.

* * * *

I am afraid the storm may finish the flock of quail that I was trying to coax into living with us. When they first appeared among the weeds back by the woodlot there were eleven of them. I was hoping that they would find shelter in a few brush heaps and briar patches, but apparently they only paid us foraging visits from a neighboring farm. One day they came into the old orchard near the house and put up for a while in a pile of pruning brush, but they didn't seem to find enough to keep them going. A few days later I scared them up from a sunny spot under the root of a little elm tree beside the government drain and as there were old tracks as well as new it occurred to me that might be a favorite spot with them, so I put a little box of wheat where they could easily get at it, but apparently they never came back. When last seen there were only seven of them left. As weasels and owls appear to be plentiful it will probably be hard for them to pull through such a hard winter as we are having. One night when the children were skating I went out to call them home and heard more owls hooting than I ever before heard at the same time. They were hooting from all points of the compass and the noise they made was almost continuous. One night when I was going out to the stable after dark a little screech owl was sitting on a wire within a few feet of the window. Apparently he had been staring in at the lamp and at the people sitting around it. When disturbed he flew to a spruce tree nearby and sat in the stream of light where he could watch what was going on. When I came back from the stable he was still there and didn't move when the lantern was lifted within a yard of him. Only when I reached out my hand to catch him did he stop staring at me and fluttered away noiselessly into the dark. I wonder what that was the sign of?

Nature's Diary.

A. B. KLUGH, M. A.

In our study of the animal mind we next come to such forms as the Starfish. In this, and in other animals belonging to the same group we find a nerve ring which runs round the mouth and a long nerve running down each of the five arms from this ring.

If we take a normal Starfish and turn it on its back under water we find that it bends two of its arms under it and by raising the body with these arms it turns itself "right side up with care". If, however, we take a Starfish in which the nerve ring has been severed we find that each of the five arms bends under the body, that each arm pushes against all the others and consequently the animal is entirely unable to right itself. From this we see that muscular co-ordination depends upon the nerve ring. This is interesting because it is the first case of definite muscular co-ordination we meet in ascending the scale of animal life. Muscular co-ordination plays a very large part in our every-day lives, practically every movement we make being an example of it, particularly such movements as we execute perfectly without thinking about them, such as walking, eating, etc. In fact the ability to perform actions quickly and accurately depends upon the perfection of muscular co-ordination, and it reaches its highest point in the case of a piano player who is able

to play an air, or a typist who can operate the typewriter, and carry on a conversation at the same time.

Another interesting experiment which has been performed on the Starfish is the following. A Starfish was found to use certain arms more than others in turning itself over after it had been placed upon its back, and not to use one arm in this way at all. The arms most used where held in such a way that they could not be used, and the previously unused arm had to be brought into play if the animal was to regain its normal position. In this way it was "trained" to use that arm, and it was found that it afterwards used this arm, even when the other arms were all free, for two days. Here then we have something analogous to memory.

Passing now to the Mollusca, to which belong the clams and snails, we find that clams close valves of their shells when a shadow falls upon them, but that after frequent repetitions of this stimulus they do not react in this manner, thus showing the effect of past stimuli on subsequent actions and being, as we have seen in the case of other forms which we have considered, a sort of elementary "learning". Some interesting experiments have been carried out with Limpets, snails, which are common on the rocks between low and high tide-marks on the sea coast. Limpets have certain resting places on the rocks which are termed their scars. Out of 21 Limpets removed to a distance of 12 inches 13 returned in 24 hours and 5 more in 48 hours. Of 21 removed to 18 inches 10 returned in 24 hours, 6 in 48 hours and 2 more some days later. When Limpets move the tentacles are projected out beyond the shell and keep touching the surface of the rock, and on reaching their scar they feel round it with their tentacles and twist and turn about until they fit perfectly into it. Their course in reaching their scars is fairly direct. Here we have undoubtedly a case of locality memory, a matter which is of great importance in many of the higher groups, such as insects and birds.

There are many facts of interest in connection with the group to which the Earthworm belongs, the most important for our present consideration being the fact that experiments have shown the existence of many different "physiological states" in the Earthworm. Exactly what is meant by this term will be plain from the following summary of these states:

1. The state of rest, in which the worm does not react readily to slight stimuli, such as a touch with the tip of a glass rod.
2. A state of moderate activity, in which a touch at the posterior end causes movement forward, at the anterior end movement backward, and on the side a turning away from that side.
3. A state of excitement, in which the animal persists in the direction of movement once begun, merely stopping for a few seconds when stimulated at the end which is advancing.
4. A state of greater excitement, in which stimuli merely cause the animal to hasten its movements in the direction in which it has started.
5. A state of still greater excitement in which the worm responds to a stimulus at the anterior end by a rapid "about turn", in which the body is doubled at the middle, the two ends pointing in the same direction, and then the posterior portion whipped quickly about.
6. A state of still more intense excitement, in which the animal responds by raising the front portion of the body and waving it about in a frantic manner.

We find traces of these physiological states somewhat lower down in the scale than in the worms, but they are not exhibited with the perfection which we find here. These states are of much importance in higher forms. The condition of attention which the teacher strives to induce in the pupil is such a state, and the teacher knows that in a state of rest (a listless attitude) the pupil is far less receptive of stimuli than he is when in an alert attitude.

THE HORSE.

Conditioning Horses For Sale.

Between the first of February and the first of May a good many horses in Canada will change hands, and the three factors influencing the price most will be weight, quality and fit. In all such transactions the weight and quality are essentially the first considerations, but in order to please a buyer or to induce a prospective customer to close a deal it is necessary to have the horse in good condition, ready for the market. Buyers from across the border have been operating in Western Ontario during the past month, and they complained considerably regarding the condition of the animals offered. If a farmer has a horse and sells it to a neighbor during February to be used in spring work, the buyer has plenty of time to fit that horse and get it in proper condition for the purpose it was obtained. The neighbor probably knows the horse and will pay what it is worth even though it be thin. So far as neighborhood dealing is concerned an animal may be cashed at its approximate value but the buyer will consider the cost of putting on flesh, and besides, it leaves him a talking point which he will use to make a good deal, and he will be a poor buyer if he doesn't take advantage of it. On the other hand the majority of horses sold during the coming season will pass through the hands of a dealer. When he makes a purchase he intends to put that animal on the market. It may be taken for farm work, dray work in the cities, delivery work, or perhaps a buyer from the other side of the line may pick it up and take his chance of placing it in the United States. No matter where the horse goes

the ultimate buyer will want a horse, not the promise of one. Farmers must realize that a horse may be superior with regard to conformation and quality, but thin animals cannot be handled by the trade to good advantage. It is slow business selling horses in poor condition, and the horse dealer will pay for the flesh and a few dollars besides, because he knows that he can turn a well-conditioned beast over without a previous feeding period. More than that, the fitted horse is attractive, while the thin one is passed over till the supply of good ones is exhausted. Newly made furniture without stain or varnish could be used, but what firm would think of offering it for sale? It would not be ready for the trade; neither are thin horses.

Additional flesh improves the appearance of the animal; it gives him a deeper chest, a deeper flank, a wider croup, thicker thighs, and even improves in appearance the strength of coupling and slope of shoulder. It also increases the valuation, for a farm chunk can be raised to the light-draft class, and a light drafter in weight can be made to qualify for the heavy draft class. Quick fleshing and conditioning is not, of course, in the interest of the ultimate buyer, but so long as the trade prefers the fattened animal it is fair enough for the farmer to supply it. Keeping the horse in quietness while increasing the weight would be poor policy for the man who does not intend to sell but purposes using the beast in steady work later on. It is muscle that is needed most in this case, and that can be developed only through exercise and proper dieting. The recommendations which follow are for the man who intends to sell, not the one who buys; this will be quite obvious, but to the latter we shall only volunteer a few words of advice at this time—don't buy fat when it is muscle you need.

Putting on Weight.

When a horse is first put into the stall for feeding see that his teeth are right. Anyone fairly familiar with a horse can make this examination, but it may be necessary to call in a veterinarian to treat for any bad condition that exists. Perhaps the greatest gains can be made when the animal is kept absolutely quiet, or where no exercise is given expect what is unavoidable. All horse-men know what is likely to happen under such conditions, especially with heavy horses. The legs are very apt to stock and trouble with the kidneys ensue. As a safeguard purge the beast with 8 drams aloes and 2 drams ginger, or any other good purgative, at the first, and give laxative feeds. If the animal gives evidence of being run down and requires a tonic or conditioner, give a teaspoonful of the following mixture three times daily: equal parts of sulphate of iron, gentian, ginger and nux vomica.

It has been found by experiment that clover hay is superior to timothy for fattening horses, and if the former kind of hay be fed it will not be necessary to use any great amount of bran, as the two combined make a ration somewhat too laxative. The grain ration must be governed largely by the cost of different feeds, but in any case it is wise to feed a few oats at least. On full feed, horses weighing 1,500 lbs. at the start, will consume from 18 to 20 lbs. of grain per day, along with 12 to 14 lbs. of clover hay. Where corn is used, 12 parts corn and 4 parts oats make a splendid ration with clover hay; but if timothy hay is fed, one part of oil meal should be added. This latter kind of feeding stuff will advertise itself in the coat and general thrift of the horse, but at \$50 per ton or more it cannot, at a profit, be fed too extensively.

The boiling of oats and barley for fattening horses is practiced to a considerable extent by dealers. One part

of barley to two parts of oats is the proportion recommended, and often bran is mixed with this, after the cooking is done, to take up the excessive moisture and add variety to the ration. This should be fed to working horses at night, and, at all times, in such quantities as will not cause undue laxativeness.

The quantity of any grain to feed must be governed by the size of the horse and general character of the animal. Do not feed too heavily at first, and when on full feed do not destroy the appetite for the next meal by too liberal a ration.

Now that all kinds of grain are so high in price, much could be saved by paying considerable attention to the coat of the horse. Groom him thoroughly at least once every day, and work the comb and brush both with and against the hair. Keep the skin clean and the sweat glands open. A rug of some kind would help to keep dust out of the coat and improve its appearance. Even a well-fleshed beast will not show to good advantage if the hair stands up and the coat is rough and harsh. A little time spent each day in grooming will save many pounds of grain.

Registration in Horses by Grading up.

There are many people who are not aware that certain breeds of horses may be graded up to be pure-breds and allowed registration. The grading system is permissible in Clydesdales, Shires, Hackneys and Standard-breds, and the requirements are as follows:

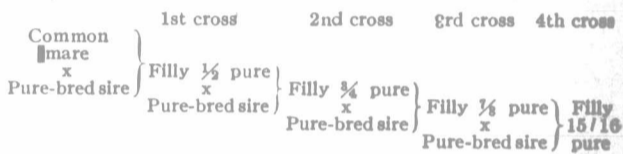
Clydesdale—The female with four top crosses by sires recorded in the Clydesdale Stud Book of Canada.

Shire—The female with four top crosses by sires recorded in the Shire Stud Book of Canada.

Hackney—The female with two top crosses by sires recorded in the Hackney Stud Book.

Standard-bred—The female with two top crosses by sires recorded in the Canadian Standard-Bred Stud Book.

The breeds which do not admit of registration from the grading-up process are the Percheron, Belgian Draft, Suffolk, Thorough-bred and French Coach. A diagram showing the grading-up process and the purity of blood is as follows:



LIVE STOCK.

Those who have their hands on the pulse of the market, now strenuously assert that the hour of Canada's opportunity has come and that we should produce enough meat animals to ensure a dependable surplus so as to conduct an export trade. Canadian meats and meat products have become favorably known in France and Britain and we should do all in our power to cement the relationship between this Dominion and the Mother Country. Last year Canada exported \$6,000,000 worth of frozen beef. The market is assured and our possibilities are almost unlimited.



Salting the Horses in Alberta.

Common Diseases of Swine---Causes, Symptoms, Treatment.

In all cases, where the patient will consume the drugs to be given, in food or drink, it is wise to give them that way, but in many cases the appetite is so impaired or the drugs have such odor or taste that the patient will not voluntarily consume them, and it is necessary to drench. We have, in other issues, remarked that great care is necessary in drenching any animal; this is particularly marked in swine. In order that the patient may be drenched it is, of course, necessary that the mouth be held on a higher level than the throat. In order to do this (unless the patient be very small) it is necessary to enclose the upper jaw in a slip rope, with the rope above the tusks, and have an attendant hold the rope with the head at the desired angle. Under these conditions the pig persists in squealing. When he

squeals the epiglottis (the little valve that covers the entrance into the wind-pipe) is necessarily open, hence, if fluid be poured into the mouth more or less will enter the wind-pipe, pass down to the bronchial tubes, and either cause death by suffocation in a few minutes or set up mechanical bronchitis, which frequently causes death in a few days. Many hundreds of pigs are killed in this way, and the owner often wonders what causes death, he often thinking that it was poison, and if the medicine were made up or administered by a veterinarian, he will be blamed and in some cases sued for the value of the pig. Hence, we repeat "great care must be taken." Probably the safest method is to put the liquid in a bottle and force over its neck the end of a rubber hose 6 or 8 inches in length, insert the free end of the hose

into the side of the mouth between the molars. The pig will then cease to squeal and devote his attention to the destruction of the hose. While chewing this he will draw the fluid out and swallow it. Another plan is to place an old boot-leg or other contrivance of that nature into the mouth and pour the liquid into this, but the rubber hose gives the most satisfaction.

It will be noticed that a great many of the diseases discussed are due to high feeding and confined quarters, hence, can be prevented by arranging conditions that will ensure regular exercise. In fact, careful and intelligent feeding and general treatment tend to prevent disease, probably in a more marked degree in swine than in other classes of stock.

Disease and Cause.	Symptoms.	Treatment.
DIARRHŒA IN YOUNG PIGS. Improper feeding of dam, as decomposing or rotten food; close, damp quarters.	Passage of liquid or semi-liquid fæces, usually of a greyish color and foul odor, followed by loss of appetite and weakness.	Preventive—consists in keeping dam in healthful quarters, giving regular exercise and food of good quality. Curative—Give a dessert spoonful of raw linseed oil. In 8 to 10 hours ½ dram sub-nitrate of bismuth and 3 drops laudanum in a teaspoonful of new milk every 6 or 7 hours. If animals be weak when treatment is commenced omit the oil.
THUMPS. Lack of exercise and high feeding. Diseases of the lungs or heart may cause it.	A jerking movement of the body, accompanied by thumping sounds during contractions; a bulging out of the flanks and drawing in of the ribs.	Preventive—Give young pigs room for exercise, only moderate quantities of strong food, good ventilation and plenty of sunshine. Curative—Move to proper quarters; give ½ to 2 oz. raw oil or Epsom salts (according to size); light feeding.
INFECTIOUS SORE MOUTH. (Usually seen in pigs under 2 months old), caused by filth; dirty quarters, filthy feeding troughs; mud holes and manure in yard; poor ventilation; sleeping in manure heaps or stacks; decomposed food.	Sore mouth, refusal to nurse, dullness, increase in temperature, inflamed patches on mouth and on lips and gums, these become ulcers and refuse to heal, in severe cases the snout and lips swell and interfere with respiration.	Preventive—Keep in clean, well-ventilated quarters. Curative—Isolate the diseased; irrigate mouth with 1 oz. boracic acid to a quart of water 3 times daily. If ulcers form touch once daily with a pencil of the nitrate of silver.
TUBERCULOSIS. A specific virus usually taken in fæces of tubercular cattle or milk of diseased cows.	Diffused tuberculosis may be present without causing clinical derangement. The most common symptom shown is general unthriftiness; capricious appetite, irregular digestion; when the respiratory organs are involved there is usually a cough.	Preventive—Keeping pigs away from infected fodder and under good, sanitary conditions. Curative treatment is ineffective.
CONSTIPATION. Improper food and lack of exercise, overfeeding on dry diet; poorly ventilated quarters.	Frequent and often ineffectual attempts to defecate. The excrement dry and hard and often coated with slimy mucus. Loss of appetite; abdominal pain.	Preventive—Good, sanitary conditions and laxative food. Curative—Give 1 to 4 oz. raw oil or Epsom salts; rectal injections of soapy water; repeat laxative if necessary in 12 to 18 hours; laxative food and regular exercise.
CRIPPLING. High feeding and want of exercise; sleeping in damp, cold quarters, or on cement floors.	Lameness in one or more legs; patient lies most of the time; dragging hind quarters along; often inability to rise or stand when lifted; loss of appetite.	Preventive—Allowing or forcing regular exercise; laxative food; grass in summer and raw roots in winter. Providing good quarters and sleeping quarters with wooden floors. Curative—Purge as for constipation; feed lightly on laxative food, give 1 to 3 grains nux vomica 3 times daily; exercise as soon as patient can move.
BRONCHITIS. Damp, dirty, confined quarters; inhalation of steam or smoke. In many cases appears to be contagious.	Coughing and sneezing, which usually gradually increases in severity, followed by loss of appetite, weakness and later death. Some cases become chronic, and while the patient continues to live it does not thrive.	Fumigate with the fumes of burning sulphur, as for grub in the head in sheep. Repeat in 10 days and again if necessary. When the disease becomes general it is probably wise to dispose of the herd and thoroughly disinfect the premises before introducing fresh stock.
INVERSION OF RECTUM OR PROLAPSUS ANI. Excessive straining, the result of constipation or acute diarrhœa.	Protrusion of a greater or less portion of the rectum through the anus.	Often ineffective. Treat for constipation or diarrhœa as indicated. Wash protruded portion with alum solution 1 oz. to pint of warm water; return and apply truss or stitch to prevent re-inversion. Remove truss, etc. occasionally to allow defecation and inject a little of the solution into rectum; re-arrange truss.
QUINSY. Exposure to cold, drafts and dampness.	Difficulty in swallowing; tongue usually protrudes; saliva flows from mouth; swelling of lower jaw and neck; swelling of the glands in back of mouth.	Cast animal and secure him, hold mouth open with clevice or other device, scarify the swollen glands until they bleed. As soon as blood flows liberate the patient. Apply mustard to throat and wrap with flannel cloths.
LICE. Exposure to infected animals or premises. Poor food and filthy surroundings predispose.	Uneasiness and itchiness, and the presence of dark-colored insects of considerable size on back, greyish or yellowish on belly and with long legs.	Disinfect quarters or remove pigs to non-infected quarters. Boil 2 oz. stavesacre seeds in 1 gallon vinegar for two hours, add vinegar to make a gallon. Dress the animals with this, or use a 5 per cent. solution of one of the coal-tar antiseptics, or oil or grease.
APOPLEXY. High feeding and want of exercise.	While eating, pig stops suddenly, is restless and stupid, eyes bloodshot; foams from mouth, probably falls down, and in a few minutes revives and appears all right, or may die.	Preventive—Allow plenty exercise when feeding highly. Curative—Remove about 1 pint of blood by tying a cord tightly above knee and then open the vein on the inside of leg. If necessary operate on both legs; purge and feed lightly and give exercise.
SCALY DISEASES OF SKIN. Extreme heat in summer and extreme cold in winter, and other causes which are not understood; not contagious.	Formation of pimples which dry up, and the scales peel off in flakes; skin may become inflamed, thickened, and intersected in all directions with furrows, filled with white, powdery matter; hair falls out.	If patient be fat purge with 1 to 3 oz. Epsom Salts and follow up with ½-dram doses of acetate of potash 3 times daily. Feed on laxative food. Keep out of the sun, or in comfortable quarters in cold weather. Dress the parts twice daily with 1 part carbolic acid to 30 parts sweet oil.
WORMS. Consumption of food that contains the larvæ.	When in sufficient numbers to cause clinical symptoms, general unthriftiness will be noticed, impaired and often capricious appetite. In many cases worms will be noticed in the excrement. If in sufficient numbers to occlude the passage death soon occurs.	Fast for 12 to 18 hours. Mix 1 part oil of turpentine in 7 parts new milk; give 2 to 6 tablespoonfuls (according to size) of the mixture to each. Fast for 3 or 4 hours longer. Repeat treatment every 10 days as long as necessary. WHIP.

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World's Meat-Producing Stocks in War-Time.

The relative importance of the principal countries of the world in connection with meat-producing animals on farms and ranges is well brought out in the report of the American Government on the meat situation, and as the figures were the latest obtainable at the end of 1914 by the United States commercial agents in the different countries, the whole facts give us a fairly perfect picture of the live stock industry of the world as it existed at the outbreak of the great Armageddon.

So far as the meat production of the world is concerned, the deduction made from the facts collected from forty principal live stock countries, fifteen of which have an important international meat trade, is that 50,000 million lbs. (dressed carcass weight) of meat is annually produced and is consumed by 500 million people. Including the "extra-edible" meats, not included in the dressed carcass, the annual production is put at 60,000 million lbs., or the equivalent to 62,400,000 million calories. The meat thus dealt with consisted of beef (including veal), mutton (including lamb), and pork (including bacon and hams). Poultry, game, and the flesh of any animals other than cattle, sheep, and pigs, are excluded from this total.

Cattle.

So far as cattle are concerned, the United States is shown to be now the leading country of the world so far as numbers are concerned. Its farms and ranges this year (1916) possessed 61,441,000 cattle. If the cattle not on farms or ranges (nearly 2,000,000 in 1910) are added, the total number in the United States is about 63,500,000. According to the latest information the Russian Empire possesses 52,000,000 cattle, and far below that country is the Argentine with 29,500,000 cattle. An official estimate gives Brazil 30,700,000, but this is thought to be excessive. Germany's last census of cattle numbered 21,000,000, France's 15,000,000, the United Kingdom's 12,000,000, and Australia's 11,500,000. No other country of the forty from which figures were obtained possessed as many as 10,000,000 cattle, unless Austria and Hungary are combined, the total for both of these sub-divisions of the dual empire being 16,500,000.

An examination of the records of the number of cattle in the various countries for recent years, say since about 1907, reveals the important general fact that in most of the countries the number of cattle in these recent years is about stationary. In a much smaller number of countries now (1916) including the United States and the United Kingdom, the number of cattle is increasing. In Canada the number is decreasing—from 7,547,000 in 1908 to 6,066,000 in 1915. The more prominent countries in which cattle are increasing are the United States (in 1916) after half a dozen years of sharp decline, and the United Kingdom in 1915 and 1916, after being fairly stationary for something like a decade; also Asiatic Russia and Uruguay. Among the less important countries showing increases in late years are Denmark, Madagascar, and Holland. Possibly, it is thought, New Zealand might be included in this list. Among the least important cattle countries showing increases are British East Africa, British South Africa, and what was (before the war) German East Africa. In no other countries in the world, as far as could be ascertained in this inquiry, are cattle increasing in numbers. It is not always easy to form a judgment as to whether cattle are increasing or diminishing or remaining stationary in number, where fluctuations of different character show year by year, but approximately it appears that a stationary condition exists in the important countries of the Argentine, Australia, Austria-Hungary, France, Germany and, possibly, European Russia. The countries of less importance in which cattle numbers are fairly stationary are Algeria, Belgium, Bulgaria, Chile, Cuba, Finland, Greece, Paraguay, Serbia, Spain, Sweden, and Switzerland.

The general decline of cattle in recent years "is accentuated when comparison is made with population. In only a few countries, most of them relatively unimportant (except the United States in 1916), are cattle increasing *per capita* of population. These are the United States (1916), Uruguay, and possibly Asiatic Russia, Madagascar, Denmark, British East Africa, British South Africa, and German East Africa. The list of countries in which the *per capita* cattle are decreasing contains many important ones, and in this list are the Argentine, Australia, Austria, Bulgaria, Canada, Cuba, Germany, New Zealand, European Russia, and Serbia."

Sheep.

So far as sheep are concerned Australia still led the world for numbers in 1913, when she had 85,000,000 head, but was being closely followed by the Argentine with 80,000,000. Drought is said to have reduced Australia's sheep in 1915 to 72,000,000 head, which reduces her to third place. Asiatic and European Russia combined possesses 77,000,000 sheep, but these include some goats. The United States had about 50,000,000 sheep on farms and ranges on April 15 of this year (1916). Next below the United States follow, in order, British South Africa, with 36,000,000 sheep; the United Kingdom, with 28,000,000; Uruguay, with 26,000,000; and New Zealand, with 25,000,000. France has over 16,000,000 sheep, Spain a little less than 16,000,000, Italy over 11,000,000, and Brazil somewhat less than 11,000,000 sheep.

Since about 1907 or 1908 sheep have absolutely increased in the Argentine, Uruguay, and New Zealand—all countries of high importance—and have increased also in British East Africa, British South Africa, Bulgaria,

possibly Chile, Madagascar, and possibly Serbia. In a few other countries sheep are maintaining their numbers absolutely, and by far the most important of these is Asiatic Russia, where perhaps sheep are slightly increasing. Spain, Hungary, Norway, and possibly Greece and Rumania, were maintaining their sheep stocks down to the end of 1914. The countries in which sheep are absolutely declining (i.e., in actual numbers) make a long list, and include such countries of high importance as Australia, European Russia, the United Kingdom and the United States. Among the countries of less importance showing a decline are Algeria, France, Austria, Belgium, Canada, Denmark, Finland, Germany, Holland, Sweden, and Switzerland.

Sheep in relation to population make a worse show than in regard to absolute numbers. Uruguay and British South Africa are the only countries of importance in which sheep are increasing in comparison with population in very recent years, and the only other countries in this class are British East Africa, Madagascar, and possibly Serbia. A stationary ratio of sheep to population is found in another small list of countries, and this list contains only one country of high importance—New Zealand. The other countries are Hungary, Bulgaria, Norway, Spain, and possibly Chile. There remains a long list of countries in which sheep are declining relative to population, and the most important of these countries are the Argentine, Australia, Asiatic Russia, European Russia, the United Kingdom, and the United States. Of considerable importance also are Algeria, France, and Rumania. The less important countries showing decline in relation to population are Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Holland, Sweden, and Switzerland. Down to 1914 sheep were declining, both absolutely and in relation to population, in the now defunct German East Africa.

Pigs.

Pigs do not fit into the agricultural economy of the various countries in the same ways and degrees that cattle and sheep do, and the facts relating to them are not so complete. Owing to the relation of these animals to the maize crop, three-quarters of the world's crop of this cereal being produced there, the United States is by far the principal swine-producing country of the world. The 70,500,000 pigs on and off the farms of

has been left in the past to chance, to haphazard business transactions, and to the enterprise of a few individuals, who, generally seeing farther than the rest of their contemporaries, have helped themselves to the trade that was offering. In the days that are to come it behooves every Breed Society to convert itself into a business house and every breeder into a business man. The days of the go-easy pedigree stock raiser, i.e., the rich man who "played" with the industry, either because he wanted something to spend his time upon, or because it was "thought well of" by his set, have gone. There is coming into live-stock breeding a new element—the men and the women who have made their money in industry. They are, we may depend, not going to waste their investments in pedigree stock by neglecting to do business with the foreigner when he knocks at our door and calls for foundation stock. They are going to treat stock-raising as a business proposition. They are going to leave "the dabbler" very severely behind in the race for trade. No longer will the latter have to tread the primrose paths of dalliance; he must be awake to all that is going on around him, and we can only reiterate what we have said oft and again in the Journal in 1916, that now is the time to make ready for the play—for play it will be, fast play, and merry, and the breeders who fasten quickest on to the object which clearly lies before them will win. We, also, have to use this sporting phrase and simile to make ourselves clear, but a War Minister has recently spoken in much the same language, and he was understood of the people, the world over.

The foregoing article is taken from the Live Stock Journal Almanac for 1917, and it sums up in a broad way world-wide conditions with regard to live stock.

THE FARM.

A Story of Our Ancestors.

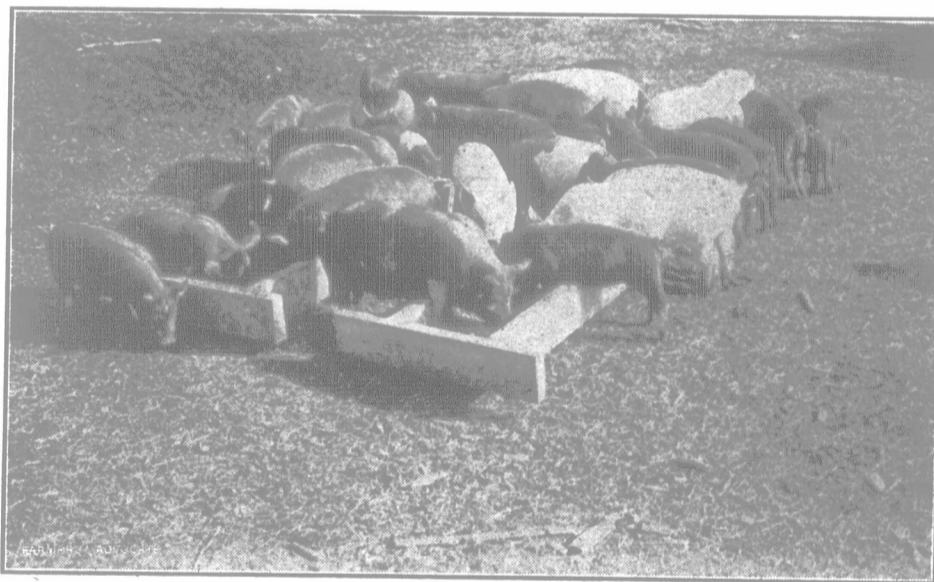
EDITOR "THE FARMER'S ADVOCATE":

A little over a year ago an article, all too short, appeared in this paper to commemorate the fiftieth anniversary of its existence and to say a few words of its founder and first editor, the late Wm. Weld. These words were, if few, very suggestive. One could not

help recalling the beautiful county of Kent, whence he came, as no doubt he himself often did. It has a just claim to call itself the garden of England though the scenery is of all varieties. Coast and cliff, woodland and meadow are all represented. Then there are orchards and hop gardens and for those who love books literary associations and old-world nooks which looking at, one feels the tide of modern life has passed by and left as relics of a former time. Dickens lived there and in his story of the wanderings of little Nell and her Grandfather, gives so realistic a description as well as an idyllic story that Bret Harte tells that

as he read it aloud in a mining camp the whole crowd of rough miners along with little Nell in English meadows, "Wandered and Lost Their Way".

But even to the dwellers in beautiful Kent as to those in the bleaker Scottish hills comes at times that irresistible "call" to leave their home and kindred and wander to a far country which they know not. This event is as old as history. Did not Abraham go forth from his home in Ur of the Chaldees long ages ago to found a great nation as thousands of his race and ours have done ever since. The "call" comes in some way or another, in early times they said direct from heaven, and will do till the end of time, as our best and bravest will respond even as their predecessors have done. It is well for this province of Ontario that the call came and had an appeal to such men as were the fathers of its present population. They were men generally of respectable middle-class families, yeoman and townspeople of moderate means. They had as a rule got from their parents as good an education as circumstances permitted, the lads themselves wanted an out-door life and some adventure, and, as a rule, though they had comfortable homes there was no money to spare. Canada, of all our colonies, was the nearest, therefore, when the settler had little money to spend on travelling it was the most convenient. The climate, too, of Ontario is not so very unlike that which they had been accustomed to, a little hotter in summer, a little colder in winter, maybe, than that of England and Scotland, but the vegetation was much the same, and with some modifications the same methods of farming could be followed as in their old home. It was not so great a change as for instance going to the tropics, nor was it so great an undertaking as journeying to our other colonies, New Zealand and Australia, where, besides a long and expensive sea voyage, to farm with any degree of success required a much larger initial outlay than here. The conditions there, too, are different, and the



Just Pigs.

that country are about as many as the pigs combined in the Argentine (3,500,000 in 1914), Austria-Hungary (7,500,000 in 1911), Canada (3,100,000 in 1915), France (7,000,000 in 1913), Germany (25,600,000 in 1913), European Russia (12,500,000 in 1913), and the United Kingdom (3,300,000 in 1913), and these are all the countries that are of considerable pig population except China, the number of whose swine is enormous but unknown. The remarkable rate of reproduction by pigs brings about great fluctuations in their numbers, so that the comparisons possible with cattle and sheep are entirely misleading when applied to pigs. As a rule, however, pigs appear to have generally increased in most countries in recent years, but not generally at the same rate as the population.

Appreciating the facts and figures adduced above, making full allowances for the times we live in, and realising the vast expansion of trade that must ensue after the European War is over, we cannot do better than add still another plea to British raisers of pedigree stock, to make ready for that business and to be well possessed of the sources from whence can come full supplies. There is already a strong bidder to British trade in U.S.A. As years roll on, the Argentine will in turn, no doubt, become a source of supply and a competitor, instead of being what she is to-day, a customer.

Expansion for British live-stock business must come after the war from Russia, from East and South Africa, and from Australasia. Breeders must keep their studs, herds, and flocks up to concert pitch. Our Breed Societies and our own R.A.S.E. have slept (or slumbered) long enough. Action is wanted, and spirited action at that. In the "Live Stock Journal" during 1916 we have done our best to awaken Breed Societies into realising what a golden treasury they have the key to, if they would only show some outward signs that they realize the importance of their own institutions. Too much

young Scot or Englishman who went there had to learn his business over again from the beginning. Here from the first he could by industry, get at least a living, and as time went on a comfortable homestead and a competency if not a large fortune.

The men who settled here seem to have been contented with this prospect, and they were wise, for a good old Book which seldom errs tells that the happiest state is neither poverty nor riches. The country population of this province are usually in this condition. Poverty they know not and if we hear of millionaire agriculturists we may be pretty certain that the millions were not made on the farm, and some part of them frequently spent on it. This love of land owning on the part of the millionaire has done incalculable good to certain branches of the farming industry and we hope it may continue.

The men who flocked to Canada in the early part of the nineteenth century were mostly Anglo Saxons, English and Lowland Scot, who, we believe, are the best colonists in the world. They have administrative and practical ability of a high class. Unlike the Celtic part of the population of the British Isles, which they are only beginning to understand, they have not much sentiment and little of the poetry and imagination that can idealize the peat bog and the mud cabin as the Celt does, till for his own sake he has to be dragged out of it by force. It takes a generation to make him cease to regret the squalid conditions in which his early life was spent and take kindly to his new and improved ones. The Celt has a love of "places", which we others whose "consciousness is our home", cannot readily understand, and it is only recently that we have begun to appreciate his high qualities, and recognize that he, too, has a place and an important one in guiding the world's destiny. Yet, though not so fervidly expressed we have a patriotism as strong and as heroic as theirs. The majority of the men who have made Ontario what it is, came to it willingly. For various reasons which we can easily imagine they wanted a wider field for their effort, and a larger return for their labor, which, in most cases, was all they had to dispose of. This capacity for work and ability to work and to work hard is, we maintain, the most valuable possession a young man can have. Agriculture in Great Britain after the great war was in an unsettled state, large families were the rule, and money to take a farm for the boys as they grew up was not forthcoming. Observant people even then could foretell the trouble which was brewing owing to the subdivision of land. Some of the inhabitants of our country would, rather than part with their children, allow them to "squat" on their little properties which were subdivided till the land could barely provide them with the necessities of life. In the Highlands and in Ireland they had seen too much of this, (we speak especially of the Scot as with him we are best acquainted,) men of our race have a natural aptitude for political economy, and they have been among the first to see that it is a mistake economically, to cultivate land which will yield a poor return while virgin soil and a climate as good or better than that they have lived in is awaiting them, and will give a fair return for time and skill.

Still another reason, and one which will last as long as the human race lasts, is the love of adventure inherent in all healthy-minded youth. With the young blood dancing in their veins and the joy of living in their hearts, and all the world before them, why should they settle down to the same monotonous old round of duties as their fathers? So it ever is. The best and bravest of our lands must find an outlet for their superabundant energy, in travel, in war or otherwise, and it is well for the world that it is so.

To the Scottish settler, Canada owes much as he in return owes much to Canada. We have said that a large proportion of the population of Great Britain is of the same race—a mixed race it is true. The dwellers in the East coast of both England and Scotland have a considerable infusion of the Norse blood, and really differ more from the people who live on the West coast than does the Englishman from the Scot. Perhaps the keener climate of the East coast may also have helped to produce a more enterprising and vigorous community. Before the Scots gave England their king, Carlisle was a Scottish city as often as it was English, according to the fortunes, of the border warfare that continually raged around that district. The two nations played battledore and shuttlecock with the city of Berwick till finally by agreement it was made neither English nor Scotch, but a little city by itself.

Still though these people are of the same mixed race, and have a community of interests there are differences between the dwellers north and south of the Tweed. The Scot was never conquered, like as Browning says, "he fell but to rise", he was never very modest in estimating his own good qualities, nor, in his opinion, the superiority of all his belongings. Therefore at the Union of the Kingdoms he most carefully safeguarded his rights. The king's first oath, we believe, is to maintain and uphold the Church of Scotland as by law established. The Scottish law is different from and in some cases superior to the English, and Scotland had its own system of education, both in its parish schools and its universities. Whatever may be said of the religious views of the founders of the Church of Scotland and the provision they made from the land for the education of the people, it is undoubted that, as an institution, the Church suited the genius of the people, and the education provided for the poorest in the land was in its time the best in Europe. It is questionable if the Scottish youth of the present day is better educated in spite of the expensive machinery and official inspection than it was a hundred years ago. Good schools were in

every parish, and the land-owners were legally bound to keep the schools and schoolmasters' houses in repair, and to pay a suitable salary over and above the very small fees paid by the pupils. Hence there were few, and need have been no illiterates in Scotland. Of course, Scotland, being a very poor country, children were frequently only a short time at school, but the old Scottish peasant had a conscientious desire that each one of his children should have at least a chance to learn. The boys would go to work for farmers in summer, returning to their lessons during the winter months, and in most cases picked up a very fair education. After all, what can a man learn by a life's study, save how very little he has learnt? How his life's work has only touched the hem of the garment of the Unknown. Educated or uneducated, Scotsmen have, as a rule, taken an intelligent interest in public matters, and this was another reason why so many of them came to Canada. They knew that there they would still be a part of the British Empire. They were truly democratic in their principles and all their institutions and knew that under the British flag there is more freedom, greater progress, and as far as possible more equality than anywhere else in the world. The President of the United States can and does claim powers which we deny to any King or Premier. Our constitution is on an altogether broader basis than that monument of Individualism—the Declaration of Independence. Since it was framed we have moved forward while it has stood still. Even into that last resort of darkness, the official mind, the great truth that all men are brothers has penetrated. Our recent legislation proves it. Let it not be forgotten that Plato added "but all men are not equals." Nor are they, in physical strength in mental and moral qualities, in intellectual ability one man gets ten talents, another only one. Always there must be the weak, and the strong must more and more understand that it is his privilege as well as his duty to hold out a helping hand to those less gifted than himself. Only in the increase of the altruistic spirit is there hope for society as at present constituted.

Are the present men of Ontario worthy of these ancestors? We think so. They form one of the finest farming communities in the world. They have sent a body of troops to the front worthy to stand beside the finest fighting men in the world—the soldiers of the Imperial Army. The Mother country regards her colonial sons much as a proud mother looks on one of her boys who has gone to a far country and done well. Long may this feeling prevail, for more than any legislation it will in future be the guarantee of the glory of our Empire and the peace of the World.

Middlesex Co., Ont.

MARGARET RAIN.

Whip the Bully.

EDITOR "THE FARMER'S ADVOCATE":

I am not a fighting man, nor was I exactly a fighting boy, but I had one good fight when I was at school; one that I am sure neither I nor the other fellow will forget. It wasn't that I loved fighting for I trembled at the sight of blood. I would faint when I cut my finger as well as run when they stuck a pig. But I must tell you about my fight as it has elements about it that I wish to apply to the bigger fight in Europe.

It happened on this wise. When I started school there was a lad in the bunch who was some four or five years older than I was. For convenience we will call him Joe. Joe didn't love a fight either, except when he could get two others to do the fighting. I never saw Joe fight but once and I piloted him through that one as you will see. Joe was one of those miserable, wormy, mean creatures that you occasionally meet in a school section. He didn't get out and play games with the other boys of his size. He stayed inside. You could look at the window nearly any noon hour and see Joe inside blowing his nose—or he ought to have been if he wasn't. If he wasn't gazing out the window you might be certain he was breaking or stealing a new slate pencil some little boy had brought that morning, or hiding some bottle, dear to the heart of a little girl. Perhaps you would find him teasing some little boy half his size. You never caught Joe among boys of his own age engaged in honest sport.

Well, he was some ten years old when I started school. I came in for a special share of his mean, bullying tricks. He used to hide my hat, or dinner pail, break my pencils and bottles, take my knife and a dozen other things. I remember one evening having to walk home a mile and a half in bitter cold weather with nothing but the teacher's handkerchief tied over my head because Joe hid my hat and then ran home.

He was twice my size so there was nothing for it but to endure it. However, I vowed that if ever I got big enough Joe would pay the price with interest. I'm almost ashamed now of how I treasured up the hope of final vengeance, but I did just the same. Every week I endured such usage. I mused over the prospect, every time I saw Joe abusing a little chap I clenched my fist.

Joe was a well-built lad, but slow of growth. I was rather the reverse. At least I grew like a weed. At first I used to picture the final settlement away off in the distance when I would grow up to be a man. Before I had gone to school a couple of years, however, I got a new idea. I was growing like a weed, Joe was not. I was catching up. Besides Joe was very slow at the books. If I just kept going and he came long enough to school, perhaps I could trim him yet before we left school. Besides I felt it would look much better for two school boys to be fighting than for two men.

So I waited and grew. Of course, I did not think

of this thing all the time, but there scarcely ever was an intermission but Joe gave evidence of his bullying nature, and I secretly wished I was big enough. One spring day I was heart-broken when Joe came to school and got his books, having decided to stay home to help his father. I almost challenged him then and there, for I was as big as he was, but not nearly as well built and developed. I got some consolation in the fact that they said he was coming back the next winter.

I believe the home people got more work out of me that summer just because I wanted to develop muscle. Next winter came. I was back at school, Joe wasn't. But at last he came for just about two months in the spring. He was seventeen or more. I was twelve, but I felt I could do it. My heart was a bit softened, however, and I half concluded that I had better not make a row. I hoped that Joe had got more sense too. But he hadn't. He was just the same old cowardly bully. One very stormy day when we were all playing in the school Joe was specially cruel. At last he hurt one of the little boys who played an innocent trick on him, and my old resolves all came back. I told one of the other boys I was going out to the woodshed and he was to send Joe out till I trimmed him.

I went out and soon they brought Joe out. I backed him up between the school and the woodshed with his back against a high board fence. Then I delivered a lecture, laying forth as clearly as I could the purpose for which the meeting was called. There were no minutes of a previous meeting to be read nor was there likely to be another meeting, I thought, so we didn't appoint a secretary to keep the minutes of the present meeting. We began business immediately.

I reckon it was some fight. I was sorry at times I hadn't appointed a second, but I finally put him over the ropes with my long legs astride him. I was glad to get sitting down. A few swift smashes beside the head taught him to lie still. Then, I repeated the lecture with which we began, and as I named each offence I impressed it in his brain with a sound bang on the side of the head. Before he got up I presume that he had at least a headache. But we have been better friends ever since. A person always hates to meet one they owe. I can meet him now and feel quite free for I don't believe I owe him anything. I presume he feels almost the same. I half believe he is a better friend of everyone since that day.

Now that's a long story for an introduction, but it was a long story for me. Besides I believe it is a bit like the fight in Europe. Germany is not unlike Joe. There is not a mean, devilish thing they ever thought of but they did it. Their chief pastime is ill-treating the little fellows. Sneaking, mean tricks are their delight. They tackled Britain when she was utterly unprepared to fight. Germany doesn't like a square fight. They have done a host of things that have made the world wonder. Yes, some have wondered why Britain allowed it. The truth is that Britain could not prevent it. She has been compelled to fight on and see the little fellows suffer, not even escaping that suffering herself.

Yet Britain has vowed a vow that some day she will see things righted. Through the past two-and-a-half years she has been growing slowly but surely. Patiently, with clenched fist the soldiers and sailors have waited till they felt their strength coming in the air as it was torn with shells. It has been a terrible wait. Now they are nerving their arm for the day when they hope they can drive home the blow that means victory. It will take every muscle, yours and mine included, but we hope it shall suffice. And can we wonder if they take a bit of pride in dealing those blows?

It is a desperate business. We laugh sometimes at the school-boy fight, but not at this. Yet could it be avoided? Fighting is a sort of last resort, an evidence that one or both of the parties are weak mentally or morally and must make up for that weakness by using physical force. We were meant to exert our greatest influence mentally or morally. When we have to use brute force to show our influence it is evidence of weakness somewhere. Yet, when mental and moral force can't influence there seems no course open but to fight.

When a man like Joe or the Kaiser is born with the notion that he has a divine right to be a bully, and will not be influenced by moral or intellectual force then it may be necessary to put him in a position where he must listen to reason. In other words they can only understand when they are being sat upon. The awful thing is that blood must be shed before we get them there.

Another side of it is this: brute force alone will not conquer. You may whip a dog and he will mind you, but a man is different. Having found it necessary to use physical force it must be used in a wise, moral way, or it will not win. If the force used is not pierced through and through with sound moral, Christian principles it will fail to achieve its end. In short, the man who uses physical force must himself be a Christian, or he cannot hope to instill Christian principles into the one whom he is trying to win.

We are seeking to win Germany to a higher, moral standard. We are seeking to convince her that she must not kick the little boys around or smash their play-things, or kill helpless women and children. If we would win them, in any real sense, we must set our house in order, being certain that no injustice, cruelty, or lying enter into our daily life. That applies not to the nation alone, but to every individual, for the nation is just an enlarged family.

Munitions, soldiers and money are needed. All we can do to help should be done, but these things alone will not bring the sort of peace we desire. The men who deal the blows or prepare them must be men

in the highest sense of the word. When I say this I am not upholding my dealings with Joe nor holding up my moral worth as an example. I only take that little incident as a starting point.
Elgin Co., Ont.

A. R. MAC.

The purchaser of a bag of potatoes in Toronto at \$2.25 found a note enclosed stating that the grower in P. E. I. got 98 cents for them. It would be a great education to consumers if they could all get an enclosed

slip containing the price the producer got for the farm-grown goods they buy. They would soon know more of the rural problem.

Some Houses Their Owners Have Found Handy.

A few weeks ago we asked our readers to send in plans of their houses. The response has been beyond our expectations and we are pleased to be able to publish ten herewith. More than double that number have had to be held over because of lack of space. The best of them will be used and we thank our readers for sending in all the sketches. Our artist, in redrawing the plans for some of the houses, put in certain fixtures not marked on the originals and in some cases the size of the rooms may appear slightly changed. This was done in allowing for thickness of walls, etc. The plans should interest those intending to build. We only reproduce two of the photographs sent. Most of them were not distinct enough to come out well in reproduction.—
EDITOR.

A Good House in a Fruit District.

EDITOR "THE FARMER'S ADVOCATE":

I enclose the plan and photo of ours that was built five years ago. I cannot give the number of feet of lumber used. It was built of pressed brick, and it took 12,000, and the mortar was colored the same shade as the brick. We have both hard and soft water on tap in pantry and bath room. We have two tanks in the attic. The soft water tank holds about 35 bbls., is a large box built and lined with galvanized iron, and the water runs in off the roof. In order to have the tank in the attic, the eave trough is placed about three feet up the roof from the eaves. This furnishes plenty of soft water. The hard water tank is made same as the soft, and holds about 15 bbls. The hard water is pumped in by a 1½ horse-power gasoline engine in the barn (about 300 feet away) through ¾-inch galvanized iron pipes (which should be 1 inch). The engine also pumps the water for 100 head of stock, and for spraying a fifty-acre orchard. The pipes are not below frost, and after the tank is filled the water in the pipes is drawn out with the milking machine in the cow stable. The flush in the toilet is arranged so that we can use hard or soft water. Hard is always used unless the soft water tank is overflowing. This house cost \$4,000.

Prince Edward Co., Ont.

R. W. IRELAND.

A Frame Dwelling.

EDITOR "THE FARMER'S ADVOCATE":

I am enclosing herewith plan of our house. It was built about six years ago, and has proved very convenient and comfortable. It is double-boarded and double-papered under the siding on the outside, and is plastered on the inside. I am unable to give an exact estimate of the cost, but we paid about \$1,700. This does not include the lumber and work that we supplied ourselves. The total cost would probably be about \$2,500 or even more at the present time.

Ontario Co., Ont.

M. W. MALYON.

A House the Housewife Likes.

EDITOR "THE FARMER'S ADVOCATE":

As you have asked for plan and description in detail of house built on a good plan, I am enclosing with this the plan of the home of G. P. Westington, with description of same, stating conveniences and good points. It is a farm house of course, and, as "the proof of the pudding is the eating," I may say we have been living in ours for four years. I do all my own work, including sewing, for four of a family, and must say, after putting it to the test, there's a good deal of truth in the saying that "if women on farms had things as convenient as they have in towns and cities, one woman could do the work of two." I have known what it was to live and do my work in the north end of a house for fifteen years, where I scarcely ever saw the sunshine, so I can appreciate the pleasantness as well as the conveniences of the change.

Durham Co., Ont.

MRS. G. P. WESTINGTON.

A Hot-Water-Heated Home.

EDITOR "THE FARMER'S ADVOCATE":

The house of Rob't. W. Knister is of pressed brick, three tiers, with two air spaces. The foundation is quarry stone. The roof is slate. The inside wood-work is solid white oak downstairs, and Georgia pine upstairs. The basement is divided into four rooms with cement floors. There is a laundry-room in the basement with hot and cold water. The heating system is hot water, a radiator being in every room, with pipes in the conservatory. There is a hot-water tank in the kitchen. Points of convenience are that doors join both pantry and kitchen to the dining-room. There is an outside entrance to the office. The back stairs go from basement to attic in a sort of square-winding stairway. The height of the ceiling is ten feet downstairs and nine feet upstairs. The balcony on front may be utilized for sleeping purposes, there being a door opening on it. The house faces east. The basement may be entered from both inside and outside. There is a good-sized window in each room of the basement. There is a window on the back stairs between the first and second floors, also one on the second floor over the front stairs. The bath-room has all the usual fixtures.

Essex Co., Ont.

J. RAYMOND KNISTER.

A Practical Farm House Plan.

EDITOR "THE FARMER'S ADVOCATE":

A practical farm house is one that is planned to give

the most efficient service for labor expended. As the kitchen is where the housewife spends a considerable portion of her time, this is the room requiring the most careful planning of space allowed. The small kitchen will be found very convenient. No longer does the kitchen do duty as kitchen, wash-room, dining-room and living room as it once did. With the more convenient methods of heating has come the more frequent use of the dining-room and parlor. The kitchen now-a-days is merely the work-shop, while the other rooms are used by the family.

Times have changed greatly during the last twenty-five or thirty years. No longer is it considered necessary to build a large, uncomfortable house. Rather do we incline towards the smaller, comfortable, cosy, easily cleaned and heated building. The smaller, more compact house of full two stories' construction of square or nearly square design is the most economical to build.

The heating system requires less piping, besides giving a more satisfactory heat and ventilation. The plumbing may be easily and simply installed. The lighting system, if electricity, gas or any of the individual lighting systems used, is much more easily installed in a square house, besides being cheaper, thereby cutting down cost of building.

This design, built of brick with stone foundation full two stories and attic construction, with hot-air heating, plumbing system and wired for electricity will cost about \$3,000.

Ontario Co., Ont.

MISS L. M. BRIEN.

A House Built for Warmth.

EDITOR "THE FARMER'S ADVOCATE":

You will please find herein a plan of our new house, which we consider a complete farm home and entirely under one roof. It is brick veneer, 39 feet long by 32 feet, with a 7-foot verandah with balcony above, making the roof entirely square. Our principal aim when building this house was to make it warm and to have it well lighted. We were also anxious to build a house to live in, not a house to live beside. We built it entirely under one roof, and while it, perhaps, may not commend itself to many, yet after living in it for some time we have not found anything about it we would alter very much. It has a 7-foot ceiling in basement, 9-foot ceiling on main floor, and 8-foot ceiling upstairs. We also have an attic the full size of house which would, if finished, make 4 large rooms, but at present is only well floored and is used for storage of all those things in a farm house which have no permanent place of abode. When we got the studding up we boarded it on both sides with half-inch hemlock lumber, then put on one ply of the best building paper on each side of the boards. Then we put on another coating of half-inch, which makes four ply of boards and two of the best 3-ply building paper. It was then bricked on the outside, and lathed and plastered on the inside. We now heat the entire house upstairs and downstairs with the exception of the kitchen with hot water. We use a number 3 boiler, and find no trouble in keeping the whole house warm with a small amount of fuel. The cook-stove heats the kitchen. This house, when completed with septic tank, furnace and hot water, hard and soft water upstairs and downstairs and in the cellar, cost a little less than \$3,400. We bought all the hemlock lumber at \$22 per M, half inch at \$14 per M. delivered. I secured a good, reliable carpenter, paying him by the day. He hired his own help and charged me a small amount on their time. He purchased all doors, window sash, casings and dressed lumber, which I found to be entirely satisfactory. The entire brick work was done at \$7 per M. The plastering was let by the job, and the lathing by the yard.

Peel Co., Ont.

DAVID WILSON.

A Well Finished House.

EDITOR "THE FARMER'S ADVOCATE":

Our house was built with a cement footing of field stone under the foundation. The cistern in cellar is built of cement and plastered with cement mortar. Cross walls are of brick and plastered with cement mortar, and the cellar floors are cement. The septic tank is also of cement and gravel and plastered with cement mortar. It is a veneer building of pressed, dark red brick set in red mortar, two shades darker than the brick. The framing timber is hemlock and the sheeting and siding lumber No. 1 hemlock, and covered with frost proof building blanket. Window and door frames are of white pine set in sills and lintels of cement. First floors are hard maple, second floors white pine, and attic floor matched Norway pine. All doors and window casings are 5-inch Colonial throughout and all are Georgia pine. We have wainscoting in kitchen and pantry. All doors and stairs are also Georgia pine. The pantry is fitted with built-in cupboard, tilting bins, drawers, shelves and a dumb waiter. A brick fire-place is built in the parlor.

The bath-room is fitted with all necessary fixtures. A 30-gallon, hot-water boiler in the bath-room is connected with basins and bath tub and kitchen sink, and is attached to both kitchen range and furnace, and is operated by a pressure tank in the basement and connected with the cistern. A 24-gallon drinking-water tank is placed in the bath-room and connected to the wind pump outside. This is also connected with a

drinking tap in the kitchen sink and supplies a tap in the bath-room. If the windmill pump fails through breakage or other causes, to supply this water system, I have an engine and pump jack which I can attach and continue the supply of water. In case a sufficient amount of soft water to keep the cistern supplied can not be obtained I have the system arranged so that I can run the hard water into the cistern and also drain the cistern in a few minutes if I wish.

A first-class furnace heating system, with all necessary hot and cold-air registers, is installed.

The outside wood-work is painted white with gables and verandah steps grey. The inside wood-work is oiled and varnished. The deck on roof has iron cresting, and floor of deck is covered with galvanized iron.

It required 50 loads of stone, 57 bags of cement, 15,000 hard brick, 4,000 soft brick, 15,000 feet siding, sheeting, plank and joist to build.

Perth Co., Ont.

DAVID HARRON.

Description of W. H. Sewell's House.

EDITOR "THE FARMER'S ADVOCATE":

The house is a brick veneer. It was built about three years ago. The kitchen, wash-room and sewing-room were our parlor and two bed-rooms in the old house. We made the parlor into a kitchen, putting one new door in same. The two bed-rooms we turned into a wash-room and sewing-room. We also put a cellar under this house, which we use as a dairy and fruit cellar. The cellar-way goes down from the wash-room under the back stairway. The kitchen has 3-foot wainscoting around it and has two windows. The cabinet is of butternut. There is burlap around the dining-room.

The wood-work of the front (new) part is of black ash. Along the stairway the hall is panelled. Under the highest part of the stairway is a small coat closet which is lined with ¾ inch pine ceiling. The attic-way goes up over the front stairway. It has one turn and ten steps. Ceilings upstairs are 8 feet, front part downstairs 9 feet, kitchen 8½ feet. The roof comes out over the balcony. There are five round posts in the verandah and three in the balcony.

We have the water handy—hot and cold soft water in the bath-room—hot and cold soft water, also cold hard water in the wash-room; hot and cold water in cellar. It required about 17,500 brick and 12 bbls. cement (cellar floor not yet done).

Grey Co., Ont.

LINA SEWELL.

A New Brunswick House.

EDITOR "THE FARMER'S ADVOCATE":

In your paper of Dec. 28th I noticed an item asking subscribers to send a plan of a farm house. Am enclosing the photograph and plan of my one and a half story house. It is built entirely of wood. As you will see by the photo, the roof is put on in two ways, covering 26 feet with the end to the south and 32 feet with side to the south. The cellar, which is 26 feet by 26 feet, is under the west end of the house, the masonry of which is of stone with cement floor. You will notice by the plan that there is a landing midway of the stairs and that they branch, running each way. Under this landing is an entrance to the cellar from the kitchen. There are hard-wood floors in dining-room, kitchen, pantry and wash-room.

At the time of building this house would cost in the vicinity of \$2,000, but owing to the advance in material and wages it would cost more now. As I had the lumber of my own I have a very vague idea of the amount I used.

The piazza, which is 6 feet wide, is on two sides of the house, which makes it pleasant in summer. There are three chimneys leading from the second floor.

Queens Co., N. B.

R. W. MENZIE.

A Grey County Home.

EDITOR "THE FARMER'S ADVOCATE":

Our house was built ten years ago. It required 25,000 bricks, 135 cement corner blocks, 18 cement keys for arches, 25 loads of sand, 250 bushels of lime, 2 bbls. plaster Paris, 13 cords of stone, 10 bbls. of cement, 3,500 feet of flooring, 3,000 feet of studding and scantling, 1,500 feet of inch hemlock, 16 squares of shingles and the joists for three floors. We used heavy British Columbia shingles, dipped 6 or 7 inches of the butts into a paint made of linseed oil and slate-colored oxide of iron, and gave the shingles a coat of the same after being put on the roof, using for the purpose 30 gals. of oil and 75 lbs. of the oxide.

The main cellar wall is built of stone; verandah walls cross walls in cellar and cistern of cement. For wood-work finishing inside are used black ash, cypress and Georgia pine. The cost of this house, including furnace and bath-room fixtures, was \$2,300. No charge was made for boarding workmen or drawing of material.

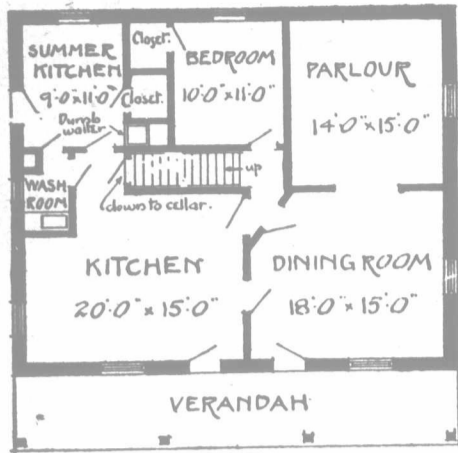
In case of sickness when we need a bed-room downstairs we use the small part of the parlor, closing it off from the front part.

Those who like this style of house, yet not wishing to build so large, might be suited by leaving out the back 13½ feet of the building.

We have a tank in the attic directly over bath-room, and pump in wash-room. As yet we pump the water up, but it is not the most satisfactory way. We should use the windmill for this purpose.

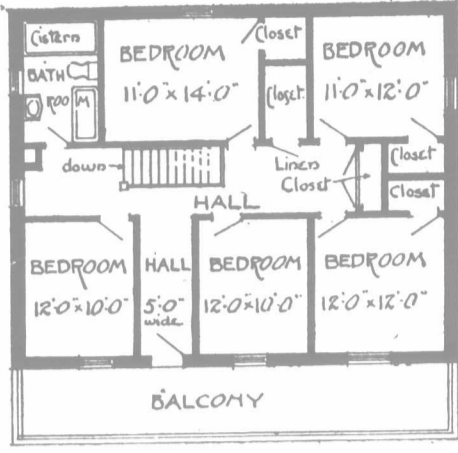
Bruce Co., Ont.

JAS. GLASS.

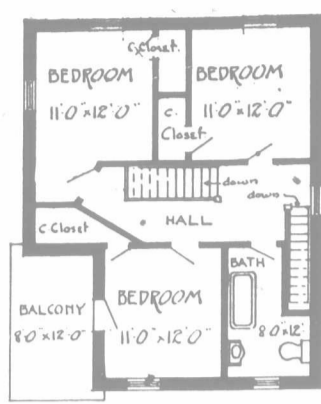


Ground Floor.

David Wilson's House.

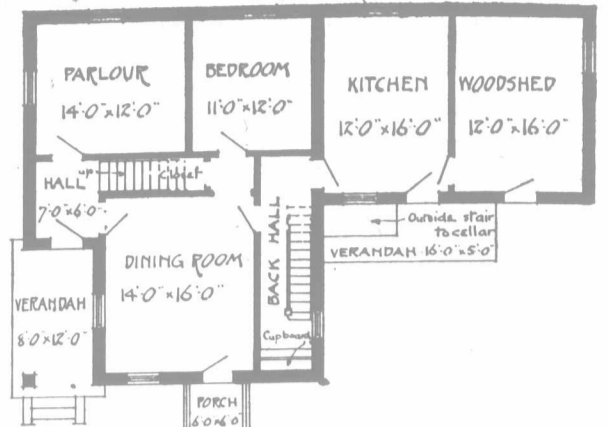


Second Floor.

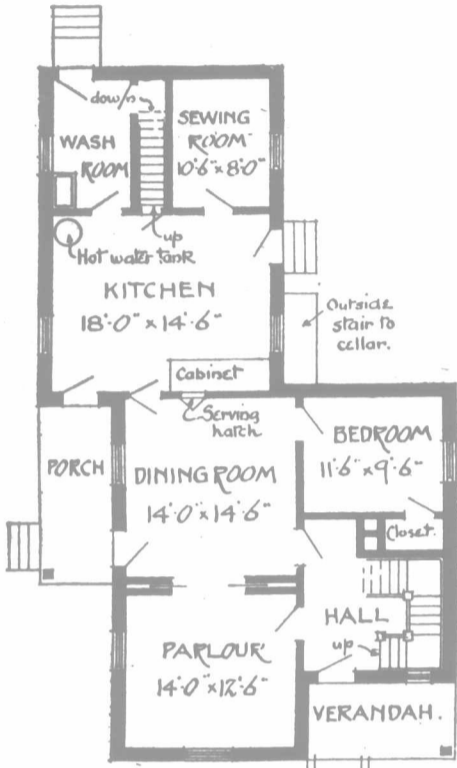


Second Floor.

M. W. Malyn's House.

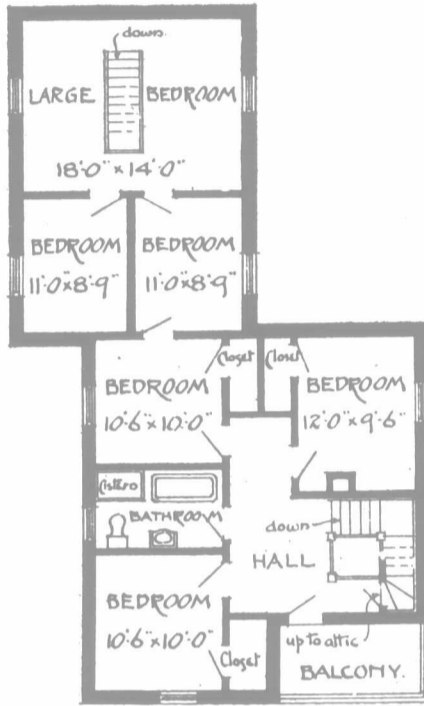


Ground Floor.

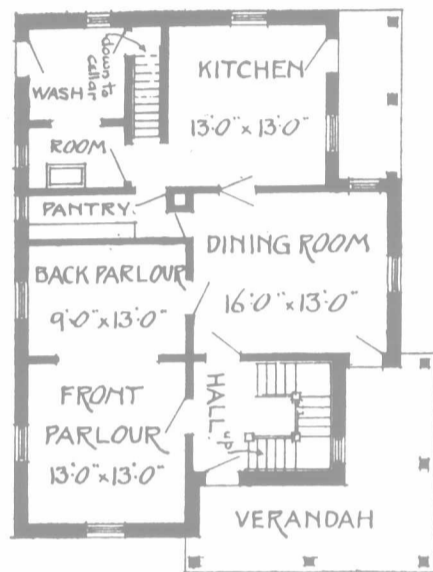


Ground Floor.

W. H. Sewell's House.

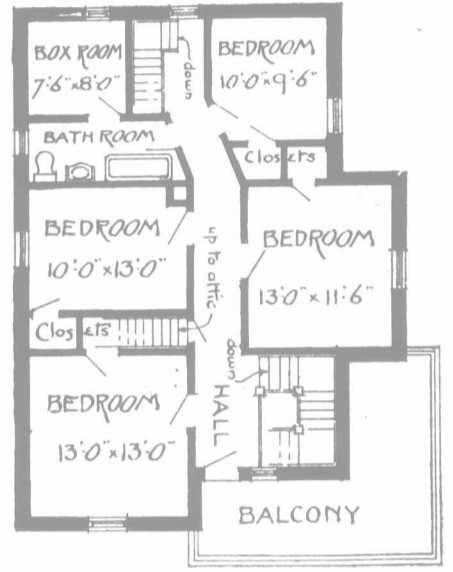


Second Floor.

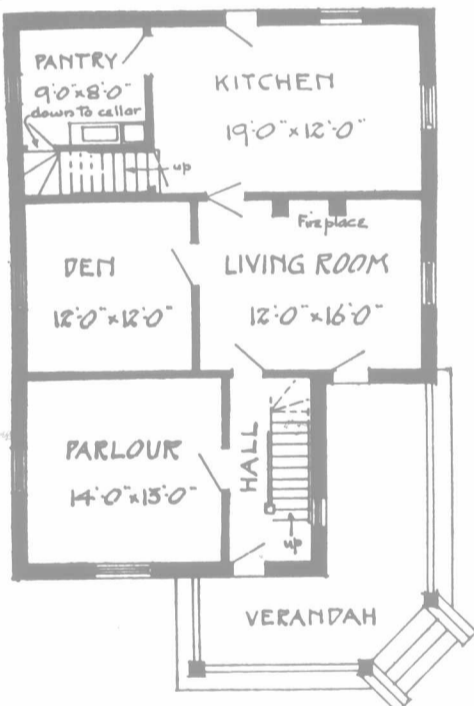


Ground Floor.

Jas. Glass' House.

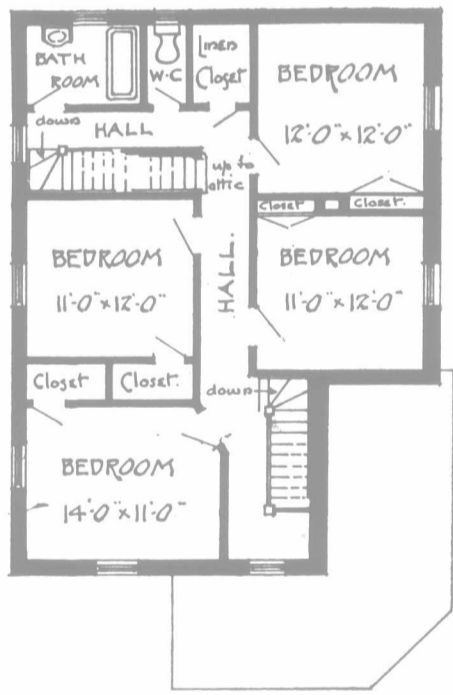


Second Floor.

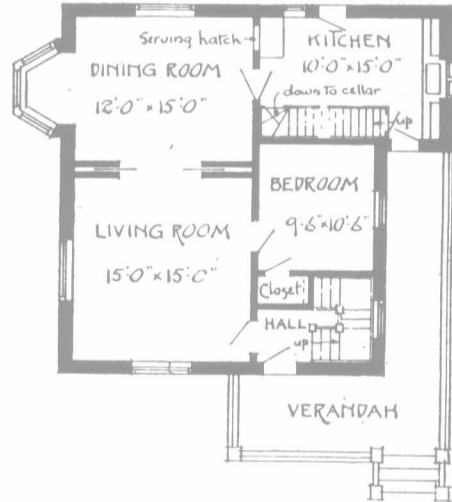


Ground Floor.

R. W. Ireland's House.

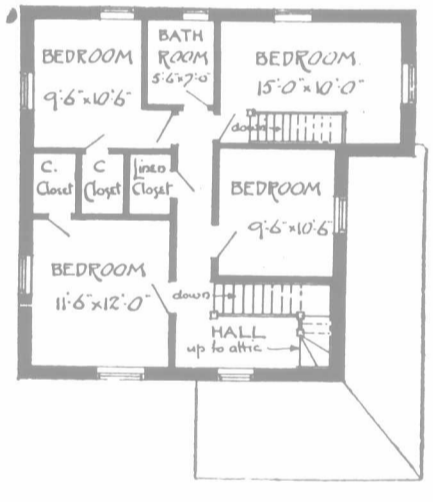


Second Floor.

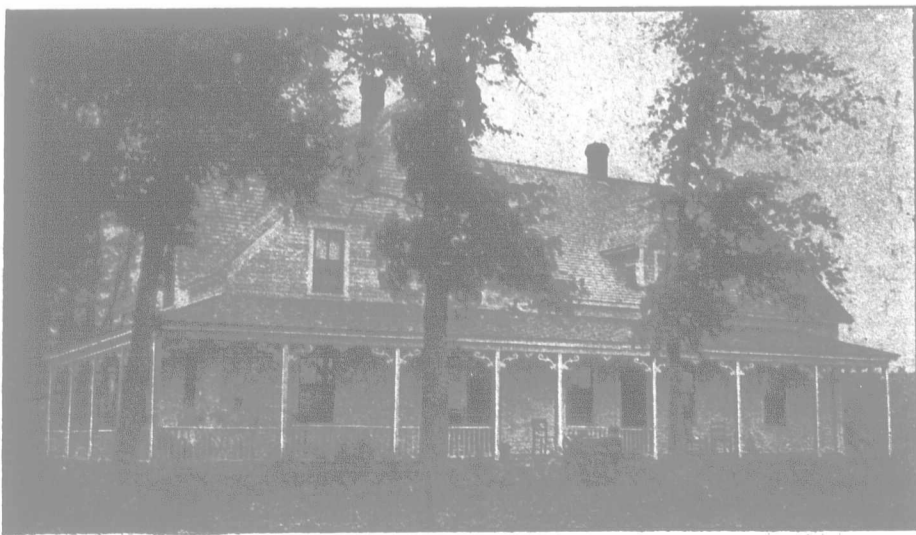


Ground Floor.

Plan Sent by Miss L. M. McBrien.



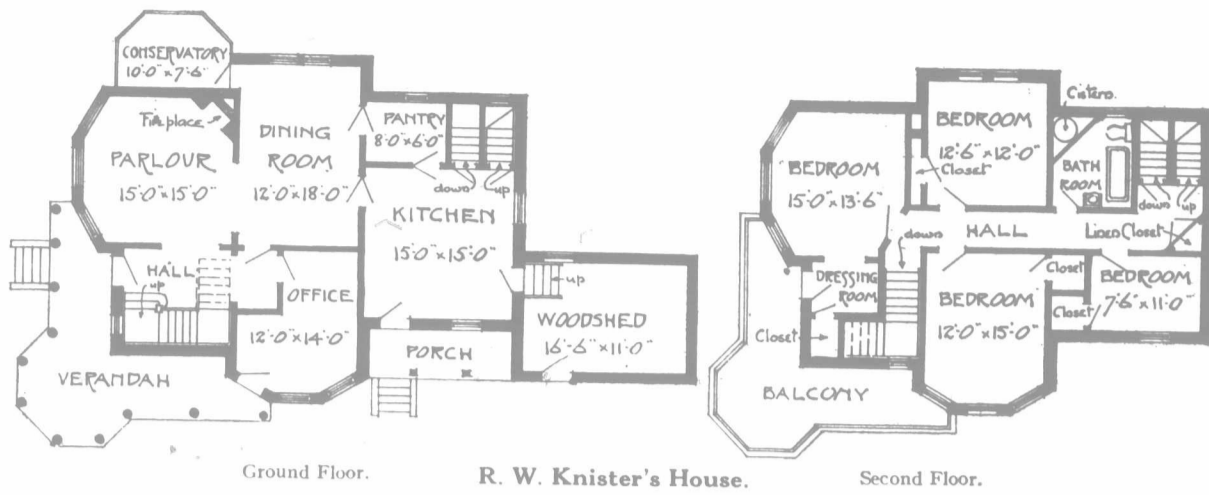
Second Floor.



A New Brunswick Home.

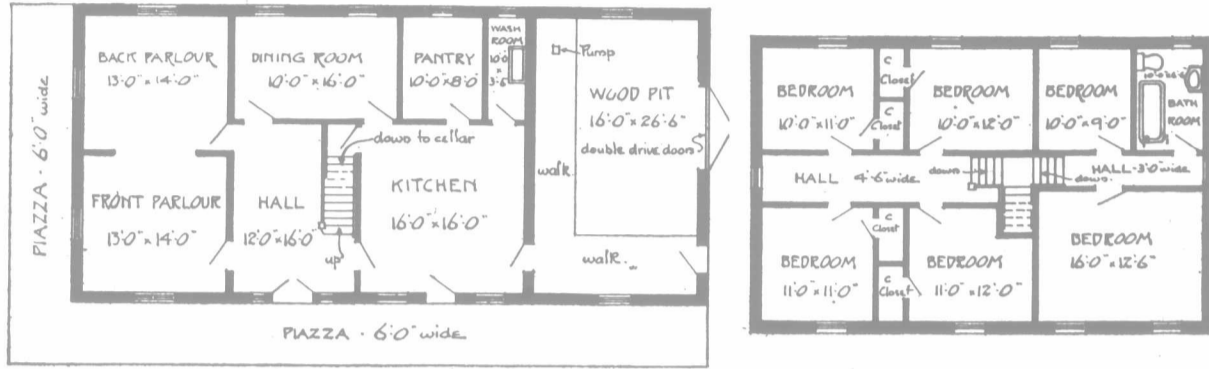


Home of Robt. W. Knister.



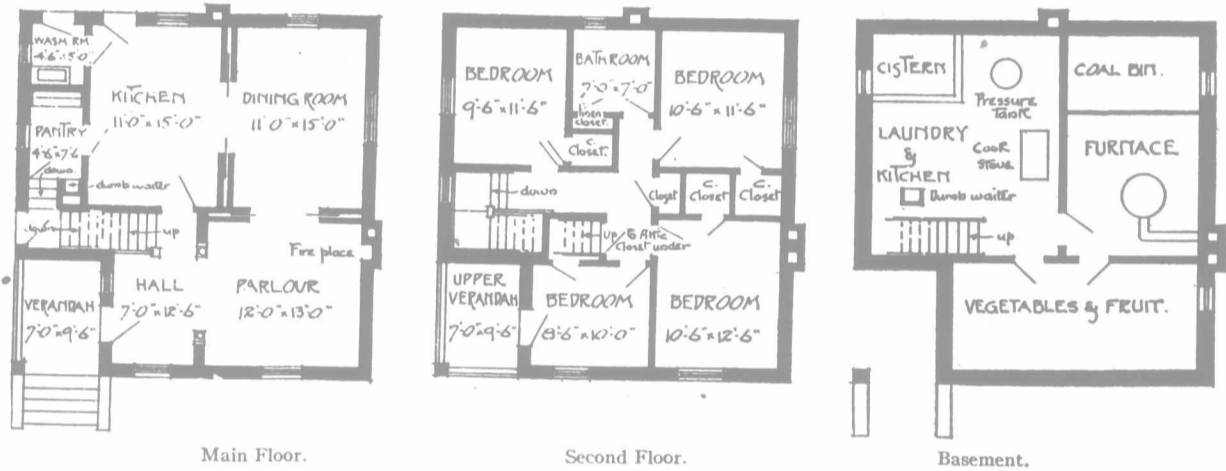
Ground Floor. R. W. Knister's House.

Second Floor.



Ground Floor. R. W. Menzie's House.

Second Floor.

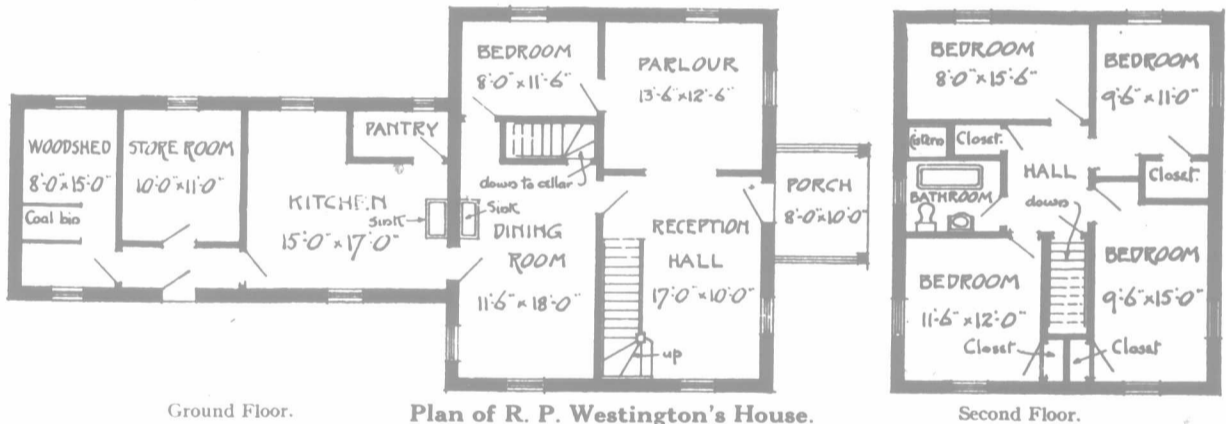


Main Floor.

Second Floor.

Basement.

David Harron's House.



Ground Floor.

Plan of R. P. Westington's House.

Second Floor.

The Other Side of the Question.

EDITOR "THE FARMER'S ADVOCATE":

I know your paper is not open to partizan discussion on political subjects, but I think Peter McArthur's remarks, in a recent issue, regarding Lord Northcliffe, should not be allowed to pass without protest. Instead of taking his usual style of discussion he has, in this instance, given the view of only one side of the case.

With regard to his calling Lord Northcliffe "irresponsible" and his other remarks concerning him, I would only review the esteem in which, what is known as the Northcliffe press was, and is held, by a large part of the English public, and also its record since the outbreak of the war.

Mr. McArthur admits Lord Northcliffe's power but fears it. I ask you, did ever a paper or group of papers come to occupy the position at present held by the Northcliffe press without having gained the position by virtue of having been proven right on many successive occasions? This, the strongest of positions, is the one held by the Northcliffe press at present.

To review only a few of the most important things and the part taken by Lord Northcliffe. First: he was largely responsible for the appointment of Lord Kitchener to the War Office. If this is questioned, I would only say that at the time of the crisis over shortage of munitions, when it was charged by opposition press that Northcliffe was attacking Lord Kitchener, it was stated that the sin was more heinous because he himself had been largely responsible for Kitchener's appointment. No one will deny that this fact is to his credit. Still more to his credit is it that he secured the appointment of a minister of munitions and other changes which his papers demanded and succeeded in getting put through.

I have time only to mention the universal service campaign for which Northcliffe fought for long and at last succeeded in gaining his point, and who will say he was not right? A good deal might be said, but I will mention only the good work of forcing the Asquith and later the Coalition Government, out of power. My own opinion is that the Asquith Government, while doing great things before the war, was never fitted to carry on a great war. War conditions require a government that will lead the people rather than wait for the people to lead, always a slow process.

As regards the danger of Northcliffe making trouble for the new government, we may rest assured that if they don't give results, or, to use a slang expression, "put up the goods," Northcliffe will force them out, but not so if they do well for the country and make progress with the war. And in this, as often before, he will remain what he is, the greatest force making toward successful prosecution of the war in all public life.

Surely the fact that when he came to believe that Lloyd-George was the man for the head of the government under the circumstances, he supported him in preference to any or all of the men of the party he usually supported, is sufficient to prove his sincerity.

Essex Co., Ont.

R. A. JACKSON.

Lonely Without it.

EDITOR "THE FARMER'S ADVOCATE":

I have taken your paper for some years now as well as several other farm papers, but find yours better than all the others put together. Without my weekly Farmer's Advocate I am a lonely man. I enjoy Peter McArthur and Sandy Fraser very much, also your serial, while my "good dishes," I am told, sometimes originate from the "Ingle Nook." Your advice on several things we have tried with success.

York Co., Ont.

W. J. TAYLOR.

The feeder was glad to see February come and he will not be sorry to see it go this year.

Canada's Young Farmers and Future Leaders.

A Variety of Causes.

EDITOR "THE FARMER'S ADVOCATE":

There are many causes for so many young people leaving the land, and, to begin with, the school has a great influence on the vocation a young person chooses. The boy or girl looks to his or her teacher as an ideal and it is sometimes found the teacher has little sympathy with the life of the farm. Agriculture is not taught in the rural schools as much as it should be, and is not always held up by the teacher in the rural district as being the ideal healthful, profitable and enjoyable life for any normal young person. Rather, our schools very often seem to have in view the fitting of the young for life in an office, or store, than for life on a farm, where it is more important to know how to judge a dairy or beef animal correctly than it is to know the exact date when a certain battle was fought, or how to do a problem in algebra. The school gardens and school fairs are certainly a step in the right direction, but much more needs to be accomplished to bring agriculture to the forefront in our rural schools.

In many instances the young people get little encouragement from those at home to induce them to stay on the farm. They see mother working hard, carrying water in and out, trotting down cellar and up again half a dozen times a day, getting up in the morning with it below zero and starting a wood fire, while father

is always groaning at having to work so hard, when in reality he might be well able to afford a good barn with modern conveniences, wide implements, etc., and water on tap in the house, a furnace, and dumb waiter, but for the fact that he has never been able to get out of the old-fashioned rut and says: "What was good enough for father is good enough for me."

As young people "grow up", if they have no social life to hold them, they often tire of their surroundings and drift to the city, where very often they are not as well off financially as they would have been on the farm (provided their parents had done the right thing by them), but they have in the city every modern convenience at their disposal; they have regular hours of work, and always a chance of pleasant social intercourse with their fellowmen. This is what holds them to the city.

It is essential that there should be a good church, live Farmers' Club or Literary Society, and that the young people should have a good horse and rig, or auto, to enjoy life more with, (and if they are the right kind of young people they will not abuse this privilege.)

Attractive surroundings are of great importance to a country home. It is surprising how much neat fences, a few well-placed trees and evergreens, and a well-kept lawn add to the beauty of a country home, but, as we all know, the scarcity of labor at the present time makes many of those things we would do very

hard to get done, as the majority of farmers have to do that which brings in the most revenue. However, it is surprising what one can do if he really tries to the utmost of his ability.

The rural mail delivery and telephone have done much to make life more enjoyable on the farm, but we must ever go forward until it is an acknowledged fact, both in city and in the country, that farmers have come to their own, and the country life is the most enjoyable of all.

Brant Co., Ont.

ERNEST B. CHILCOTT.

Partnership of Father and Son.

EDITOR "THE FARMER'S ADVOCATE":

The reason so many young people leave the farm and go to the city every year is no doubt because they expect to better their condition and to get better financial returns for less labor. They see nothing in the farm but long hours and drudgery for meagre returns, and are dazzled by the shorter hours and various pleasures of the town.

Giving the boys bicycles, etc., does not seem to increase their love for the land, but if they were taken into partnership at an early age and not treated as helpers and given something around the farm to look after, which would be their own, they would find out

there is money in the farm for them and they would soon become very much interested in the old place and have no desire to leave it.

Farmers of to-day apparently have very little time to attend to the social side of life. The telephone and rural mail, while indispensable from a business standpoint, have not increased the sociability of the community. I can remember a few years ago when the neighbors would gather in the country post office on "mail night" and discuss the latest "doings" generally, while to-day modern conveniences have eliminated the country post office altogether. If farmers would spend their evenings around each other's firesides and discuss rural problems freely, it would certainly be a help to the sociability of the community.

Bruce Co., Ont.

J. MORLEY HANBRIDGE.

Get the Right Mental Attitude.

EDITOR "THE FARMER'S ADVOCATE":

What is needed to make the farm home more attractive? The answer to this question depends primarily on the man and the woman who are the founders and mainstay of the farm home, and the guides and example of their children. They must be so in love with their occupation that no temptation of wealth or honor to be had in other vocations will ever cause them a sigh of regret that they have chosen farming as their life-work. Then, and only then, can they hold up before their children the attractive side of farm life.

Some one has truly said, "Keep right yourself and everything else will go right, go wrong yourself and everything else will go wrong." The farmer who always has something to grumble about, whether it is the weather, the crops, the markets or the chilblains on his toes, is not helping in that way to make his home or occupation more attractive to his children. To see the beauty of rural life it is necessary to have the right mental attitude in oneself. There are some people who can view with indifference the beautiful and harmonious colors of the rainbow, and there are some, too, whose emotions are never stirred by the sight of a well-cultivated patch of corn or a fine herd of cattle grazing in the pasture field. Again, there are others who can see beauty even in a clod of earth, and can take more solid enjoyment out of a study of its relation to their sustenance than many a man gets out of a game of cards. It all depends on the point of view. If the farm home is going to hold the boys and girls they must imbibe the spirit of their parents even before they learn their A B C's, for the impressions they receive before they are seven years old are more important and lasting than any which come to them later.

There are many sides to this question, but I will take the time to dwell only on one or two points in connection with the practical education which young people receive on the farm. No person can be long on a farm without learning that work is never lacking. The man to whom manual labor is distasteful is not fitted to be a farmer. How can work be made a pleasure instead of a drudgery? I would say, by infusing into it the elements of recreation and by uniting it with the elements of heroism. The man who works early and late to save enough money so that he can move to town for the rest of his life is not putting recreation into his work any more than the city man who is driving his brain day and night and restlessly looking forward to the day when he can give up his present occupation and spend his declining years in a peaceful home in the country. In these days when self-sacrifice is demanded of every man, woman and child for the sake of our national safety and welfare, no one should think of doing anything but his very best up to the utmost limit of his strength and ability in the cause of national service. Those who realize the critical importance of the struggle in which our Empire is engaged do not think that their own comfort and pleasure are the highest objects for which they should strive, but they seek rather to develop all the powers within them to the end that they may serve their day and generation and leave the world better than they found it. It is only in doing this that true enjoyment of work can be realized. Soldiers write home from the battlefield that in the thick of the fight they have found themselves—they have found out the meaning of life and tasted the deep joy of life in giving themselves to the cause of their country, to defend those who are downtrodden by the oppressor.

Does the occupation of farming offer as distinct a challenge to the heroic spirit of young men as does the field of battle? That is for each one to answer for himself. Professor I. P. Roberts in one of his books describes agriculture as the most difficult of all pursuits. Insurance companies class it as one of the hazardous occupations. So, if difficulty and danger draw out the heroic in men, farming is not lacking in those elements which call for self-sacrifice and courage, and it is only through the exercise of these qualities that boys and girls of the right stamp can be attracted and permanently held to the farm home.

I conclude that it is not more conveniences, more attractive surroundings, nor better live stock that will make the farm home more attractive to boys and girls. These things are good and well worth aiming at, but it is not such things as these which help to persuade young men to enlist for service overseas. Then, why should they be held out as inducements for them to remain at home? What young people of true worth want is something to satisfy that longing for achievement—something that will give them an opportunity to add to the world's wealth, to produce instead of to destroy, to build up instead of tear down, and to be a worker and not a parasite living on other men's labors. All this and much more the farm home offers to the boys and girls of Canada if they are willing to take it.

Simcoe Co., Ont.

ALTRUIX.

Co-Operate and Economize.

EDITOR "THE FARMER'S ADVOCATE":

As a member of a Young Farmers' Association in Grenville County, I wish to speak to the junior farmers of the importance of co-operation in connection with the Young Farmers' Associations. From co-operation we are led to economize, which is very important to a person's welfare, and at the present time it is more demanded than it has been for some time previous.

Speaking from the standpoint of co-operation, I regret very much that the junior farmers of this locality, and no doubt many others, are not taking advantage of the opportunities they might grasp. This I declare is due to lack of co-operation. Why do not the young farmers of to-day, through their organized associations, get their heads together and do more for themselves by buying feed and seed in carload lots? By doing this they not only help themselves, but the community in which they reside.

As we are all aware the majority, of farmers do not realize the importance of pure and clean seed. This problem has been given very strict attention in the past few years by all our agricultural institutions, and I strongly advise the young farmers of to-day to persist in this problem, whether through their associations or as individuals. There are other problems which may be dealt with by Junior Farmers' Associations, as buying their own feed in carload lots. We all understand our feed receives its third handling, namely, the manufacturer, the agent and the consumer. Then why does not the consumer order direct and cut out this "middle man," as he is often called?

Another problem worthy of mention is shipping our own produce through our associations, as butter, eggs, in fact, all the farm produce may be shipped through a co-operative society, which very often cuts down shipping expenses. All this co-operation leads to economy. No doubt we should try to economize more at the present time, since hard times have been brought before us by this terrible war. Then why not, as individuals, get busy and help our co-operative societies, and in return receive the benefits ourselves?

Grenville Co., Ont.

M. A. POWELL.

What Will Help to Keep us There.

EDITOR "THE FARMER'S ADVOCATE":

There are three institutions in every community, viz., the Home, School and Church. The abnormal drift cityward of our rural young people, and a similar desire in many of those that remain, indicates that one or all three, are at fault. It is easy enough to criticize but harder to remedy. It is also true that many of us fully realize the isolation and disadvantages of rural communities, but having "fallen in love with our job," are loath to leave farming as a vocation. Also, many probably over-estimate the joys and advantages of city life. A closer acquaintance with our urban cousins sometimes dispels illusions. Again, others do not make the most of their opportunities, or lack energy and ambition to improve their education or talents. We must strive to improve our environment instead of slipping behind it. As the home is the first institution we come in contact with, let us examine it.

To judge by some articles, the most common cause of discontent is the incident of "Johnny's pig and daddy's pork." It has almost become a fable, and probably is as true a reason as any. I got "stung at the game" so early I've forgotten the details, but the effects were such, that it is only recently I've taken a personal interest in the stock. Of course, daddy very likely sold Johnny's pig and bought him a new suit with the proceeds, but Johnny wanted to put the cash in his own pocket, and doesn't hesitate to say so. He immediately resolves to run away to the city and there earn his "very own" money. When dad tries to stop his "holer" with a quarter, he likely spends it on cigarettes as a first step in his emancipation. Now, dad! you know you would have been better to have given your boy the cash, assisted him to pay for his own suit, and induced him to start a bank account with the remainder. With that as a foundation Johnny might have saved his dimes and nickels, but a bank-book that looks like thirty cents, and adds up to about the same, isn't much inducement to save. I know you like to feel that fat roll of greenbacks in your pant's pocket, and you want to buy some more stock, but just now your most important stock is that twelve-year-old boy. As he grows older he naturally wants more interest in the farm operations and profits, and where this is denied it causes trouble. More boys are discontented for the reason that they do not know for what they are working, than for any other cause. It is a natural and desirable instinct, and once gratified will result in better work and greater interest. I read once of a prosperous Western farmer with a family of five or six boys and girls, whom he wished to keep on the farm. So he formed his assets into a genuine stock company regularly capitalized and organized. Each member of the family was a shareholder and also a managing director of some branch of the farm. I think if a scheme such as this, but on a smaller scale, were on every farm we would have a more contented class of rural young people.

Given an interest in the business of the farm, we should all, boys and girls, mother and father, try to make our farm home surroundings as beautiful and attractive as possible. How many farms we see with unpainted, dirty houses, tumble-down fences, a yard full of mud, or burdocks and other weeds, and we wonder how people exist there, as you can't call it living in the true sense of the word. Again, you see huge barns with all modern equipment, good pig-pens and silo, and a

miserable, unsightly little shack of a house, and it is not surprising in both cases to find discontented young people there. But if these same young people could make up their minds to improve conditions, surroundings could be helped. Coal oil on the bare roots will kill burdocks, a gallon of paint will cover up a lot of ugliness, a lawn mower energetically used for a season or two on even poor grass or weeds will give a fair lawn. Clear up all the old buggies and machinery that litter up so many yards and plant some shrubs and flowers. Even if dad does laugh at you get a name for the farm, a happy, ambitious sounding name, and be proud enough of your home to make the farm look like the name.

One way parents can become "chummy" with their boys, is by an interest in their hobbies. To collect and to construct is a natural instinct of a normal boy, and hobbies vary from collecting bugs, birds' eggs and weed seeds, to work with pet, tools or photography. Some parents encourage this, but others, usually mothers, burn or destroy the boy's "truck" as often as they can. I have always had a liking for tools and have lately become a camera fiend, and many a rainy day or otherwise lonesome evening has been happily spent in these hobbies. Besides, they have practical results in many handy devices and pieces of mission furniture, also pictures and snaps that are mementos of friends and outings.

In many of our homes there is a sad lack of intellectual stimulus for the young people. In some homes all the reading matter available is the almanac and the modern family Bible, a certain departmental store catalogue. Likely the parents do not wish any, but not so with most children. At a certain age there comes a craving for reading, and some boys would almost do without their meals to read. This is the time to acquire a taste for something worth while, by reading the standard classics, as Scott or Dickens, which can now be had in cheap editions as low as fifteen cents per volume. As we grow older we prefer the modern authors or poets, and every home should add to its library at least two or three good new books yearly.

By exchange with others of a like taste it is possible to keep fairly abreast with the best in modern literature. Nor should we neglect the chance of education in the daily newspaper and in magazines. These should be carefully selected to give us breadth in our reading. To acquire a well-stored intellect is one of the supreme duties of our youth. Our small towns are filled with retired farmers, lonesome old codgers, who while on the farm were so anxious to gain material wealth, that they neglected to gain mental wealth for company in their old days. Let us not follow their example.

To me one of the greatest disadvantages of rural life, is the lack of good music. The city, where for a dime a symphony orchestra can be heard in a "movie," where every church presents a good choir and organ, where famous bands, orchestras and artists can be heard, presents a striking contrast to the dearth of even average music in the country. Again, teachers and colleges present advantages to improve one's talent, as contrasted with the poorly-paid, often inefficient country teacher. Yet many country boys and girls are natural musicians, to judge by the singing and mouth organs you hear. All they need is a chance. Our school teachers study music at Normal, but few schools teach the simple theory of music, such as time and the notes. It is as simple as arithmetic, and in after years would be just as useful. But how few of our rural young people can play, or even read music to assist them singing? How few homes have family singing or an orchestra? We regard a piano and ability to play it as a luxury, while, as an investment, it is about the best possible. I am thankful I had an opportunity and was made to learn to play, for now it is possible to somewhat satisfy my musical wants. Whatever may be said on the dance question, it is a fact that lots of our young people attend dances, often to hear the lively music there. All credit to the "fiddler" who scrapes out "Money Musk" by ear, but would it not be better if our homes were musical centres where the family sang and the children played duets, or if a community orchestra were possible. Yet how few players on orchestral instruments we have, and this could be remedied! I learned the violin through correspondence course, because a teacher was not available, and others could and are doing the same. Almost any boy could soon play the instrument of his choice if he had sufficient perseverance.

Lastly, a happy, contented family is found in a home where play is regarded as a necessity instead of an evil. I have in mind a man in our community who is proud of his large family, and they love and reverence him. One thing that helps is his willingness to spend part of his evenings playing checkers and other games with each child in turn. So, too, in every farm home provision should be made for games of various kinds and in which all should participate. A very popular game some places is table croquet, which is a fine one for developing hand and eye. In summer, tennis is excellent for our young people, as are also baseball and football. They teach us fair play and co-operation and should be encouraged. But it is often difficult to secure grounds, even our school grounds are sometimes denied us. Often thought it odd that thousands of acres are devoted to growing food for pigs and cattle, and the more important crop of young people have no place to call their own for sport. So some of our farm homes could be made much more attractive by the addition of a tennis court. It is an interesting, lovely game for all, even father and mother if they aren't too awfully stiff. It is easily learned and not very expensive. Lots of fun can be had on a fairly level lawn 70 feet long, with very moderate equipment of balls, net and rackets. Besides games, the boys and girls should be encouraged to engage in such sports as skating, skiing or snowshoeing in winter, and, where possible, water sports in summer.

The whole question of attractive farm homes is the matter of spare time. Most of us like our work in the fields and with the stock, but any work becomes monotonous if not broken by recreation. We may say we haven't time for hobbies, sport, reading, music or beautifying the farm, but more work will be done and better done if we take time. Many of us do not use our spare time efficiently. We putter away much valuable time on useless talking or idling, when we should plan our work to have spare time for these outside interests. Such time is not wasted if it keeps us contented, and our minds and bodies fit for the duties of every day.

Huron Co., Ont.

M. J. SLEMMON.

Knowledge Makes Attractive.

EDITOR "THE FARMER'S ADVOCATE":

A farm home is certainly more attractive if the buildings are comfortable and situated in pleasant surroundings. Green lawns, shade trees, and a succession of flowering shrubs all tend to make an otherwise bleak house more homelike. Wide verandas outside, as well as cosy rooms inside, give comfort the entire season. But in spite of these the life becomes irksome if we see nothing besides the mere mechanical part of our work. Farm life is always attractive if we have the broad education which finds "Tongues in trees, books in the running brooks, sermons in stones, and good in everything."

Although chemistry is recognized as a necessity by the present-day farmer, yet geology is considered entirely beyond his needs. But its study gives us a knowledge of the changes that already have taken place in this world of ours, it gives us the ability to recognize those taking place at the present time and to estimate those of the future. It is much more interesting to plow fields or dig ditches when we know the story of each furrow we turn, or each shovelful of earth that we throw up. Then, even the stones that cause such inconvenience are not half the trial, when we think that this one was deposited at the bottom of the sea, another made by volcanic action, and that one, imbedded in the glacial ice, had come from another part of the country.

Early rising ceases to be a trouble when we pause to listen to the birds as they pour forth their varied songs. These feathered friends change with each season, from the first spring robin until only a stray one is left to gaze solemnly at the cheerful little chickadees hopping gaily over the snow.

Our nature study also makes us familiar with our mosses and lichens, our wild flowers and our trees. It is no small task to know even the common trees in all their varieties, by both leaves and wood; but the interest in their study and the pleasure derived from it is also great.

Then during long winter evenings we sit around an open fire, where the logs of wood from our own lot send out a delightful warmth and cheerful blaze. That is the time to read again the histories which give the clues to present-day affairs; to find the information and encouragement for next year's work in our farm papers, and enjoy our friends in Chaucer, Dickens or Scott.

All these things make a life on the farm that will be a delight and pleasure in spite of distant neighbors, impassable roads, or work that never seems to end.

King's Co., N. S.

E. BURBIDGE EATON.

A New Viewpoint for Parents.

EDITOR "THE FARMER'S ADVOCATE":

Among the various things that might be mentioned, in the discussion of making homes more attractive, I would place the matter of a different viewpoint by many parents. This is the twentieth century, and every normal boy and girl feels it, and I believe it to be the duty of parents to adjust their ideas to present-day conditions. There was never an age when child life and child study received more attention than the present. Many books have been written for children, boys' and girls' magazines are published, and every properly qualified leader of young people either does realize or should, the great national asset there is in our boys and girls. And is it not one of the encouraging signs of the times to note the improvement in school architecture and equipment, the stress that is being laid upon teacher training, the large supervised play-grounds and parks of our towns and cities, and the many considerations that are being given for the welfare of the boys and girls of to-day? Thus, with the improved conditions of childhood, and while so many of their faculties are encouraged to develop, it is only natural that the boys and girls will be keenly sensitive to any lack in their home or community, that hampers the development of any of the activities that have been stimulated or fostered.

If the problems of rural life are receiving so much attention in the training of rural leaders, (teachers, ministers and others) there should also be a forward movement among rural parents, for their opposition and indifference can do much to offset the influence of any leader. Thus, while our boys and girls are being encouraged to take an interest in so many matters vitally related to rural life, it is very important that parents should take at least a sympathetic interest in their children's education and ambitions.

What an impetus can be given a boy when he attempts to make his first garden by the gift of a few packages of seeds of easily reared flowers or vegetables, and later by a friendly rivalry in gardening between parent and child! A few pigeons, a brood of chickens, a pair of rabbits, or some young animal to have for his very own, may arouse a new interest in animals and

perhaps lay the foundation for a successful stockman. In short, there are countless ways in which the boys and girls may be encouraged, and their home life brightened, if their parents take a sympathetic interest in their aspirations, and who can tell the influence of a few good books or magazines, well chosen, upon the lives of our young people? These may form a basis for a companionship of parent and child which should never be broken, and I believe it is most frequently the parents' fault when this happens. If the boys and girls accompany their parents to market, the county and larger fairs, and learn to participate in the business, such as the marketing of their own productions and purchasing their own working supplies, many matters will have a new interest for them.

In addition to this, all the public meetings of a community may have some educational value to our young people. Besides the junior societies in the church, they should also accompany their parents to the open meetings of Literary Societies, Women's Institutes, Farmers' Clubs and other organizations, and when a sufficient number of them begin to attend meetings for adults, there will likely be some part arranged for them. Thus, if proper scope is given for their activities and developing talents, I believe young people will find rural life the ideal one.

It is true that there may be other things lacking in rural communities, but I believe if we have proper leadership by our rural schools and churches, and our press, it will not be long before a great many more parents see child life from a rational standpoint and strive to encourage rather than repress; to have the community spirit rather than the individual, and matters of co-operation, social intercourse, attractive surroundings, and conveniences will all receive the attention they respectively merit.

York Co., Ont.

INTERESTED READER.

Every Boy Should Have a Hobby.

EDITOR "THE FARMER'S ADVOCATE":

The importance of making the farm attractive to young people cannot be overestimated, for unless the boys and girls remain on the land, products will be lessened, and rural life will be far from what it should be in every respect. Besides this, under normal conditions, and such as will exist after the war, the cities become overcrowded. A certain small percentage of young men leave the farm to enter the professions, but most of the remainder, except those who have abilities along special lines, do not have as great success as they would have had on the farm, and wish to be back there. This is shown by the "back-to-the-land" movement.

A most useful thing in making the farm more interesting to the young man is a hobby. It is of value not only for itself but in eliminating the monotony which might otherwise exist. The most successful farmers are those who, while their work in general farming is also superior, have some hobby, some speciality. If a young man can be led to take an interest in bees, poultry, or the feeding of live stock, or any other department of farm work, and be given entire control of and opportunity of improving it, it is not likely that he will lose interest in the rest of the work so much as to wish to leave it and go to the city.

One of the main reasons for the young man going to the city is the wish for higher wages. This may, of course, be met by better wages in rural districts, and better prices for produce. But in such a commercial age as the present, money will remain the chief object for most young men until they are given a broader education, by which they are shown that the farm offers them advantages of more value than high wages, so that they will not be led away by pecuniary inducements from a calling for which they have each been fitted by a score or more years' experience.

Ninety-five per cent. of the country boys and girls, it is said, begin and end their education in the public school. This should not be, and in itself brings about most unfavorable conditions. The young farmer to-day should not only have a thorough training for his work, but also a wide, general education so that he is fitted to make a success on the farm, and so that his views may be broadened, and he will not be led away solely by material aims.

The love of a good time, which also takes many people from the farm, may be satisfied, in a new way, by the cultivation of the higher things of life. Every farm boy and girl cannot take a full course in music, but all the best selections may be enjoyed by means of the victrola or player piano. Copies of the finest paintings may be obtained for a few cents apiece. Public libraries are to be found in most towns and villages, and the price of books is such that almost anyone may own a library of the best literature. Travel is also beneficial, widening the vision and sharpening the judgment. In short, culture is needed. Matthew Arnold defines culture in effect as the acquaintance with the best that has been done, said and written, from the earliest to the most modern times, and goes on to show that were we to utilize for this purpose the time which we now waste, and all of us waste some, we should have plenty of time for culture.

To be sure, not many young people go to the city expressly to take advantage of these things, but if they were more accessible and more employed in rural homes, they would do much to keep the young people there.

Essex Co., Ont.

J. RAYMOND KNISTER.

Make the Home Life Happy.

EDITOR "THE FARMER'S ADVOCATE":

One of the things needed in every home, and one that is of more than ordinary importance, is pleasantness. When the boy or girl does a kind act, or does his or her work well, tell them so. If they err correct them but don't scold. A nice house, not necessarily a large one, with modern conveniences, such as hard and soft water in the house, a dumb waiter, and a bath tub, are a great help. Give the girl an interest in the poultry, a course in music, and teach her to cook. Keep the girl on the farm and it will not be so hard to keep the boy.

There should be on every farm a good barn, nicely finished off, and with every door properly hung. Have nothing but high-class grade cattle, or better, pure-bred cattle, and keep them in good fit. Keep out the scrubs. No boy or girl likes to look at poor stock. Teach the boy to feed and care for them, but don't give him too much to do. Give him a calf of his own to raise and let him take it to the fall fair, and as he gets older give him a colt, one that will make a good driver, and let him show it at the fall fair. There is nothing on the farm that is admired as much by the boys and girls as a good driver. There would be more boys staying on the farms if they had a driver instead of the old, tired-out work horse to drive. I hear someone say, "get him an automobile," but if the boy is a true admirer of horse flesh he will say, "Billy is good enough for me."

Keep up with the work; don't always be dragging behind. Underdrained land is a great help in getting along with the work, as well as a good crop producer. Let the boy and girl have a day off occasionally. Spend your evenings with them; have a game of cards or have the girl play on the piano and the boy help her sing. Let them hitch up the driver and go to town and get the groceries, etc. Invite company in, say one evening a week. Keep the lawn clean, and have a bed or two of flowers and a few spruce trees nicely trimmed, and they will be glad to help you keep it in order. Keep the gates and fences in good repair, particularly the gate at the cow pasture.

There are too many farmers who work till bed time. They come in tired and cross and go to bed; put their money in the bank at 3 per cent. instead of making their farms more attractive and taking the pleasure out of farming that there is in it, thus driving away the boys and girls.

Elgin Co., Ont.

J. D. G.

Some Plain Talk for Parents.

EDITOR "THE FARMER'S ADVOCATE":

We have read considerable on how to make the farm home more attractive, but it always seems to me that it is the older farmers themselves who are writing the articles, men who, if they ever had a childhood, have long forgotten anything about it, so I was pleased when you asked for the subject to be discussed by the young people themselves.

I am fresh from that trail and have been farming "on my own hook" just three years. The average farm in our country about here has a fair amount of conveniences, and in driving through the country one is forced to remark: "How prosperous the country is." It is doubtful if the lack of good buildings or poorly-kept grounds have a great deal to do with keeping the lad at home. "The Farmer's Advocate" is seldom printed but we read either in the "Editorial" or elsewhere something like this: "Give the boy some stock of his own," and I think that is the corner stone of contentment with the average youth. We are speaking of the average; there are odd ones who, like he who loafs in the city, could be labelled "bum", or, in plain English, "no good"—men who are lazy, who want something without work and the old world won't give it to them. This class of men, if the whole farm were given them, would run through it. But there are not many in this class. We want to speak of him who works hard from morning till night, works more faithfully than any highly paid hired man, some of whom get from \$30 to \$40 a month, and will leave without a week's notice if they can get their money. And yet what wages does the father's son get? Is he not often looked upon as part of the farm machinery? He gets his bed and board and if he is in need of clothing, his mother or father, whoever is the ruling power, takes him to the city and after looking all the cheap goods over, and bartering with the clerks, rigs the boy out in the poorest clothing that is in the store. No wonder the city people take a look and then grin at him, and no wonder the little fellow as he goes home begins to wonder if he isn't on the liability side of the business, when in reality he is the biggest asset the farmer owns.

But returning to the subject: "Let the boy have some live stock", I think this is much better than wages and it fits him for his life-work better. No two boys are alike. We see evidence of this in public school life, and sometimes he goes to school. One lad is always wanting his fellows to play horse, while another one is tearing old things to pieces to see what they are made of and what makes them go. So with the boy who has left school, there are certain things that he likes to do better than other things. Especially do we see this in the barn in the winter. He may be spending two-thirds of his time on the horses, and when he gets to the cattle he throws the feed at them and then runs away. If he likes horses and the father has not had good horses, he should invest in a couple of good colts and let the boy break them and let him have them, or, if the lad likes the cow best, get him what he wants, scales, or milk house or a pure-bred, etc., and just help him all you can to make it a success and give him a

share in his business. Or if it is sheep and there are none kept, give him some of your hard-earned money and go with him and help him buy good ones, and don't be forever giving him advice. He will ask for it when it is needed. He will make mistakes galore and lose money, but our older men who have been farming forty years are still making mistakes and losing money.

And then there is the question of field work. I can remember as a lad of being sent out to hoe thistles in a ten-acre field, when the thistles were so thick I couldn't get over a land a day, or weed carrots on my hands and knees, or thin long rows of mangels in a hot burning sun, when I thought my back would break and that noon would never come. Let the father go with the boy at such jobs. He can do twice as much as the boy, but let him help in the other row, make the younger fellow think he is doing his share and both move on together. Let the conversation be cheerful and the time will pass more quickly and the back will not ache nearly so much.

And pretty much the same could be said about the girls in the house. If the daughters are needed on the farm let them be paid wages. They need so much for clothing themselves anyway, and the mother is kind to her daughter who lets her have her own bank account and in so doing teaches her to do things in a business way. If the daughter who is out around comes home with a new idea about hanging the curtains, let her hang them her way; it will help her to follow her own ideas. In time the average girl gets a home of her own and it is nothing but fair to her for the mother to educate her in all lines of housekeeping. The best way is to let her do the work. Let her bake the bread, even if the dog does get sick on the first batch; give her the buying end of the business for a month at a time. She will take more interest in the house and feel it is more her home.

Oxford Co., Ont.

YOUNG FARMER.

Study the Tree.

EDITOR "THE FARMER'S ADVOCATE":

What is needed to make the farm home more attractive can also be asked of the town home, or what is the reason home is not more attractive to the children? Being farmers, let us suppose that several trees are given to men to raise and care for. The trees are all given in a healthy state but some farmers will let the grass grow around the roots, the shoots grow up from the base, or wild stock; in fact, let the tree grow without any care or pruning whatever, while others will attend to them from the start, keeping down all weeds and wild shoots and all growth that will be detrimental to them later on, feeding them with proper nutriment, encouraging all fruit-bearing twigs, and, if need be, put up a stick to make them grow straight. The one farmer will grumble because his tree has no fruit, while the other's tree will show its gratitude by bearing a good crop. The Giver of all has given us children to raise for Him, and we must be responsible for the way we do it. All children grow shoots that need pruning directly they show, some have to be led straight with a stick, all require feeding and to be attended to with love. It seems hard to the children at the time to be corrected, but with proper encouragement and training our children will be content with their surroundings and bear fruit where they are planted.

If the fruit is looked for the tree must be studied, and all encouragement given, and so we must study our children, and as they grow let them feel they have an interest in the place and pay them for the fruit they bear, never forgetting that children copy their elders and it is no use for a farmer who is always looking at the black side of the cloud and grumbling about his lot to expect his children to settle down contentedly with him in the shadow, instead of looking for the silver lining.

Que.

BERT COULDERY.

Conveniences the Thing.

EDITOR "THE FARMER'S ADVOCATE":

Rural society is blamed by a great many writers and speakers for influencing our young people to leave the farms, but to my mind it has not all to do with it. I believe that there is another evil equally great, and I do not hesitate to say that it is the lack of conveniences about the farm home.

When we visit our city cousins we find their home equipped with electric lights, furnace, water on tap and many other things, and we find them a great comfort, but how many farm homes do we find so equipped?

How many times have we wished, after a day's threshing or other such work, that we could take a warm bath without going to too much trouble? If we hadn't water on tap the chances are the bath was not taken. How much more convenient it is to turn a tap in the stable and watch the cattle and horses drink, than it is to drive them away to a trough or spring as we see many farmers doing!

Then there is the question of the convenience of power on the farm. So many jobs that used to be "back breakers" are made easy by the installation of some form of power. I might go on mentioning a hundred and one such things that would add to the comfort of farm life. To my mind, conveniences are more important than attractive surroundings or better live stock, for although these will appeal to some, the former will appeal to all.

Ontario Co., Ont.

Get Them Interested.

EDITOR "THE FARMER'S ADVOCATE":

If a boy once gets interested in live stock, takes a pride in all his father's stock on the farm, and enjoys farming, he will likely be contented to stay where he is and work for his father on the old homestead. I think the best way to get a boy interested in live stock is to give him something of his own to feed and look after and of course get the profits from it. Another way would be to give him something to fit for the fall fair and let him show it in his own name. If he gets a prize he will in all probability take enough interest in the stock to want to show again next year.

As a general rule the boys on the farm do not get through with their work in the evening in time for much social intercourse, and even if they have time they feel too tired for it. There are many implements for the farm, such as manure spreaders, manure carriers, hay loaders etc., which if every farmer had the means to buy would induce the boy to take a new interest in farm life and enable him to do a bigger day's work and get off earlier in the evening than he otherwise would be able to without these implements. Thus, if all the labor-saving appliances were put in use the boy would have a better chance to develop the social side of his character and at the same time lessen his desire to leave the farm.

The home is made more attractive by conveniences such as the telephone, electric light, furnace, etc. But with all the conveniences and luxuries that can be crowded into the home, it will still be a dreary place if there is not concord in the family. Whether this state of affairs exists or not depends as much, perhaps more, on the young people than on the parents.

In my estimation the best way to make the farm home more attractive for the boys and girls is to get them interested in their farm work and in the home.

P. E. J.

A FARMER'S SON.

How the Farm Was Made Attractive to Him.

EDITOR "THE FARMER'S ADVOCATE":

I am eighteen years of age and was born on the farm on which we now reside. My father and mother, two sisters and one brother have made things so attractive on the farm that my greatest ambition is to be a successful farmer. There are several reasons why farm life becomes monotonous to young men, but the greatest reason of all is, I think, that the fathers do not take their boys into their confidence and tell them the whys and wherefores of the different branches of farm life. Another reason is that boys on the farm are not all farmers. Some are mechanically inclined, others have a desire to follow a lawyer's profession, some would like to be school teachers, and I think it the duty of every parent to study the inclinations of his children and encourage them along that line as much as possible. Ever since I was a small boy I have always had some interest in the farm.

When I was nine years old my father gave me a calf, which was not the most promising one in the herd. However, I was delighted to own something of my own and started out in the most practical manner I knew of to make a success with my start in life. At the end of two years I had cared for my calf so well that I had the best two-year-old steer there was on the farm. I then traded with my father for another calf six months old and thirty dollars to boot. The thirty dollars I deposited in the Farmer's Bank and got a bank book of my own, which made me feel as though I was quite a big man. I now had another animal to start with and also a bank account. By careful feeding, in the

fall of the next year I had a yearling calf as good as many two-year-olds. One day father had a drover in the field looking at some fat cattle. After he had sold them to the drover I told him I had a yearling steer I wanted to sell. He looked at it and asked me what I wanted for him. I told him thirty dollars. He said: "All right my boy I'll just buy that yearling." He wrote me out a cheque on the Trader's Bank for the full amount, but I told him my money was in the Farmer's Bank and that I wanted a cheque on that bank so that my money would all be together. Father spoke up and said it wasn't a wise policy to put all your eggs in one basket when going to market as they might all get broken. He told me afterwards I had sold my yearling too cheaply, but to never mind and be a little sharper in the future. I then had thirty dollars in the Trader's Bank and the same amount in the Farmer's Bank.

When I was thirteen years of age I passed the entrance examination and my father's great ambition was to give me a thorough education, telling me that he desired me to go through Toronto University before I quit. After I had attended the Collegiate for about one year I told father that I did not like being cramped up in school and I would rather stay home and farm, although I had never made less than fifty per cent. in any of my exams. I felt that the work was too monotonous for me and I longed to be back on the farm. At last my father consented to let me stay home and I felt as if a great burden had been lifted from my young shoulders.

About this time word was flashed around the country that the Farmer's Bank had failed, and I found to my sorrow that I had lost thirty dollars with interest, but, thanks to father's advice, I still had my other thirty dollars in the Trader's Bank. About two months after the failure of the bank, on a stormy day, father and I were sitting around the house and I told him I would trade him my Farmer's Bank account for a calf he had in the barn. This he readily consented to do, never thinking for a minute but that he would get that money back. I often laugh at him, for all he ever got out of the Farmer's Bank was the book I gave him, although a prominent politician, promised faithfully if his party got into power that the Farmer's Bank deposits would all be paid in full.

I subscribed for "The Farmer's Advocate" and have been taking it for about three years. It is always the first paper I read and I find many useful hints on farming therein. I am now eighteen years old and my one ambition is to become a successful farmer. I have, at the present time, acquired considerable knowledge of farming and think it is one of the most healthful and independent professions in the world.

Middlesex Co., Ont.

ALFRED TENNYSON.

Topics for Discussion for Young Farmers.

Each week we shall announce topics for discussion in this department. Topics will appear each week during the winter season, with the dates upon which manuscript must be in our hands. Readers are invited to discuss one or more topics as they see fit. All articles published will be paid for in cash at a liberal rate. Make this department the best in the paper. This is the boys' and young man's opportunity. Here are the topics:

1. What Does Horse Labor Cost?

What does every hour of horse labor cost on your farm? How many horses do you keep—what does it cost to maintain them, and how many hours of labor per week, per month or per year do you get out of them? The cost of maintenance divided by the hours of work done will give very approximately the cost of a horse-hour. Is there any income from the horses, in the way of colts, etc., except that which they yield in actual farm or road labor? Express your views and give actual figures with regard to this question, and mail the copy, not exceeding 800 words, so it will be received at this office not later than February 3.

2. The Difficulties and Advantages of Crop Rotation.

Discuss long and short rotations as they apply to the soil and methods of farming on your own farm. Outline the best rotation for your soil. Be sure to describe the soil and class of farming followed. Have articles at this office by February 10.

Automobiles, Farm Machinery and Farm Motors.

The Lesson of the Shows.

Now that the big motor shows of 1917 have gone down into history, it might be well to try and forget the wonderful decorations that were planned for the show buildings and also the many big social events that took place under their hospitable roofs. Having allowed the details to pass from our minds, we can get to the essentials. Some years ago the great difficulty with many cars was the inaccessibility of parts. We have heard owners state that certain machines could not be repaired, or even fixed temporarily, with a rubber wrench. What they meant was that the vital parts of the power plant were so obscurely situated that it was extremely difficult to operate upon them

without doing a tremendous amount of preliminary work. In some instances, where only trifling trouble had occurred, it became necessary to take down the motor. From year to year manufacturers have improved their output to such an extent that to-day in most good cars practically all minor operations can be carried on quickly and easily. Of course the internal troubles require the services of an expert repair man.

The most noticeable feature of 1917 models is embodied in the fact that nearly all the points where adjustments must be made, are well in the open, or if not, can still be worked upon with comparative ease. Then, too, the oiling and greasing has been so changed in many details that they no longer are a bugbear in any sense of the word. It cannot be said that these

alterations constitute any radical change, but it can be truthfully stated that they make for greater ease of operation, and a smoother running mechanism than has been possible in previous years. The motor car is going to increase in popularity in direct ratio with the increase in the simplicity of the car itself. The chassis have been simplified in many particulars and it is not extravagant to maintain that in the future no modern car can be called cumbersome.

The idea of standardization along simple lines has been given a wonderful amount of thought in body designing. It is not a far cry back to the time when automobiles of reputable manufacture contained many different styles of fenders, running boards, radiators, cowlings and doors. All these are now being brought

to the same level. In fact a great many of this year's makes will look so much alike that only an expert will be able to tell them apart as they pass along the road. One machine may be recognizable because of a slight peculiarity in the radiator cap, or in the high engine bonnet, or the location of the name plate, or yet again in the lower top lines of the body, but few will be distinguishable for many eccentricities. In the larger cars there seems to be a distinct trend towards sloping windshields with overlapping glass. This innovation must be commended as it is going to spell greater comfort in windy, rainy or snowy weather. A valance is being put on the back of a great many tops so that all the space below the last bow will be covered in with the effect of preventing dust from flying up from the back wheels upon the passengers in the rear seat. Locked boxes or receptacles are also being provided in many of the tonneaus as well as upon the instrument boards, and robe and foot rails are being made much more substantial with the idea of giving greater service in packing away necessary equipment. A new feature, that has been brought into general use is the apron in front of the cars to prevent the splashing of the radiators. This is not an expensive alteration but nevertheless one that adds to the appearance of a machine, and also to its efficiency.

An inside light upon the car situation comes from the wave of sentiment towards special colors. Practically all of the first cars manufactured were turned out in black with slight dashes of blue or some other heavy color. Of course freak automobiles were manufactured to special orders, but the average factory did not turn out special painting jobs with any degree of regularity. The year 1917 will see new styles of color work that are bound to start a campaign of fashion that will be as interesting and as true to form as even a feminine style standard could make it. The colors that have come into the most prominence, for the time being, are maroon, overseas blue, kahki, brewster green, light grey and aluminum. The upholstery is also being turned out in Spanish effects, and much of it, instead of being tufted, has been lapped. Some cars also show seats without tufting or lapping, but the last named idea is freakish and cannot be counted upon to find a wide popularity. As in the past, so in the present, the light-colored tops are going to command a great deal of attention. They give excellent service in the summer time especially when dust is prevalent, and are not at all difficult to clean. Many of the bows will be made of ash, maple or hickory and be finely polished, presenting a prepossessing appearance. Slip covers for the cushions will again be in vogue and if the models placed on exhibition at the shows give any sign of certain indications, they will be somewhat extravagant in color and weave.

It would take pages and pages to tell of the new accessories that have been flooded upon the market, but suffice it to say that during the coming twelve months it will be possible for any owner or driver to get almost any part that his fancy may suggest. Folding seats of one hundred styles are now available to increase the passenger space of cars, and literally thousands of appliances said to increase the mileage of gasoline, are being advertised to the public.

An Engine to do the Work of the Hired Girl.

EDITOR "THE FARMER'S ADVOCATE":

The hired-man problem has been discussed over and over again, but very little has been said about the hired girl, or about anything in the way of machinery to help the wife in the house. Everybody knows that where there are five or six in a family and only one pair of hands to do the work, there is plenty of work to be done, and I am going to describe how I harnessed a little engine up to do a few of the heavy jobs found in every farm home. "The wife" says no hired girl would do the same work as well and it does no grumbling and eats nothing when not working.

I purchased a one-and-a-half horse-power air-cooled engine, (air-cooled preferred, as there is no bother with water freezing in winter). The work is not heavy enough to heat it up. I built a cement block about eighteen inches high in the corner of the woodshed and put the engine upon it so there would be no stooping in starting engine. I then got a line shaft about twenty feet long and run it across the woodshed, with one end running into kitchen. I purchased a washing machine with wringer, (wringer run by the power of engine), and arranged them so both can be run at once or run separately, and when you lift the lid the washer part stops, and by a small lever the wringer can be run forward or backward or stopped.

I also got pulleys for the churn. They consist of a tight and loose pulley on churn, and when you want to stop the churn, you simply shift belt on the loose pulley. It is a common barrel churn. Then I got the belt attachments for cream separator. They can be obtained for a separator from the firm that makes the separator. I then put pulleys on the line shaft to suit the different machines, and belts for same and belted engine to line shaft, so all three could be run at once if need be.

I mentioned running line shaft on into kitchen; that is for winter use. We move the washing machine and churn in when the cold weather comes. We also run the grinding stone with the engine in the summer time and that is a job no small boy is fond of.

The whole outfit can be installed for about seventy-five dollars, and less than fifteen cents a week will keep it in fuel; that is, to wash once a week, churn twice a week and run separator every morning and night.

So you see it is not an expensive machine to run; and best of all it is a satisfaction to come into the house on Monday morning and see the washing going on and no sweat lost and no elbow grease needed.

Dufferin Co., Ont.

YOUNG FARMER.

THE DAIRY.

Give the New Act a Fair Trial.

EDITOR "THE FARMER'S ADVOCATE":

Two matters of first importance to cheese factory patrons this season are the cost of making and the mode of dividing the returns—pooling by weight or payment of test in accordance with the new Dairy Standards Act of Ontario. Speaking from the standpoint of the patrons, based on many years' observation in supplying milk from a fair herd of grade Holstein and Shorthorn blood, I decidedly favor the test system, and not from a supposedly rich milk bias. Investigation after investigation for years has shown conclusively the greater value for cheese-making of milk showing a high content of fat and other solids. The excellent and impartial report of the Dairymen's Association of Eastern Ontario in "The Farmer's Advocate," furnishes clear and convincing evidence that paying by test, now in satisfactory use by ten per cent. of Ontario factories, should be extended to all. It is not exactly putting a premium upon well-cared-for milk of good quality, but it is simply giving the producer what he is entitled to, viz., a square deal. This is what the farmer very properly demands in the affairs of this country. Let us put it in practice among ourselves. The bogey has been trotted out that a few patrons opposed to the test system would break up milk routes and wreck the factories. Instances which I have in mind show that such is not the case. The milk will find its way where it is profitable to go, even though the routes disappear and patrons singly or in twos or threes co-operate hauling their own. I see this accomplished, and the output of the factory increased instead of going down. The humiliating fact was disclosed at the Napanee Convention that during the past season 62 Eastern Ontario patrons were fined for adulterating milk, sums varying from \$10 to \$50 each, and that, too, in a season when cheese was bringing more money than ever before in the history of the industry! The only and the cynical excuse offered for this scoundrelly conduct of robbing their neighbors is that "it was a dry summer!" With a properly conducted test system patrons will be paid for what will make cheese, and hauling extra water, or paying somebody else to haul it, will lose its charm. There may be difficulties in the inception and working of the new system just as there are with every other important reform. Meet them. Overcome them. Every important advance has been shown by somebody to be "impracticable and ruinous" until it was fairly tried. The cheese-maker in charge should not be asked to undertake the responsibility of making the test. Though remunerated at so much per patron, for the extra work and materials, I believe he would prefer to have this done by a qualified outsider who would be independent of local complications and under direction of the Dairymen's Association, compensation being probably provided by the Department of Agriculture. From what I have observed, frequent tests with samples in as near the condition of fresh milk as possible are fairest to the patron. With similarly trained men using a uniform method and outfits in their respective group of factories, one year's trial ought to justify the system in public confidence or disclose its weaknesses. It has been agitated and discussed for years, and the plea for another year's postponement can hardly be seriously taken as a valid one. The measure was not enacted without ample consideration, consultation and care, and the provincial authorities would assuredly be laying themselves open to lack of clear-sighted purpose and backbone to fall down in the administration of a measure designed in the interest of justice and quality, and for the security of the industry under the trying conditions likely to follow the war.

Middlesex Co., Ont.

ALPHA.

Quality Cannot be Improved by Use of Scrub Sires.

The scrub bull, whether he be pure-bred or cross-bred, is a curse to the stock-raising industry, and so long as dairymen tolerate his presence at the head of their herds, they cannot expect to improve the type or production of their cows. The need for typey, high-quality, well-bred sires to head dairy herds was never greater than it is at the present time. All dairy products are high in price and indications are that they will continue high for some time. Quality is demanded in cattle, as well as in every other product placed on the market, and the purchasing public are becoming more critical each year. Dairymen who have used the best sires available for several years have greatly improved the type and productiveness of their herds.

Not only have they a larger quantity of milk per cow to market at present high prices, but the value of the offspring is much higher than those sired by a second or third-grade bull. A poor sire not only prevents improvement, but tends to give the herd a setback. A cross-bred animal is frequently spoken of as a scrub, but it is quite possible for a pedigreed animal to be a scrub, from the standpoint of conformation and breeding. Dairymen are beginning to realize that a bull from low-producing ancestors may be termed a scrub from the

production point of view, no matter how perfect he may be in the lines. The champion cows to-day possess the blood of high-producing ancestors and in many instances it is handed down through the sire.

The individuality of the animal is not enough to consider when purchasing a herd header. The milk and butter-fat records of the ancestors determine to a large degree the real value of the bull in improving the productive qualities of the herd. Bulls with the right kind of breeding are worth considerably more than those which have no records behind them, but too many consider the dollar in the hand more than the value of the herd in five or ten years' time. Speaking at the Ottawa Winter Fair, Prof. Archibald stated that over fifty per cent. of the bulls and cows used in Ontario are scrubs as to type, breeding and production. This is not a record for breeders to be proud of. Average increase in production of milk will not be marked until the use of high-quality bulls becomes more general.

Scrub females continue to be kept on many dairy farms, and, incidentally, lower the average yield of the herd. A grade cow is not necessarily a scrub, nor are pure-breds always barred from that class. Many grade herds yield more milk and butter-fat per cow than do pure-bred herds, and individual cows have won over high-quality pure-breds under official test. A good grade cow is worth more as a producer than a medium or poor registered cow. On analyzing her breeding, it usually happens that her sire and dam's sire carried the blood of high producers, and had instilled it into their offspring. The typey, heavy-producing grade and pure-bred herds in the country to-day are the result of using high-quality sires year after year. It is the easiest and most economical method of herd improvement. If in a position to secure the right kind of pure-bred females, by all means do so, but if not, then grade up the present herd by breeding to the best bull available. Remember, conformation is not the only point to consider in a dairy animal; attention must be paid to milking proclivities. When it is considered that one-half the inheritance of each young animal in the herd comes from the bull, the importance of using one of high quality can be realized. If the females in the herd are capable of producing only 200 pounds of fat in a lactation period, and they are bred to a sire from a strain of cows capable of producing 400 pounds of fat, it is reasonable to expect that heifers from this mating will produce half as much more fat than their dams, and their value to the dairymen is increased by that much. In the example cited it would be the value of 100 pounds of fat, or between \$30 and \$40. This shows why it pays to breed to the bull with the best blood available. Many scrub herds have been raised to a high standard by the continued use of good pure-bred bulls. The herd may be increased in numbers by use of a scrub sire, but it will never be improved in quality.

Do Not Overwork the Young Bull.

The general practice is to use a sire three years and then replace him with an untried youngster, which is too often over-worked during the first year of service. An observant dairyman recently remarked that in his estimation the size and stamina of many herds were being gradually reduced through the use of young sires. It stands to reason that it is barely possible for an undeveloped sire to leave as strong, thrifty calves as one which is mature. Some breeders, who always use the best bulls available make a practice of purchasing three- or four-year-old sires which have proven their ability to transmit, high producing qualities to their offspring. A dairy bull's real value is not known until his heifers are in milk. However, some animals become vicious as they grow old and on this account are marketed rather than placed at the head of a new herd, where they might be valuable for several years.

Young sires are used on many herds and their usefulness could be increased by not over-working them the first year. After a calf is one year old he may be bred to a few cows, but it is not advisable to use him on more than twenty or twenty-five the first year. The number could be increased to forty or fifty the second year and to a few more the following year, the number depending on his vigor. The reason many two- and three-year-old bulls are not sure breeders is that they were over-worked the first year in service. Proper management will go a long way in keeping him docile and good feeding will keep up his vigor. A bull in service requires as much feed as a cow in full milk.

HORTICULTURE.

Annual Convention of the Nova Scotia Fruit Growers' Association.

The annual session of the Nova Scotia Fruit Growers' Association opened in Lawrencetown on the afternoon of January 16, with a splendid attendance from the various fruit-growing sections. President F. W. Chipman, of Nictaux, outlined the peculiarities of fruit-growing conditions during the past year and made a strong appeal to the farmers to lend themselves to greater production, not only of apples, but of cereals, vegetables and live stock during the coming season. He realized that the labor situation was serious and that the prices of fertilizer had reached an exceedingly high level, but in spite of these things he believed that the farmers of the Annapolis Valley were capable of greater effort than they had yet exerted. He showed

that in the production of foodstuffs they were playing a part, doing their bit in the great struggle of our Empire.

G. H. Vroom, Dominion Apple Inspector, gave a splendid talk on the work of the inspectors and expressed great gratification at the manner in which the growers were co-operating with them.

John N. Chute, Secretary of the United Fruit Companies of Nova Scotia, Limited, and who had spent four years in England as the representative of the Company, told of lessons he had learned on the other side of the Atlantic. By means of a large chart, Mr. Chute showed the position of Covent Garden, Stratford, Spitalfields and Borough markets in London. In these markets great quantities of Nova Scotia apples are handled. The chart showed their great distance from the docks and how much expense was necessary for truckage. Mr. Chute is hopeful for the day when there will be more centralization nearer the docks, thus eliminating very serious charges which are made against the fruit. Regarding the Nova Scotia apple barrel, Mr. Chute said it was increasing in popularity. There would always be a certain market for box fruit, but he believed that the Nova Scotia barrel would long continue to be the best package for the shipment of apples from the Province. He strongly urged the keeping of these barrels clean. Some growers rolled them around in the mud of their orchards, they then put them in cars which were not always clean and at the docks in Halifax more dirt was accumulated. In fact he thought it safe to say that 90 per cent. of the dirt that appeared on the barrels in England, as they were placed for sale in the markets, originated in Nova Scotia. Dirty barrels did not help the sale of fruit.

The practice of dusting to control insect pests and fungous diseases was discussed by Paul A. Murphy, of Charlottetown, who compared the results of dusting and spraying experiments. Addresses were also de-

livered by M. Cumming, Principal of the Nova Scotia Agricultural College; Prof. W. S. Blair, of the Dominion Experimental Farm, at Kentville; and Geo. E. Graham, Manager of the D. A. R.

Some two years ago the fruit growers became very enthusiastic in session over the great benefit to be gained by a systematic scheme of advertising carried on in the English markets.

To this end, contributions were solicited from the members of the association and a representative sent over to England with the fond expectation that existing sale conditions were to be improved to such an extent that England would buy nothing except Nova Scotia apples. Beyond the fact that the representative had a good time and spent some fifteen hundred dollars which some people are trying to make the association pay, little has been heard of the scheme.

W. T. Macoun gave a very well-prepared address on the causes of off years in apple production, taking as a basis experiments performed and observations taken mainly in Ontario. Among other causes he spoke of the effect of low temperatures during the blooming period and rain during the season. Injury by frosts was preventable by the use of orchard heaters. It was safer to have orchards on high ground without low places, as frost was always more severe on ground which was low as compared with surrounding areas. The mixing of varieties, allowing of cross pollination, was a factor in getting yearly crops. He had noticed that in 1911, the year of the big crop, that the temperature at blossoming time was very high. He advised in all cases thorough spraying, cultivation, pruning, fertilizing and the keeping of bees.

A number of fruit growers of the Valley testified to the value of spraying and good care of orchards to get yearly crops, showing how neglect of these things had in many instances given them poor re-

turns. Profs. W. S. Blair, P. E. Saunders and W. H. Brittain gave very striking results following their 1916 experiments in different orchards in the Valley, showing how good care, especially in spraying, had increased and equalized crops. These are at least three Government officials who are earning their salaries; keen, alert, industrious and independent they are a refreshing change from the ordinary "lesser flea" who is ready to lawn upon his superiors, or change his politics on short notice in order to keep his job. Rev. G. P. Raymond, who has a large orchard on the slope of the South Mountain at Berwick, gave a talk on the benefits of sod culture, especially in orchards where there was danger of the soil washing away.

His method consisted in cutting the grass in June and leaving it on the ground, rather spreading it near the trunks of the trees. It was less work than cultivating and the fruit colored better, though possibly not as large as in cultivated areas.

Resolutions.

A resolution asking that the Association make Kentville its permanent home, to hold its meetings there always, and not as at present move from place to place doing extension work, was passed and afterward rescinded owing to the indignant protest of several members who felt that the Association would do better work by going to the different places.

A resolution protesting against the raising of the restrictions against the import and manufacture of oleomargarine in Canada, passed unanimously.

It was also resolved that the Government be urged to use every means to increase the manufacture of dog-fish fertilizer.

A resolution to endorse the policy of the Nova Scotia Good Roads Association leading to the improvement of our highways, passed unanimously. R.J.MESSENGER.

Fruits Suitable for Commercial and Domestic Plantations.

It is really marvelous what a difference there is in the qualities of different varieties of fruit. Peaches, for instance, may be either white or yellow flesh, free or cling-stone, good or poor shippers; the trees may be more or less hardy, and light or heavy yielders. Apart from the color, ability to yield, carrying qualities etc., there is that divine peach taste which some varieties have to a very pleasing extent and which some possess only to a limited degree. All these things must be taken into consideration by the grower who sets out a plantation for commercial purposes, but the man who plants only a few trees from which to supply his home cares little how a certain peach will stand up during shipment; he desires a peach with a flavor, good to eat out of the hand, and suitable for canning. The commercial grower can often derive a greater revenue from a variety that is an abundant yielder but only mediocre in quality, than from a kind of choice quality and only a moderate yielder. When setting a commercial plantation all these things must be considered while the trees set in the garden are expected to produce excellence, and as much of it as is consistent with the variety. We do not wish to imply that quality is a second consideration under any circumstances. It is not, but no commercial grower can overlook all the other attributes of a peach for that one, viz. quality. What has been said with regard to peaches is more or less true of all classes of fruit. A domestic plantation is designed to gratify, in the home, the desire for something really luscious and good. A commercial plantation must make money for the owner.

The purpose of this article is to set forth a list of varieties from which one can choose two or three for the farm or garden, or hundreds for the commercial plantation. The recommendations are taken, not from books, but from the experiences of six growers, who were good enough to name the varieties they think most suitable for domestic and commercial purposes. Several successful fruit growers were asked to name the varieties they would set themselves or which have returned them the greatest remuneration. At time of writing seven have responded, but the writer of one reply, unfortunately, we have been unable to identify, and not knowing the district from whence he wrote we are not compiling it in these returns. The varieties advocated, however, are different from those included herein only in one or two cases. Little need be said regarding the experiences, and qualifications of these growers to make recommendations to others. They have been associated with the fruit-growing industry for many years and are well known to the fraternity. If the experiences of others are worth anything to a beginner he should be able to get something of value from this compilation. The novice can find here a list from which to choose, and we believe there are very few, if any, real good varieties unmentioned. It would be well to preserve the list and refer to it when ordering trees for the spring planting. If this be done it will prevent future loss and much dissatisfaction from fruiting worthless and over-exploited varieties.

In making these recommendations the growers have had in mind a complete season and they have mentioned, particularly in peaches, pears and plums, the kinds which mature at different periods throughout the season from beginning to end, thus distributing labor, and giving something to put on the market, while trade is active. In the majority of cases they have named the varieties in order of ripening.

Varieties of Fruit to Plant.

Dr. A. J. Grant, President of the Ontario Fruit Grower's Association, recommends the following varieties.

This will apply pretty generally, but the recommendations are based on experience in the district adjacent to Theford on the shore of Lake Huron in Lambton County:

Peaches.—COMMERCIAL: Greensboro, Admiral Dewey, Yellow St. John, Niagara, Late Crawford, Elberta. DOMESTIC: Admiral Dewey, Yellow St. John, Late Crawford.

Pears.—COMMERCIAL: Gifford, Clapp's Favorite, Bartlett, Duchess (dwarfed). DOMESTIC: Gifford, Clapp's Favorite, Bartlett.

Plums.—COMMERCIAL: Burbank, Bradshaw, Lombard, Imperial Gage, Reine Claude, Grand Duke. DOMESTIC: Burbank, Imperial Gage, Grand Duke.

Cherries.—SWEET: Black Tartarian, Windsor. SOUR: Montmorency, Early Richmond.

Grapes.—COMMERCIAL: Moore's Early, Lindley, Concord, Niagara. DOMESTIC: Same as aforementioned.

Strawberries.—COMMERCIAL: Williams, Parson's Beauty, Sample. DOMESTIC: Michel's Early, William Belt, Warfield.

Currants.—BLACK: Black Naples. RED: Fay, Cherry.

Blackberries.—Snyder, Eldorado. **Raspberries.**—Cumberland, Gregg, Cuthbert, Herbert.

In the district around Winona, J. R. Hastings has had considerable experience, both as a grower and salesman. He advises the varieties which follow:

Peaches.—COMMERCIAL: Alexander, Admiral Dewey, Hales' Early, Leamington, St. John, Crawford, Garfield, Elberta, Longhurst. DOMESTIC: St. John, Crawford, Crosby.

Pears.—COMMERCIAL: Bartlett, Duchess, Anjou, Kieffer. DOMESTIC: Bartlett and Anjou.

Plums.—COMMERCIAL: Burbank, Bradshaw, Lombard, Yellow Egg, Grand Duke, Reine Claude, Monarch. DOMESTIC: German Prune, Shropshire Damson, Reine Claude, Monarch.

Cherries.—SWEET: Napoleon, Tartarian, Windsor, Elkhorn. SOUR: Early Richmond, Montmorency.

Grapes.—COMMERCIAL: Worden, Niagara, Concord, Agawam. DOMESTIC: Concord.

Gooseberries.—COMMERCIAL: Whitesmith and Industry.

Raspberries.—Cuthbert. W. H. Bunting of the St. Catherine's part of Niagara District, advocates the following varieties:

Peaches.—COMMERCIAL: Admiral Dewey, Greensboro, Yellow St. John, Early Crawford, Elberta, Reeve's Favorite, Jacque's Rareri, Late Crawford, Smock. DOMESTIC: Yellow St. John, Champion, Early Crawford, Elberta.

Pears.—COMMERCIAL: Clapp's Favorite, Bartlett Anjou, d'Angouleme, Bosc, Kieffer. DOMESTIC: Clapp's Favorite, Bartlett, Bosc, Lawrence.

Plums.—COMMERCIAL: Burbank, Shiro, Yellow Egg, German Prune, Glass Seedling, Grand Duke, Reine Claude. DOMESTIC: Shiro, Washington, German Prune, Yellow Egg, Pond's Seedling, Reine Claude.

Cherries.—SWEET: Napoleon, Black Tartarian, Windsor. SOUR: Richmond, Montmorency.

Grapes.—COMMERCIAL: Worden, Concord, Niagara, Lindley, Vergennes. DOMESTIC: Moore's Early, Worden, Concord, Niagara.

Strawberries.—COMMERCIAL: Williams. DOMESTIC: Senator Dunlap, Sample.

Currants.—RED: Perfection, Cherry. BLACK: Naples.

Gooseberries.—Pearl, Whitesmith, Industry.

Blackberries.—Kittatiny, Lawton.

Raspberries.—RED: Cuthbert, Herbert. BLACK: Smith's Giant.

The varieties grown and recommended by Geo. A. Robertson of the St. Catherine's District follow:

Peaches.—COMMERCIAL: Red Bird Cling, Yellow Swan, Yellow St. John, (Early Crawford, Fitzgerald or Garfield), Early Elberta, Elberta. DOMESTIC: Same as aforementioned with Smock and Longhurst.

Pears.—COMMERCIAL: Buerre, Gifford, Clapp's Favorite, Bartlett, Bosc, Clairgave, and a few Kieffer. DOMESTIC: Sheldon, Seckel, Louise Bonne, and the aforementioned.

Plums.—COMMERCIAL: Shiro, Burbank, Imperial Gage, Niagara or Bradshaw, Yellow Egg, Monarch, Grand Duke, Fellenburg, Reine Claude. DOMESTIC: Red June, Abundance, Climax, Saunders, and the aforementioned.

Cherries.—SWEET: Black Tartarian, Napoleon, Elkhorn, Windsor, and perhaps Lambert which follows Windsor, and Bing which ripens with Elkhorn. SOUR: Early Richmond, Montmorency.

Grapes.—COMMERCIAL: Worden, Concord, Niagara. DOMESTIC: Campbell's Early, Moore's Early, Brighton, Salem, Wilder, and the aforementioned.

Strawberries.—COMMERCIAL: Michel's Early, Williams. DOMESTIC: Glen Mary, Bubach.

Currants.—RED: Fay's Prolific, Cherry. BLACK: Victoria, Boskopp Giant.

Gooseberries.—Whitesmith, Crown Bob.

Blackberries.—Kittatiny, Lawton.

Raspberries.—Malboro, Cuthbert.

A grower near Niagara-on-the-Lake, T. B. Revett, recommends the following varieties.

Peaches.—COMMERCIAL: Yellow St. John, Early Crawford, Fitzgerald, Reeve's Favorite, Elberta, and a few Smock. DOMESTIC: Yellow St. John, Early Crawford, Reeve's Favorite, Chair's Choice, Smock.

Pears.—COMMERCIAL: Bartlett, Duchess, Anjou. DOMESTIC: Bartlett, Anjou, Bosc, Sheldon.

Plums.—COMMERCIAL: Bradshaw, Imperial Gage, German Prune, Reine Claude. DOMESTIC: Bradshaw, German Prune, Reine Claude.

Cherries.—SWEET: Napoleon, Black Tartarian, Schmidt's Bigarreau, Windsor. SOUR: A few Richmonds, Montmorency.

Grapes.—COMMERCIAL: Worden, Niagara, Concord, Lindley.

Strawberries.—COMMERCIAL: Williams. DOMESTIC: Williams.

Gooseberries.—English, Industry, Lancashire Lad, Keepsake.

Raspberries.—Cuthbert for sandy soils and main crop; Malborough for heavier soils and early markets.

From experience in the Burlington District, where peaches are not grown to any extent, W. F. W. Fisher advocates the following varieties:

Pears.—COMMERCIAL: Bartlett, Duchess, Kieffer. DOMESTIC: Bartlett, Duchess, Bosc or Nelis.

Plums.—COMMERCIAL: Burbank, Niagara, Reine Claude, Grand Duke. DOMESTIC: Same as aforementioned.

Cherries.—SWEET: Black Tartarian, Napoleon. SOUR: Richmond, Montmorency.

Strawberries.—Varies in every locality.

Currants.—Fay and Victoria for red, and Champion for black.

Gooseberries.—Whitesmith, Downing, Red Jacket.

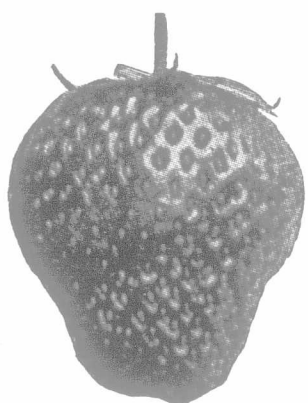
Blackberries.—Snyder for hardy.

Raspberries.—Cuthbert. Continued on page 180.

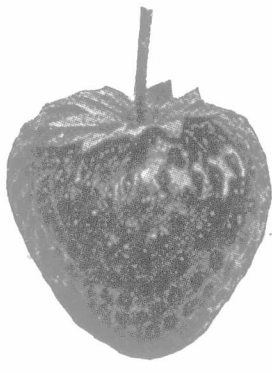
Some Leading Varieties of Fruits and Berries.



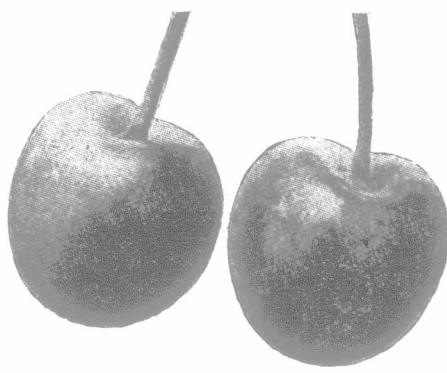
Dunlap.



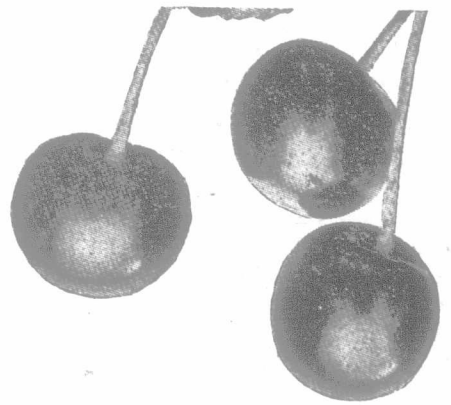
Williams.



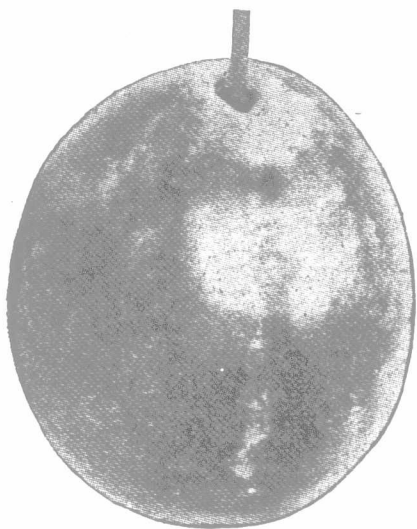
Sample.



Napoleon.



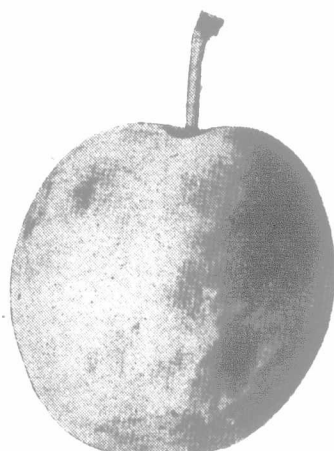
Montmorency.



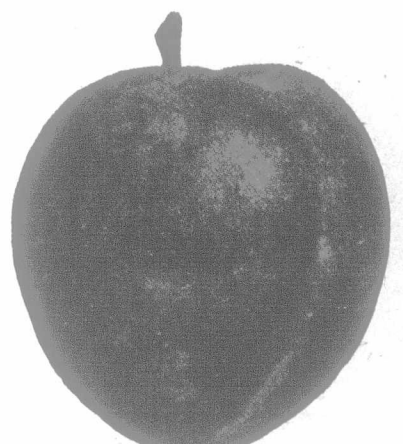
Bradshaw.



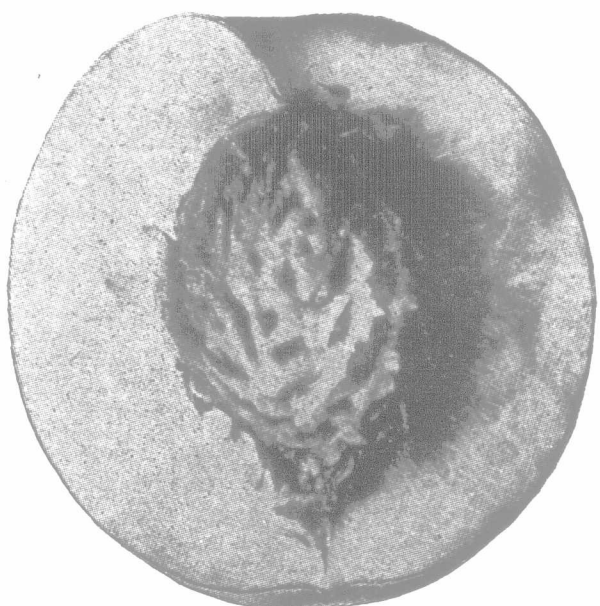
Grand Duke.



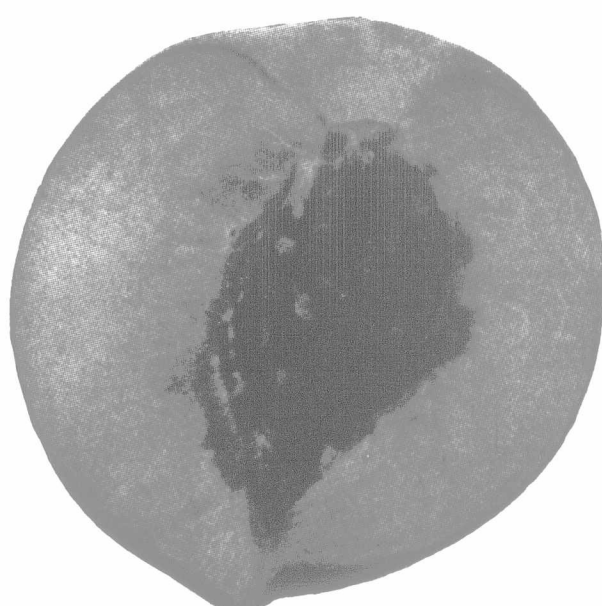
Reine Claude.



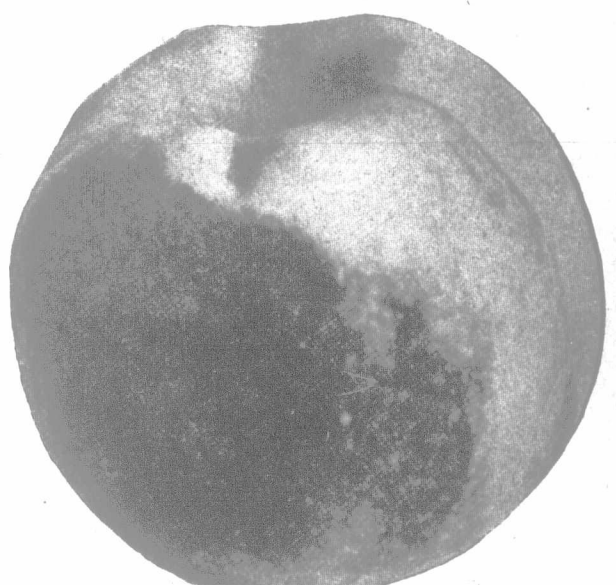
Burbank.



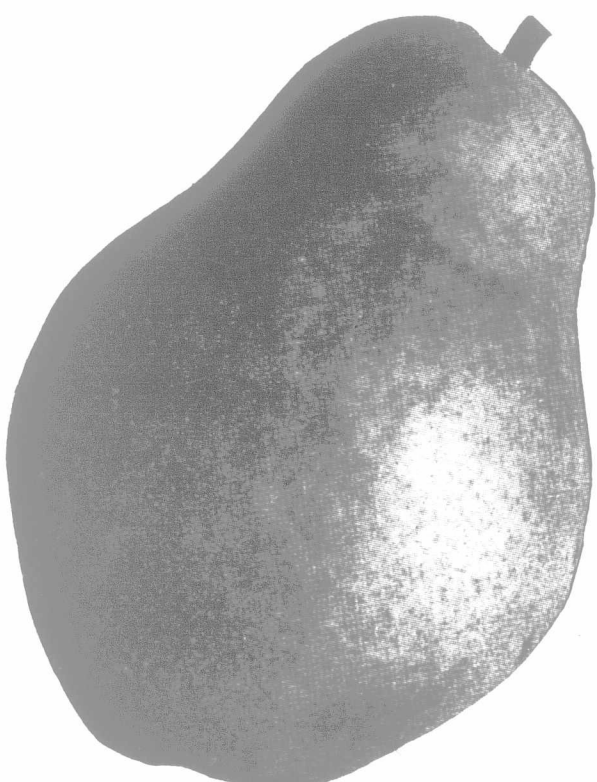
Section of Elberta.



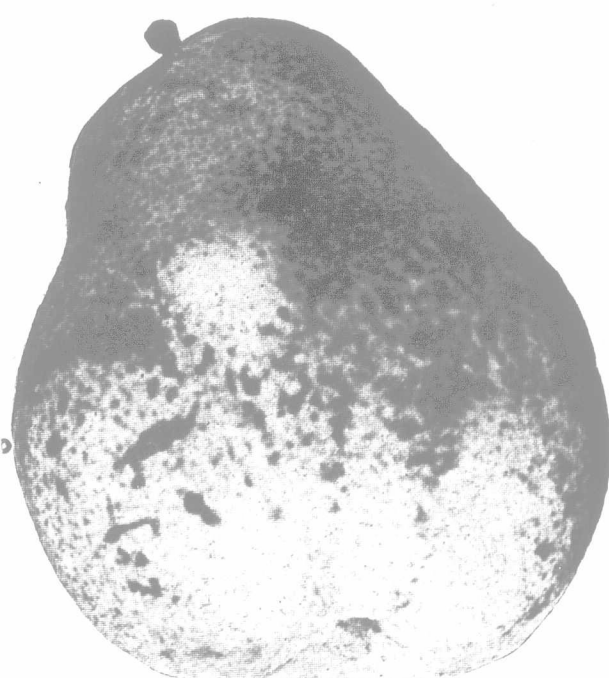
Section of Early Crawford.



Yellow St. John.



Bartlett.



Duchess.



Kieffer.

Illustrations taken from "Fruits of Ontario."

A Few Comments.

When returning the list of varieties Geo. A. Robertson makes the following comment.

"I enclose the list of fruits as requested. Your letter is a very timely one, and I think of all the important things we, as fruit growers, have to decide, it is the choice of varieties, and perhaps I may add the procuring of proper trees of these varieties. As a grower of tree fruits, not now growing any small fruits, I have heard the discussions on the qualifications—size, color and flavor. But the all important one has usually been left out; that is, the habit of the variety to bear good crops annually. The other qualities are, of course, to be combined with this essential one.

"In looking over my list, the varieties are, as near as possible, in the order of ripening. The peaches are confined to two varieties of early, and only four of late, the three in brackets being practically the same peach. The late varieties are those which bear well, size up well, and are yellow-fleshed and hardy. I have dropped Smock as being too late, ripening in the cool weather usually when the demand for peaches is past. Chair's Choice, Niagara and Reeve's Favorite are uncertain bearers and the Longhurst, Crosby, New Prolific and the various Michigan varieties are too small, except for canning purposes.

"The commercial pears are all good size, good bearers, and good shippers. The domestic list includes some rather small for market.

"In the commercial plums I have included only Burbank of the Japanese and Shiro which is a half-bred Japanese, including only the larger varieties of their season, as the little plums like Lombard are rather hard to market sometimes at a profit. In the domestic list I have included the earlier Japs which are all right for their season, but should not be marketed for fear some one would can some through ignorance and that would deter them from trying to can plums again.

"In sweet cherries I grow almost all the list, but have given the varieties I find which are profitable with me and include a succession in ripening. If the Bing proves all right I shall replace Elkhorn with Bing and add Lambert on, as it fruits a week later than Windsor;

that is, if it fulfils what it promises to be, but will not recommend it for a year or two as my trees are too young yet. In the sour varieties the English Morello is not profitable with me.

"Red Grapes are not commercially profitable with me as they are shy bearers. New black varieties are also not too prolific.

"I shall not make any comment on the small fruits. I have grown them, but my succession of crops does not allow me to grow any now, as they conflict with the asparagus and tree-fruit crops."

When studying these returns the reader should take notice of the number of times a certain variety is mentioned by the different growers, such as Elberta or Yellow St. John peaches, and the Bartlett pear. It is some indication of their popularity and adaptability.

There is much to be learned about the different varieties. Their yielding, keeping and shipping qualities are important to the commercial grower, but he must also take into consideration flavor and many other characteristics. We shall attempt to give our readers further comment along this line in future issues.

Those living outside the districts mentioned should inform themselves as to the hardiness of different varieties before purchasing trees for setting. Space would not permit of a detailed description of the different kinds in this article.

POULTRY.

The Quality of Birds to use for Breeding.

EDITOR "THE FARMER'S ADVOCATE":

Taking it for granted you have a pure-bred and properly cared for flock of poultry, as every up-to-date farmer should have, the time has now arrived for selecting the breeds from which to hatch next spring's crop of chickens. Do you hope for improvement, increase in egg production, larger, better-shaped and marked birds? Then, take time right now, if possible before

February 15, to pick out your choicest birds for the 1917 breeders and give them a separate house and special care to insure fertile eggs and strong, vigorous chicks.

A breeding pen of the heavier varieties should contain 7 to 10, general-purpose breeds 12 to 15, and Mediterranean breeds 20 to 25 females to one male. If you cannot get this number of good birds, use fewer, rather than breed from even one inferior specimen.

Choose one-year-old hens or fully matured pullets which possess at least these three essential qualities: health, typical shape and winter laying proclivities. Birds that have a full, well-rounded breast, broad, deep body of good length, a bright eye and are always found busy from dawn till dark should be chosen.

To determine which are the best layers, watch the flock very closely for a few days in mid-winter, to see which birds are the layers and put a leg-band on each as found. These winter layers are the birds wanted in the breeding pen, for they are the heaviest yearly producers, and consequently the most profitable from the egg standpoint.

About the most important things to consider in the male bird for the pen is vigor. Without vigor it is impossible to secure a high percentage of fertile eggs and strong healthy chickens. Do not inbreed by using a male from your own pen, no matter how perfect he may be. Secure a cockerel, bred along the same lines as your females and strong in any points wherein your birds may be weak, from some reliable breeder.

When the pen is mated, see that the birds have every advantage in the way of clean drinking water, a supply of grit, lime, green feed and an open front scratch ing shed facing the south, with a deep litter of coarse straw, wherein small quantities of grain are scattered at intervals during the day to keep the birds working, thereby insuring perfect health. For best results, do not hatch eggs from this pen for three or four weeks after mating. It will take that length of time for a strange male to get acquainted and accustomed to his new surroundings. Hence mate early, not later than February 15, if you wish chickens in April and early May, which is the very best time for hatching chickens on the farm.

Northumberland Co., Ontario UNCLE ELI.

Selecting and Mating on a Poultry Plant that Pays.

Poultry is kept on practically every farm, but there is no proof that it always pays its way, and yet few farmers would care to be without a few fowl to supply fresh eggs during a part of the year at least. The average hen commences laying in early spring, and when she has deposited 60 or 70 eggs in a nest and raised a clutch of chicks considers she has done a good year's work. Comparing her production with that of the hen of a half century ago she does well, but when compared with some of her present-day bred-to-lay sisters her record falls far short of the possible, and of what should be expected from a well-bred, carefully fed, properly housed pullet or yearling hen. On some farms where a good deal of attention is given, the poultry returns show that it pays as high or higher dividends on money invested than do other branches of farming. Poultry is like every other class of live stock, it requires attention in order to make it pay.

Many small flocks of poultry are kept in the back yards in towns and cities, and it is not uncommon to hear of a flock of 10 birds making a net profit of \$1.00 or \$1.50 per bird from sale of eggs alone—one bird \$1.00 profit, 100 birds \$100, and 1,000 birds \$1,000. These figures look good on paper, and having found no difficulty in clearing one dollar per bird in cramped quarters, the poultry enthusiast reasons that he should be able to do even better with his birds on open range. Many make plans for starting poultry raising on a large scale, and invest all their savings in land, buildings and birds, and move the family to the country with the expectation that it is only a matter of a few years until a small fortune will be made. All too often it proves to be a case of counting the chickens before they are hatched. The profits per bird in a commercial flock are not always on a par with those of a small flock. The reasons are obvious; the same personal attention cannot be given the birds; it is more difficult to keep disease out of a large flock, and it is almost impossible to have the average egg production of a flock of 1,000 birds anywhere near as high

as with a flock of 10 birds. The result is that Canada depends largely on the farm flock for her supply of eggs. Only a few men appear capable of managing a commercial flock.

Lewis N. Clark is one man who is proving that it is possible to make big profits out of poultry. He is manager of Oldham Poultry Farm, or rather egg factory, which occupies 37½ acres of land a short distance from Port Hope. Starting with 500 birds 7 years ago the

has resulted in the Leghorn pullets averaging 176 eggs at a cost of 14 cents a dozen in 1916, and Barred Rock pullets producing 169 eggs at a cost of 17½ cents a dozen the same year. Considering the large flock this is an exceptionally high average, and goes to show the possibilities in egg production. Suitable, clean, light, dry, well-ventilated buildings are provided and the birds appear happy and contented. The manager of either a large or small flock of poultry might well follow some of the methods practiced by Mr. Clark to secure large profits from his investment.

The thermometer registered considerably below zero, and a howling blizzard was blowing from the north the morning a representative of "The Farmer's Advocate" visited Oldham Poultry Plant. Under these climatic conditions the average bird would have no notion of laying, but the birds on this farm were hard at work in spite of the cold. In every pen the nests were full, and birds waiting for their turn to lay. It was a sight to bring a happy smile to any poultryman's face, but it was nothing new to Mr. Clark, because he was accustomed to enter the pens at any time of the day from October to March and see the birds on duty. The main revenue on this farm comes from the sale of market eggs, although a large number of eggs are sold for breeding purposes, and to meet the growing demand large incubators are being installed to supply day-old chicks.

Buildings.

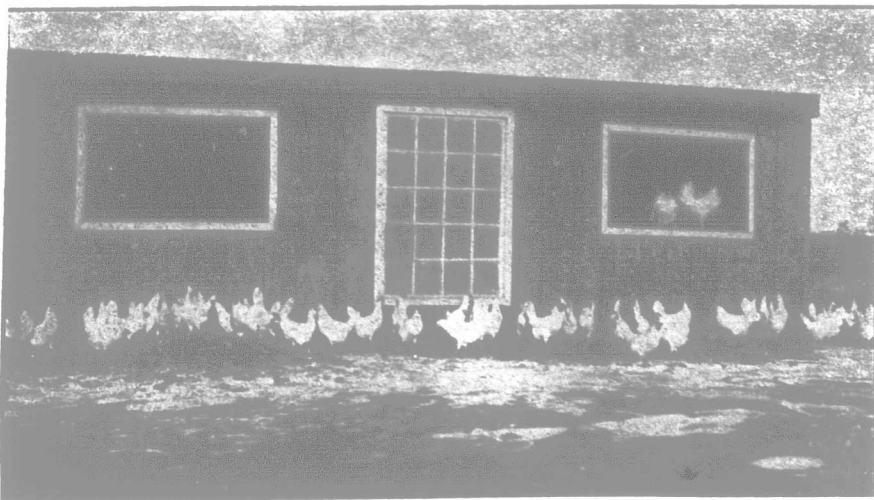
The long, continuous houses, partitioned off into



Poultry Houses on Oldham Farm.

workers have been increased to about 3,200 and ample accommodation is provided for them. Mr. Clark employed in 1916 in the neighborhood of 2,800 White Leghorns and 400 Barred Plymouth Rocks. Efficiency is the motto, and all pullets which fail to produce a certain number of eggs during the winter months when prices are high, are never kept the second year. Commencing work when between 5 and 6 months of age, a pullet is required to lay at least 115 eggs from October 1 to February 28, if she would have the distinction of being placed in the breeding pen when a yearling. This is a high standard, but with careful mating and selection it

their turn to lay. It was a sight to bring a happy smile to any poultryman's face, but it was nothing new to Mr. Clark, because he was accustomed to enter the pens at any time of the day from October to March and see the birds on duty. The main revenue on this farm comes from the sale of market eggs, although a large number of eggs are sold for breeding purposes, and to meet the growing demand large incubators are being installed to supply day-old chicks.



A Few of Mr. Clark's Heavy-producing Leghorns.



Barred Rocks which Lay Well for Mr. Clark.

pens 18 feet wide, are used for the laying stock, and colony houses are scattered over the farm to accommodate breeding stock in the spring and growing chicks throughout the summer. One pen is 145 feet long by 20 feet deep, but the other two are only 16 feet deep. Experience has shown that unless the front of the pen is high the sun will not shine to the back of a 20-foot pen. Without the sun it is difficult to keep the birds healthy. With the front 7 feet high the sun will shine to the back of a 16-foot pen. The pens are all 5 feet high at the back or north side, and are double boarded and tarpapered, giving a four-inch air space. The ends are also double boarded. The front is 7 feet high, and in each pen are two windows with sash 33 by 50 inches, and a space for cotton 3 by 5 feet, which is closed only at nights and on very windy days. These pens are 18 by 16 feet and accommodate 80 hens. Partitions between pens are solid out as far as the roosts extend, and the rest is cotton. This prevents a draft over the birds when on the roost. The dropping board is three feet from the ground, to allow sunlight to penetrate to every corner. An earth floor is used, but it is raised 18 inches above the ground outside the pen to keep it reasonably dry. Mr. Clark makes it a point to construct all the pens and equipment during slack time. There are no frills or furbelows to add to the cost of the equipment. The nests, feeding troughs and grit boxes are such as any handy man could make and so reduce the amount of money invested. The floor of the pen is covered with a good layer of straw. This is cleaned out and replaced with fresh straw occasionally, but dropping boards are cleaned 365 times a year.

Selecting Birds for Breeding Purposes.

In order to bring a flock up to a high standard a good deal of careful selecting is necessary. The system followed by Mr. Clark is to trap-nest the pullets, as this is the only accurate way to pick out the highest producers. It is a rule on Oldham Poultry Farm that no bird will be used for breeding purposes unless it has produced 115 eggs or over from October 1 to February 28, of its pullet year. Trap-nesting is only done for this period, Mr. Clark believing that winter laying determines the capacity of the bird for producing eggs. It requires a lot of time releasing the birds from the trap-nests and recording their numbers, but under the system in vogue this work is done when there is the least rush. All birds which lay a deformed egg, or a very small one, or that are in any way deformed themselves, or have an attack of sickness during their pullet year, are not put in the breeding pen. By exercising care and good judgment the egg production on this farm has been doubled in seven years, without in any way decreasing the size or weakening the constitution of the birds. New blood is introduced through the males every two years, the cockerels being secured from the highest producing birds possible. Every other year the cockerels from the home flock are used, care being taken that they are not mated with near relatives. This system is very satisfactory for the commercial poultryman, but on the average farm there is no time at any season of the year to watch the trap-nests. Consequently, some other system of selecting the layers should be practiced. Mr. Clark claims that the heavy winter layers of the white-ear-lobed birds can be picked out at this time of year. His theory is that the color of the ear-lobe decreases with egg production, and that a heavy layer will not be so heavy in January as one which has not commenced to lay or has only produced a few eggs. To follow this theory out in practice a number of birds in Mr. Clark's flock were noted and their leg-band number found on the egg-record sheet. In every case the birds with a big record were considerably lighter in weight than their sisters which had a poor record and their ear-lobes were a blue-white instead of that rich, creamy white seen on the birds which had a low egg yield to their credit. When picking out birds to place in the breeding pen this spring, the owners of breeds with white ear-lobes may fairly accurately select the birds that have been paying their way by the color of their ear-lobes. This system cannot be followed with the heavier breeds. However, the color of shanks and time of molt are guides for selecting birds in the fall to keep for breeders the following season. The shanks of a yellow-shanked bird which has laid heavily all season have a pale color by August, while the shank of the poor layer has a bright color. The theory is that the pigment is laid out of the shanks as well as out of the ear-lobes. The heavy layer has no time to molt until late in the fall, consequently the bird with a new dress in early October tells as plainly as words that she was looking after her own comfort rather than paying for her feed in the way of eggs. The trap-nest has exploded the theory that the finest-looking birds in early fall are the most profitable. The reverse is more generally the case.

Pullets prove much better winter layers than yearling hens, and will almost double the records of their older sisters in yearly production, but when it comes to eggs for hatching Mr. Clark wants them from yearling hens exclusively. His reasons are logical and it may be that the stamina of the average flock is but slowly improved, due to pullets being used for breeding. Pullets which lay heavily all winter and are, at the same time, completing their development will not produce eggs that will give as strong a chick as will a yearling hen. As a rule the yearling rests from November to January; her system is built up and she lays a stronger and larger egg than a pullet does in the spring. A cockerel is mated with the yearling hens for the reason that a young male bird usually has more vigor than an older one. With Rocks, one cockerel is mated with 12 hens, but with the Leghorns one cockerel is used to a pen of 20 hens.

The present pens of yearling hens were selected by trap-nesting last winter; they had stood the test of 115 eggs or more in 151 days, and were the only birds

carried over. They appear to be in the pink of condition and give promise of heavy egg production through the breeding season. They are the only birds on the farm which are mated, consequently no chicks are hatched from poor winter layers. Pullets are depended upon to supply the demands of Mr. Clark's ever increasing number of customers. Cockerels are disposed of at the close of the breeding season, and hens are marketed as they cease laying during the summer.

Feeding the Laying Flock.

No matter how well bred and selected, the birds cannot lay unless they are properly fed with the right kinds of feed. Lack of one variety of feed may be the limiting factor in production. The system of feeding which has given satisfactory results on Oldham Farm is to keep a dry mash, consisting of a mixture of 200 lbs. bran, 100 lbs. cornmeal, 100 lbs. feed flour, 100 lbs. beef meal and 100 lbs. gluten meal, before the birds at all times. A hot, wet mash from the same material is fed at noon. This mash is mixed with a soup made from boiling beef heads. The grain ration fed night and morning in the litter consists of equal parts wheat, oats, corn and buckwheat. No hard and fast rule regarding quantity to feed each day is followed, as it is regulated largely by the appetites of the birds and the number of eggs laid by the pens. However, it has been found that it averages about 10 quarts of grain to 100 birds. Sprouted oats are highly prized for green feed. Cabbages are also used. Meat feed is included in the mash and soup. The birds always have access to grit, oyster shell and charcoal. Potassium permanganate is always used in the drinking water. It is a disinfectant and tends to prevent spread of common ailments. Sufficient is used to color the water. The system of feeding and housing produces healthy, vigorous birds.

In seven years the present Oldham Poultry Plant has been built up and paid for from the profits largely on the sale of eggs. It is a commercial plant which is a financial success. Mr. Clark attributes his success to keeping only heavy producers. Whether a hen lays or not she must be fed, and overhead expenses are the same. It takes practically all the eggs are worth to feed the hen which only lays six dozen during an entire year, but where the average of an entire flock is 176 eggs per pullet it only costs 14 cents, or a little over one cent per egg for all expenses. The value of all the eggs laid over a certain number is clear profit. Whether a large or small flock is kept the aim should be to raise the average production by securing a laying strain of whatever breed is kept, and then endeavor to further increase the egg yield by selection and breeding. It has been done, and it becomes easier each year to improve the farm flock, owing to the increased number of breeding stock available.

Mr. Clark employs two men to help with the work on this poultry plant. They are kept busy the year round. A three-year rotation is followed on this small farm. Corn, wheat and clover are the crops grown. But a large amount of grain must be purchased. The small farm doesn't begin to supply the grain part of the ration. Millfeeds are high in price this year but eggs are correspondingly high, and it does not pay to curtail in any of the necessary feeds because they are high in price. More attention should be paid to breeding in the ordinary farm flock in order to increase the egg yield and incidentally the profits. The system of feeding, breeding and management on a commercial plant is largely applicable in a small flock.

FARM BULLETIN.

Secure Vigorous Potato Seed Stock.

Experiments conducted at the Dominion Experimental Station, Kentville, N. S., with eight lots of Garnet Chili potatoes, secured from different growers in 1915 show a variation in yield of from 36 bushels to 240 bushels per acre or a difference of 204 bushels per acre in yield when grown under uniform conditions. Seed from these eight lots planted in 1916 yielded from 68 bushels to 212 bushels per acre, a difference of 144 bushels per acre. The respective positions of the different lots were changed very little in the second year, but the lowest yielding ones increased somewhat and the highest yield was not so great.

Seed from fifteen others of this variety was planted in 1916 and the lowest yield obtained was 158 bushels and the highest 278 bushels per acre, a difference in favor of the best over the poorest of 120 bushels per acre.

Ten lots of pure stock of Green Mountain from different growers ranged from 180½ bushels to 313 bushels per acre, a difference of 132½ bushels. Seventeen lots of Irish Cobbler ranged from 93 bushels per acre as the poorest to 235 bushels at the best, a difference in favor of the best yielding strain of 142 bushels. This would show that there may be as great a difference between potatoes of the same variety as there is between potatoes of different varieties, and that it is wise to secure stock from farms which have had high yielding crops. Because the Green Mountain has failed in giving a crop on a certain farm is not proof that this variety will not yield well there; it may have been due to low vitality in the seed stock. Such reversion in yield may have been due to disease, or adverse soil or climate conditions which affected the crop at some time, and it may be better to discard the stock entirely than to try to bring it up to its former vitality by selection.

CENTRAL EXPERIMENTAL FARM, OTTAWA.

Flying Fish.

As seen by a Canadian Farmer.

It was on a little side trip from Los Angeles to Catalina Island that these odd fish were seen, and they were so interesting, and their general appearance and their flight differed so from ideas of them obtained from books that I would like to tell the readers of "The Farmer's Advocate" about them.

But first, a word or two about the places themselves. Los Angeles is not on the sea coast, being about ten miles inland from the nearest beach but it has electric and steam railway connection with many nearby coast resorts. And since it has become a great city of 550,000 it aspires to be also an ocean port, and has spent millions in improving the harbor of San Pedro, about twenty-five miles to the southwest, so that ocean steamers may safely land there. San Pedro itself is not much, but before reaching it the road runs through Long Beach which, a few years ago was but a resort for bathers and now is a town of 40,000 inhabitants.

A short sea voyage of twenty miles carries one from San Pedro to Santa Catalina Island. The voyage, though short, is reputed one of the worst possible for sea-sickness, owing to cross, choppy seas. The island itself appears to be the rough, towering top of a submerged mountain. There is no earth surface and scarcely any beach. Everything except for an occasional scrubby bush, seems to be rock. To go around the island involves a steamer sail of twenty-seven miles.

The chief attractions for tourists are sea fishing and the submarine gardens, as they are called. These latter are simply the vari-colored and luxuriant growth of seaweeds springing from the rocky bottom at one part of the coast, which are viewed through the glass bottoms of boats, made for the purpose.

We had met tourists who had made the trip, and who told about the submarine gardens and especially about the good chance to get seasick, but not a word about flying fish, so that the sight of them was the chief delight of the excursion, and had the added charm of being unexpected. We had not gone far beyond the outer breakwater of San Pedro harbor when a little girl called out "Oh, look at the flying fish!" and everybody looked of course. We caught but a glimpse of a bright, bird-like creature as it whisked out of sight, and thought possibly the little girl had mistaken a bird for a fish. But it was all eyes on the water then, and soon, within a few feet of the right hand, forward part of the ship out rose a fish, so suddenly as to make one gasp, spread its wings and sailed for 100 yards or more, skimming along a few feet from the water, and then dropped in with a chuck. Here was the first surprise. Not that the flying fish could fly, but that it could fly so far and on the level and without any diminution of speed to the very end. We had supposed that like a flying squirrel which can sail quite a distance but always on the down grade, that the fish shot out of the water a few feet then spread its wings and sailed on a gentle slope downwards until it struck the water again.

Not so. Neither that first fish nor any of the many dozen that followed by ones and twos and threes ever seemed to rise higher than about four or five feet from the water, and they kept at the same height and speed, some of them for 200 yards, until they suddenly plopped down. Not only so, but several, after flying for a great distance, would swoop down into the water and then out continuing their flight about as far again. Not one ever seemed to stop because it could fly no further, and none finished their flight with a gradual slowing up and lowering. The notion seemed to take them suddenly and down they would plop head-first. They acted as if they dare not let their wings get too dry.

Another surprise was in their manner of rising out of the water. They did not spring out as we read of salmon doing when they overleap a waterfall or as we have all seen common fish do when jumping at a fly. The flying fish burst forth with front wings spread but at a very slight upward incline. Before the tail was clear of the water they would have gone five or six feet from where they first appeared, the water below them being violently agitated as they continued to rise. It looked as if they must be using their back pair of wings (for they have two pairs), to get up speed. The agitation was probably caused by the motion of the tail, the lower lobe of which is much longer than the upper and is bent sharply downward. Whatever the cause of the agitated water, as soon as the fish rose clear of it all motion of wing or tail absolutely ceased. The front pair of wings had been spread out all the time, but now the hinder pair are also opened out to the widest, and all four being held rigid, tense and level the bird, or rather fish, sails away, its speed appearing actually to increase for a time. The rate of flight seemed to be about that of the barn swallow, somewhere near 30 miles an hour.

It is true that the most of the flying fish that were seen seemed to be started out of the water by the near approach of the ship and also that they struggled hard while rising, yet once clear they seemed to revel and rejoice in the exercise of their powers. Especially was this true of those that after a time dipped under and took a second flight. They seemed to be saying "isn't this dandy." If, like most creatures that have any pretensions to good looks, they knew how beautiful they were one need not wonder if they delighted to show themselves. They certainly did look dashing and bright and gay. They were all of nearly the same size, slightly smaller than a large herring. The body, seen from above of course, was dark, almost blue-black, in color. The wings were clearer than the wings of a fly and were not only transparent but glitteringly so. Dripping wet they flashed and sparkled in the

sunlight, contrasting strongly with the dark-colored body. In shape the front pair of wings resembled those of a housefly. Attached to the body close to the head they must, when folded up, have reached almost to the tail. Extended, they widened from the body outwards, the ends being rounded, and were held at right angles to the body and on a plane with each other. The hinder pair were much smaller, triangular in shape, (the body line being the base of the triangle), and were likewise held on a flat plane, and were attached well back towards the tail.

Some doubter there may well be who will say: "I can't believe it, I don't see how anything can fly without flapping its wings." That wonder is what made the study of these charming creatures so interesting. They did fly, no one doubts that. And not only was there no apparent motion of the wings after they rose into the air, but the rigidity with which they spread and held themselves was most marked. Not a quiver could be detected, and not the least raising or lowering of the outspread wings. This was observed, they took advantage of the wind. The wind was from the right. As they got agoing they tilted the right side higher than the other so that the force of the wind would have a lifting effect. It was also remarked that they all took the same course. Straight ahead it appeared at first but then a long sweeping curve to the left was described. Then plop, the journey further being unseen. This much at least can be said: These strange fish using their wings after the manner of a kite only are able to make such clever use of what wind there may be as to accomplish the seemingly impossible. If our airmen had as perfect command of their machines as these exquisite living seaplanes have of themselves, greater achievements would be recorded than any yet heard of.

It was indeed a privilege to see at first hand another of the many wonders "in earth and sky and sea."
T. B.

Some Sound Sense.

EDITOR "THE FARMER'S ADVOCATE":

Mr. Waddell, in his article in your issue of Jan. 11, fails to see how the farmer is the under dog. Then, why are Government efforts necessary to keep the boy on the farm?

Many years ago there was an abundance of timber. Cheap lumber meant wasteful use, and the wilful waste of that time is the cause of the scarcity and high price of lumber to-day. A few years ago there were cheap clothes and the sweat shops were filled with child laborers. Legislation and labor unions have helped to send the children to school. There was a rise in the price of clothes, but a great conservation in human health which was the result of the co-operation of organized labor and their entrance into politics.

Our political parties are wasting their talents in an effort to bring evidence to prove that each is making an effort to force an election in war time. Why? Simply because they have nothing to offer the electors and both want to hold office. Then why ridicule an honest effort to help out the Westerners who have helped themselves by helping others? Co-operation and organization are more necessary at the present time than the diligence and intelligence in which Mr. Waddell places,

such an amount of confidence to make successful, contended farmers. Why is organization more necessary? Simply because it is conspicuous by its absence.

Why shouldn't the political parties be prodded up a bit, or even supplemented by a new party? They have shown they have no issues worth while by their foolish appeals to prejudice and lip loyalty throughout the last bye-election or two that have been held here in Ontario. By better organization we might be able to have farming considered what it truly is—skilled labor; then demand wages for skilled labor; then employ skilled labor by being able to compete with other industries for help in the labor market. Truly, cheap wheat and cheap farm products have discouraged farm boys, otherwise there would be no back-to-the-land slogan necessary.

York Co., Ont.

HARRY STUART CLARRY.

"Hurrah for the Baby!"

EDITOR "THE FARMER'S ADVOCATE":

Last night I happened to pick up a two weeks old Advocate and my eye fell on to the article "I am a Prod" by Peter McArthur. During an extra busy spell it had escaped my notice, but really I wasn't able to think of anything else after I had read it. I was about to develop into an enthusiastic Prod and had even clipped this article with the intention of sending it to a capable man in our county seeking his advice as to whether we should join the producers party and select a farmer at once so as to be ready for the coming election. But my enthusiasm was somewhat dampened this morning when I read an article by W. Waddell in the latest Advocate. Being just a plain, every day farmer and not knowing much about politics I am incapable of judging between two wise men, but I have a very strong impression that Peter is right. Mr. Waddell says there is nothing to prevent farmers having adequate representation in parliament. Well it is a fact that we certainly haven't had it, and I for one cannot see any possible way of squeezing them into either of the existing parties. How could we get a farmer elected? How could we persuade the machine to allow him to run and how could he get the money to buy votes, for if he wanted to win he would have to play the game in the same old way for the party men would be party men still, and the fellows who could be bought would still go to the highest bidder. Mr. Waddell asks what could be expected from a new party made out of the old material. But I thought this was to be something brand new—a new party of new material with new aims—something to make us forget our attachment to party and graft, and rise up in our strength to demand clean politics. Oh no, not all self interest but a little self defence, and fair play and justice to all! But must we give up all hope because the Grangers failed and the Patrons failed, and because you might as well try to make a rope of sand as to try to hold farmers together and to work for their own benefit. If that has been true of us may God forbid that it will always be. Surely our blind eyes will be opened sometime and somehow. Surely this is our opportunity, let us arise and grasp it. Notwithstanding Mr. Waddell's reasoning I feel like shouting—"Hurrah for the new Baby!"
Renfrew Co., Ont.

R. M. WARREN.

The Marketing Season in the Okanagan Valley.

EDITOR "THE FARMER'S ADVOCATE":

The Okanagan United Growers, the biggest co-operative fruit organization in British Columbia has ended another successful season. Much of its business has been in new fields and consequently it has been more or less of an experiment in many of these markets, and the experience has taught its lessons.

This year 68,000 boxes or 128 cars were shipped to the foreign trade alone. New Zealand and Australia lead with well over 33,000 boxes. To Ontario and Quebec 18,950 boxes were shipped, this market has largely been available because of box packing. These 161 cars going to Ontario, Quebec and foreign markets have been placed outside our usual trade, and is an indication of the expanse we must make each season, for the next few years, to accommodate the increase in the newly bearing orchards. Crabs were heavy and shipments were made to six states across the border. Next season it is likely that there will be representatives sent to these six states as soon as crabs are on the markets and see how our product is received, staying right with the shipments till they are gone.

This season in early apples, Wealthies were late and conflicted with McIntosh, which were normal, and thus the returns on the Wealthies were reduced. Owing to the Wealthies extending into the season of the McIntosh and Jonathan, which are popular in the Okanagan, an outlet had to be found and 2,000 boxes were shipped to England where an enthusiastic reception was given them. This precedent will likely have to be followed in the coming years. McIntosh and Jonathan were given an unusually wide distribution in Ontario and Quebec, all the larger cities were covered and prices on No. 1's averaged higher than in 1915.

In winter apples we found stiff conflict with American fruit, largely helped by car shortages, yet December 15 found the 1916 crop of apples sold. Here again the ignorance of growers as to varieties required by the trade has proven a great handicap. Planters were led astray by glowing catalogue descriptions of apples and planted unknown and untested varieties. The management has endless trouble in making up assorted lots containing poor varieties, and the Central says most of our concern in doing business is in clinching sales that will take our poor varieties. One plan that will likely be used to get over this is to take 40 poor varieties and cut out in those varieties, the No. 1 grade, and permit in those varieties only a No. 2, using the No. 1's and 2's to pack the boxes.

We had an unusually good fall for apple picking, and the result was that when the car shortage struck the West our packing houses soon congested and next year we shall have to get bigger storage in the upper, center and lower parts of the valley. One solution for the car shortage was worked out with C. P. R. They agreed to supply box cars and double paper the floors, ends and sides, put racks on the floors to keep the boxes up and in each car place a heater. The union sent a messenger with each 20 cars to look after the heaters and report conditions in transit. 220 cars were sent in this way up to the first of November and only 24 cars were reported damaged and these, mostly just slight harm.

B. C.

WALTER M. WRIGHT.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts of live stock at the Union Stock Yards, West Toronto, Monday, January 29, consisted of 139 cars, comprising 2,244 cattle, 105 calves, 2,615 hogs, and 360 sheep and lambs. Cattle trade strong, and a good twenty-five cents higher on all classes. Lambs, calves and light sheep, steady. Heavy, fat sheep, slow and slightly lower. Packers were bidding \$13.75 for fed and watered hogs.

The total receipts of live stock at the City and Union Stock Yards for the past week were:

	City	Union	Total
Cars.....	50	361	411
Cattle.....	602	3,641	4,243
Calves.....	58	502	560
Hogs.....	643	10,230	10,873
Sheep.....	382	1,142	1,524
Horses.....	80	790	870

The total receipts of live stock at the two markets for the corresponding week of 1916 were:

	City	Union	Total
Cars.....	38	391	429
Cattle.....	558	5,334	5,892
Calves.....	19	507	526
Hogs.....	750	10,374	11,124
Sheep.....	162	966	1,128
Horses.....	61	—	61

The combined receipts of live stock at the two markets for the past week show an increase of 34 calves, 396 sheep and 809 horses, but a decrease of 18 cars, 1,649 cattle and 251 hogs, compared with the corresponding week of 1916.

The live-stock market opened on Monday with 1,941 cattle on sale. Good to choice steers, heifers, bulls and cows were strong and in big demand; common cattle were somewhat slow at the previous week's closing prices. In the afternoon all grades advanced in price and recovered practically all they had lost in the closing days of the week previous. During the balance of the week trade held strong in all classes at prices as quoted below, a few extra choice steers sold as high as \$10.90; a few very fine quality bulls at \$9.25, \$9.40 to \$9.60. There were also a few cows that sold at from \$8.75 to \$9, and one cow 1,150 lbs., brought \$9.25. Stockers and feeders—Very little trade is being done in this line but values are firm. Choice yearlings selling at \$7.50 to \$7.75; choice 800 to 950 lb. feeders sold at \$8 to \$8.50, and common to medium light steers and heifers at \$5.75 to \$6.50. Milkers and springers were slow, very few arrived on the market. Best cows sold at \$80 to \$105. There was no change in the price of sheep and lambs. They were both strong at prices as quoted below. Calves were also strong, and on Thursday advanced a good 25c.; choice veal sold at 13c. to 14c. per lb., and a few extra choice at 14½c. to 15c. per lb. Trade in hogs continues to advance, but the market is very unsteady. Packers are paying more attention to quality than ever before. Select hogs sell at \$14.25 fed and watered, and \$14.50 weighed off cars.

Live-stock quotations—Heavy steers, choice, \$10.40 to \$10.75; good, \$10 to \$10.25; butchers' steers and heifers, choice, \$9.75 to \$10.25; good, \$9 to \$9.50;

medium, \$8.25 to \$8.75; common, \$7 to \$8. Cows, choice, \$7.75 to \$8.50; good, \$7 to \$7.50; medium, \$6.50 to \$6.75; common, \$5.50 to \$6. Canners and cutters, \$5 to \$5.40. Bulls, choice, \$8.50 to \$9; good, \$8 to \$8.25; medium, \$7.25 to \$7.75; common, \$6 to \$7. Stockers and feeders, best, \$8.25 to \$8.50; medium, \$7 to \$7.75; common, \$5.75 to \$6.50. Lambs, choice, 14½c. to 15c. per lb.; good, 13c. to 14c. per lb.; culls, 9½c. to 12c. per lb. Sheep, light, 9½c. to 10½c. per lb.; heavy, 7½c. to 9c. per lb. Calves, choice 13c. to 14c. per lb.; medium, 9½c. to 11½c. per lb.; heavy fat, 7½c. to 9c. per lb.; common and grassers, 6c. to 8½c. per lb. Hogs, fed and watered, \$14.15 to \$14.25; weighed off cars, \$14.40 to \$14.50; less \$2.50 to \$3.50 per cwt. off sows, \$4 to \$5 per cwt. off stags, \$1 to \$2 per cwt. off light hogs, and \$2 to \$3 per cwt. off thin feeder pigs, and one-half of one per cent. government condemnation loss.

Breadstuffs.

Wheat.—Ontario, No. 2 winter, new, per car lot, \$1.80 to \$1.82; No. 3 winter, per car lot, \$1.78 to \$1.80, (according to freights outside). Manitoba, track, bay ports—No. 1 northern, new, \$2.06; No. 2 northern, new, \$2.03; No. 3 northern, new, \$1.98; No. 4 wheat, new, \$1.86; old crop trading 4c. above new crop.

Oats.—Ontario, No. 2 white, 64c. to 66c., nominal; No. 3 white, 63c. to 65c., nominal. Manitoba oats (track, bay ports)—No. 2 C. W., 71c.; No. 3. C. W., 67½c.; extra No. 1 feed, 67½c.; No. 1 feed, 67c.

Barley.—Malting barley, according to

freights outside, \$1.20 to \$1.22, nominal; feed barley, nominal.

Peas.—According to freights outside; No. 2, \$2.35.

Buckwheat.—According to freights outside, \$1.28 to \$1.30.

Corn.—American (track, Toronto) No. 3 yellow, \$1.13, shipment within 30 days.

Rye.—No. 2, \$1.40 to \$1.42.

Flour.—Manitoba first patents, in jute bags, \$9.90; second patents, in jute bags, \$9.40; strong bakers', in jute bags, \$9. Ontario, new, winter, according to sample, in bags, \$7.40 to \$7.50, track Toronto; \$7.25 bulk, seaboard, export trade.

Hay and Millfeed.

Hay.—Track, Toronto, No. 1 per ton, \$13; extra No. 2, per ton, \$12 to \$12.50; mixed, per ton, \$10 to \$11.50.

Straw.—Car lots, per ton, \$9, track, Toronto.

Bran.—Per ton, \$34.

Shorts.—Per ton, \$38.

Good feed flour, per bag, \$2.70 to \$2.80.

Hides and Skins.

City hides, flat 20c.; country hides, cured, 20c.; country hides, part cured, 18c.; country hides, green, 17½c.; calf skins, per lb., 30c.; kip skins, per lb., 23c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins and pelts, \$1.50 to \$2; horse hair,

THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000
 Capital Paid Up - - - 12,900,000
 Reserve Funds - - - 14,300,000
 Total Assets - - - 270,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province of the Dominion of Canada

Accounts of Farmers Invited
 Sale Notes Collected

Savings Department at all Branches

Hot-house rhubarb of good quality was received, and brought \$1.25 to \$1.50 per dozen.

Montreal.

The tone of the cattle market was very firm last week. This was due in part to light receipts and to actual demand on the part of butchers. Small lots of choice steers sold up as high as 10 1/2c. per lb., while good steers brought 9 3/4c. to 10c., and fair quality 1/2c. less. Common sold at 7 3/4c. Butchers' cows ranged all the way from 6 1/2c. to 8 1/4c., while bulls brought 7 1/4c. to 9c., according to quality. Canners' stock was, as usual, in good demand, and everything offered was rapidly taken. Prices ranged from 5 1/2c. to 5 3/4c. for bulls, and 4 3/4c. to 5c. for culls. There was a good demand also for small meats, but the supply of sheep and lambs was limited. Ontario lambs sold at 13 1/2c. to 14c. per lb., and Quebec stock at 13c. to 13 1/4c., and occasional lots at 13 3/4c., while sheep sold at 8 3/4c. to 9 1/2c. per lb. The market for calves was moderately active but the supply was not large. Grass-fed calves sold at 5c. to 7 1/4c. per lb. The supply of hogs was none too large, and, under a good demand, prices advanced fractionally, being about 1/4c. up. Choice, selected lots sold at 14 1/2c. to 14 3/4c. per lb., and good selects at 14 1/4c. to 14 1/2c. per lb., weighed off cars.

Horses.—The market for horses was very dull, and very few sales were heard of. Prices held steady at \$200 to \$250 each for heavy draft, weighing 1,500 to 1,700 lbs.; \$150 to \$200 each for light draft horses, weighing 1,400 to 1,500 lbs.; \$100 to \$125 each for small horses, and \$50 to \$75 each for culls. Choice saddle and carriage horses sold at \$200 to \$250 each.

Poultry.—The supply was moderately large and the demand was not particularly active, so that prices held about steady at 24c. to 28c. per lb., covering all qualities of good to choice stock. Chickens were unchanged at 18c. to 23c. per lb. for good to choice, while fowl sold all the way from 15c. to 20c. per lb., and geese from 18c. to 20c. Ducks were scarce at 20c. to 22c. per lb.

Dressed Hogs.—The demand for dressed hogs continued active, and everything in sight was absorbed. Prices were very firm and were higher last week; fresh-killed, abattoir-dressed stock selling from 20 1/2c. to 21c. per lb., which is a record for this time of year. Country-dressed hogs were not very plentiful, and prices were firm, with light hogs selling at 19 1/2c. to 19 3/4c., and heavies at 1/2c. under these prices.

Potatoes.—There was a lack of supply of potatoes, and prices were higher even than the previous week. Green Mountains commanded \$2.40 per bag of 80 lbs. in a wholesale way, ex-store, while Quebec stock sold at \$2.25.

Maple Syrup and Honey.—The maple-syrup season is now well advanced and supplies were light. Prices continued very steady at 95c. for 8-lb. tins; \$1.10 for 10-lb. tins, and \$1.25 to \$1.50 for 13-lb. tins. Sugar is 15c. Honey was neglected but prices were steady at 15c. for white clover comb, 12 1/4c. for white extracted and brown clover comb, and 10 1/2c. for brown extracted, while buckwheat honey was 9c. to 10c. per lb.

Eggs.—Last week imports of fresh eggs from the U. S. took place, and, as a consequence, the tendency in prices was lower. Strictly new-laid eggs were quoted at 58c. to 60c. per dozen, while fall eggs were 50c. to 55c.; No. 1 selects, 44c. to 45c.; No. 1 candled, 40c., and No. 2 candled, 35c. to 36c. per dozen.

Butter.—There were no new features in the market for butter. Finest fall creamery was quoted at 43c. to 43 1/2c. per lb., and fine at 1/2c. less. Winter creamery was quoted at 41c. to 42c., and under-grade creamery at 39 1/2c. to 40 1/2c. per lb. Finest dairy butter ranged from 38 1/2c. to 39c., and good dairy at 37 1/2c. to 38c.

Cheese.—The market was unchanged at 25 1/2c. to 25 3/4c. per lb. for finest Western colored, and 24 1/2c. to 24 3/4c. for finest Eastern colored, white cheese being 1/2c. below these prices. Winter-made cheese was quoted at 22c. to 23c.

Grain.—Some sales of Manitoba No. 3 northern wheat were made here on a basis of Winnipeg prices; No. 2 Canadian Western oats sold at 71c., which is a slight reduction, while No. 3 were 69c., extra No. 1 feed 68c., and No. 2 feed 67c. per bushel, ex-store. Manitoba feed barley was steady at \$1.03 per bushel.

Flour.—Manitoba flour was 10c. less than the previous week, being quoted at \$10 for first patents; \$9.50 for seconds, and \$9.30 for strong bakers', per barrel, in bags. Ontario flour was 10c. down, at \$8.50 to \$8.80 for 90 per cent. patents, per barrel, in wood, and \$4.10 to \$4.25 per bag.

Millfeed.—Supplies were light and prices steady at \$33 per ton for bran; \$36 for shorts; \$38 to \$40 for middlings; \$43 for mixed mouille, and \$45 to \$48 for pure grain mouille, per ton.

Hay.—The market was unchanged, at \$13 per ton for No. 2; \$11.50 for No. 3, and \$10.50 for clover mixed, carloads, extra.

Hides.—Prices of beef hides were 1c. up, at 26c., 24c. and 23c. per lb. Calf skins were steady at 38c. and 36c., but lamb skins advanced to \$3.90 each. Horse hides, on the other hand, declined from their recent high point, to \$7.50 each. Tallow was unchanged at 3c. to 5c. per lb. for rough, and 8c. to 9c. for rendered.

Buffalo.

Cattle.—Offerings of cattle fell below the needs at Buffalo again last week, as a result of which, prices ruled strong at a dime to a quarter above the preceding week, except on canners and bulls, prices on which looked a full quarter under the preceding week. There were very few of the good and medium weight shipping steers, as a consequence of which killers of these were forced to accept handier kinds. Best steers offered were natives, out of Michigan, long-fed and choice which sold at \$11.50, equalling the year's extreme top. Other steers taken on shipping demand, ranged from \$9.40 to \$10.30. A load of very plain, but good weight Canadian steers sold at \$9.50. Very little in the steer and heifer line, taken for kill account dropped below \$7 for steers and \$6.25 to \$6.50 for heifers. Good, fat cows looked steady but a medium and common kind, and especially canners, ruled lower and were slow sale. Bull buyers backed up and obtained concessions figuring a quarter. Very few stockers and feeders, and these ruled lower. Milk cow and springer trade was weak. Receipts for the week totaled 4,200 head, against 4,750 for the preceding week, and 5,150 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$10.50 to \$11.50; fair to good, \$9.50 to \$10.25; plain, \$8.50 to \$9; very coarse and common, \$7.50 to \$7.75; best heavy Canadians, \$9.75 to \$10.35; fair to good, \$8.25 to \$8.60; common and plain, \$7.75 to \$8.

Butchering Steers.—Choice heavy, \$9 to \$9.75; fair to good, \$8.50 to \$8.75; best handy, \$8.75 to \$9.30; fair to good, \$7.75 to \$8.50; light and common, \$6.75 to \$7.25; yearlings, prime, \$9.50 to \$10.25; fair to good, \$8.50 to \$9.

Cows and Heifers.—Best heavy heifers, \$8.25 to \$8.75; best butchering heifers, \$7.50 to \$7.75; fair butchering heifers, \$6.50 to \$7.25; light and common, \$5.25 to \$6.25; best heavy fat cows, \$7 to \$7.50; good butchering cows, \$6.50 to \$6.75; medium to fair, \$5.25 to \$6; cutters, \$4.75 to \$5; canners, \$4.25 to \$4.60.

Bulls.—Best heavy, \$7.50 to \$8; good butchering, \$7 to \$7.25. Stockers and Feeders.—Best feeders, \$7 to \$7.25; common to fair, \$5.25 to \$5.60; best stockers, \$6.50 to \$7; common to good, \$5 to \$5.50.

Milchers and Springers.—Good to best, in small lots, \$80 to \$100; in carloads, \$70 to \$75; medium to fair, in small lots, \$60 to \$65; in carloads, \$55 to \$60; common, \$40 to \$50.

Hogs.—A steady advance in price was noted last week, and on Friday Buffalo had the highest American market in over fifty years. Monday the general run of sales were made at \$11.50 and \$11.55, with a few \$11.60, and pigs landed mostly at \$10.50. Tuesday values were a strong dime higher; Wednesday values showed a further gain of 10 to 20 cents; Thursday a 15 to 25-cent advance was noted, and Friday, which was the high day, market ruled strong to a dime higher, top for the day being \$12.15, with bulk selling from \$12 to \$12.10. Pigs sold from \$11 to \$11.25, with some lights up to \$11.75, roughs mostly \$11, and stags \$9.50 down. Receipts last week were 29,500 head, being against 30,640 head for the week before, and 40,800 head for the same week a year ago.

Sheep and Lambs—More new records were hung up at Buffalo last week. Monday, Tuesday and Wednesday the

trade was a little slow, when tops in the lamb division sold at \$14.40 and \$14.50, with culls \$13.75; however, Thursday and Friday, under light receipts, the market was active and higher. Thursday's top for lambs was \$14.60, and on Friday the best lots sold at \$14.75 and \$14.85, with one load reaching the record price of \$14.90, and culls went from \$14 down. Yearlings showed a top of \$13.75, wether sheep sold up to \$11.50, and the general range on ewes was from \$10.25 to \$10.50. Last week's receipts were 18,100 head, being against 17,906 head for the week before, and 18,000 head for the same week a year ago.

Calves.—At no time during last week did the top veals fall below the \$15.50 mark, and the high day, which was Friday, best lots sold generally at \$16 with a few \$16.25. Desirable culls sold up to \$12.50 and \$13, and common, light throwouts ranged from \$10 to \$11.50. Receipts last week figures 2,050 head, as against 1,956 head for the week previous, and 1,925 head for the same week a year ago.

Chicago.

Cattle.—Beeves, \$7.75 to \$11.90; western steers, \$7.75 to \$10; stockers and feeders, \$6 to \$9; cows and heifers, \$5 to \$10.25; calves, \$11 to \$15.

Hogs.—Five cents up. Light, \$11.10 to \$11.60; mixed, \$11.15 to \$11.70; heavy, \$11.20 to \$11.70; rough, \$11.20 to \$11.35 pigs, \$9.25 to \$10.60.

Sheep.—Lambs, native, \$11.75 to \$14.35.

Gossip.

Attention is directed to the advertisement of Babcock & Sons, re patents, in this issue.

On Wednesday, February 7, the Holstein herd and horses, the property of the late Wm. J. Douglas, Sprague's Road, Galt, will be sold at public auction. See the advertisement in this issue.

Attention is drawn to S. J. Lyons' auction sale of 40 pure-bred Jersey and grade cattle, to be held at his farm near Norval, on Wednesday, February 7. Trains will be met at Norval Station on the day of the sale. Consult the advertisement in another column of this issue, or write Mr. Lyons for full particulars regarding the breeding of his animals.

Coming Events.

Feb. 5 to 9.—Live Stock Meetings, Toronto.

Feb. 6 to 7.—Fairs and Exhibitions Convention, Toronto, 2 p.m. at Forrester's Hall.

Feb. 8.—Annual Meeting of the Ontario Vegetable Growers' Association, Parliament Bldgs., Toronto, 9 a.m.

Feb. 8.—Annual Meeting of the Ontario Plowman's Association, Forrester's Hall, Toronto, 2.30 p.m.

Feb. 8 and 9.—Annual Convention of the Ontario Fruit Growers' Association, Toronto.

Feb. 13 to 16.—Corn Show and Convention, Kingsville.

Feb. 14.—Annual Convention of Ayrshire Breeders' Association, Montreal.

Feb. 28 to March 2.—Annual Convention of the United Farmers of Ontario, Toronto.

Sale Dates.

Feb. 1.—J. H. Chalk, Dunboyne, Ont.; Holsteins.

Feb. 1 to 2.—Canadian Breeders, Union Stock Yards, Toronto, Ont., R. Miller, Stouffville, Manager.

Feb. 7.—Thos. Thomson, Headford, Ont.; Shorthorns.

Feb. 7.—S. J. Lyons, Norval, Ont.; Jerseys.

Feb. 7.—Mrs. Wm. J. Douglas, Galt, Ont.; Holsteins.

Feb. 9.—M. J. Elliott, Newtonbrook, Ont.; Shorthorns.

March 7.—Guelph Fat Stock Club, Guelph; Pure-breds, J. M. Duff, Secretary.

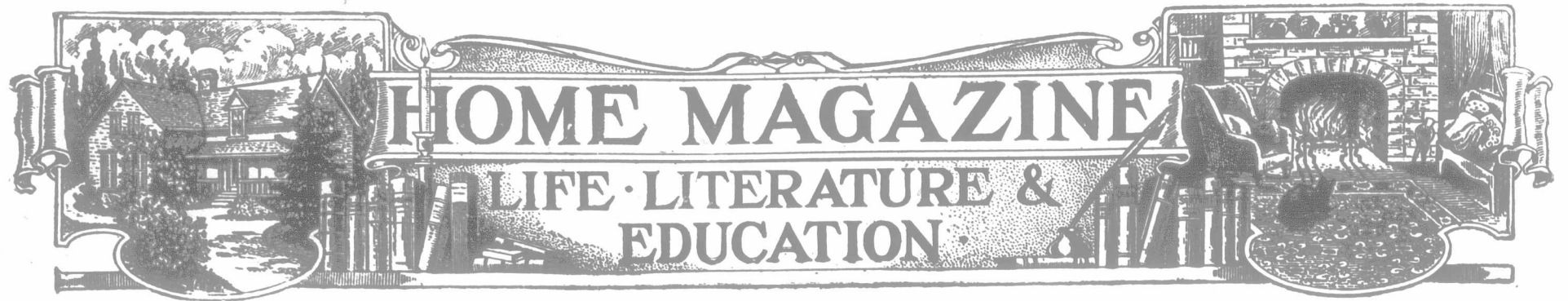
March 9.—W. J. Abernethy, Beeton, Ont.; Shorthorns, Oxford Down sheep.

March 15.—Elias Snyder, Burgessville, Ont.

March 15.—Union Stock Yards, Toronto, Ont.; Horses.

March 28.—Oxford District Holstein Breeders' Club, Woodstock, Ont.; Holsteins.

March 28.—Western Ontario Consignment Sale Co., London, Ont.; Shorthorns.



Lead O' the Guns.

BY "WAGGER" IN "BATTERY FLASHES."

Sounding alarm, scuffle and scurry,
Out with the guns—out in a hurry!
Two leagues away guns are required
Covering flanks, some one's retired.
Orders rapt out, coolly yet tartly,
Get a move on! harness up smartly
Hook in the teams, wait for the shout,
"Advance from the right in column of route."

Bucking and jibbing, rattle and jingle,
Snorting with fright, team-horse and single.

"Centers" and "Wheelers" join in the fun,

But a steady old pair in the "lead o' the gun".

Plodding old, nodding old, lead o' the gun.

Jingle and trof, rumble and grind,
Guns to the front, wagons behind;
Slip of a boy—little but true,
Trained half a year—fighting for you!
Light as a twig, not twenty-one,
But fitted to drive in the lead o' the gun.

Charge at the dikes, ditches, and banks,
Stumble and jolt, close up the ranks!
Bracken and brook—keep on the run—
Gateway and gorse—lead o' the gun!
Dash at them, crash at them, lead o' the gun!

"Halt! Action front! Swing round the trail

Limber drive on" through leaden hail.
Back with the teams, back to the rear,
Driver and horse not wanted here,
Fearless you wheel back from the Hun,
You've played the man, lead o' the gun!
Slim little, trim little lead o' the gun.

Soon a shell bursts, two drivers reel,
Two saddles bare, "Center" and "Wheel",
Still, the shells shatter and scream,
"Lead" drives on with his six-horse team;
He falls at last, stern duty done,
Falls with his pair in the lead o' the gun,
Lying there, dying there, lead o' the gun.

Some one must go, fighting the Huns,
Somebody's darling drive our field-guns,
Some one must help to fill up the ranks,
Scant tho' his pay, and scantly the thanks,
Honor costs naught (save by whom won),
So honor the lads in the lead o' the gun,
Slogging in, jogging in, lead o' the gun.

Among the Books.

A Sunny Subaltern.

Possibly the brightest war-book that has yet appeared, that is, the brightest from a humorous standpoint, has been written by one of our very own boys, a young officer from Toronto. Its name is "A Sunny Subaltern," or "Billy's Letters from Flanders," and it was written like the famous diary of Samuel Pepys without the slightest thought of publication. The "letters" were, in short, just breezy epistles to his mother—a spontaneous, natural telling of events as they came in the way that a joyous boy with a strong sense of fun, quite remarkable literary ability, and a keen eye to the picturesque, would tell them. There are touches of pathos, too,—the closing chapter about McCarthy the chef, a Gunga Din of the regiment, is one of the most pathetic touches in literature—but on the whole "Billy" proves himself the "Bruce Bairnsfather" of the pen instead of the pencil.

Here are a few snapshots taken haphazard from the book:

"Well, last Sunday the Colonel suddenly walked into the mess and said, 'you'll go to Aldershot to-night to take an advanced signalling course.' I remonstrated that an advanced signalling course was a trifle premature as I had never even had an elementary one, but old Tennyson knew whereof he spoke, 'Theirs not to reason why', etc., and so, like a lamb to Armour's I hid me on my way."—The italics are ours.

From "Somewhere in Flanders" after a long march over a cobblestone road, he writes: "Peas in your shoes and paved roads rank side by side. In any event thirteen miles of them was too much for 'me noble hoofs', which at present are blistered and sore. In fact any time after the first five miles I would willingly have walked on anything soft, Hampshire mud, a custard pie, six inches of snow or an eiderdown quilt."

When he fails to find sleep an easy matter in a noisy trench he says, "sleep was lacking in large chunks."

A motor-bus of uncomfortable build is described as "sired by a Ford and damned by everybody that ever rode in it," and the slow process of boiling water in a dugout over candle wrapped in sacking, is referred to as "President Wilson's idea, 'a watchful, waiting policy.'"

It would not be fair to the author

to quote further from his really scintillating book, but we cannot pass over just one bit of simile which shows his masterful power of word-picturing. "The color of shrapnel bursting at night," he says, "resembles more than anything a deep tiger lily which bloomed for an infinitesimal space, then melted into oblivion." One will read far before coming upon a pen-painting thrown on with better color than that.

A Sunny Subaltern is published by McClelland, Goodchild & Stewart, Ltd., Toronto, and the price is \$1.00.

Travelling Art Exhibits.

In regard to a letter by "W. T." which appeared recently in these columns, Mr. Eric Brown, Director of the National Gallery, Ottawa, writes as follows:

"I am very glad to see that such subjects are being discussed.

With regard to that part of the article dealing with the National Gallery, I think that W. T. cannot have been conversant with the work of the Trustees of the National Gallery, and in order to give your readers some clearer idea of this I think I cannot do better than enclose a copy of a letter which I wrote recently to the local press on this subject. You will see that the activities suggested by W. T. have been in effect for some years and are rapidly increasing, and the Trustees of the National Gallery are always anxious to receive applications for exhibitions and to hear of greater interest being taken in art matters."

Here follows the letter referred to:

"It is some years since the trustees inaugurated a system of loan exhibitions of National Gallery pictures whereby any reputable art society or body in Canada, having proper facilities for their exhibition, could borrow from twenty to thirty pictures for the period of one year with the option of an exchange or renewal at the end of that time. This work has steadily increased until at the present time loan exhibitions are being held, or will shortly be held at the following places, Halifax, N. S., Sherbrooke, Que.; Hamilton, Ont.; Winnipeg, Manitoba, and Moose Jaw, Sask. In addition to this during the past year applications were received from Regina, Saskatoon, and Edmonton for short exhibitions which were sent and greatly appreciated. At the moment of writing also fifty of the National Gallery's most valuable modern pictures are being exhibited at the Montreal Art Association, while an important

exhibition of drawings has just returned from the Art Museum of Toronto.

"I think this will be sufficient to show that the National Gallery is far from stagnation during this disastrous period, and that not such a large proportion of its movable possessions are in storage at the Victoria Museum. When the great moment arrives when the National Gallery is able to open its doors to the public in its own building where there is ample space to so arrange its possessions that both their artistic and educational value are expressed to the full, it will be a surprise to many people, for the premises in the Victoria Museum have never been adequate enough to permit proper arrangement in this respect, and a work of art loses a large proportion of its significance if its surroundings and setting are out of harmony with its period and intention."

"It may perhaps not be yet generally known that the National Gallery presents an annual travelling scholarship of one thousand dollars (\$1,000), awarded by the council of the Royal Canadian Academy at their annual exhibition, to the most promising young artist of the year. The scholarship was awarded in November last for the third year in succession, although owing to the war the successful artists have not made use of it, as its conditions necessitate residence in certain art centres in Europe which are closed owing to the war."

"There is developing in Canada a school of decorative landscape painting, entirely original and indigenous and quite unparalleled on this continent. With proper appreciation and encouragement it should become one of our most valuable national assets, for there is no surer sign of the spiritual growth of nations than the condition of their art."—ERIC BROWN.

Hope's Quiet Hour

In God's Hand.

Thou shalt also be a crown of glory in the hand of the Lord, and a royal diadem in the hand of thy God.—Isa. 62:3.

"He will not fail thee,
He will not depart,
Nor loose thee, nor forget thee,
But will clasp
Thee closer in the thrilling of His arms."

To think that Isaiah should have known that wonderful truth, even before the love of God for men had been fully revealed in the life and death of Christ! The truth, I mean, that each soul is of infinite value in the Father's eyes. Long ago when a messenger from the Pope was sent to Luther, to inform him that he need not expect any prince to take up arms to defend him; the messenger asked the great reformer: "Where will you be then?" Luther's answer was calm and confident: "Where I am now; in the hands of Almighty God."

Read our text over again, if you are feeling worried about the safety of those dear to you, or if you have grown discouraged about your own personal value. They—and you—are not only safe in the hand of God, but each one of us is as a royal diadem, a crown of glory in His sight. Precious, beautiful and safe are the souls He holds in His hand. Death may draw near, but it cannot harm those whom God keeps as His jewels of price. Death is the angel-messenger waiting to usher eager souls into the palace and nearer presence of the Great King. Only those who are called may enter. Why should we fear



Starving Armenian Children.

Those who wish to save time in sending help for starving Armenian children can do so by sending contributions direct to Mr. Donald A. Cameron, Canadian Bank of Commerce, Toronto, who is directly connected with the Armenian relief fund.

for our friends or for ourselves? It was when our Leader was dying that He rested safely in the Father's hands.

"When fear her chilling mantle flings O'er earth—my soul to Heaven above As to her sanctuary springs, For God is Love!"

Read the chapter from which our text is taken, and you will see that the prophet was living in a time of distress and national calamity. He held up the torch of faith in a dark and gloomy hour. God's people were called "Forsaken" and their land "Desolate". Their way was blocked with stones and their enemies stole the harvests they had planted. It was with them as it is with Belgium to-day. But Isaiah was not down-hearted. He was sure that God's love was loyal and tender, as the love of a bridegroom for his bride. The troubled and oppressed nation should yet be called: "The redeemed of the LORD, Sought out, a city not forsaken."

We can't always understand the reason for God's apparent indifference when His children are treated unjustly. It is no new thing to-day. Read Hebrews XI and you will see how noble souls (of whom the world was not worthy) were destitute, afflicted, tormented; seeking comfortless shelter in deserts and mountains, in dens and caves. Read the New Testament, and the History of the Christian Church, and you will see how men and women—for Christ's sake—were tortured, not accepting any deliverance which meant disloyalty to their Master; how some were burned alive, others were crucified or thrown to the lions. Man does not live by this world's goods alone; and we have only to read the story of the unconquerable Belgians to-day to understand that kingly souls can rise superior to any outward appearance of defeat.

A dear friend of mine—Miss Anna Bense, of Boston, Mass.—has given me permission to pass on to you the following verses:

O, Gallant King of Belgium!

O, gallant King of Belgium! The world is yours to-day; Thousands of hearts in nations wide For you, both work and pray.

Your dauntless courage faltered not To face a countless horde; Your hand but laid the sceptre down To take Protection's sword.

It was not for your throne alone, Nor for your people's good; But you and they, another's guard,— As brave defenders,—stood.

O, gallant King of Belgium! Your country—blood bespread, Is greater far than e'er before By all its sacred dead.

We cannot see the end of all: But this we feel must rise— A flaming sword of righteousness Athwart the darkened skies.

A day must come for Belgium When Victory shall stand; And silently the vanquished foe Will leave your grave-filled land.

O, gallant King of Belgium! Take—as your crown to-day— The homage that our hearts contain And thrill the prayers we say. —ANNA B. BENSEL.

Germany practically said to Belgium: "If you don't stand aside we will crush you! Then where will you be?" and King Albert—with his people backing him—gave Luther's calm and confident answer: "Where I am now, in the hands of Almighty God". I mean, his action said louder than words: "Here I stand I can do no other. God defend the Right!" And God will defend the Right in His own time and way. Those who faced danger, destitution and death, to save the friend who relied on their honor are shining like a crown of jewels in the Hand of God. He holds them there safely, and our hearts yield instinctive homage as we pray for the gallant king of Belgium, for his devoted people and for all who—as my American friend has declared in her impassioned verses—prefer death to dishonor.

We read of splendid deeds of heroism being done by other people—in these days

heroism seems to be as common as selfishness used to be—and we often feel discouraged because we don't seem to be of much use in this time of world-wide need. We feel worthless and contemptible, as if we were of little value to anyone. It is encouraging to remember that each soul is of priceless value in God's sight. It is not only "good" people that He loves. When a sinner turns, in penitence, and says, "I have sinned!" the courts of heavening with songs of joy and the Father's arms are eagerly stretched out to embrace the son who was dead and is alive again.

We have strayed like lost sheep—have failed again and again—yet God's love never fails us. He wants to blot out our sins, to clothe us in the shining robe of righteousness, (the "best" robe, which is the righteousness of our loving Elder Brother), and to welcome us into the home life again. As each child of a family is very dear to his father; so each of us is a "peculiar treasure", kept in the Hand of God.—Mal. 3:17 (R. V.). Drawing new strength from Him, we can rise after every fall and begin again. Every day is the beginning of a New Year. Each night we can commit ourselves into our Father's hands, and lie down in peace. We can face day fearlessly, knowing that any cup our Father may offer us will be a gift of love. Medicine may be bitter, yet helpful, and our Father will never offer us poison—though sometimes we willfully read books which poison and defile our souls.

For the Needy.

The "lone dollar to help someone in need" has gone to help a poor woman, who is trying to support herself and her three children by sewing, and \$2.25 (sent by the members of a Bible Class) will bring good cheer to several sick people. Thank you all! HOPE.

The Beaver Circle

Dear Beavers.—Knowing how all boys and girls love a dog, I want to give you two dog stories that I read lately and cut out for you.

The first one is about a dog that the French troops found when they recaptured Fort Vaux at Verdun. It has been taken from the N. Y. "Sun":

The Dog of Vaux.

The only tenant of ruined Fort Vaux when the French troops marched in was a dog. He was not willing to surrender: his bark rang out like a challenge. There was no guardian of the cases of cartridges and boxes of rations the Germans had abandoned but this mongrel with neither food nor water. To him, bristling in the breach, may be adapted the lines:

'Such a meagre troop, such thin chapped starvelings, Their barking stomachs hardly could refrain From swallowing up the foe ere they had slain him.'



Dogs Decorated for Bravery.

A group of war dogs recently decorated by the French war department for heroic work at the front. These heroes are attached to Red Cross divisions on the western front and have been mentioned for bravery in the dispatches of the French commanders. Many dogs are used on the battlefronts to hunt up the wounded in order that they may be treated and sent to hospitals. The dogs shown in photo are the first to be signalled out for special honors. International Film Service.

He Who guides the stars in their tremendous orbits, in Whose hand is the destiny of the warring nations, yet feeds His flock like a shepherd and is always ready to pick up a weary lamb and carry it in His sheltering arms. He cannot bear to lose one straying sheep, but will go after it until He finds "His own." If you are troubled about someone who has strayed far from the path of righteousness, take heart again! He Who is All-Wise and All-Mighty is seeking His lost sheep and yours. He will not give up the search in discouragement. Do you hear His voice?

—"The weakest of my flock The one who grieves the most and loves the least, I would not have him lost For all the world."

DORA FARNCOMB.

A Message to Dorris.

I have been asked to convey to "Dorris" the thanks of my lonely friend, who says: "Thank her for her gift which she sent by the Hand of the Christ-Child, Who perhaps whispered to her soul to send forth a token."

HOPE.

Henceforth this deserted dog will bury his bones in soil never to pass to the Germans again; he will fetch and carry for Verdun's heroes; the wounded whom he succors will be 'poilus'; all his company tricks will be French, and he will be called by a French diminutive; and he will wear a collar with a brass plate inscribed 'The Dog of Fort Vaux.' Of course, he will always march at the head of the battalion as its mascot.

The second story has been taken from that delightful little paper "Our Dumb Animals", and here it is:

A Dog That Found the Trenches.

A few days ago those passing along the Boulevard Victor Hugo at Troyes were surprised to see a poor woman, Mme. Petitjean, huddled on a handcart weeping as if her heart would break and caressing in her arms the body of a splendid wolf dog that had been run over by a careless chauffeur, writes W. L. McAlpin in the Daily Mirror, London. Moved by pity, passers-by stopped and tried to console the disconsolate peasant woman, but with tears running down her cheeks she told them it was impossible for them to understand the measure of her loss "Every night", she said, "when I wheeled my vegetables from Cresantignes to the market at Troyes, Medor accompanied me and acted as my vigilant guardian. Last month he disappeared for a few days, and as he'd never left me before I thought he was lost or stolen. But one night I was awakened by well-known barks at the door. I hastened to open the door, and there was Medor, but a Medor I hardly recognized. Dirty and covered with mud, it was easy to see that he had come a long way. While I was caressing him I discovered under his collar a letter placed there by my soldier son on duty at the Bois Lepretre. In it he told me his glad surprise on seeing Medor arrive in the trenches and how he had wept like a child while he embraced him. The dog, feeling lonely at the absence of his master, had gone in search of him and goodness knows how he had found him."

Senior Beavers' Letter Box.

A letter from Puck to Margaret Darling:

Dear Margaret.—I received your nice little letter and the enclosed story which you wrote. You express yourself very well, and have good imaginative powers; your writing is plain, your spelling above reproach, and your punctuation accurate. Indeed I think you may be able to write very pretty little stories before long. But the one you sent, Margaret (this is just for your ear alone) is just a wee bit too much like a dime novel, too much shooting and burglar business in it. When you write your next story, tell it about things that you know all about. You will find that if you describe faithfully, and with an eye to picturesque points, the things that you see and hear right about you, you can write more interestingly than you know.

So try again, Margaret, and don't be satisfied with "any kind of a scribble." Work and work until you have accomplished something that suits you. Only by hard work is anything worth while ever done. Puck.

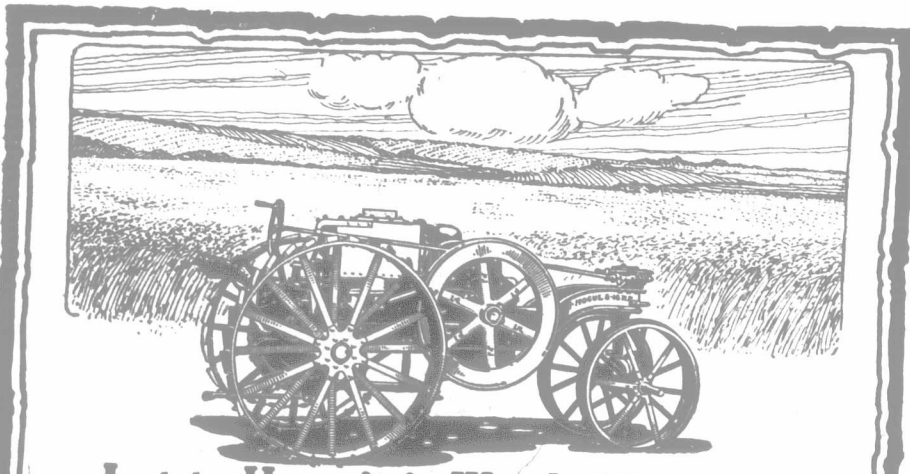
Dear Puck and Beavers.—This is my second letter to your charming Circle As I have not written for some time, I am going to write a letter about the way our teacher rewards us for having no mistakes in spelling.

Our teacher, (Mr. Dyce), has a large piece of white paste-board. On it our names are all placed. He puts the number of mistakes we have on the paper. If we have none all week, he places a little silver star beside our name. It is about a quarter of an inch in size. If in two weeks we have no mistakes we get a gold star the same size.

I have had four silvers and two golds. The total is about four golds and eight silvers. There is one girl in our school that has had but one mistake since summer holidays. I have been ahead of my class for a long time. We expect to try for junior fourth at summer holidays. As my letter is getting long, I will close with a riddle.

What is a good servant but a very bad master.

Ans.—Fire. GRACE DUNNILL, aged 10, Sr. III class. Walter's Falls, Ont.



Just to Have it is Worth All it Cost

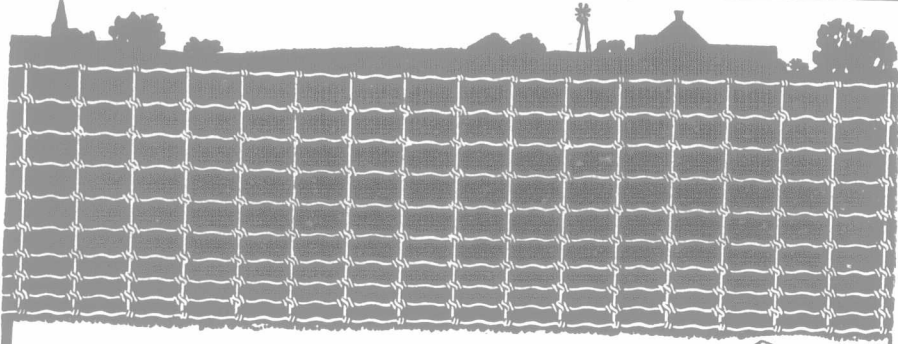
THE chief value of a Mogul 8-16 kerosene tractor lies in its ability to do the heavy work of seed bed preparation, harvesting, threshing, silo filling, husking and shredding—better, quicker, and cheaper than horses can. You will be able to dispose of some horses when you buy your tractor, but even if you don't sell a horse, it's worth while to have a Mogul tractor. It's a cheap, practical insurance against late planting, harvest losses, and delayed marketing. To quote one of our 1915 customers, "It's worth all it cost just to have it on the farm."

A Mogul 8-16 is not an expensive machine, either to own or to use. It costs less than the horses whose work it does. It does good serviceable work at all loads, operating on cheap kerosene. This feature makes it the cheapest of all known farm power. With it one man can do fully as much power work as two without it.

Now is the time to write us for catalogues telling about the Mogul line of real kerosene tractors. Get your tractor delivered ahead of the spring rush. Write to us for catalogues now while you think of it. Address the nearest branch house.

International Harvester Company of Canada, Limited

BRANCH HOUSES
 WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
 EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.



Well, Sir, that's some fence

Because of its simplicity and amazing strength, "Ideal" Fence excites the admiration of every practical mind. "Some fence" is right. Take a look at it—

Ideal Fence

Notice how the Ideal lock takes a "grape-vine" grip of the upright and cross wires in a strong, even, uniform pressure. There are no sharp angular turns to break the surface of the wire and weaken the grip of the lock. Yet it grips, as you see, the wires in five places—twice on the upright, twice on the horizontal and again where the two wires cross. Thus, while it positively prevents either wire from slipping, it allows just enough play so the fence can be erected on hilly ground without kinking the line wires. At the same time, it keeps the uprights perfectly straight. You wonder why Ideal Fences are so free of broken or bent uprights; well, that's the reason.

May we send you a copy of our catalogue which tells the whole story in a factful interesting way? A post card will bring it promptly.

The McGregor-Banwell Fence Co., Limited, Walkerville, Ontario

Spruce Glen Shorthorns

When in want of Shorthorns visit our herd. We have 70 head to select from, Minns, Fames, Miss Ramsdens, Florences, Emlys, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right.

James McPherson & Sons, Dundalk, Ont.

When writing please mention Advocate

Dear Puck and Beavers.—I wrote you a letter about a year ago and it was in print so I thought it no harm to try my luck again. I like reading the Beavers' letters very much for some of them are very interesting.

In one of January's issues I read a letter from Walter Clarke of Grand Valley, saying he was going to try his entrance in the summer and I expect to do the same. I wish him every success and hope he passes. The entrance room is no easy room here. Although the girls that tried in 1916 said the exams were not very hard. I sincerely hope they will be the same this year. I passed into the entrance room last summer.

I wish any of the Beavers would write to me. I don't care who it is. Wishing your Circle every success.
 PEARL N. TREE, age 14.
 R. R. No. 3, Woodstock, Ont.

Dear Puck and Beavers.—I have been an absent member for quite a while, but have started a letter at last. I suppose most of the Beavers are glad winter is here. I am myself and all my little friends around me are. We have remarkable sleigh-riding here. We start from the top of our hill which must be 3/8 of a mile long, and go clear to our station at the base of the hill. I must thank you Puck for the book you sent me called "Tanglewood Tales". I had never read it before and it was a pleasure. I am going to take special care of it in remembrance of the "Beaver Circle", when I have grown too old to be a member, but I hope that time is not soon. I will draw to a close now with a few riddles.

1. A duck, a lamb, a frog and a skunk all go to the fair. The fare is one dollar. Who can go in and who can't?

Ans.—The duck can go in because she has a bill, the lamb can go in because it has four quarters, the frog can go in because he has a green back, but the skunk can't go in because it only has a cent, (scent).

2. How can you shoot 120 hares at one shot?

Ans.—Shoot at a wig of hairs.

3. When is a farmer cruel to his corn?

Ans.—When he pulls its ears.
 Fonthill, Ontario. ALTA CLARK.

Honor Roll.—George Thur; Alton Wagner; Freida St. Eld.

Beaver Circle Notes.

George Thur, (age 14), R. R. 1, Elora, Ont., wishes some of the Beavers to write to him.

Also Freida St. Eld, (age 12), R. 3, Cayuga, Ont.

Junior Beavers' Letter Box.

Dear Puck and Beavers.—This is my first letter to your Circle. I live in town and go to school every day, and stay ahead in my class. My teachers' name is Miss McCordic. I like her fine. I have a little brother whose name is Bill. My papa is dead and I live with my uncle. He takes the Farmer's Advocate and we all like it. I wrote this all myself. How do you like my writing? I hope you will put my letter in your paper. Will some of the Beavers please write to me? I am 7 years old.
 Forest, Ont. BERNICE COUSINS.

Dear Puck and Beavers.—This is my first letter to your interesting Circle. My father has taken the Farmer's Advocate for as long as I can remember. And I always take pleasure in reading the letters.

We had a school Fair in the summer time. I showed a lot of things and I got first on art, and second on sewing. The prize for art that I got was a drawing pencil, and for my sewing a hemstitched handkerchief, I got a cup and saucer. We had two-legged races and three-legged races, and many other kinds of sports. I won in the two-legged race and got an orange, and every one got a bunch of grapes. Then the prizes were given out and then we went home very happy.

I have read quite a few books. Some of them are the Katy Books, Joseph's Little Coat, Black Beauty, and many

others. Well I will close hoping the w. p. b. is asleep when this arrives.

ETHEL FARRELL.
 (age 10 years, senior 3rd class.)
 R. R. 2, Ripley, Ont.

Dear Puck and Beavers.—This is my first letter to the Beavers, and I hope it will get along. I am going to tell you about our school garden. I have a garden and I took asters and radishes. There are other girls and boys who have gardens. I go to school every day. I have four sisters and one brother. Well I guess I will close as this is my first letter.

IVA HARRISON, (age 9, jr. III).
 R. R. 2, Ripley, Ont.

The Ingle Nook.

[Rules for correspondence in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this Department for answers to questions to appear.]

Dear Ingle Nook Folk.—It is just possible that you, who are my friends, may be interested in dipping in with me into some things into which, recently I have dipped.—That sounds like "Peter Piper ate a peck of pickled peppers," doesn't it? But never mind. One of the things into which I have dipped on this week of writing, has been a Literary Society and I want to share our experience with you, especially with those of you who take part in similar associations in your own districts.

I say our, for it was very much "our". Upwards of a hundred sat down to the supper in the University Building which marked the inauguration of the Society. Somebody said, "I don't like the idea of mixing up 'eats' with literature"—but why not? After all, we are a mixture of body and soul—we can't get away from that fact—and perhaps it was a wise seeing of Browning that made him say:

"Let us cry 'All good things
 Are ours, nor soul helps flesh more, now,
 Than flesh helps soul.'"

At any rate the idea of opening with a supper was simply to try, at the very beginning, to dispel the formality and strangeness rather inseparable from the first coming together of so large a body of people, many of whom were unknown to one another.

The pivot of the evening, however, was a discussion on Rupert Brooke, introduced by one of the professors of the University, and taken up by some half-dozen other forewarned and therefore forearmed people.

It was most interesting to hear the various opinions. The artistic and elemental qualities of Brooke's poems were dwelt upon by one speaker; two others disputed his claim to being a great poet at all, suggesting that, in all probability, the place given to him has been a sort of canonization consequent upon the romantic and tragic end of his young life, which ebbed out on a British troop-ship in the Aegean Sea. . . .

"If I should die, think only this of me:
 That there's some corner of a foreign field
 That is forever England"—

These words he had written in strangely prophetic mood, shortly before his departure from the "England" which he loved, and a few months later devoted pilgrimages were being made to his grave on Lemnos Island, over which south-blowing winds carried the booming of the distant cannon at the Dardanelles.

Finally—to return to our Society—the poet of the assemblage spoke, Robert Norwood, author of "His Lady of the Sonnets," "The Witch of Endor," and three books which are to be published in the early future—"The Modernists," "The Piper and the Reed," and another yet unnamed. When one real poet speaks of another his words are to be listened to, and attention became almost tense as the speaker proclaimed Brooke as a poet comparable to the greatest, pointing out, as proof, that he had realized the experience of cosmic consciousness, a realization that never

fails to bring with it, or indicate, the power of the seer—an absolute condition of greatness in a poet. In confirmation of this assertion. Mr. Norwood read the following stanzas in which Brooke himself tells of the illumination which burst upon him, it seems, at so simple a function as a dining-room tea:

When you were there, and you, and you, Happiness crowned the night; I too, Laughing and looking, one of all, I watched the quivering lamplight fall On plate and flowers and pouring tea And cup and cloth; and they and we Flung all the dancing moments by With jest and glitter. Lip and eye Flashed on the glory, shone and cried, Improvident, unmemoried; And fitfully and like a flame The light of laughter went and came. Proud in their careless transience moved The changing faces that I loved.

Till suddenly, and otherwhence, I looked upon your innocence. For lifted clear and still and strange From the dark woven flow of change Under a vast and starless sky I saw the immortal moment lie. One instant I, an instant, knew As God knows all. And it and you I, above Time, oh, blind! could see In witness immortality.

I saw the marble cup; the tea, Hung on the air, an amber stream; I saw the fire's unglittering gleam The painted flame, the frozen smoke. No more the flooding lamplight broke On flying eyes and lips and hair; But lay, but slept unbroken there, On stiller flesh, and body breathless, And lips and laughter stayed and deathless, And words on which no silence grew. Light was more alive than you.

For suddenly, and otherwhence, I looked on your magnificence. I saw the stillness and the light, And you, august, immortal, white, Holy and strange; and every glint Posture and jest and thought and tint Freed from the mask of transiency, Triumphant in eternity, Immove, immortal.

Dazed at length Human eyes grew, mortal strength. Wearied; and Time began to creep. Change closed about me like a sleep. Light glinted on the eyes I loved. The cup was filled. The bodies moved. The drifting petal came to ground. The laughter chimed its perfect round. The broken syllable was ended. And I, so certain and so friended, How could I cloud, or how distress The heaven of your unconsciousness? Or shake at Time's sufficient spell, Stammering of lights unutterable?

The eternal holiness of you, The timeless end, you never knew, The peace that lay, the light that shone. You never knew that I had gone A million miles away, and stayed A million years. The laughter played Unbroken round me; and the jest Flashed on. And we that knew the best Down wonderful hours grew happier yet. I sang at heart, and talked, and eat, And lived from laugh to laugh, I too, When you were there, and you, and you.

Now perhaps you do not understand much of that. If not, read on, then, where you have finished this ramble re-read the poem and see what you can make of it.

You all know what is meant by the cosmos (if not, please "look the word up" in a dictionary), and possibly some of you may be familiar with what is meant when "cosmic consciousness" is spoken of; on the other hand, some of you may have but the vaguest idea of its meaning, or you may never have heard of it at all.

Now I can't presume to give a very definite idea of cosmic consciousness in a short article. The most I can do is to tell you just a little about it, for the moment, enough understanding of the experience to enable you to grasp to some degree the meaning of Brooke's poem, "Dining-room Tea." And in this connection I cannot but mention a book written by one of our own men, the late Doctor Bucke of this city of London, and issued under the title of "Cosmic Consciousness." Right here, however, I want to say if you find it convenient to read this book you are not likely to accept all that Dr. Bucke says. Indeed

I am quite sure that you will not.—But that does not matter in the least. As a very profound lecturer said, last night, the value of a book to you is the degree to which it sets you thinking. Whether you agree with everything in it or not is neither here nor there.—And so, in regard to the volume of which I am speaking it will be enough to say to you that it is the most comprehensive compilation of the history of cosmic consciousness that has yet been attempted. This portion of it you will grasp and appreciate. Dr. Bucke's own ideas, given here and there, you may accept, or throw aside, as you will. As for "cosmic consciousness" itself, some scientists have flouted the whole matter; others have accepted it, and consider it very seriously as a present phenomenon that may prove to be but the indication of something of which much more will yet be known. Of course you can take whichever side you choose. At all events the thing is interesting, and worth, perhaps, a passing thought.

In the book referred to, then, to bring the whole matter down to a nutshell, Dr. Bucke gives a succinct history and an explanation, as clear as may be, of the —experience, —I cannot think of any other term by which to name it. He points out that there are three stages of consciousness. (1) Simple consciousness, that possessed by the animals and scarcely more than passed by the cave-man. (2) Self-consciousness, the stage reached by civilized people in general, and (3) Cosmic consciousness —a great awakening, realized by a few people, in regard to the cosmos or universe, —a higher state as yet confined to the few.

As a rule this last experience is realized by unusual thinkers (the matter of mere book-learning does not seem to count greatly), people of great natural perception, who have not permitted their faculties to rust, but have made the most of them.

It appears, then, that the instant realization of cosmic consciousness, such as that which came to Brooke in that divine "immortal moment" at the tea-table, is no miracle, but rather a culmination of many experiences, and much pondering, and much leaving of the self open to the influences of the Infinite. But there may be something more, which we do not understand as yet, and which at times, appears to direct the experience on inexplicable ways, causing it to fall in strange places.

It is not denied that cosmic consciousness may be realized gradually, so that no finger can be placed upon a time in regard to which one may say, "Then and there I knew that this had come to me," but it is also held that in great outstanding instances the realization has come suddenly as with the bursting of a great light, in which the Universe appears as a something understood, and the whole soul is carried for a time, as it were on an ocean of ether—joy, and wonder, and vision mounting to an ecstasy not to be described.

Dr. Bucke mentions a number to whom the experience culminated thus, in one blinding, ecstatic flash.—St. Paul (Saul) when he was "blinded" by the "light" that struck him as he journeyed to Damascus; Mohammed, when he realized the vision that set him away in advance of his pagan fellow-countrymen; Walt Whitman when he met his great experience on that "day in June";—many others.

It is as though things became known, all in a moment, and henceforth the recipient—or the full-blown blossom—becomes in truth a seer; can penetrate more than ever before to the heart of things; realizes his oneness with the universe and the holy everywhere.

The argument—or hope—is, that as the evolution of man goes on (as we know it is going on) cosmic consciousness may be a much more frequent realization than at present. Just as simple consciousness has been passed by the human race and self consciousness generally attained, so may self-consciousness be left behind and cosmic consciousness generally attained.

Now I wonder if I have given you one little glimmer of understanding in regard to cosmic consciousness, enough at least, to enable you to understand Rupert Brooke's poem.

At all events the whole subject is fascinating, is it not? I wish I knew more about it, and that I could tell you more about it, but time, space and words fail me. Continued on page 188

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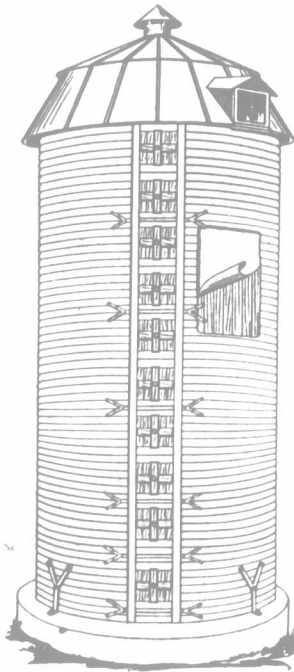
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In our Literary Society the time is to be devoted almost exclusively to the study of modern writers. We wish to get away from the mistake of placing all our flowers on coffins, but to reserve some of them for the men and women who, in our own century, are working to give expression to themselves and the age in which we are living. We hope to consider well the works of these people, and to lay finger on truly great achievement wherever it is found.

For the help of those who, in smaller rural societies, are carrying on a similar line of study, I may, perhaps, mention the following list of modern writers, some of whom may have escaped you. Most of them are still living:—Rabindranath Tagore, John Masefield, W. B. Yeats, Alfred Noyes, Sygne, Francis Thompson, Stephen Phillips, Edgar Lee Masters, Bernard Shaw (dramatist), John Galsworthy, and A. C. Benson (essayists), Dostoevsky, Tolstoi and Turgenieff, and our own Canadian poets—Roberts, Carman, Campbell, Norwood, Watson, Stringer, Marjorie Pickthall.

You will understand that this list is just a drop from the ocean of those who are writing to-day,—but not one in it is insignificant.

JUNIA.

Inventions for Women.

For Mrs. G. W. W., Dufferin Co., Ont., who wishes some information on inventions to help women in their housework. The best inventions of this kind now on the market are, probably: the vacuum-cleaner, dustless mop, washing-machine with wringer, bread-mixer, double boiler, steamer, carpet-sweeper, and a whole host of smaller helps—toaster, egg-beater, wire-basket, egg-poacher, pot scraper, lemon-squeezer, flour-sifter, mixing bowls of the right shape, etc., to no end. If electricity is available, an electric iron, electric grill, and motor-washer will be found invaluable, but as yet electricity is not to be had in most rural homes.—In equipping a house with labor-savers don't forget to keep on hand Bon Ami, for cleaning windows and white shoes, ammonia to help with the washing and cleaning generally, and our good old friend, Dutch Cleanser, than which nothing is better for cleaning bedroom crockery and soiled pots and pans of all kinds.

A Supper Dish.

Dear Junia.—Well, as I have never written to the Nook before, I feel rather timid about entering.

As soon as the "Yellow Covered" book comes into the house I turn to see what Junia and the Nookers have to say. How I do enjoy all the letters and get many helpful hints from them. I generally read Sandy Fraser's letter aloud and many a good laugh we have at his quaint saying. "Hope's Quiet Hour" is left for Sunday afternoon or evening. I enjoyed her letter of Jan. 4th. "Bring the children". What a blessed responsibility God has given us in teaching the "little ones" for him. How eager they are to hear more about Jesus.

I think Lassie's suggestion was a very good one. I am going to send you

a recipe for a nice hot supper dish I often make.

Take the potatoes, vegetables and meat—"perfectly lean meat" left from dinner, put all through the food chopper alternately, put into an agate bake dish loosely, do not press down. Add a dash of salt and pepper, also 2 tablespoons of rich milk. Bake in the oven till a golden brown.

Well I will close with all good wishes for the New Year.

MOTHER OF THREE.
Argenteuil Co., Que.

Re Window Shades.

For "Worried", Essex Co., Ont. If the faded cream shades are of good quality you can paint them dark green with ordinary oil paint. Use a good brush that will not streak.—Now, will this take the worried pucker away? I hope so.

Valentine Party.

Would you kindly publish in your valuable paper how to conduct a Valentine party—what games, and give an outline how the invitations should be worded?

FROM A READER OF YOUR PAPER.
Russell Co., Ont.

If you save your Advocates kindly refer to February numbers in back issues, as this question has been asked—and answered—every year. I can suggest nothing better, or prettier, than a masquerade party. Have your guests come dressed in character, wearing black masques in which holes have been cut for the eyes. Between trying to guess who the people are, and what are the characters they represent, a good part of the evening will pass pleasantly. A Valentine reading will fill in. Try to encourage talk—there is far too great a tendency at parties to have all games and no talk, and one does get so deadly tired doing stunts. If another game however, seems necessary, the old-fashioned one called "Consequences" is appropriate for Valentine Eve. You know it, don't you? Papers and pencils are distributed; each writes "Her name", folds the paper over and passes it on. "His name" follows, then "Where they met," "What he said", "What she said," etc., through as many events as you like. Each time the paper is folded and passed on, and finally the "stories" are read aloud.

For Valentine refreshments pink should be much in evidence—pink ice-cream, pink icing, etc., with tiny hearts everywhere, red or pink.

If you can paint in water-color, paint hearts on your invitation cards, and word the invitation in any quaint, pretty way. There is no set form. Use your own originality.

Seasonable Cookery.

Sausages and Apples.—Shape country pork sausage mixture into flat cakes, and put them into a frying pan in which a very little butter has been melted. Put in the oven to cook. In the meantime core and pare some tart apples, then cut them into rings about half an inch thick. Dip the rings in milk and then in flour and cook to a golden brown in a little deep fat. Serve around the sausages on a hot platter.

Lemon Pie.—Bake the pie shells then fill with a mixture made as follows: Put in a granite dish 1 cup boiling water, add to it juice of 1 lemon, a little of the grated rind, a lump of butter, 1 cup sugar, 1 heaping tablespoon flour blended in a little water, yolks of 4 eggs and whites of two. Cook, stirring constantly, then fill the shells and cover over with the beaten whites. Return to the oven to brown. This is for 2 pies.

Cinnamon Toast.—Spread hot toast evenly with butter and sprinkle generously with sugar mixed with cinnamon using 3 parts sugar to 1 part cinnamon. Serve very hot on hot plates.

Emergency Drop Muffins.—Mix and sift 1½ cups pastry flour, 3½ teaspoons baking powder and ¼ teaspoon salt. Work in 3 tablespoons lard with tips of fingers, and add gradually ¾ cup each of milk and water, mixing quickly. Drop by tablespoonfuls into buttered, hot gem pans, and bake in a hot oven 15 minutes. Serve piping hot.

Golden Corn Cake.—Mix and sift ¾ cup corn meal, 1¼ cups pastry flour ¼ cup sugar, 5 teaspoons baking powder

(level), and ½ teaspoon salt. Add 1 cup sweet milk, 1 egg well beaten, 2 tablespoons melted butter. Turn into a buttered shallow pan and bake in a hot oven 25 minutes. Serve hot with butter and jam, syrup or honey.

Apple Pudding.—Almost fill a deep granite dish with sliced apples, pour in a little water, and sprinkle liberally with sugar and cinnamon if liked. Some bits of butter or a dash of salt will improve the dish. Pour over the top any good layer-cake batter, and bake. Serve with cream or sauce.

Apple Charlotte.—Take 6 large apples, some very stale bread, ½ lemon, butter, nutmeg, cinnamon or cloves to taste. Peel and core the apples, cut them into thin slices and cook in a saucepan with sugar to taste and the grated rind and juice of the lemon. Also add the cloves, nutmeg or cinnamon. Line a well-buttered pie-dish with thin slices of bread well buttered on both sides. Brush the bread over with beaten white of egg, then fill up with the cooked apple. Cover the top with buttered bread, sprinkle with sugar and bake until browned and crisp.

Lemon Juice.

If you heat lemons thoroughly in the oven you will find it much easier to remove all of the juice. A glass juice extractor should be used for lemons, never a metal one, which has a tendency to spoil the flavor. If one has not a juice extractor the lemons should be well rolled after heating when the juice can be squeezed out quite readily.

Use for old Velveten.—A piece of velveten from an old dress or blouse should never be thrown away. It is an excellent substitute for wash leather. Use it for polishing furniture and for brightening plated goods.

The Scrap Bag.

Use for Old Stockings.

Cut off the feet from old stockings, bind the raw edge, then draw on to give double stocking thickness in cold weather. Many prefer these to over-tights, which are somewhat clumsy.

Potatoes in Skins.

In these days of economy remember that potatoes cooked in their skins lose nothing of their food value. It is very foolish to peel potatoes and leave them standing in cold water, as much of the "good" of the tubers disappears in the water.

"Perhaps no one thing in the baby's development counts for so much as do his teeth," says Kathleen Elizabeth Steacy in Everywoman's World.

"On them digestion depends, on digestion nourishment relies, and health or the reverse is the result. The dentist should be consulted without waiting for the warning given by toothache, and any cavities filled, though it may be with a temporary filling only. No mouth can be clean and healthy while receiving the deposits from decaying teeth. More, this decaying matter exudes a poisonous pus, which is swallowed, to the hurt of the stomach.

"The teeth should be brushed after each meal, and all bits of food removed, if necessary, with a piece of dentist's silk; the mouth should be cleansed by rinsing with milk of magnesia, or a weak sodium bicarbonate solution. Too much care cannot be taken to ensure strong, healthy teeth to the baby.

"Crooked teeth are more liable to decay than are those that are straight; and crooked teeth cannot do as good work in cutting and grinding the food as straight, even teeth, and the stomach suffers; crooked and decayed teeth are often the unsuspected cause of indigestion. Teeth that are not straight and even, or are decayed, spoil the shape of the mouth, and discount the sweetest smile and brightest face ever held up for a good-night kiss."

Napkin Rings.

Do you know that very pretty napkin rings may be made of linen? Make in the form of a little strap that can be buttoned into the form of a ring. Button-hole on each side, and work initial on the top. When laundering starch rather stiff.

Rust Spots on Knives.

If there is a rust spot on a knife press it into a raw onion and leave for an hour or so, then polish in the usual way.

NOTICE! FENCE BUYERS

There is complaint from some people buying fencing that fence prices are too high. They do seem high, but everything is high, and the fact is almost everything else is relatively higher than fencing.

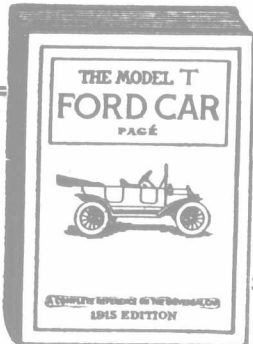
We have done all we could to keep the price of PAGE fencing down, without lowering the quality. We could make it some cheaper by using slightly smaller wire, using cheaper grade of wire and by letting up in care of our manufacturing system in producing accurately woven fence, but we think it best policy to give our customers as good an article as ever, rather than lose their goodwill later through having deceived them in quality.

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WANTED—FARM HAND, SINGLE, EXPERIENCED or partly, yearly engagement; state wages Box Mc. Farmer's Advocate, London.

WANTED—MAN WITH FAMILY FOR ONE hundred-acre farm; orchard and berries in connection. Write Box K, Farmer's Advocate, London, Ont.

Sweet-clover Seed Wanted. A quantity of white blossom Sweet-clover seed, hulled and unhulled. Send sample and price, for sale—O.A.C. 21 Seed Barley, and O.A.C. 72 Seed Oats. Geo. D. Fletcher, Erin, R.R. 1.

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Contributions from Jan. 19 to Jan. 26: Margaret B. Park, Hudson, Que., \$1; A Friend, Kerwood, Ont., \$5; A Friend, Komoka, Ont., \$2; Mr. Wagg, \$5; Jas. Hay, Middlesex Co., \$3; A Sympathizer, \$1 (for Byron Military Hospital); L. H. K., Eden, Ont., \$2; Wm. Hay, R. 4, Carlingford, Ont., \$8.50; A. E. Rumbold, Bridgen, Ont., \$1; "Britisher," Watford, Ont., \$1; Thos. H. Quick, Glencoe, Ont., 50 cents.

Amount previously acknowledged.....\$3,508.50

Total to Jan. 26th.....\$3,538.50

Kindly address contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

Thinking it might interest the Dollar Chain contributors to know how their money has been distributed, we have had the following list made out, covering contributions up to the second week in January:

Red Cross.....	\$1,285.00
Soldiers' Comforts.....	615.00
Daughters of the Empire (who have Orpington Hospital for Canadian soldiers in especial charge).....	455.00
Belgian Relief.....	705.00
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Armenian Relief.....	75.00
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	\$3,446.00

This leaves almost \$100.00 in the Treasury, which will be sent out as soon as the full one hundred dollars are on hand.

Current Events.

Toronto set out to collect \$2,500,000 in four days for the Red Cross Fund. The amount realized was \$3,259,028—Hurrah, Toronto! The children collected \$25,000.

Sir Robert Borden will attend the Imperial Council that Premier Lloyd-George has summoned. The Canadian Parliament will adjourn on Feb. 9th and will not meet until his return.

It has been reported that in Germany consumptives are now being taken out of the sanitariums and sent to fight in the trenches.

Food Controller Baron Devonport has decided that the quantity of beer to be

THE BEST TOMATO SEED

is saved by the
Dominion Cannery Farms
WELLINGTON : : ONTARIO

Our own results, and those of our customers, show that every pound of this seed will produce at least 75,000 vigorous plants.

We specialize on the premier canning varieties, viz.—Chalks, Early Jewel and John Baer.

See that your local factory is prepared to furnish your requirements for 1917 from this specially selected seed.

DEAF PEOPLE

"FRENCH ORLENE" absolutely cures Deafness and Noises in the Head, no matter how severe or long standing the case may be. Hundreds of persons whose cases were supposed to be incurable have been permanently cured by this New Remedy.

This wonderful preparation goes direct to the actual seat of the trouble, and one box is ample to effectually cure any ordinary case. Mrs. Rowe, of Portland-crescent, Leeds, says: "The 'Orlene' has completely cured me after twelve years' suffering."

Many other equally good reports. Try one box to-day. It only costs \$1, and there is nothing better at any price. Address:

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POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order or any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 50 cents.

BARRED ROCKS—GRAND LAYING strains; cockerels, pullets, eggs. Prices right. Central Poultry Yards, Colborne, Ont.

BOURBON RED TURKEYS, RUNNER Ducks, Barred Rocks, Black Spanish Partridge Wyandottes, Pekin Drakes, African Gander, bred from imported prizewinners; prices easy. John Annesser, Tilbury, Ont.

CHOICE S.-C. BROWN LEGHORNS, S.-C. Reds, cockerels, \$2 each. Wm. Bunn, R. 2, Denfield, Ont.

FOR SALE—MAMMOTH BRONZE TURKEYS heavyweights, bred from imported stock. Angus Beattie, R.R.1, Wilton Grove, Ont.

RINGLET BARRED ROCKS—PURE-BRED—Trapnested, heavy winter layers. Beauty and utility combined. Settings \$2.00. 100% fertility guaranteed—100%. Book order now, 25% deposit. Particulars—Coldham, Kingston, Ont.

POTATOES FOR SALE

A limited quantity of pure seed.

PORT ELGIN FRUIT GROWERS, LIMITED
Port Elgin, Ontario

brewed for the year beginning in April shall be restricted to 70 per cent. of the output of the year preceding the war. The restriction has been made to conserve the barley, sugar, etc., for food, and the transportation space for munitions and industries of national importance.

The Czar has issued a rescript practically establishing responsible Cabinet Government in Russia.

During the week heavy fighting has been reported from Mesopotamia, where the British took 1,100 yards of Turkish trenches; also from the Aa River on the Riga front. On Jan. 25th the Germans renewed fighting over 3 1/2 miles along the west bank of the Meuse, near Verdun, and succeeded in capturing a mile of trenches, but Paris reports that most of the lost ground was retaken. On Jan. 24th a naval engagement took place off the Dutch coast. The British officially admit the loss of one destroyer and 47 officers and men. Unofficial reports say the Germans lost 7 vessels.

The Windrow

Sir Conan Doyle is writing a history of the war in several volumes. This writer's reputation, already achieved, is sufficient guarantee of the sincerity and literary value of the work.

Shells and shrapnel are often spoken of as if they were the same thing, but there is a difference. Shells that carry shrapnel or charges of small balls are exploded at the end of their trajectory, but explosive shells do their damage with the minute fragments into which they burst when they come in contact with an obstacle. Some of them burst into more than 2,000 pieces.

Thirty-five hundred women are now doing work previously done by men in the banks of Canada, 3,000 are working in the munition factories, and 5,000 are nursing the wounded at the front.

As prohibition pushes alcohol out of business for drinking purposes, its use, in denatured form, will no doubt be greatly extended. It has been found possible to solidify it for quick heating. It can also be used for driving tractors, and an alcohol motor is now almost at the point of perfection. Denatured alcohol irons for laundry purposes have been in use for years in the United States. Commenting on other uses, Dr. Saleeby in the London "Chronicle", points out that alcohol is the source of ether and chloroform, and is necessary in making hosts of other drugs because of its power of dissolving medicinal substances, as, for instance, in liquid surgeon's soap. It dissolves varnishes and shellac for coating copper wires, and is used in the manufacture of "artificial silk" and many dye-stuffs. Alcohol, so long the enemy of mankind, may therefore find itself in the strange guise of friend.

Our Serial Story

Serial rights secured from the Bobbs-Merrill Publishing Company.

The Brown Mouse.

CHAPTER XVI.

THE GLORIOUS FOURTH.

A good deal of water ran under the Woodruff District bridges in the weeks between the school election and the Fourth-of-July picnic at Eight-Mile Grove. They were very important weeks to Jim Irwin, though outwardly uneventful. Great events are often mere imperceptible developments of the spirit.

Spring for instance, brought a sort of spiritual crisis to Jim; for he had to face the accusing glance of the fields as they were plowed and sown while he lived indoors. As he labored at the tasks of the Woodruff school he was conscious of a feeling not very easily distinguished from a sense of guilt. It seemed that there must be something almost wicked in his failure to be afield with his team in the early spring mornings when the woolly anemones appeared in their fur coats, the heralds of the later comers—violets, sweet-williams, puccoons, and the scarlet prairie lilies.

A moral crisis accompanies the passing of a man from the struggle with the soil to any occupation, the productiveness of which is not quite so clear. It requires

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a keenly sensitive nature to feel conscious of it, but Jim Irwin possessed such a temperament; and from the beginning of the daily race with the seasons, which makes the life of a northern farmer an eight months' Marathon in which to fall behind for a week is to lose much of the year's reward, the gawky schoolmaster slept uneasily, and heard the earliest cock-crow as a soldier hears a call to arms to which he has made up his mind he will not respond.

I think there is a real moral principle involved. I believe that this deep instinct for labor in and about the soil is a valid one, and that the gathering together of people in cities has been at the cost of an obscure but actual moral shock.

I doubt if the people of the cities can ever be at rest in a future full of moral searchings of conscience until every man has traced definitely the connection of the work he is doing with the maintenance of his country's population. Sometimes those vocations whose connection can not be so traced will be recognized as wicked ones, and people engaged in them will feel as did Jim—until he worked out the facts in the relation of school-teaching to the feeding, clothing and sheltering of the world. Most school-teaching he believed—correctly or incorrectly—has very little to do with the primary task of the human race; but as far as his teaching was concerned, even he believed in it. If by teaching school he could not make a greater contribution to the productiveness of the Woodruff District than by working in the fields, he would go back to the fields. Whether he could make his teaching thus productive or not was the very fact in issue between him and the local body politic.

These are some of the waters that ran under the bridges before the Fourth-of-July picnic at the Eight-Mile Grove. Few surface indications there were of any change in the little community in this annual gathering of friends and neighbors. Wilbur Smythe made the annual address, and was in rather finer fettle than usual as he paid his fervid tribute to the starry flag, and this very place as the most favored spot in the best country of the greatest state in the most powerful, intellectual, freest and most progressive nation in the best possible of worlds. Wilbur was going strong. Jim Irwin read the Declaration rather well, Jennie Woodruff thought, as she sat on the platform between Deacon Avery, the oldest settler in the district, and Mrs. Columbus Brown, the sole local representative of the Daughters of the American Revolution. Colonel Woodruff presided in his Grand Army of the Republic uniform.

The fresh northwest breeze made free with the oaks, elms, hickories and box-elders of Eight-Mile Grove, and the waters of Pickerel Creek glimmered a hundred yards away, beyond the fitting figures of the boys who preferred to shoot off their own fire-crackers and torpedoes and nigger-chasers, rather than to listen to those of Wilbur Smythe. Still farther off could be heard the voice of a lone lemonade vendor as he advertised ice-cold lemonade, made in the shade, with a brand-new spade, by an old maid, as a guaranty that it was the blamdest, coldest lemonade ever sold. And under the shadiest trees a few incorrigible Marthas were spreading the snowy tablecloths on which would soon be placed the bountiful repasts stored in ponderous wicker baskets and hampers. It was a lovely day, in a lovely spot—a good example of the miniature forests which grew naturally from time immemorial in favored locations on the Iowa prairies—half a square mile of woodland, all about which the green corn-rows stood aslant in the cool breeze, "Waist-high and laid by."

They were passing down the rough, board steps from the platform after the exercises had terminated in a rousing rendition of *America*, when Jennie Woodruff, having slipped by everybody else to reach him, tapped Jim Irwin on the arm. He looked back at her over his shoulder with his slow gentle smile.

Isn't your mother here, Jim?" she asked. "I've been looking all over the crowd and can't see her."

"She isn't here," answered Jim. "I was in hopes that when she broke loose and went to your Christmas dinner she would stay loose—but she went home and settled back into her rut."

"Too bad," said Jennie. "She'd have had a nice time if she had come."

"Yes," said Jim, "I believe she would."

"I want help," said Jennie. "Our hamper is terribly heavy. Please!"

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Better get your order in now and haul while the sleighing is good

If you are thinking at all of building in the coming Spring, you want to get busy NOW! Haul your bricks while the snow is on the ground. If you leave it till later on you may have to haul through the muds of early Spring. Let us also remind you that bricks will cost you more in a month from now, owing to advance in price of coal. Take advantage of winter prices and order now.

If it is a home you are planning, you will need good facing brick, and you can decide without delay what it shall be. Here is what we offer to do for you: We will send you a set of samples of the best facing brick made—Interprovincial Pressed Brick. Examine these bricks made of heavy Shale; note particularly the smooth surface and the clean sharp edges. Select your color and place your order now, so that you can take advantage of the snow for hauling.

Understand, the sample bricks come to you free, all delivery charges paid!

Samples
FREE

BEAUTY

The colors of Interprovincial Pressed Brick will please you. From the samples you will be able to get some idea of what your finished building will look like. The colors are absolutely natural, as no chemical effects are used.

Interprovincial Pressed Brick

ECONOMY

By using Interprovincial Pressed Brick for facing you will spend very little more money than if you faced with common brick, and yet your house or barn will be very much more handsome, and will represent a much better investment.

Write
To-day

DURABILITY

Test the samples you are sending for. For hardness Interprovincial Pressed Bricks are made of Shale well fired, which means an exceptionally hard brick, and one that will retain its color and smooth, sharp lines indefinitely.

SEND FOR FREE SAMPLES TO-DAY

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and Almanac for 1917 has many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about lambs, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chicken-dom. You need it. Only 15c. C. C. SHOENAKER, Box 320 Freeport, Me.

It was rather obvious to Mrs. Bonner that Jennie was throwing herself at Jim's head; but that was an article of the Bonner family creed since the decision which closed the hearing at the court-house. It must be admitted that the young county superintendent found tasks which kept the schoolmaster very close to her side. He carried the hamper, helped Jennie to spread the cloth on the grass, went with her to the well for water and cracked ice wherewith to cool it. In fact, he quite cut Wilbur Smythe out when that gentleman made ponderous efforts to obtain a share of the favor implied in these permissions.

"Sit down, Jim," said Mrs. Woodruff, "you've earned a bite of what we've got. It's good enough what there is of it, and there's enough of it, such as it is!"

"I'm sorry," said Jim, "but I've a prior engagement."

"Why, Jim!" protested Jennie. "I've been counting on you. Don't desert me!"

"I'm awfully sorry," said Jim, "but I promised. I'll see you later."

One might have thought, judging by the colonel's quizzical smile, that he was pleased at Jennie's loss of her former swain.

"We'll have to invite Jim longer ahead of time," said he. "He's getting to be in demand."

He seemed to be in demand—a fact that Jennie confirmed by observation as she chatted with Deacon Avery, Mrs. Columbus Brown and her husband, and the Orator of the Day, at the table set apart for the guests and notables. Jim received a dozen invitations as he passed the groups seated on the grass—one of them from Mrs. Cornelius Bonner, who saw no particular point in advertising disgruntlement. The children ran to him and clung to his hands; young girls gave him sisterly smiles and such trifles as chicken drum-

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LAST CALL!

For thirty days I will sell at special prices to clear my Tom Barron's famous strain of bred-to-lay S.-C. W. Leghorns, 282 eggs, and R.-C. W. Wyandottes, 283 eggs, early-hatched cockerels; strong, vigorous, beautiful birds. Your chance to secure the best bred-to-lay blood in the world.

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CANADA'S GREATEST LIVE-STOCK MARKET

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Auction Sales of Draft and General Purpose Mares and Geldings, every Wednesday and Thursday Large stock on hand for private sale every day.

GREAT ANNUAL BREEDERS' SALE
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A number of valuable consignments have already been entered for this great sale, which promises to eclipse anything in the line of a breeders' sale ever held in Canada. The entries so far include a number of imported (and Canadian-bred, from imported stock) Stallions, from aged down to two-year-olds, also Brood Mares in foal, Foals, Yearlings, two- and three-year-old fillies, and four-, five- and six-year-old Mares in foal, consigned by the most reliable breeders and importers in Canada.

Send for entry forms. Make your entries at once. Entries must be made and full particulars in hand not later than Feb. 15th. Many requests have already been received for catalogues. Send your address at once, and catalogue will be mailed as soon as published.

Consignors to this great sale are under no expense for advertising—all they pay is the commission on actual sales and 60c. per day for feeding. Full particulars on application. Correspondence invited with all large breeders and dealers wishing to arrange dates for Special Sales of Pure-bred or other stock. Our facilities are the best and most economical in Canada.

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Save Money by Feeding
CALDWELL'S Cream Substitute CALF MEAL

Its rich protein and fat content furnishes a very complete substitute for whole milk and a valuable addition to skim or separated milk.

Prof. E. S. Archibald, of the Central Experimental Farm, Ottawa, contributes the following article to a recent issue of the "Canadian Countryman".

"Generally speaking, it costs to rear calves on whole milk to six months of age, from \$14 to \$18 per hundred pounds of gain where milk has a valuation of \$1.75 to \$1.90 per cwt., whereas had the same calves been fed on skim-milk or butter-milk with a CREAM SUBSTITUTE, gains might have been made at from \$3 to \$5 per hundred pounds. For the rearing of good stocker two-year-olds the latter method is the only one under average farm conditions which will leave a profit."

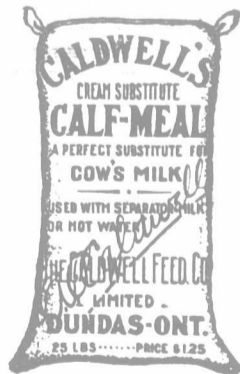
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Order a 100-lb. sack or a larger quantity from your feed man the next time you are down town, or write us direct.

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Men's Clothing For Sale

Get your new suit from Catesby's, London, England, for half what you pay local tailor. Best materials, style, fit guaranteed or money back. Write for free catalogue, self-measurement form and patterns. Address:

CATESBYS LIMITED, Canadian Office
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Mention "Farmer's Advocate"

FACTS ABOUT SWEET CLOVER

This is the title of a booklet on Sweet Clover, a crop, the value of which is not as well known as it should be. Get the history of the plant, methods of seeding, curing and harvesting, its value as a feed and fertilizer in this treatise, written by a man of experience.

WM. LINTON, AURORA, ONT.

sticks, pieces of cake and like tidbits. His passage to the numerous group at a square table under a big burr-oak was quite an ovation—an ovation of the significance of which he was himself quite unaware. The people were just friendly, that was all—to his mind.

But Jennie—the daughter of a politician and a promising one herself—Jennie sensed the fact that Jim Irwin had won something from the people of the Woodruff District in the way of deference. Still he was the gangling, Lincolnian, ill-dressed, poverty-stricken Jim Irwin of old, but Jennie had no longer the feeling that one's standing was somewhat compromised by association with him. He had begun to put on something more significant than clothes, something which he had possessed all the time, but which became valid only as it was publicly apprehended. There was a slight air of command in his down-sitting and up-rising at the picnic. He was clearly the central figure of his group, in which she recognized the Bronsons, those queer children from Tennessee, the Simmses, the Talcotts, the Hansens, the Hamms and Colonel Woodruff's hired man, Pete, whose other name is not recorded.

Jim sat down between Bettina Hansen, a flaxen-haired young Brunhilde of seventeen, and Calista Simms—Jennie saw him do it, while listening to Wilbur Smythe's account of the exacting nature of the big law practice he was building up,—and would have been glad to exchange places with Calista or Bettina.

The repast drew to a close; and over by the burr-oak the crowd had grown to a circle surrounding Jim Irwin.

"He seems to be making an address," said Wilbur Smythe.

"Well, Wilbur," replied the colonel, "you had the first shot at us. Suppose we move over and see what's under discussion."

As they approached the group, they heard Jim Irwin answering something which Ezra Bronson had said.

"You think so, Ezra," said he, "and it seems reasonable that big creameries like those at Omaha, Sioux City, Des Moines and the other centralizer points can make butter cheaper than we would do here—but we've the figures that show that they aren't economical."

"They can't make good butter, for one thing," said Newton Bronson cockily.

"Why can't they?" asked Olaf Hansen, the father of Bettina.

"Well," said Newton, "they have to have so much cream that they've got to ship it so far that it gets rotten on the way, and they have to renovate it with lime and other ingredients before they can churn it."

"Well," said Raymond Simms, "I reckon they sell their butter for all it's worth; an' they can't get within from foal to seven cents a pound as much for it as the farmers' creameries in Wisconsin and Minnesota get for theirs."

"That's a fact, Olaf," said Jim.

"How do you kids know so darned much about it?" queried Pete.

"Huh!" sniffed Bettina. "We've been reading about it, and writing letters about it, and figuring percentages on it in school all winter. We've done arithmetic and geography and grammar and I don't know what else on it."

"Well, I'm agin' any schoolin'," said Pete, "that makes kids smarter in farmin' than their parents and their parents' hired men. Gi' me another swig o' that lemonade, Jim!"

"You see," said Jim to his audience, meanwhile pouring the lemonade, "the centralizer creamery is uneconomic in several ways. It has to pay excessive transportation charges. It has to pay excessive commissions to its cream buyers. It has to accept cream without proper inspection, and mixes the good with the bad. It makes such long shipments that the cream spoils in transit and lowers the quality of the butter. It can't make the best use of the buttermilk. All these losses and leaks the farmers have to stand. I can prove—and so can the six or eight pupils in the Woodruff school who have been working on the cream question this winter—that we could make at least six cents a pound on our butter if we had a co-operative creamery and all sent our cream to it."

"Well," said Ezra Bronson, "let's start one."

"I'll go in," said Olaf Hansen.

"Me, too," said Con Bonner.

There was a general chorus of assent. Jim had convinced his audience.

"He's got the jury," said Wilbur Smythe to Colonel Woodruff.

"Yes," said the colonel, "and right here is where he runs into danger. Can he handle the crowd when it's with him?"

"Well," said Jim, "I think we ought to organize one, but I've another proposition first. Let's get together and pool our cream. By that, I mean that we'll all sell to the same creamery, and get the best we can out of the centralizers by the co-operative method. We can save two cents a pound in that way, and we learn to co-operate. When we have found just how well we can hang together, we'll be able to take up the co-operative creamery, with less danger of falling apart and failing."

"Who'll handle the pool?" inquired Mr. Hansen.

"We'll handle it in the school," answered Jim.

"School's about done", objected Mr. Bronson.

"Won't the cream pool pretty near pay the expenses of running the school all summer?" asked Bonner.

"We ought to run the school plant all the time," said Jim. "It's the only way to get full value out of the investment. And we've corn-club work, pig-club work, poultry work and canning-club work which make it very desirable to keep in session with only a week's vacation. If you'll add the cream pool, it will make the school the hardest working crowd in the district and doing actual farm work, too. I like Mr. Bonner's suggestion."

"Well," said Haakon Peterson, who had joined the group, "Ay tank we better have a meeting of the board and discuss it."

"Well, darn it," said Columbus Brown, "I want in on this cream pool—and I live outside the district!"

"We'll let you in, Clumb," said the colonel.

"Sure!" said Pete. "We hain't no more sense than to let any one in, Clumb. Come in, the water's fine. We ain't proud!"

"Well," said Clumb, "if this feller is goin' to do school work of this kind I want in the district, too."

"We'll come to that one of these days," said Jim. "The district is too small."

Wilbur Smythe's car stopped at the distant gate and honked for him—a signal which broke up the party. Haakon Peterson passed the word to the colonel and Mr. Bronson for a board meeting the next evening. The picnic broke up in a dispersion of staid married couples to their homes, and young folks in top buggies to dances and displays of fireworks in the surrounding villages. Jim walked across the fields to his home—neither old nor young, having neither sweetheart with whom to dance nor farm to demand labor in its inexorable chores. He turned after crawling through a wire fence and looked longingly at Jennie as she was suavely assisted into the car by the frock-coated lawyer.

"You saw what he did?" said the colonel interrogatively, as he and his daughter sat on the Woodruff veranda that evening. "Who taught him the supreme wisdom of holding back his troops when they grew too wild for attack?"

"He may lose them," said Jennie. "Not so," said the colonel. "Individuals of the Brown Mouse type always succeed when they find their environment. And I believe Jim has found his."

"Well," said Jennie, "I wish his environment would find him some clothes. It's a shame the way he has to go looking. He'd be nice-appearing if he was dressed anyway."

"Would he?" queried the colonel. "I wonder, now! Well, Jennie, as his oldest friend having any knowledge of clothes, I think it's up to you to act as a committee of one on Jim's apparel."

CHAPTER XVII.

A TROUBLE SHOOTER.

A sudden July storm had drenched the fields and filled the swales with water. The cultivators left the corn-fields until the next day's sun and a night of seepage might once more fit the black soil for tillage. The little boys rolled up their trousers and tramped home from school with the rich mud squeezing up between their toes, thrilling with the electricity of clean-washed nature, and the little



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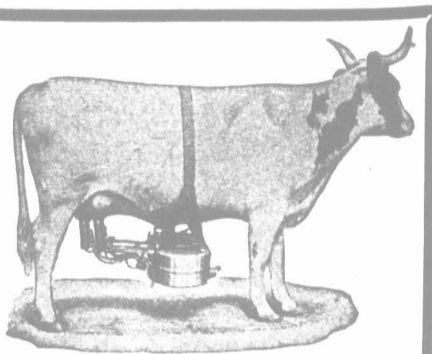
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has these advantages over other machines: Transparent celluloid milking tubes instead of rubber ones which harbor germs and are difficult to clean. Pail and teat-cups are suspended from the back of the animal. The udder has no weight to carry. The pail cannot be knocked over and the teat-cups cannot fall on the stable floor and suck up straw or filth. The OMEGA milks fast and milks clean.

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girls rather wished they could go bare-footed, too, as, indeed, some of the more sensible did.

A little young man with climbers on his legs walked up a telephone pole by the roadside, to make some repairs to the wires, which had been whipped into a "cross" by the wind of the storm and the lashing of the limbs of the roadside trees. He had tied his horse to a post up the road, and was running out the trouble on the line, which was plentifully in evidence just then. Wind and lightning had played hob with the system, and the line repairer was cheerfully profane, in the manner of his sort, glad by reason of the fire of summer in his veins, and incensed at the forces of nature which had brought him out through the mud to the Woodruff District to do these piffling jobs that any of the subscribers ought to have known how to do themselves, and none of which took more than a few minutes of his time when he reached the seat of the difficulty.

Jim Irwin, his school out for the day, came along the muddy road with two of his pupils, a bare-legged little boy and a tall girl with flaxen hair—Bettina Hansen and her small brother Hans, who refused to answer to any name other than Hans Nilsen. His father's name was Nils Hansen, and Hans, a born conservative, being the son of Nils, regarded himself as rightfully a Nilsen, and disliked the "Hans Hansen" on the school register. Thus do European customs sometimes survive among us.

Hans strode through the pool of water which the shower had spread completely over the low turnpike a few rods from the pole on which the trouble shooter was at work, and the electrician ceased his labors and rested himself on a cross-arm while he waited to see what the flaxen-haired girl would do when she came to it.

Jim and Bettina stopped at the water's edge. "Oh!" cried she, "I can't get through!" The trouble shooter felt the impulse to offer his aid, but thought it best on the whole, to leave the matter in the hands of the lank schoolmaster. "I'll carry you across," said Jim. "I'm too heavy," answered Bettina. "Nonsense!" said Jim.

"She's awful heavy," piped Hans. "Better take off your shoes, anyhow!"

Jim thought of the welfare of his only good trousers, and saw that Hans' suggestion was good; but a mental picture of himself with shoes in hand and bare legs restrained him. He took Bettina in his arms and went slowly across, walking rather farther with his blushing burden than was strictly necessary. Bettina was undoubtedly heavy; but she was also wonderfully pleasant to feel in arms which had never borne such a burden before; and her arms about his neck as he slopped through the pond were curiously thrilling. Her cheek brushed his as he set her upon her feet and felt, rather than thought, that if there had only been a good reason for it, Bettina would have willingly been carried much farther.

"How strong you are!" she panted. "I'm awful heavy, ain't I?"

"Not very," said Jim, with scholastic accuracy. "You're just right. I—I mean, you're simply well-nourished and wholesomely plump!"

Bettina blushed still more rosily. "You've ruined your clothes," said she. "Now you'll have to come home with me and let me—see who's there!"

Jim looked up at the trouble shooter, and went over to the foot of the pole. The man walked down, striking his spurs deep into the wood for safety.

"Hello!" said he. "School out?"

"For the day," said Jim. "Any important work on the telephone line now?"

"Just trouble-shooting," was the answer. "I have to spend three hours hunting these troubles, to one in fixing 'em up."

"Do they take much technical skill?" asked Jim.

"Mostly shakin' out crosses, and puttin' in new carbons in the arresters," replied the trouble man. "Any one ought to do any of 'em with five minutes' instruction. But these farmers—they'd rather have me drive ten miles to take a hair-pin from across the binding-posts than do it themselves. That's the way they are!"

"Will you be out here to-morrow?" queried the teacher.

"Sure!"

"I'd like to have you show my class in manual training something about the telephone," said Jim. "The reason we can't fix our own troubles, if they are as

simple as you say, is because we don't know how simple they are."

"I'll tell you what I'll do, Professor," said the trouble man. "I'll bring a phone with me and give 'em a lecture. I don't see how I can employ the company's time any better than in beating a little telephone sense into the heads of the community. Set the time, and I'll be there with bells."

Bettina and her teacher walked on up the shady lane, feeling that they had a secret. They were very nearly on a parity as to the innocence of soul with which they held this secret, except that Bettina was much more single-minded toward it than Jim. To her he had been gradually attaining the status of a hero whose clasp of her in that iron-armed way was mysteriously blissful—and beyond that her mind had not gone. To Jim, Bettina represented in a very sweet way the disturbing influences which had recently risen to the threshold of consciousness in his being, and which were completely but not very hopefully embodied in Jennie Woodruff.

Thus interested in each other, they turned the corner which took them out of sight of the lineman, and stopped at the shady avenue leading up to Nils Hansen's farmstead. Little Hans Nilsen had disappeared by the simple method of cutting across lots. Bettina's girlish instinct called for something more than the casual good-bye which would have sufficed yesterday. She lingered, standing close by Jim Irwin.

"Won't you come in and let me clean the mud off you," she asked, "and give you some dry socks?"

"Oh, no!" replied Jim. "It's almost as far to your house as it is home. Thank you, no."

"There's a splash of mud on your face," said Bettina. "Let me—" And with her little handkerchief she began wiping off the mud. Jim stooped to permit the attention, but not much, for Bettina was of the mold of women of whom warriors are born—their faces approached, and Jim recognized a crisis in the fact that Bettina's mouth was presented for a kiss. Jim met the occasion like the gentleman he was. He did not leave her stung by rejection; neither did he obey the impulse to respond to the invitation according to his man's instinct; he took the rosy face between his palms and kissed her forehead—and left her in possession of her self-respect. After that Bettina Hansen felt somehow, that the world could not possibly contain another man like Jim Irwin—a conviction which she still cherishes when that respectful caress has been swept into the cloudy distance of a woman's memories.

Pete, Colonel Woodruff's hired man, was watering the horses at the trough when the trouble shooter reached the Woodruff telephone. County Superintendent Jennie had run for her father's home in her little motor-car in the face of the shower, and was now on the bench where once she had said "Humph!" to Jim Irwin—and thereby started in motion the factors in this story.

"Anything wrong with your phone?" asked the trouble man of Pete.

"Nah," replied Pete. "It was on the blink till you done something down the road."

"Crossed up," said the lineman. "These trees along here are something fierce."

"I'd cut 'em all if they was mine," said Pete, "but the colonel set 'em out, along about sixty-six, and I reckon they'll have to go on a-growin'."

"Who's your school-teacher?" asked the telephone man.

The county superintendent pricked up her ears—being quite properly interested in matters educational.

"Feller name of Irwin," said Pete.

"Not much of a looker," said the trouble shooter.

"Nater of the sile," said Pete. "He an' I both worked in it together till it roughened up our complexions."

"Farmer, eh?" said the lineman interrogatively. "Well, he's the first farmer I ever saw in my life that recognized there's education in the telephone business. I'm goin' to teach a class in telephony at the schoolhouse to-morrow."

"Don't get swelled up," said Pete. "He has everybody tell them young ones about everything—blacksmith, cabinet-maker, pie-founder, cookie-cooper, dressmaker—even down to telephones. He'll have them scholars figurin' on telephones, and writin'

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compositions on 'em, and learnin' 'lectricity from 'em an' things like that."

"He must be some feller," said the lineman. "And who's his star pupil?"

"Didn't know he had one," said Pete. "Why?"

"Girl," said the trouble shooter. "Goes to school from the farm where the Western Union brace is used at the road."

"Nils Hansen's girl?" asked Pete. "Topsy little filly," said the lineman, "with silver mane—looks like she'd pull a good load and step some."

"M'h'm," grunted Pete. "Bettina Hansen. Looks well enough. What about her?"

Again the county superintendent, seated on the bench, pricked up her ears that she might learn, mayhap, something of educational interest.

"I never wanted to be a school-teacher as bad," continued the shooter of trouble. "as I did when this farmer got to the low place in the road with the fair Bettina this afternoon when they was comin' home from school. The water was all over the road—"

"Then I win a smoke from the road-master," said Pete. "I bet him it would overflow."

"Well, if I was in the professor's place, I'd be glad to pay the bet," said the worldly lineman. "And I'll say this for him, he rose equal to the emergency and caved the emergency's head in. He carried her across the pond, and her a-clingin' to his neck in a way to make your mouth water. She wasn't a bit mad about it, either."

"I'd rather have a good cigar any ol' time," said Pete. "Nothin' but a yaller-haired kid—an' a Dane at that. I had a dance once up at Spirit Lake—"

"Well, I must be drivin' on," said the lineman. "Got to get up a lecture for Professor Irwin to-morrow—and maybe I'll be able to meet that yaller-haired kid. So long!"

The country superintendent recognized at once the educational importance of the matter, when one of her country teachers adopted the policy of calling in everybody available who could teach the pupils anything special, and converting the school into a local Chautauqua served by local lecturers. She made a run of ten miles to hear the trouble shooter's lecture. She saw the boys and some of the girls give an explanation of the telephone and the use of it. She heard the teacher give as a language exercise the next day an essay on the ethics and proprieties of eavesdropping on party lines; and she saw the beginning of an arrangement under which the boys of the Woodruff school took the contract to look after easily-remedied line troubles in the neighborhood on the basis which paid for a telephone for the school, and swelled slightly the fund which Jim was accumulating for general purposes. Incidentally, she saw how really educational was the work of the day, and that to which it led.

She had no curiosity to which she would have confessed, about the relations between Jim Irwin and his "star pupil", that young Brunhilde—Bettina Hansen; but her official duty required her to observe the attitude of pupils to teachers—Bettina among them. Clearly, Jim was looked upon by the girls, large and small, as a possession of theirs. They competed for the task of keeping his desk in order, and of dusting and tidying up the school-room. There was something of exaltation of sentiment in this. Bettina's eyes followed him about the room in a devotional sort of way; but so, too, did those of the ten-year-olds. He was loved, that was clear, by Bettina, Calista Simms and all the rest—an excellent thing in a school.

All the same, Jennie met Jim rather oftener after the curious conversation between those rather low fellows, Pete and the trouble shooter. As autumn approached, and the time came for Jim to begin to think of his trip to Ames, Colonel Woodruff's hint that she should assume charge of the problem of Jim's clothes for the occasion, came more and more often to her mind. Would Jim be able to buy suitable clothes? Would he understand that he ought not to appear in the costume which was tolerable in the Woodruff District only because the people there were accustomed to seeing him dressed like a tramp? Could she approach the subject with any degree of safety? Really these were delicate questions; and considering the fact that Jennie had quite dismissed her old sweetheart from the "list of eligibles—had never actually admitted him to

it, in fact—they assumed great importance to her mind. Once, only a little more than a year ago, she had scoffed at Jim's mention of the fact that he might think of marrying; and now she could not think of saying to him kindly, "Jim, you really must have some better clothes to wear when you go to Ames!" It would have been far easier last summer.

Somehow, Jim had been acquiring dignity and unapproachability. She must sidle up to the subject. She did. She took him into her runabout one day as he was striding toward town in that plowed-ground manner of his, and gave him a spin over to the fair grounds and two or three times around the half-mile track.

"I'm going to Ames to hear your speech," said she.

"I'm glad of that," said Jim. "More of the farmers are going from this neighborhood than ever before. I'll feel at home, if they all sit together where I can talk at them."

"Who's going?" asked Jennie.

"The Bronsons, Con Bonner and Nils Hansen and Bettina," replied Jim. "That's all from our district—and Columbus Brown and probably others from near-by localities."

"I shall have to have some clothes," said Jennie.

Jim failed to respond to this, as clearly out of his field. They were passing the county fair buildings, and he began expatiating on the kind of county fair he would have—a great county exposition with the schools as its central thought—a clearing house for the rural activities of all the country schools.

"And pa's going to have a suit before we go, too," said Jennie. "Here are some samples I got of Atkins, the tailor. Which would be the most becoming do you think?"

Jim looked the samples over carefully, but had little to say as to their adaptation to Colonel Woodruff's sartorial needs. Jennie laid great stress on the excellent quality of one or two samples, and carefully specified the prices of them. Jim exhibited no more than a languid and polite interest, and gave not the slightest symptom of ever having considered even remotely the contingency of having a tailor-made suit. Jennie sidled closer to the subject.

"I should think it would be awfully hard for you to get fitted in the stores," said she, "you are so very tall."

"It would be," said Jim, "if I had ever considered the matter of looks very much. I guess I'm not constructed on any plan the clothing manufacturers have regarded as even remotely possible. How about this county fair idea? Couldn't we do this next fall? You organize the teachers—"

Jennie advanced the spark, cut out the muffler and drowned the rest of Jim's remarks in wind and dust.

"I give it up, dad," said she to her father that evening.

"What?" queried the colonel.

"Jim Irwin's clothes," she replied. "I think he'll go to Ames in a disgraceful plight, but I can't get any closer to the subject than I have done."

"Oh, then you haven't heard the news," said the colonel. "Jim's going to have his first made-to-measure suit for Ames. It's all fixed."

"Who's making it?" asked Jennie.

"Gustaf Paulsen, the Dane that's just opened a shop in town."

"A Dane?" queried Jennie. "Isn't he related to some of the neighbors?"

"A brother to Mrs. Hansen," answered the colonel.

"Bettina's uncle!"

"Ratherly," said the colonel jocularly, "seeing as how Bettina's Mrs. Hansen's daughter."

Clothes are rather important, but the difference between a suit made by Atkins the tailor, and one built by Gustaf Paulsen, the new Danish craftsman, could not be supposed to be crucially important, even when designed for a very dear friend. And Jim was scarcely that—of course not! Why, then, did the county superintendent hastily run to her room, and cry? Why did she say to herself that the Hansens were very good people, and well-to-do, and it would be a fine thing for Jim and his mother and then cry some more? Colonel failed to notice Jennie's unceremonious retirement from circulation that evening, and had he known all about what took place, he would have been as mystified as you or I.

To be Continued.

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Community Breeding Associations.

T. N. Carver, of the United States Department of Agriculture, in a convincing exposition of the advantages of community breeding states: One reason for our indifferent success in animal breeding has been the lack of neighborhood organization. Where a whole community is interested in the same breed of live stock, where practically every farm is a breeding station, there is first, a wider basis of selection than where only one farm is given over to that breed. A wider basis of selection makes possible more scientific mating than is possible where there are only a few breeding animals from which to select. In the second place, a neighborhood enterprise of this kind gives greater permanency and continuity than is possible where only a few individual farmers are interested. It has happened so often in this country that it may almost be said to be the rule that by the time a successful breeder has built up a superior herd, stud, or flock his life is drawing to a close, his sons have moved to town, and his animals are scattered. These animals may, after they are scattered, do something toward improving the general average of the animals of the community, but this is by no means certain. There are many chances that they will be crossed with other breeds, and the general tendency of haphazard cross-breeding is to produce mongrels. If, on the other hand, the whole community in which such a breeder lived were engaged in developing the same breed instead of a large number of different breeds, his animals would probably remain in the same neighborhood and be crossed with others of the same breed. When this happens the work of the individual breeder is not lost, but is enabled to count in the improvement of the stock of the country. Under our present highly individualistic methods, the farmer who enters upon a breeding enterprise, frequently, if not generally, makes the initial mistake of selecting some breed which is new to his community in order that he may have something different from anything possessed by his neighbors. It is safe to say that a neighborhood whose farmers behave in this absurd manner will never become distinguished for the excellence of its live stock or of its field crops.

A third reason for our lack of success in animal breeding has already been suggested, that is, the lack of stability of the average American farm family. Where the same farm stays in the same family for several generations, if it happens to be a breeding farm, there is time to build up a superior herd, stud or flock. In the United States this does not often happen. The sons of a successful breeder have, in the past, frequently gone to a city to enter upon an urban business or profession. But even the instability of the farm family, which prevents the continuation of breeding enterprises over long periods of time is, in large measure, due to a lack of rural organization. It may be permitted at this point in our discussion to call attention to the fact that well-to-do people leave the farms because the country does not furnish them the means of social and intellectual enjoyment which they crave. These things can be had only where there is an organized effort to build up the neighborhood on its social and educational side.

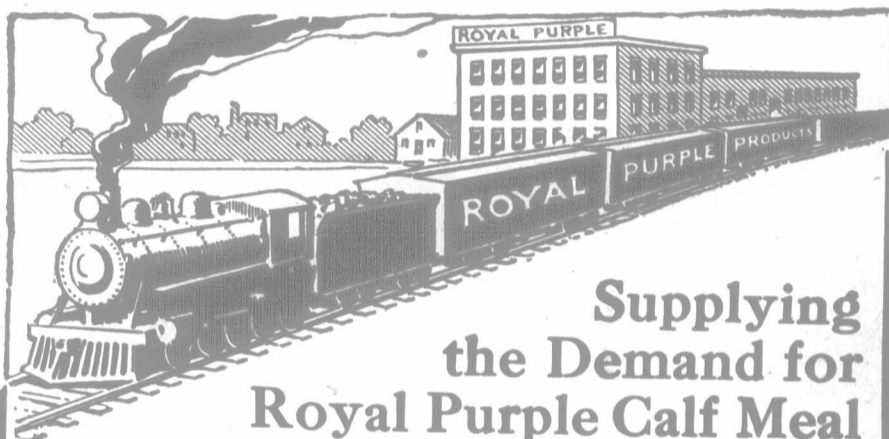
Another very definite advantage in neighborhood organization for the breeding of farm animals has been realized already in many communities. This is the opportunity which such an organization affords for the purchase and maintenance of expensive breeding animals. This may take the form (1) of purchasing a more expensive animal than would be economical for a single small farmer who could not use him to his full capacity, or (2) purchasing jointly a number of pure-bred males. Each animal thus purchased is kept on a single farm for two years. Then they are all changed around so that each animal serves on another farm for another two-year period, and so on as long as they are fit for service. In this way each animal can be used during his whole effective lifetime and his full value can be realized. Where an individual farmer purchases an animal of this kind, without the opportunity for a fair exchange, he must either sell the animal at a loss or run the risk of injuring his herd by undesirable inbreeding. Another advantage, not to be ignored, is the opportunity which the plan gives for more scientific mating. There being a larger number of pure-bred males in the neighborhood from which to select, arrange-



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KEEP THEM WORKING

A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get

KENDALL'S SPAVIN CURE

at any druggists at \$1 a bottle, 6 for \$5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. 115

Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

CREAM WANTED

We hesitate to quote prices, because the figures for to-day may be too low for to-morrow.

Our guarantee is: Prompt Service Accurate Records Highest Prices Write for particulars—it will be worth your while.

TORONTO CREAMERY CO., Ltd. 9 Church Street, Toronto.

Perfectly Legal Will for 35c.

Use a Bax Legal Will Form and make your Will at home. You can make it as well as any lawyer, and as binding. These Wills cannot be broken if you follow our instructions. Just sit

down and fill in the blanks as shown in the Sample Will accompanying each form. Don't delay. Do it now. Sold by druggists and stationers, 35c., or by mail (3 for \$1). Bax Will Form Co., Room 191B, 163 College Street, Toronto.

WANTED

A few registered 4 and 5-year-old Clydesdale mares not in foal. State price. BOX G, FARMER'S ADVOCATE, LONDON, ONT.

ment can easily be made by which certain selected females can be mated with those males which have shown special prepotency.

In short, if the farmers of a given community will all adopt the same breeds of farm animals, and if the same breeding farm will remain in the same family generation after generation, and if the farmers will practice co-operative purchasing and maintaining of breeding animals on a large scale, we can soon hope to rival any European country in the excellence of our breeding stock.

Some Good Breeding in Holsteins.

The breeding of high-testing Holstein-Friesian cattle and the carrying out of a three and four-year crop rotation are now the only specialties carried on by R. M. Holtby on his 150-acre farm at Manchester, Ont. At one time Clydesdales, the best blood Scotland produced, featured strongly in the operations, but these, with the exception of the few required to furnish horse-power for the farm, have all been disposed of to make room for the quickly growing herd of "Black and White" milk producers. When visited recently by a representative of this paper the herd numbered well over fifty females, at the head of which stood the well-proven sire, King Segis Pontiac Duplicate. As an individual he compares favorably with even many of the prominent winners of the past season's shows, and his breeding is without doubt on a par with that of any herd sire in this country to-day. He is got by the great King Segis Pontiac, which also sired King Segis Pontiac Alcartra, King Segis Pontiac Koningen, and King Segis Pontiac Count. The former is advertised by our southern neighbors as the \$50,000 sire, the Koningen bull is supposed to be the highest-priced bull ever sold, while the latter bull, King Segis Pontiac Count, has 13 two-year-old daughters whose 7-day records average higher than the two-year-old daughters of any other bull in the world. For dam, King Segis Pontiac Duplicate has a 21-lb. two-year-old daughter of King of the Pontiacs, she also made 17,500 lbs. in the A. R. O. the same year. She is a sister to one 44-lb. cow, two 40-lb. cows, and seventeen 30-lb. cows. This should be sufficient high record breaking to place King Segis Duplicate at the top with the good ones, and aside from this he is the sire of Queen Pontiac Ormsby, the first two-year-old heifer in Canada to give over 600 lbs. of milk in 7 days. The majority of the young bulls Mr. Holtby is offering now are by "Duplicate," and, therefore, are brothers of this great heifer, and the closest breeding possible to the great sires mentioned above.

Just a line or two regarding the females in the herd. We only mention individually the two famous 30-lb. cows, Gypsy Queen Rhoda and Victoria Burke. The latter cow has, on two different occasions, overstepped the 30-lb. mark, making in one test 31.2 lbs. As an individual she is almost as near perfect as a dairy cow could be. Other females are daughters of Woodcrest Aaggie Lad, Pontiac Artis Canada, King Payne Segis Clothilde, and other A. R. O. sires. Address all correspondence to R. M. Holtby, Port Perry, Ont., and mention this journal.

Questions and Answers. Miscellaneous.

Hay for Horses.

1. What amount of hay will an ordinary farm team eat per month? What would be an average cost of feeding an idle team hay alone for a month during the winter, hay at \$14.00 per ton?

2. What is the cause of heifers swelling from the udder to the front legs? A swelling commences a couple of weeks before freshening, but gradually goes away. Feed consists of good clover and alfalfa hay. J. W. A.

Ans.—1. A horse will eat from 12 to 15 pounds of good hay per day. Figuring on this basis it will cost in the neighborhood of \$6.00 to feed a team a month.

2. The swelling is due to inflammation, which extends from the udder to the milk veins. We have known a large lump to form and break, thick, creamy matter being exuded. However, the swelling usually goes away without causing any serious difficulty. Bathing with warm water aids in reducing the swelling.

SYDNEY BASIC SLAG

Twenty dollars a ton may seem a low price for a fertilizer, as compared with what you have been paying, and may create the impression that it cannot be of much value. Put away such an idea. Do not be prejudiced. We are spending thousands of dollars in introducing SYDNEY BASIC SLAG into Ontario, and since our start, in 1913, we have not made one cent on the business, but, on the contrary, are heavily out of pocket. We are not philanthropists, but we have got the best value in fertilizers on the market, and once our goods are known farmers will be looking for them, and we will then begin to make money. Here are the figures of consumption in Ontario since our start:

1913....	230 tons	1915....	1,642 tons
1914....	1,028 "	1916....	3,108 "

We want you to use a ton this season. Send us your name and let our representative call on you.

The Cross Fertilizer Co., Limited
Sydney, Nova Scotia



FROZEN UP, but— plenty of eggs

NOW is the time to make money in poultry—now, when the price of eggs is away up. One cent a month is all it costs to start your hens laying early and to keep them laying all winter. Try

Pratts Poultry Regulator

at our risk. We will refund your money if you don't get more eggs. Thousands of live poultrymen are using "Pratts" and are cashing in on their wisdom and foresight. Pratts Poultry Regulator keeps the fowls healthy and vigorous, tones up the organs of digestion and egg production—prevents disease.

At your dealer's in 25c pkgs.—larger money-saving sizes up to 12-lb. pails at \$1.25; 25-lb. pails, \$2.50; 100-lb. bags at \$9.00.

Pratts Roup Remedy is guaranteed to prevent and cure colds and Roup. It is quickly taken up by the blood and cleanses the system, allaying the inflammation and reducing the fever.

At your dealer's in powder or tablet form, 25c and 50c a box.

Money back if not satisfied. Write to-day for Pratts 64-page Book, "Poultry Wrinkles." It's FREE.

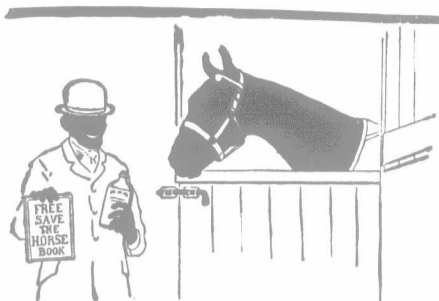
Pratt Food Co. of Canada Limited
68 J. Claremont St., Toronto. P-3

CLYDESDALES FOR SALE

We are offering for sale the imported stallion Kirkland Chief, also a number of imported and Canadian-bred mares and fillies. These are large, strong mares, with splendid breeding, and two are in foal at the present time. Here is an exceptional opportunity to get good foundation stock at a reasonable price. For full particulars, write or visit

Stoneycroft Stock Farm, St. Anne de Bellevue, Quebec.
H. M. MORGAN, Owner. L. C. McQuat, Manager.

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Give full...
Write to...
Ontario.



This Book and This Bottle Makes Him \$800

Ogden, Ia., April 18, 1915.
Troy Chemical Co., Binghamton, N. Y.
Gentlemen—I have used Save-The-Horse for years and I never found any case but it would do just what you claim for it. At present I have a horse I want to race and want your advice and another book. I lost or mislaid mine. The last time I bothered you your advice and treatment did the work, and I sold the horse for \$800. Yours truly, H. S. HELPHRY.

Do you know HOW simply, comprehensively and authoritatively our FREE "Save-The-Horse BOOK" clinches the diagnosing and TREATMENT of all lameness?

SAVE-THE-HORSE
(Trade-Mark, Registered)

The greatest-of-all remedies is sold with a signed Contract-Bond to return money if it fails on Ringbone, Thorpin, SPAVIN, or ANY Shoulder, Knee, Ankle, Hoof, or Tendon Disease. Every year, for over 21 years, thousands of stubborn and supposedly incurable cases are cured by SAVE-THE-HORSE after all other methods failed. Be prepared! Write today for Save-The-Horse BOOK, sample of contract and expert veterinary advice—ALL FREE. Keep a bottle of SAVE-THE-HORSE always on hand for emergency.

TROY CHEMICAL CO., 145 Van Horn St. (Made in Canada) Toronto, Ont.

Druggists everywhere sell Save-The-Horse with contract, or we send by parcel post or express paid.



Cure the lameness and remove the blemish 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 blemish—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple ointment, 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.

75 FLEMING BROS., Chemists Church Street, Toronto, Ont.



ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain; Stops Spavin Lameness. Allays pain. Does not blister, remove the hair or lay up the horse. \$2.00 a bottle, delivered. Book 1 K free.

ABSORBINE, JR., the antiseptic liniment for mankind. For Synovitis, Strains, Gouty or Rheumatic deposits, Swollen Painful Varicose Veins. Will tell you more if you write. \$1 and \$2 per bottle at dealers or delivered. Manufactured only by W. F. YOUNG, P.D.F. 258 Lyman St., Montreal, Can.

Dr. Page's English Spavin Cure

Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the blemish; does not kill the hair, absorbs Capped Hocks, Bog-spavins, thick pastern joints; cures lameness in tendons; most powerful absorbent known; guaranteed, or money refunded. Mailed to any address, price \$1.00. Canadian Agents:—

J. A. JOHNSTON & CO., DRUGGISTS 171 King St. East, Toronto, Ont.

Clydesdale Stallion For Sale.—Stately Mac reg. [10995], inspected and enrolled Form 1. (Black). Foaled July 1st, 1909; weight, 1,960. Reason for selling—have owned him since he was 10 months old. Also one Shetland pony filly (black), one Shetland stallion, 4 years old. Station: Appin, C.P.R. or G.T.R. D. M. Webster, P.O. Glencoe, R. R. 4. Correspondence solicited.

WANTED—Several Registered Clydesdale Mares and one Stallion, under five years of age, show material. Also several grades—mares or geldings. Give full description as to color, weight and price. Write Box W, Farmer's Advocate, London, Ontario.

Questions and Answers.
Miscellaneous.

Citizenship.

How about citizenship of man born out of British Dominion, but lived since childhood under British flag, and parents British? If not a citizen what steps necessary?

Ontario. SUBSCRIBER.
Ans.—He is a British subject.

School Elections.

A is renter of farm, assessed as tenant but does not directly pay taxes, owner living in city. B works for A and is also assessed as tenant. Can either vote at school meeting or hold office as trustee?

Ontario. A. and B.
Ans.—Yes, if entered on the last revised assessment roll of the school section for public school rates.

British Nationality—School Trustee

1. Are children born in Ontario of alien parents citizens of Canada?
2. A farm consists of two lots in different school sections. The lots are lying side by side, no road between, and are worked as one farm; but the buildings are on one lot. Is the owner electible in either section as trustee?

Ontario. O. T.
Ans.—1. Yes.
2. Yes, provided his name appears on the last revised assessment roll of the particular school section for public school rates.

Veterinary.

Septic Lymphangitis.

Old horse took lymphangitis, some little sores broke out. I treated it and he apparently got better. Then he had another attack; his urine became high colored and thick, he went lame, and fresh spots discharged a watery substance. I am giving him tonics.

A. M. S.
Ans.—An attack of this kind is hard to treat. It usually results in a permanently enlarged leg and sometimes causes death. Give him rest in a comfortable box stall until the acute soreness has passed off and the parts have healed. Feed on good hay, bran, raw roots, and, if necessary to keep up his strength, a little oats. Give him 6 drams hyposulphite of soda three times daily and continue the tonics. Make a lotion of 1 oz. each of acetate of lead and sulphate of zinc, 1/2 oz. carbolic acid and 1 pint water. Dress the parts three times daily with this.

Gossip.

At a credit sale on February 9, 1917, M. J. Elliott, Newtonbrook, Ont., will offer 30 head of pure-bred Shorthorn cattle, one Clydesdale stallion (Newby Prince), and 7 registered Clydesdale mares. Work horses and pure-bred Berkshire swine are also to be included in this offering. See the advertisement in this issue.

Increase in Price of Books.

In the December 28 issue of "The Farmer's Advocate," a list of books, together with the price postpaid, was published. Since that date several of the books have been increased in price. Through this office Productive Swine Husbandry, by Day, and Productive Horse Husbandry, by Gay, will now cost \$1.90 instead of \$1.65.

The Headford Shorthorn Sale.

Robt. Miller, of Stouffville, sends us a few words regarding the Shorthorn sale to be held by Thos. Thomson, Headford, Ont., and which is advertised in this issue. "The Shorthorns that he is selling have been kept for genuine work, for they had to make a living for their owner. They have not been fed for showing or so that they might be spoiled, but they have never been hungry, so that they have their normal size and form, and it will be conceded by those who see them sold, that they are a credit to the breed and to the man who bred them. Every animal was bred on the farm, except the two stock bulls, and they show what has been kept to get such good cows and bulls as will be sold. They are all well bred, some of them have what is called very fancy breeding. There are a number of choice young bulls, and every female is a good one.

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—

"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Gombault's Caustic Balsam will give you immediate Relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam
The Great French Remedy
Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."
—Ed. Rosenberg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of gonorrhoea. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A Liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, \$1.50 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

Cleveland, O. THE LAWRENCE-WILLIAMS CO. Toronto, Ont.

CLYDESDALES and PERCHERONS

T. H. HASSARD, MARKHAM, ONT.

Imported & Canadian-bred Clydesdales

We have some big, drafty, good-quality stallions, from our 1915 fall importation. They have been winners wherever shown. We have other proven sires, imported a year ago, as well as a choice lot of Canadian-bred stallions and mares. SMITH & RICHARDSON, COLUMBUS, ONTARIO

Highest Quality Hillsdale Clydesdales Richest Breeding

I am now offering a number of in-foal young mares from imp. sires and dams, bred from Scotch and Canadian winners and champions for generations. They represent the highest standard of the breeds quality and breeding. B. Rothwell, Ottawa, R.R. 1, L.-D. Bell 'phone. Farm, 3 miles from city.

ABERDEEN-ANGUS

We have a number of young bulls to offer at reasonable and attractive prices. At the recent Canadian National Exhibition, with 15 animals shown, we won 24 prizes, among which was Grand Champion and Gold Medal for best female of the breed.

To insure prepotency of the right kind in your next herd bull, buy him from Berkshire Swine, Shropshire and Southdown Sheep Larkin Farms, Queenston, Ontario

WOODLANDS BROWN SWISS AND PONIES

We have no Clydes. left for sale. Our special offering is Brown Swiss bulls, out of high-testing and big producing dams. Strictly high-class. Also Shetland and Welsh ponies.

R. BALLAGH & SON, GUELPH, ONTARIO

ELM PARK ABERDEEN-ANGUS BULLS

OUR SPECIAL OFFERING (Three of our prize bulls). At Toronto and London 1916 shows, out of a possible five champion prizes and a possible ten first prizes, our bulls won all the championships and nine of the ten first prizes. The bulls we are offering are all proved breeders.

JAMES BOWMAN, ELM PARK, GUELPH, ONT.

Shorthorns

Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable.

G. E. MORDEN & SON, Oakville, Ont.

MEADOW LAWN SHORTHORNS

We are offering a splendid lot of young bulls from 10 to 18 months old, of the low-set, thick, fleshy type from good milking dams. You are invited to inspect this offering.

Elora, R. R. No. 1, F. W. EWING

Creekside Farm Shorthorns

We have for sale at present, a number of young things by our former herd sire, Clan Alpine, (the Claret bred bull by Proud Monarch). We like them, so will you. If it's young bulls, or a few females you need, we would welcome a visit from you. Write or phone, visitors met by appointment.

Geo. Ferguson, Elora Sta. C.P.R., G.T.R., Salem, Ontario

WILLOWBANK STOCK FARM SHORTHORN HERD

Established 1855. This large and old established herd has at the head the two great bulls: Imported Roan Chief—60865—, a butterfly, and the prizewinning bull, Browndale—80112—, a Mira. An extra good lot of young stock to offer of either sex. Splendid condition. Good families of both milking strain and beef.

JAMES DOUGLAS CALEDONIA, ONT.

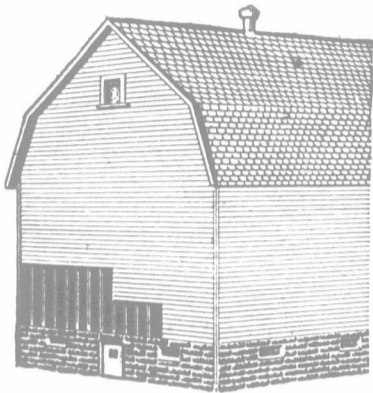
Glenhurst Ayrshires

For 50 years I have been breeding the great Fios tribe of Ayrshires, dozens of them have been 60-lb. cows; I have lots of them get 60 lbs. a day on twice-a-day milking. Young bulls, 1 to 10 months of age, females all ages. If this kind of production appeals to you, write me.

James Benning, Williamstown, Ont.

'Metallic' Clapboard Siding

YOU can quickly run up a neat, strong building—fire-proof and weather-proof—with Metallic Clap-board Siding. You save money,—wood sheeting is not needed, the Clap-board being nailed right on the studs. Outlasts the building it is put on.



"Metallic" Clapboard Siding

Made in heavily galvanized sheets 8 ft. long. Very easily handled. Far cheaper and more durable than wood. No knots or cracks and doesn't soak up paint.

Nailheads are sheltered from the weather (see small picture at right). Don't invite fire with wooden walls, etc. Use "M-R. Co." Clap-board Siding, "Eastlake" Galvanized Shingles, Ventilators, etc.



"Empire" Corrugated Iron, "Metallic" Ceilings, Pipe and Eave-Trough, "Metallic" Siding, Roof Lights, Vases, Finials, etc.

Write us to-day for prices and illustrations. 176

METALLIC ROOFING CO. LTD.
TORONTO & WINNIPEG

Buy Seed Oats Now—Now is the time to get your seed oats to make sure of getting good Ontario-grown seed. I have a limited amount of good, clean seed oats left, which I will sell reasonably. Samples and prices sent on request. Apply soon.

BENJ. J. WAECHTER, Gold Medal Farm, R. R. No. 3, Walkerton, Ontario

MESSRS. A. J. HICKMAN & CO. (late Hickman & Scruby), Court Lodge, Egerton, Kent, England, exporters of

PEDIGREED LIVE STOCK

of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

ALLOWAY LODGE STOCK FARM

ANGUS, SOUTH DOWNS, COLLIES, PRIZE BULL CALVES AND RAMS, COLLIE PUPS

ROBT. McEWEN, R. R. 4, London, Ont.

H. Fraleigh, Forest

LINSEED MEAL
FLAX SEED
OIL CAKE
COTTON SEED MEAL

Write for Prices.

Beaver Hill Aberdeen-Angus
Males and females, all ages, for sale. Prices right.
ALEX. McKINNEY
heltenham, G.T.R. R.R. No. 1, Erin, C.P.R.

Questions and Answers. Miscellaneous.

Telephone Association.

Some years ago I joined a telephone association, each member paying about \$70 for construction and material, and \$5.00 per year after for operation. Now, according to law the association must incorporate. I do not wish to sign over my share.

1. Can I withdraw my share?
2. What steps will I have to take?

Ontario. J. G. H.

Ans.—1 and 2. We do not think that you are in a position to withdraw as suggested.

Horse Cribbing.

1. If I sell a horse that is a cribber and do not guarantee it in any way, can the buyer return the horse or demand any money?

2. Is there any way to stop a horse cribbing? E. S.

Ans.—1. If the purchaser saw the horse before he bought it and you gave no guarantee whatever as to soundness or freedom from vice, no redress can be claimed.

2. Cribbing is a vice that is hard to check. At the outset the horse should be kept in a box stall without mangers or racks. In the majority of cases the vice can be checked by buckling a strap rather tightly around the horse's throat. Do not have it so tight as to interfere with breathing or swallowing.

Roup.

What is the cause of hens swelling around the heads? Is the trouble contagious? What treatment do you advise? P. C.

Ans.—We are inclined to believe that the hens are suffering from roup. In many cases it is due to birds being exposed to a draft. If the bird is very bad the best treatment is to get rid of it, as it may be a source of danger to the other birds. Potassium permanganate in the drinking water is used as a preventative. Care should be taken to isolate all affected birds as soon as the disease is noticed, and burn all birds that die. If the eyes and nose are attacked they should be washed out twice daily with some antiseptic solution, as 2 per cent. boracic acid in chamomile flowers. When using the permanganate the bird's head may be plunged into the solution for 20 or 30 seconds and the nostrils pressed together between the thumb and finger, in order to loosen any discharge. When it becomes so bad that tumors form on the eyelids they should be opened and the cheesy matter removed and the surrounding membrane touched with a 5 per cent. carbolic acid solution. These methods of treatment require a good deal of time, and unless the birds are valuable it is doubtful if treatment is worth while. Feed the birds well and keep them in a dry, warm, well-ventilated room.

School Matters.

1. Is it legal for auditors of a school to sign a report of the school moneys without examining the secretary's cash-book?
2. What is the penalty for so doing?
3. Can a secretary refuse to let the auditors see his cash-book?
4. Can a secretary of school use the section's money for his own purposes and keep the interest?
5. What is the penalty?
6. In whose name is the money to be put in the book—the secretary's or the section's?
7. Have the trustees to see that the secretary gives bonds?
8. To whom can the section apply to have an investigation?
9. Where can one get a school law, and what is the price?

Ontario. R. E. M.
Ans.—1. No.
2. The Public Schools Act does not provide a penalty.
3. No. 4. No.
5. He may be summoned before the county judge and advised to account for and pay over the amount with costs.
6. In the name of the school section.
7. Yes, if they entrust school moneys to him.
8. To the county judge.
9. At the Department of Education, Toronto. Write the Department to state the price at which they will send you the Public School Act and Amendments and the Regulations, in pamphlet form.

THE SHORTHORN SALE

by THOMAS THOMSON, Headford, Ont.

is a Dispersion Sale of a very select little herd of 32 head. They are nicely bred, they are in nice condition, and they are of choice quality. There are no excuses to be made, for they have been doing splendid service for their owner, and they are in form to do good for the men that buy them. They have to be sold.

This is a splendid chance to get a choice young bull, a good heifer, or a tried breeding cow that has proven herself right. There is a son of Superb Sultan in use now, the heifers and some cows are in calf to him. He is by the same sire as the Senior Champion bull at Chicago in December last. It is the greatest blood in the Shorthorn World.

You can attend this sale easily by taking the Canadian Northern to Richmond Hill Station, or taking the Yonge Street cars to Richmond Hill. All cars and trains will be met on morning of sale.

SALE WILL COMMENCE PROMPTLY AT 1 P.M., ON
Wednesday, February 7th, 1917

Thomas Thomson - Headford P.O., Ont.

IMPORTANT CREDIT SALE OF

30 Head of SHORTHORN CATTLE

Also 1 CLYDESDALE STALLION, (Newby Prince) by Baron of Burgie; 7 REGISTERED CLYDESDALE MARES, supposed in foal; and work horses, and pure-bred BERKSHIRE PIGS, to be held at the Elliott Farm, Newtonbrook, stop 36, Metropolitan Railway. Implements to be sold before noon. Stock sale to commence at 1.30 sharp.

Terms:—11 months' credit, 6% off for cash.

Friday, February 9th, 1917

M. J. ELLIOTT, Prop., Newtonbrook, Ont. John Prentice, Auctioneer

Robert Miller Pays the Freight

And he has to offer now one three-year-old roan Shorthorn bull of first-class Scotch breeding, good quality, good temper, and from good milking strain. He wants to buy three good and well-bred young bulls, and twenty Clydesdale mares and fillies from imported stock on both sides, in good condition, sound, and from two to six years old. Give particulars and price when writing.

ROBERT MILLER, - **Stouffville, Ont.**

IMPORTED SHORTHORN BULLS

We have several newly-imported bulls of serviceable age. Cruickshank, Marr and Duthie breeding, as well as a number of choice home-bred young steers, got by our noted herd sire, Proud Monarch, by Royal Blood. Get our prices before buying elsewhere. **RICHARDSON BROS., Columbus, Ont.**

BURNFOOT STOCK FARM

Breeders of high-record, dual-purpose Shorthorns with a splendid conformation for beef. Visitors welcome.

S. A. MOORE, Prop. **CALEDONIA, ONT.**

IRVINEDALE SCOTCH SHORTHORNS

Our offering this year in Scotch Shorthorns is probably the best we have offered for many years, there are several young bulls of serviceable age, right good ones and breeding the very best; also females of any age. **JOHN WATT & SON, ELORA, R.M.D.**

SALEM SHORTHORNS

Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Can. National, 1914, 1915 and 1916. Can supply cattle, both sexes, at all times. **J. A. WATT, ELORA, ONT.**

Imported Shorthorns

J. A. & H. M. Pettit, Freeman, Ont.

40 more imported Shorthorns have arrived home from quarantine. We now have 18 heifers in calf, and 19 cows with calves at foot, also a few good imported bulls. They are all good individuals and represent the choicest breeding. We can meet visitors at Burlington Jct. at any time if notified.

SHORTHORNS AND SHROPSHIRE—T. L. Mercer, Markdale, Ont.

Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhooks Golden Fame =50018 = (imp.), and out of such noted families as Campbell-bred Clarets, Nonpareils, Marr Missies, Stamfords, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

IMPORTED SHORTHORNS

Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them. **WILL A. DRYDEN, Maple Shade Farm, BROOKLIN, ONT.**

Pleasant Valley Herds

—For sale: Several good young bulls, reds and roans, of the very best breeding; also females of all ages; all the leading families represented; 100 head to select from. Inspection invited. Farm 11 miles east of Guelph, C. P. R., ½ mile from station. **Geo. Amos & Sons, Moffat, Ont.**

SPRING VALLEY SHORTHORNS

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex. **KYLE BROS., DRUMBO, ONT.**

Phone and telegraph via Ayr

Oakland Shorthorns

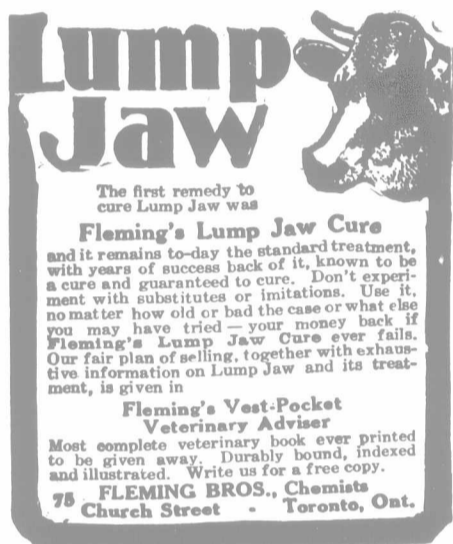
John Elder & Sons, Hensall, Ont.

Fifty-eight to select from. Twenty breeding cows and as many choice heifers, many of them bred; also a lot of choice bulls from 9 to 16 months old. The grand roan bull, Crown Jewel 42nd, heads this dual-purpose registered herd. No big prices.

TOP DRESS all your Crops with Nitrate of Soda, no matter what other fertilizers you may have used—100 pounds to the acre for seeded crops and 200 pounds to the acre for the cultivated ones. The increase will yield large profits over the cost.

Write on post card for our money making books

WILLIAM S. MYERS, Director
25 Madison Avenue, New York



Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains to-day the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

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Steel Rails
for Reinforcing Bridges and Barn Driveways
CUT ANY LENGTH
JNO. J. GARTSHORE
58 Front Street West, Toronto

GLENFOYLE SHORTHORNS

7 bulls, big, straight, smooth, fleshy fellows, some from cows milking 40 to 60 lbs. a day. Also a few out-standing heifers that are bred. Three young cows. Prices right. Bell 'phone.

Stewart M. Graham, Lindsay, Ont.

Scotch Shorthorns

FOR SALE. 1 extra good young bull of breeding age, with best Scotch breeding; also bull calves and females of different ages. Write your wants.

Geo. D. Fletcher, Erin, R. R. 1
Erin Sta., C.P.R. L.-D. Phone.

Shorthorn Bulls for sale, by Mina Boy 18th, sire of first prize calf at Guelph. Also one imported Clydesdale stallion.

GEO. B. ARMSTRONG, Teeswater, Ontario
Mildmay, G.T.R. Teeswater, C.P.R.

Northlynd R.O.P. Shorthorns and Jerseys—Butterfly King 19th heads our Shorthorn herd. Edgeley Prince Sunbeam heads our Jersey herd. For sale: a few young heifers and bulls, the get of these great bulls, out of high-record cows. G. A. Jackson, Downsview, Ont.

Dual-Purpose Shorthorns

Plaster Hill Herd—Five young bulls, seven to fifteen months old. A number of cows in our herd with high records. Visitors always welcome.

F. Martindale & Son, Caledonia, Ont.

Mardella Shorthorns

Bulls, cows, heifers. Have size, quality; breeding dual-purpose cattle over 40 years. Have great milkers and beefers. Glad to have you see them, or write—Thomas Graham, Port Perry, R. R. No. 3

SHORTHORNS—Pail-fillers for sale. Young bull and heifers out of high-record cows. A few young cows and bulls with extra good breeding and quality.

PETER CHRISTIE & SON,
Manchester P.O., Port Perry, Ont. Co.

Questions and Answers.
Miscellaneous.

Dehorning Cattle.
What is the proper time to dehorn cattle?
SUBSCRIBER.

Ans.—Dehorning should be done during the early part of winter when the weather is cold and there is no danger of flies. It may safely be done up as late as March.

Ringworm.
A number of two and three-year-old cattle have lost the hair around the eyes and scales have formed. What is the trouble?
SUBSCRIBER.

Ans.—The symptoms are those of ringworm—a contagious disease to which all classes of animals are subject. It is a skin disease, due to the presence of a vegetable parasite, which may be spread from one animal to the other by direct contact. Moisten the scales with warm water and soap and then apply tincture of iodine, or an ointment made of 2 drams of white hellebore to an ounce of vaseline. Apply once or twice daily until cured. The stable where the cattle were kept must be thoroughly disinfested to prevent the disease spreading. A coat of hot lime wash, containing five per cent. crude carbolic acid, or washing with any of the coal-tar antiseptics is good.

Silos.

1. I would like to learn a little about pit silos. I think they have a great many advantages and would like to try one. State how the gas trouble is overcome, and how the digging and plastering are done.

2. Give your opinion concerning the thin-walled silo mentioned in a recent article. Do you think it thick enough for all soils?

3. Have we not been cautioned to be sure and provide drainage for the inside of the silo to prevent the accumulation of liquid? How can this be done in a water-tight pit?

4. Is there any simple way of removing the silage from a pit silo?
G. L. L.

Ans.—1. In the early days corn and other material was stored in pits where it kept fairly satisfactorily. However, it was found that corn could be kept in silos built above ground, the main feature being to have them as near air-tight as possible. The pit silo is easy to fill, but extremely difficult to remove the silage from. Where there is danger of the soil caving in when digging, the pit may be made with sloping sides and built up with lumber or cement to prevent any cave-in. Where the soil is of a character that will not cave, it may be dug the required size and then lined with cement.

2. Six-inch walls have been used for silos and they apparently stand the strain very well, as we have seen silos that have been filled several times and as yet there is no sign of cracking or weakness. In reference to it being thick enough for all kinds of soil, it is essential that a good foundation be built. A heavier foundation will be necessary on loose soil than on hard-pan or heavy clay.

3. Many silos are built without drainage. However, it is no harm to have a drain in the centre of the silo so as to remove any accumulation of liquid. If corn is not too fresh when ensiled there will be little liquid at the bottom of the silo.

4. Taking the silage out of a pit silo is one of the chief difficulties. It is necessary to arrange some form of a windlass or hoist, and use some power to elevate the silage to the level of the floor. Silage is heavy, and no matter what way it is taken out, it means hard work. The silo built practically all above ground greatly lessens the labor, although it may take more power for filling and frost must be contended with. In the long run they are the most efficient silos. Gas must be contended with in all styles of silos, unless there is a continuous row of doors. This is dangerous principally at the time of filling, when gas is generated from fermentation. With a silo underground there is always more or less danger of gas, and some method should be arranged to put the air in circulation before a man goes down to put out the silage. It is advisable to lower a lighted lantern, and if it continues to burn there is no danger of a man suffocating. On the other hand, if it goes out it is not safe to go to the bottom.



More or Fuller Cans

Those who use Royal Purple Stock Specific secure from 3 to 5 pounds more milk from each cow per day. Figure the increase on even a small herd. It will pay you to feed Royal Purple to your cows, and steers can be fattened a month earlier by its use.

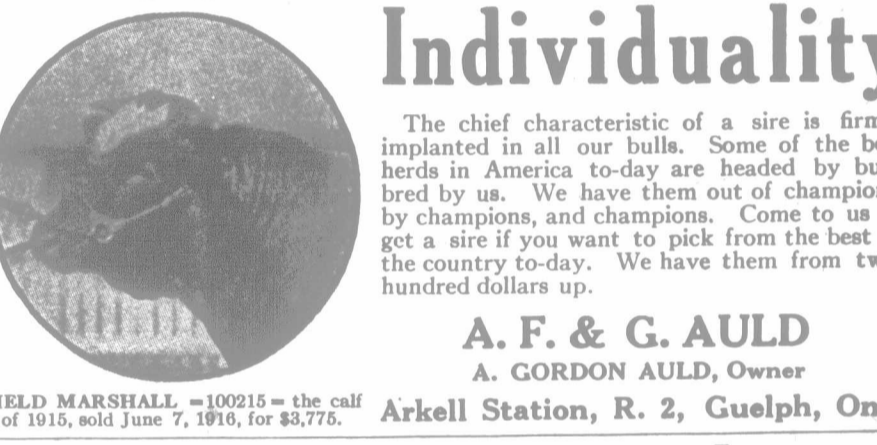
Royal Purple Stock Specific

is a digester, tonic, an animal conditioner. It aids digestion and assimilation and enables stock to get the maximum amount of good from the food eaten. Greater gains are secured from less grain, and the cost of the Royal Purple fed is very trifling. It will improve the condition of the worst, most run-down animal on your farm. If you have a poor, miserable, run-down, hide-bound horse in your possession, try it on him first and be convinced.

Royal Purple Stock Specific is put up in 50c. packages and \$1.50 and \$5.00 tins.

W. A. Jenkins Mfg. Co., Ltd.
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FREE BOOK
Write for FREE 80-page booklet on the common diseases of stock and poultry and our other products. It tells how to raise calves without milk, also how to build hen-houses.



Individuality

The chief characteristic of a sire is firmly implanted in all our bulls. Some of the best herds in America to-day are headed by bulls bred by us. We have them out of champions, by champions, and champions. Come to us to get a sire if you want to pick from the best in the country to-day. We have them from two-hundred dollars up.

A. F. & G. AULD
A. GORDON AULD, Owner
Arkell Station, R. 2, Guelph, Ont.

FIELD MARSHALL =100215 = the calf of 1915, sold June 7, 1916, for \$3,775.

Escana Farm Shorthorns

FOR SALE—Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old, all by imp. sires and from high-class dams; also for sale 20 heifers and young cows, several with calves at foot, all of very choicest breeding and especially suitable for foundation purposes. Mail orders a specialty. Satisfaction guaranteed.

MITCHELL BROS., BURLINGTON P.O., ONT.
Jos. McCrudden, Manager. Farm ¼ mile from Burlington Jct.

Young Bulls of serviceable age. Young cows with calves by their side and bred. Heifers well on in calf. A few good Shropshire ewes bred to good rams. A nice bunch of ewe lambs.

Myrtle Station—
C. P. R. and G. T. R.

John Miller, Ashburn, Ontario

ROYAL BREEDING SCOTCH SHORTHORNS HIGH-CLASS TYPE
of high-class, fashionably-bred Scotch Shorthorns in calf to Sittytton Sultan's Dale, a Mina-bred son of Avondale, dam by Whitehall Sultan, is of interest. Come and examine my offering.

A. J. HOWDEN, Columbus Ont Myrtle, C.P.R., Brooklin, G.T.R.

Gलगow Shorthorns, Cotswolds

For the present we have sold all the Cotswolds we wish to spare, but we have a choice offering in young bulls fit for service. They are all of pure Scotch breeding and are thick, mellow fellows, bred in the purple. WM. SMITH, COLUMBUS, ONT., Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

Choice Breeding **SCOTCH SHORTHORNS** High Quality
We are offering this fall the choicest lot of young herd headers we ever bred, several are of serviceable age, high in quality, rich in breeding. Also a number of heifers.

GEO. GIER & SON, WALDEMAR, R.M.D. Grand Valley Sta.

HIGHLAND LAKE FARMS

Jointly, with J. Alex. Wallace, of Simcoe, we have leased for the season the great young bull, AVONDALE PONTIAC ECHO, a son of MAY ECHO SYLVIA, 41 lbs. butter in seven days, 152 lbs. milk in one day, and other world's records for milk production.

Two fine young bulls of serviceable age for sale, one from a 34-lb. bull and a daughter of a 30-lb. son of the great KING SEGIS, the other from a son of the \$35,000 bull, both grand individuals and from high R.O.M. cows. Over seventy females to choose from. Send for pedigrees and prices.

R. W. E. BURNABY, (Farm at stop 55, Yonge Street Radial) Jefferson, Ont.

40-LB. BLOOD

Bull, 8 months old, mostly white, low down, top line very straight, unusually deep middle, plenty of length and size, quality everywhere, will make a high-class show bull. Dam, as two-year-old: 16¾ lbs. butter, test 4%. Sire, May Echo Champion, full brother to May Echo Sylvia, 41 lbs. butter, 1,005 lbs. milk seven days, 153 lbs. milk one day. The records of dam, sire's dam, grandam and sire's two full sisters average over 30 lbs. butter and 100 pounds milk.

Price \$190. On car at Toronto.

R. F. HICKS NEWTON BROOK, YORK CO., ONT.

EVERGREEN STOCK FARM—High-Class Registered Holsteins

To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days and 121 lbs. milk per day, and sired by Prince Colantha Abbecker, whose dam made 32 lbs. butter 7 days and 104 lbs. milk per day.

A. E. HULET, NORWICH, ONT. Bell Phone 48 r.3.

ORCHARD LEIGH HOLSTEINS

Bulls ready for service, from cows with records up to 29.20 lbs. butter in 7 days, and 93 lbs. milk in 1 day, sired by King Veeman Ormsby, whose dam gave 83 lbs. milk in 1 day, 559.5 lbs. milk and 25.81 lbs. butter in 7 days. Write, or come and see them. You will want one sure.

JAS. G. CURRIE & SON, (Electric Car stops at gate) INGERSOLL



Crushes the Clods

cuts, levels, and turns the soil twice—all in one operation. That's the way "the coulters do the work" when you use the

"Acme" Pulverizing Harrow
Works deep into the soil leaving it compact below and with a nice mulch on top. Light draft and comfortable seat. Endorsed by Experiment Stations. Sizes 3 ft. to 17 1/2 ft. wide. Send today for our new freebook, *The "Acme" Way to Crops That Pay.*

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Cures Chilblains and Frostbites

For Sale Everywhere

DOUGLAS & COMPANY MFRS. NAPANEE, ONTARIO

CREAM

Where are you shipping now? And what are you getting for your cream?

We want more individual shippers, and more men to gather cream for us.

Write for our proposition.

SILVERWOODS LIMITED
London, Ontario

CREAM WANTED

Ship your cream to us. We pay all express charges. We supply cans. We remit weekly. We guarantee highest market price.

Ontario Creameries, Limited
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LIVINGSTON BRAND

The purest and best

OIL CAKE MEAL

THE DOMINION LINSEED OIL CO., Ltd.
Manufacturers, Baden, Ont.

"King Segis Pontiac Duplicate" is a son of "King Segis Pontiac", sire of more high-priced bulls than any other in U.S.A. Duplicate's dam is by King of the Pontiacs, having made 21 lbs. butter, 17,500 lbs. milk at 2 years, and is sister to two 40-lb. cows (one 44-lb.), seventeen 30-lb. cows, also sister to 15 A.R.O. cows, a showing made by no other bull, living or dead. One of Duplicate's first test daughters is Queen Pontiac Ormsby, first heifer in Canada to give 600 lbs. milk in seven days. Write for a brother of this great heifer for your next sire. R. M. Holtby, Port Perry, Ont.

Questions and Answers. Miscellaneous.

Removing Plaster Stains.

What will remove stains of plaster and water from a red-oak floor?

M. E. M.

Ans.—The stains of plaster are rather difficult to remove. Caustic soda might be tried, as it is effective in removing a number of the various stains.

General Farming on Twenty-five Acres.

1. I am a young man living with my mother, just outside the city, and have a half-acre of land. I am employed in a factory every day. I have a desire to secure more land in some good farming district, as in the neighborhood of Preston, Galt or Kitchener. I prefer these places, owing to having visited in the neighborhood frequently. What do you think of my idea in regard to location and securing of say 25 acres? What line of farming would you consider the best for that amount of land in that district? Could more or less than 25 acres be worked to better advantage? I do not care for extensive market gardening.

2. Would it pay to have a silo on 25 acres? If so, what size would you suggest, and how many head of cattle would it supply feed for? How many acres of corn of an average crop would be required to fill it?

3. If I had \$1,500 and paid \$1,000 on the land, would I be able to start up with the balance?

4. Would I require a team, or would one good horse be sufficient?

5. Would you consider it better to pay \$500 on the property, thus leaving \$1,000 for equipment?

Ans.—1. The location suggested affords splendid opportunities in several lines. It is considered to be good farm land, and there are very good transportation facilities. Twenty-five acres is rather a small farm, and is suitable for only certain lines of farming. By specializing in fruit, truck gardening, poultry and bees, or a combination of the four, it is possible to make money, but we are doubtful if a living could be made with a farm of the size mentioned from general farming. There is not room to grow sufficient feed to supply a large enough herd to make it profitable. For specialized farming, a smaller acreage might be an advantage, but for general farming we would prefer 50 acres or more.

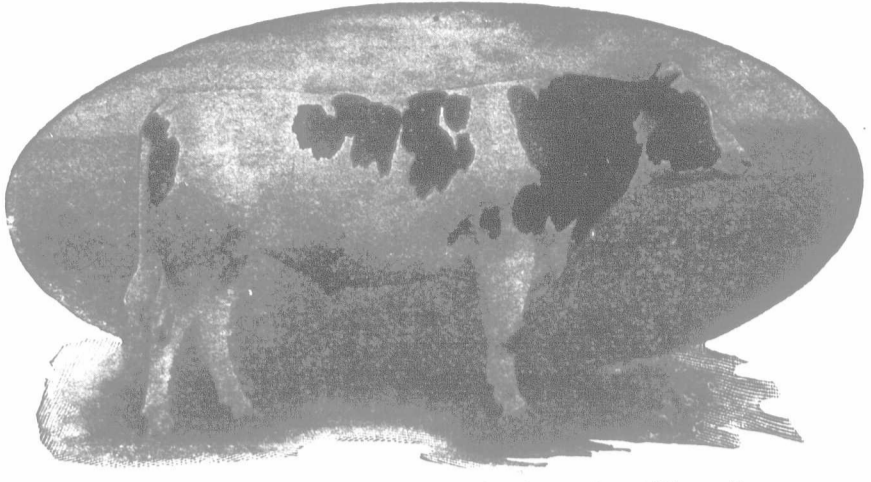
2. If 6 or 7 acres of the 25 were devoted to corn it would pay to erect a silo, but we would not favor one smaller than 10 feet in diameter and 25 feet deep. This would supply a fair amount of silage for 12 cows during the winter months, and 3 acres of a 10-ton-to-the-acre crop would be sufficient to fill it, but a crop of that size is the exception, not the rule. Hay and grain would have to be supplied to feed with the corn, and it is necessary to have straw for bedding. The cows would require pasture for the summer. It might be possible to keep about eight cows and grow sufficient rough feed for them, but the concentrates would all have to be purchased.

3. Five hundred dollars is rather a small amount for working capital.

4. A team would be required.

5. We would prefer leaving \$1,000 for equipment and working capital. In general farming it is necessary to have a team and a few implements to work the land, and a start would have to be made in live stock. Two or three good cows could be purchased. Seed grain will also be required, and some cash should be available to tide over until the new crop can be harvested. With specialized farming live stock is not so necessary, and the money could be invested in supplies.

H. M. Vanderlip, Cainsville, Ontario, who has been advertising his imported bull, Royal Warrant, writes that this good sire has been sold to Morley Bros., of Ailsa Craig, Ont. Enquiries came in from all over Ontario and Quebec, as the result of an advertisement in the Advocate. To succeed Royal Warrant, Mr. Vanderlip has purchased the Missie-Lavender bull, Lavender Victor.



KING SEGIS PONTIAC POSCH—Senior Sire in service at Manor Farm. Sire—King Segis Pontiac Alcartra (the \$50,000 sire). Dam—Fairmont Netherland Posch, 32.59 lbs., 4 years old.

Important Announcement!

For the first time since our fire in February, 1915, we are in a position to invite all those interested in the Black and White breed to visit *Manor Farm* and inspect our herd of

100 PURE-BRED HOLSTEINS

Since this announcement first appeared a few weeks ago, I have been flooded with enquiries for young sons of King Segis Pontiac Posch. His great individuality is stamped in every one of his offspring, and this, combined with his extremely rich breeding, has made the demand for his young sons of serviceable age greater than the supply. If you have been thinking about one of these for your next herd sire, you should get your order in early.

Gordon S. Gooderham, MANOR FARM Clarkson, Ont.

May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. cow, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvia, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in 7 days, and 170.5 lbs. in 30 days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliot, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.

W. F. ELLIOT, Sec., (Bell Phone) Unionville, Ont.

Yearling Heifers For Sale

As our stables are full, and expect several more calves shortly, offer for quick sale 3 yearling daughters of Dutchland Colantha Sir Mona; also 2 beautiful daughters of Pontiac Korndyke Het Loo. The 35-lb. bull is sold. We also have a 17-months' bull by King Pontiac Artis Canada, and out of a 25-lb. sister of the great May Echo. Another, same age, by Dutchland Colantha Sir Mona, and from the noted 25-lb. show cow, Cheery Vale Winner. Come and see these, you will like them.

W. L. Shaw, Newmarket, Ont.

Stops 69 Yonge St. Toronto and York Radial Cars

Hospital for Insane, Hamilton, Ont.

The choicest lot of young bulls we ever offered—

is the best description we can give you of the half dozen we are now pricing—from our Korndyke bull and R.O.P. dams, testing 4.08 per cent. butter-fat. Ages range from three to twelve months. No females offered.

Apply to Superintendent

Two Holstein Bulls—Born April, 1916

Either will make show animal. No. 1: Two nearest dams average 100 lbs. milk a day, and over 30 lbs. butter a week. No. 2: Dam and grandam average 24,000 lbs. milk in the year. Three nearest dams average 100 lbs. milk a day and over 30 lbs. butter a week. Can spare a few females.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT.

LONG-DISTANCE 'PHONE.

Dumfries Farm Holsteins

175 head to choose from We have on hand at present about 20 young bulls by De Kol Mechthilde Prince, a son of Prince Aaggie Mechthilde. Can also spare a few fresh cows Visitors always welcome.

S. G. & ERLE KITCHEN, St. George, Ont.

CLOVERLEA HOLSTEINS

We have too many young bulls on hand at present. We want to sell them—our prices will surprise you. They are all from tested dams and by our herd sire, Pontiac Norine Korndyke. Write quick

GRIESBACH BROS., COLLINGWOOD, ONT.

HOLSTEIN BULLS READY FOR SERVICE

Two are by King Korndyke De Kol, a son of the great Pontiac Korndyke. One is from a 25-lb. 3-year-old, and the other from Queen of Oxford, dam of Queen Butter Baroness. We have others younger, by King Walker Pride, a 24.36-lb. son of King Walker. Write us also for females.

COLLYER V. ROBBINS, BELL PHONE WELLANDPORT, ONTARIO

THREE HOLSTEIN BULL CALVES

Twelve months old and good individuals. They are all sired by Lynwood Duke, a son of Daisy Posch (29.01 lb., 4 yr. of d.) and sweepstakes winner, Ottawa Dairy Test, 1914. We also have others younger and would price a few females, freshening early. Everything offered has official backing. Write

W. J. BAILEY, JARVIS, ONTARIO

PIONEER FARM HOLSTEIN HERD

Of long-distance record makers, the kind that milk heavy and test around 4 per cent. the whole year. Of the six highest butter-fat record two-year-olds in Canadian R. O. P., one half were bred at Pioneer Farm. Young bulls for sale from dams of the same breeding as these and sired by Canary Hartog whose three nearest dams average 20 lbs. butter in 7 days and 108 lbs. milk in one day.

WALBURN RIVERS, R. R. No. 5, INGERSOLL, ONT. Phone 343 L. Ingersoll Independent

Columbia Batteries

Power! Speed!

Bring out the best your engine's got, with the hot, fat spark of Columbias.



No. 6 COLUMBIA IGNITOR DRY CELL

FOR GENERAL IGNITION CANADIAN NATIONAL CARBON CO. TORONTO, ONT.

Canadian National Carbon Co., Limited
Toronto, Ontario
Fahnestock spring-clip binding posts, no extra charge.



Headquarters for

COTTON SEED MEAL

Creamo Brand	20% to 24% protein
Security Brand	36% to 38% protein
Forfat Brand	38% to 41% protein

Car Lots or Less. Prices on application

FRED SMITH
163 1/2 CHURCH ST., TORONTO

CRAIGIELEA FARM

The home of high-quality Ayrshires. Look up our records in public dairy tests and R. O. P., made under normal conditions. A few young bulls and females up to a carload.

R. K. No. 1, Markham, G. T. R. Station

H. C. HAMILL,
Locust Hill, C. P. R. Home 'phone. Bell connection at Markham.

Glencairn Ayrshires

Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. **Thos. J. McCormick,** Rockton, Ont. Copetown Stn., G. T. R.

Choice Offering in Ayrshires

At Special Prices—Several young bulls of serviceable ages. All from R.O.P. sires and dams. Come and see them.

Jno. A. Morrison, Mount Elgin, Ontario

JERSEY BULLS

For Sale—Knoolwood's Raleigh, sire Fairy Glen's Raleigh (Imp.), 22 daughters R. O. P.; dam Eminent Honeymoon (Imp.) R.O.P. 596 lbs. butter; reserve champion on island. Capt. Raleigh ready for service, sire Knoolwood's Raleigh, dam Mabel's Post Snowdrop; first as calf; 1914, first Junior Champion, 1915, 2nd 1916, Toronto. Milked 38 lbs. day, 6 per cent, milk first calf. **Ira Nichols,** Burgessville, Ont. R. R. No. 2.

HIGHEST PRICES PAID FOR

WOOL

HIDES, SKINS, HORSEHAIR,

WRITE FOR OUR PRICES BEFORE SELLING

FREE SPORTSMEN'S CATALOG OF GUNS TRAPS, NETS, FISHING TACKLE & C.

JOHN HALLAM, LIMITED
No. 3 HALLAM BUILDING - TORONTO

LABELS

Live-stock Labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co.



Box 501, Ottawa, Ont. Write for samples and prices

Willowbank Dorsets

Our present offering, while not large, includes some extra good yearling and ram lambs. All imported sires. **Jas. Robertson & Sons,** Hornby, Ont.

Maple Leaf Shropshires & Shorthorns

In Shropshires have only ewe lambs now to offer. In Shorthorns one good 3-year-old Missie bull, Bull calves and heifers of popular families.

JOHN BAKER, R. R. No. 1, Hampton, Ont.

Tower Farm Oxfords

Champion Oxford flock of Canada. Choice Oxfords of all ages for sale. Prices reasonable.

F. Barbour & Sons, R. R. 2, Hillsburg, Ont.

Questions and Answers. Miscellaneous.

Oats for Feed.
Are whole oats as good as chopped oats for yearlings, calves and fattening cattle?
C. McL.

Ans.—While good results have been secured from feeding whole oats, it is generally conceded that for cattle it is advisable to roll or grind the grain. Young calves have been started eating concentrates by feeding whole oats, and some feeders secure satisfactory results by sifting oat chop and eliminating the hulls for calf feeding.

Gravel for Block Silo.
1. I have some wheat left over from last fall's seeding which was treated with formalin for smut. I wish to know if this treated wheat would be injurious to poultry or swine.
R. N.

Ans.—1. Wheat treated with a solution of formalin for destroying smut could safely be fed to poultry and swine, after having laid over for several months; in fact, there would be very little danger from feeding it shortly after it is treated with the strength of solution usually used.
2. Using an 8-inch block, it will require about 34 cubic yards of gravel.

Horse Drinks Too Much Water.
I have a filly rising two years old. When turned to the trough she drinks until she is in misery, and then stands and shivers. She is a hearty eater and is fed clean hay and oats, but she does not flesh up. What do you think is wrong with her? What treatment would you advise?
A. R.

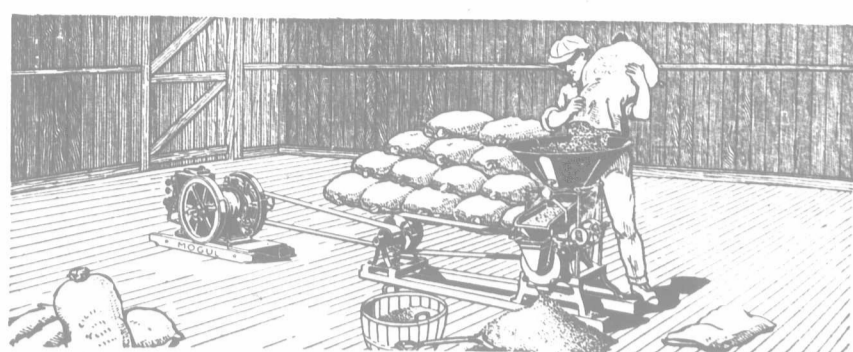
Ans.—Some horses have a habit of gorging themselves on water if an effort is not made to check them. Lead the filly to the trough and do not allow her to drink too much. It may be advisable to water her from a pail. The excessive amount of cold water taken into the body possibly interferes with regular work of digestion. Limit the amount of water and note results. If she does not then improve it is advisable to have a veterinarian examine her.

Color of Collie Pups.
I have a pure-bred Collie bitch which I bred to an imported Collie dog. There are seven pups, 4 sable and white, and 3 black and white. Will a sable and white sire and dam produce black pups? Is there a possibility of the black pups being sired by another dog and the sable pups from the Collie dog, as he was sable and white but dark? Some tell me that this could happen. I might also state that I shut the bitch up for two weeks before I bred her, but she might have been served before that but not after by another dog. Any way, she had her young exactly 9 weeks to a day after the service from the imported dog.
W. R. M.

Ans.—Collie dogs vary in color, and it is not uncommon for them to be very dark, in fact black. If black entered into the color of any of the dogs' ancestors it would be quite possible for even a white dog to throw black pups. This would be a case of the influence of the blood of the ancestors being exerted.

Inversion of the Rectum.
We have ten Yorkshire pigs all pure-bred and 4 months old. They are kept in a box stall about fifteen feet square, in a cow stable. They are fed half bran and half shorts mixed in warm water and they all eat well. There have been three of them troubled with protrusion of the rectum. Can you tell me, through your paper, what to do for this disease?
Wm. M.

Ans.—This trouble is frequently caused by excessive straining, due to constipation or acute diarrhoea. In case of the former it is caused by straining in efforts to defecate, and in the latter from straining due to irritation. Wash and bathe the protruded portion with a hot solution of alum 1 oz. to a pint of water. Then return it and apply a truss to prevent reinversion. Give a little raw linseed oil and feed a little milk and shorts. The truss must be removed when efforts are made to defecate, and inject a little warm solution of alum into the rectum. Treatment is often unsuccessful, and it is advisable to fit them for the butcher as soon as possible.



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We are only offering a few bulls, as our Club intends holding a sale on or about March 6. We will hold our stock for that. July and October Yorkshires.

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Young stock, either sex, for sale, from our imported sows and boar. Also some from our show herd, headed by our stock boar, Ringleader. Terms and prices right. John Weir & Son, Paris, Ont. R.R. 1.

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Young stock at all times, both sexes, and all ages. Can also supply anything in Dorsets or Southdowns. Everything priced to sell.
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Sunnyside Chester Whites and Dorsets. In Chester Whites, we have both sexes, any age, bred from our champions of many years. In Dorsets we have ram and ewe lambs by our Toronto and Ottawa champion, and out of Toronto, London, and Guelph winners. W. E. Wright & Son, Glanworth, Ont.

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Choice young sows, four months; two good young bulls, six and eleven months.
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Duroc Jersey Swine. I have been importing and breeding Duroc Jerseys for twenty-five years. Present offering some choice sows, bred; a few sows six months old and a number of pigs two months old.
Charles Farough R. R. 1, Maldstone, Ont.

TAMWORTHS
Young sows bred for April and May farrow, and a nice lot of young boars for sale. Write:
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Questions and Answers. Miscellaneous.

Girl Hiring Out.

Does a girl become of age when she is eighteen? Can she go to work without her parents' consent?

SUBSCRIBER.

Ans.—As far as working out is concerned, a girl is generally considered of age at eighteen, and can go to work without her parents' consent and collect wages. However, there is a limit (\$100) which she can sue for in the Division Court. When it comes to the division of property a girl must be 21 to be of age.

Increasing Butter-Fat by Feed.

1. Can the quality of a cow's milk be effected by the quality of feed given?
2. Also, why should cottonseed meal not be fed to growing pigs or horses?

J. C. H.

Ans.—1. It is generally considered to be impossible to permanently affect the quality of milk by feed. The percentage of fat is peculiar to the individuality of the cow. It is possible to affect a change temporarily; for instance, having a cow in high flesh and then cutting off the strong feed will frequently cause the test to rise several points. The reason is said to be that the cow draws on her system for the supply of fat which is cut off when the feed is withheld. However, it is only a matter of a few days till normal tests will be again obtained. Excitement will often cause the percentage of fat to increase for a very limited period of time.

2. Experience has proven that cottonseed meal is practically a poison to growing pigs. Whatever it contains does not agree with pigs, but if carefully fed it may be given in very small quantities to horses.

Width of Cow Stable.

1. Would it be advisable to have a 2 by 4-inch scantling set in the cement at the rear of the cow stall to fasten boards to in the winter?

2. What is the correct width for a cow stable?

A. M. M.

Ans.—1. Some make a practice of laying boards on the cement to protect the cows' udders from the cold concrete in the winter. The scantling makes it easier to fasten these boards in place. However, many get along without covering the cement with lumber, and find no bad results. True, cement is cold, and where boards are not used should be covered with a good layer of straw or bedding of some nature.

2. It depends a good deal on the arrangement of the stable and width desired for passages. Allowing 7 feet for rear passage and gutter, 7 feet for feed passage, 2 feet for manger and 5 feet for stall, two rows of cattle facing each other could be stabled in a building 35 feet wide. The feed passage could be reduced a little in width, but 7 feet is not too much for rear passage. Some add another 6 or 7 feet to the width of the stable so that calf stalls may be put in along one side.

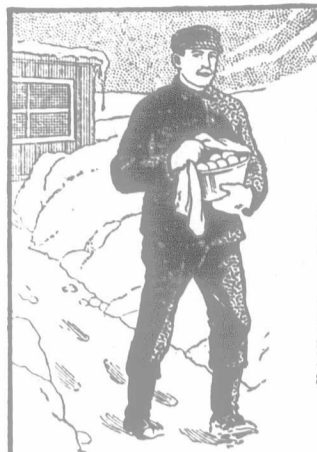
Adoption—Curing Pork.

1. Up to what age can a person be adopted?

2. How can pork and beef be cured without smoking?

Ans.—1. We do not think there is any limit up to the time that the child attains its majority.

2. Meat packed in salt will keep for some length of time. The chief objection is that it becomes very salty, and should be soaked a few hours before using. Meat may be kept 5 or 6 weeks in the following pickle: To each gallon of water add ½ lb. of salt, ½ lb. of sugar, ½ oz. of saltpetre and ½ oz. of potash. These are boiled together and any dirt which rises skimmed off, then when cold it is poured over the meat. Care should be taken to completely cover the meat with the pickle. For curing hams, a pickle made by boiling together, in one gallon of water, 1¼ lbs. salt, ½ oz. saltpetre, 1 pint molasses and 1 teaspoonful of saleratus is satisfactory. The meat should remain covered in the pickle for 6 or 7 weeks, and then smoked. A satisfactory method of keeping meat, without smoking, is to partially cook it and pack in casks, making it air-tight by covering with melted lard. Slices of meat may be taken out as desired for use and further cooked before serving. Melted lard may be again poured over meat left in the cask.



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TAMWORTHS AND SHORTHORNS

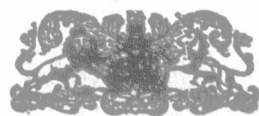
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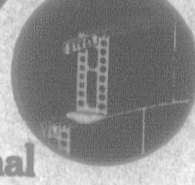
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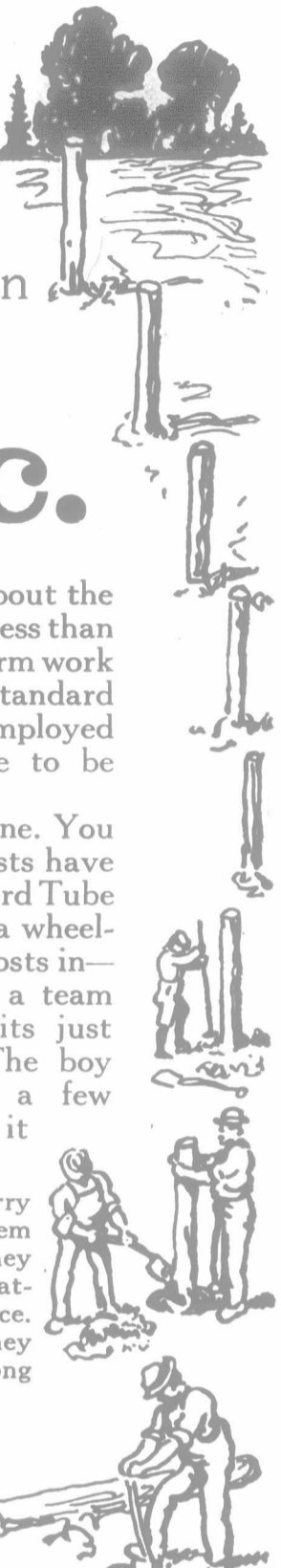
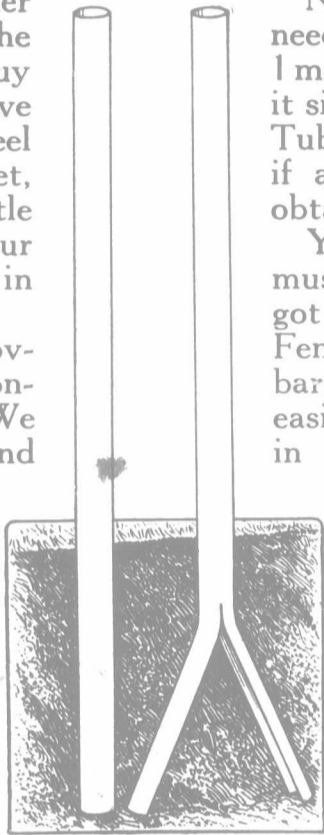
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