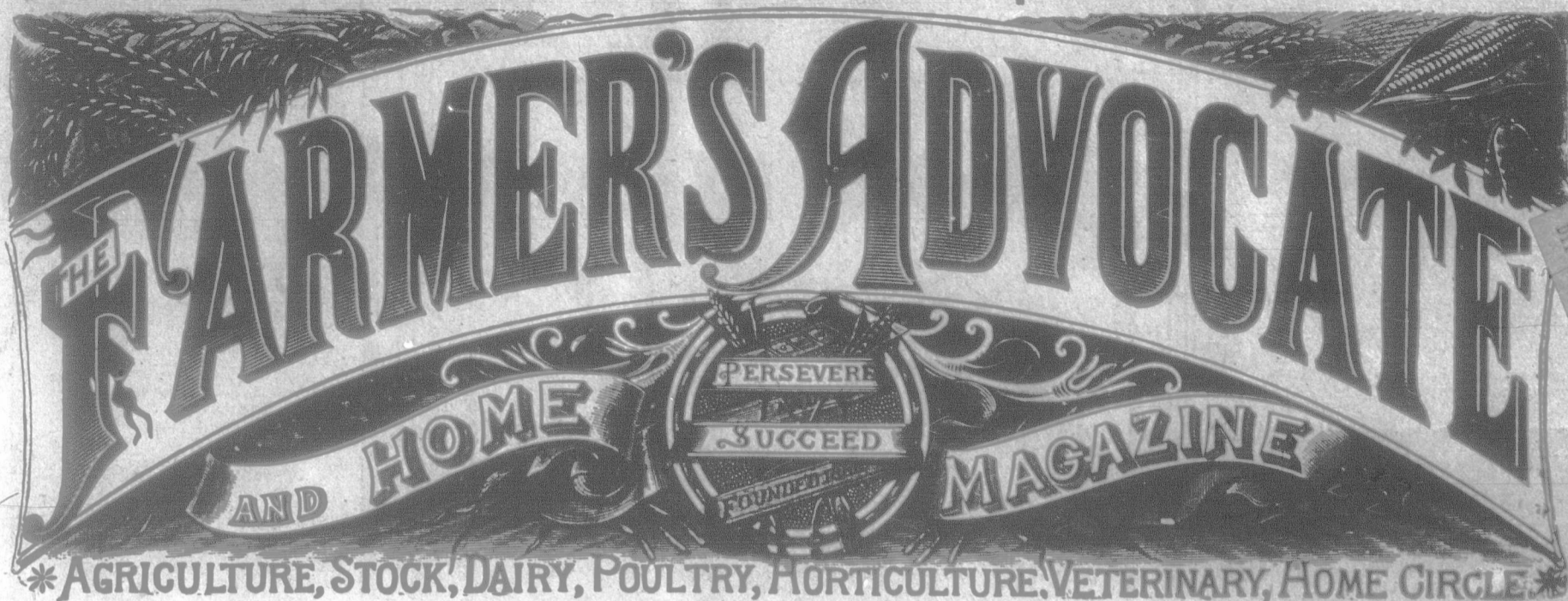


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Vol. LI.

LONDON, ONTARIO, JULY 20, 1916

No. 1243

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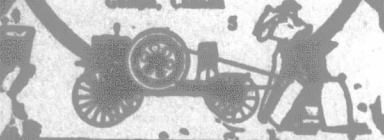


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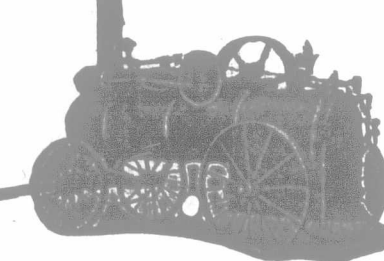
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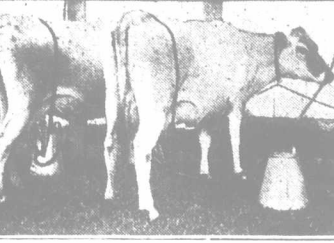
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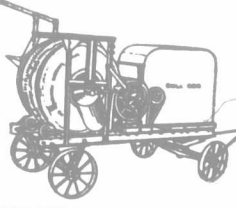
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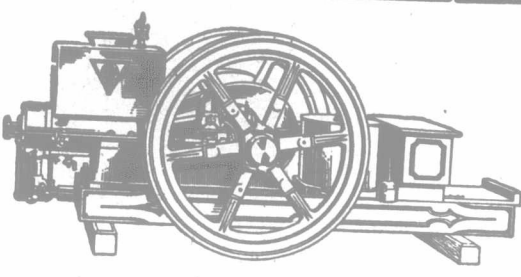
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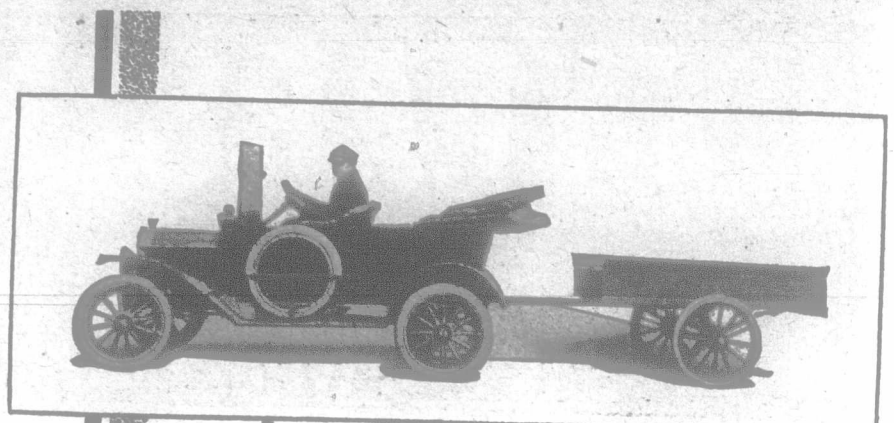
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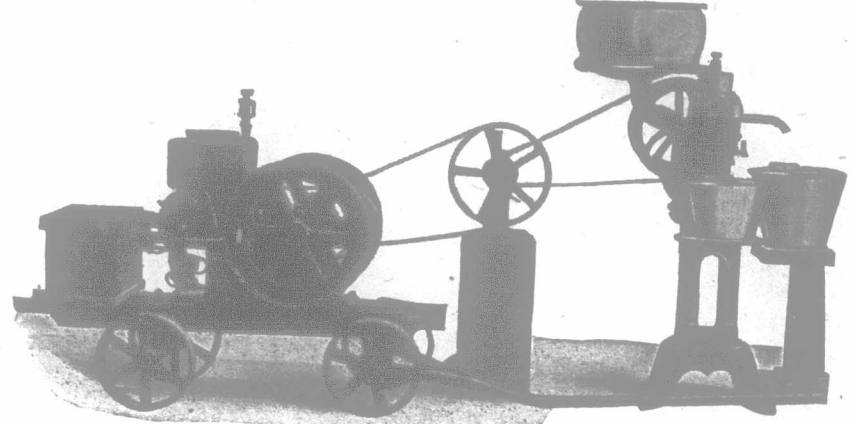
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" WOODSTOCK	3.30 a.m. " "	" GALT	10.29 a.m. " "
" LONDON	4.43 a.m. " "	" GUELPH JCT	10.57 a.m. " "
" CHATHAM	7.00 a.m. " "	Ar. TORONTO	12.15 p.m. " "
Ar. WINDSOR (MCR)	8.30 a.m. " "	LONDON PASSENGER	
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" DETROIT (Fort St)	9.30 a.m. " "	" WINDSOR (CPR)	7.40 p.m. " "
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Lv. DETROIT	8.25 a.m. " "	" CHATHAM	9.08 p.m. " "
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LI.

LONDON, ONTARIO, JULY 20, 1916.

1243

EDITORIAL.

Maintain the drive in the corn.

A colt that will not lead is not fitted for the show-ring.

Keep the show cattle cool, contented and well curried.

Responsibility is the fairest test of a man's efficiency.

There is one line that cannot be broken—the line held by the British fleet.

It might pay to practice a little head selection in the grain crops on the home farm this year.

Every weed allowed to grow and mature means less grain and less feed this year, and more weeds next season.

The stockman should rejoice. The tendency of feeds is downward, and all kinds of live stock command good prices.

We are told that the fighting on all points gradually approaches the more open order, but the war is still a war of machinery.

A great deal of the trouble between hired men and farmers is caused by misunderstanding. Every farmer should be a student of human nature.

In England, Lloyd George is accused of everything, offered everything, and let do most things that few of the rest want to or could do.

When the boy asks why you do certain things in a certain way, tell him if you know. If you do not know why, you are missing the most interesting part of your occupation.

And now a medical officer of health says that cow's milk never was intended for human food, and that it is bad in every way. Evidently he has no money invested in a dairy farm.

There has been good weather for hay making, and a big crop of well-cured hay will surely help solve the feeding problem next winter. It generally pays best when fed on the place.

Those who blame the bombardment in Europe for the wet spring will have some trouble explaining how it happened that a dry period started with the heaviest of all bombardments in the world's history.

The search for good, light horses for war purposes has revealed the fact that Canada has a comparatively inferior and nondescript class of light horses. Who are to blame, the mare owners or stallion owners, or both?

The prairies would buy Ontario apples if the people out there could be sure of the quality. The good Ontario apple is preferred every time, but so many bad ones have been sent out that the Western fruit will find the most ready sale unless the Ontario grower and packer are very careful, and Ontario cannot afford to lose the Western market.

Costs More—Worth More.

We sometimes wonder whether the Canadian farmer really thinks he cannot afford to properly educate his boys and girls in the rural schools, or whether he is indifferent or just abhors change. The little, old, red school-house on the hill was not good enough for father, neither is it good enough for John and Mary, particularly if it is badly lighted, ill-ventilated and poorly equipped both in regard to supplies and teacher. What chance has the boy and girl in the average country school, as now found in Ontario, to get a right appreciation of agriculture and rural home-making? The rural public school falls down in efficiency. In many cases the ratepayer gets poor value for the money expended in school taxes, and so he kicks at any increase or proposed increase. Recent articles in this paper have shown that consolidation of schools is the right road to better rural schools, and, consequently, a better rural education. They cost more, but the best is always the cheapest. The Canadian farmer can afford to pay a little higher school tax, if, by it, through the better organization, more efficient teachers, and wider facilities, his children get their public school education completed two or three years earlier than they would by the present system, and get a more practical education too. The parent is always proud of the child who does well at school. Consolidation brings the continuation school to the farmer's door. The public school curriculum, covered in two or three years less time, generally means that the boy or girl gets a year or two years or more in advanced education. And with it all there is taught and practiced agriculture, mechanics, suited to the farm and domestic science. Surely all can afford a better education for the boys and girls. None can afford to withhold it. Consolidation costs more but is worth more—vastly more. It is cheap in the long run.

Straw is Worth Saving this Year.

Farmers of Ontario have been accused, and perhaps not without some reason, of working wrong end to with their harvest and threshing, in so far as caring for their straw is concerned. In this old province there is always a rush to get the grain safely housed in the barn, and when the barn is full the threshing machine comes and blows all the straw out in a more or less promiscuous heap in the farmyard, there to be soaked and re-soaked in the heavy fall rains. Some hold that it is much better to thresh from the field and blow the straw directly into the barn, where it will be well preserved for winter use. The straw crop of 1916 in Ontario does not promise to be a heavy one. Late seeding, and protracted wet weather, followed by a dry spell, will cut down the weight of straw per acre. No good stock farmer can afford, this year, to allow his straw to take its chances in a heap exposed to the rain. Those having straw sheds especially for the purpose can safely store their grain in the barn, and from it blow the straw to the shed. If straw is of sufficient value to make it profitable for many to build expensive straw sheds in which to house it, surely the man without the shed should plan to keep as much of his straw as possible under cover and the rest well stored.

When the weather is favorable, threshing from the field saves labor. Neighbors can, in this way, cooperate to good advantage in harvesting their crop. A concession line can soon be cleaned up so far as threshing is concerned if all decide to work together, to engage the same machine to do the work, and to go ahead to save the straw. This extra working of mowing away the grain and pitching it out again is avoided and the barn room is available for the straw,

which, on most places, could then all be kept inside. Of course, the system has drawbacks. If rains are frequent the straw is badly injured in the field before it can be harvested. At any rate the method is worthy of consideration, especially in a year like this, when labor is extremely scarce and straw promises to be fairly short.

Straw has a winter feeding value, particularly for cattle and horses on little better than a maintenance ration. Straw contains little crude protein and fat, but it has considerable carbohydrate material, which requires a great deal of energy to digest. The energy used in digestion appears as heat which helps warm the body in the cold weather, so straw is valuable in wintering idle horses and young cattle. For the latter it should be mixed, of course, with roots or silage or roots and silage, and a little grain to keep the cattle going ahead helps. Straw gives good results as a filler with silage and roots. Cattle do better when kept well filled. Oat straw, from a crop cut before dead ripe, harvested without rain and afterwards kept under cover will satisfy a well-fed steer's desire for roughage as satisfactorily as will most hay. Of course, this is speaking of a steer getting a heavy silage, root and grain ration.

Oat straw is most valuable of all. It is soft, and more nutritious than barley straw, which stands next in the list. Be careful in feeding wheat straw. Its greatest value is for bedding, and it is worth taking good care of for this alone. It is very fibrous, particularly straw from winter wheat, and horses have been known to starve to death on it when no other feed was available. With very coarse and fibrous wheat straw it uses up all the feed value contained in an attempt to digest the fibre. Spring wheat straw is generally a little better feed than that of fall wheat. Rye straw is of little feeding value, but is the best of bedding. Clean chaff from wheat and oats contains more food nutrients than straw, and is of value in mixing up roughage rations.

When possible this year try to plan harvesting operations to save the straw. Coarse feed is the feed upon which the average farmer, keeping live stock, makes most money. Thresh from the field and keep the straw in the barn or shed if practicable. Otherwise build a good stack. For those who put their grain in the barn and are forced to blow the straw outdoors, delay threshing if possible until after the fall rains. Straw put outside late in the fall is not so badly injured. Those who thresh in harvest should plan to keep all that straw under cover, as, if it is blown out in a loose heap, it is badly injured before winter. Save the straw. Feed may be none too plentiful next winter.

No Time to Slacken.

With the announcement that the Allies' "drive" has begun successfully, and that the cordon of steel is slowly but surely tightening and ever growing tighter on the enemy, there must be no slackening of effort at home. The war is not over yet. The Teuton is not finally whipped. The tide has changed, and all things point to continued Allied successes. But it is still well that preparations go on in all the countries connected with the Allied cause. Britain, France, Russia, Italy and the little nations which so nobly stood for justice must be prepared to drive home the advantages now being gained. More munitions than ever before! More socks and soldiers' comforts! More war material of all kinds! Greater production all around! More men! These should be the slogans. Canada will do her part.

Your feed supply for next winter depends very largely upon how well and how often the corn and roots are cultivated during the next few weeks.

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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What of the Wheat Outlook?

Ontario and Eastern Canada is essentially a live-stock country. Last year, owing to the war and the increased price of cereals, grain growing, particularly wheat production got a "boost." Last fall the weather was so bad that comparatively little winter wheat was put in in most districts. Possibly it is well that it is so. Ontario winter wheat is now quoted at less than \$1 per bushel, and the farmer, with live stock at present prices, can ill afford to sell the grain at that price. But what of the outlook? The war is still on, but the tide seems to be rapidly changing. It may or may not be over before the harvest of 1917. We are not going to speculate on the war. However, it seems that there is plenty of wheat, and prices are not likely to go abnormally high. Russia has a large supply held over. The Argentine has a bumper crop, and nowhere to send it on account of lack of transports. If any of the Allies needed wheat, or foresaw a shortage, Britain, in command of the seas, would see that some of this wheat reached them. In Great Britain the trend of wheat and grain prices is gradually downward, while beef has gone the other way to beyond 20 cents per pound, on foot. It would appear that it is meat and not grain that is needed. The Western crop promises another "bumper" yield this year, which, if it is harvested in good condition, will mean more wheat for the Allies.

We are simply relating this that our readers may understand conditions. Too often all the stress is placed by speakers on the necessity for more wheat. We need the grain more to feed live stock than to feed man at the present, and the question arises as to whether winter wheat or some of the coarse grains or corn is more profitable. Now is a good time to consider this, just before plowing up that clover sod for winter wheat. Of course, no one would discourage wheat production. Many farmers gain by having a fall-sown field. Wheat does well on a rich summer-fallow or a rich clover sod, and sometimes gives a good yield on a manured barley stubble, but any attempt at a widely-increased acreage of winter wheat in Ontario this year should be well thought

over before launched. It would not surprise us to see after-the-war wheat prices below 60 cents per bushel. Seventy cents may be the outside figure. The question is, which is worth more: a good crop of oats, barley or corn for feed, or a crop of wheat at a low price?

A field of winter wheat has several advantages for the one-hundred or two-hundred-acre farmer. It is in when the spring rush comes. It gives a good yield of straw, fine for bedding. It is a good crop with which to seed down to clover, alfalfa or mixed hay. It divides the work of the cereal harvest. It is a good crop for well-prepared, suitable soil. For these reasons the usual acreage is justified, but any attempt to increase the acreage and to sow land not particularly well prepared and suitable for winter wheat production should be weighed in the balance before decided upon. There seems to be an abundance of wheat available for the Allied nations. When the tied-up supplies are released after the war, prices are likely to bump down. On the whole it will pay the Ontario farmer to grow grain for feed. If he decides that wheat pays well for this, let him grow wheat. If other grains and other crops can be used to better advantage, by all means grow them. There seems to be wheat in abundance, but live stock is not so plentiful.

Nature's Diary.

A. B. KLUGH, M.A.

So many spiders build webs that we are rather prone to think of all spiders as constructing these nets for the capture of their prey. There are, however, a number of species which build no webs at all, but catch their prey either by stalking it or by lying in wait for it. One of the species which adopts this latter method of procedure is the Crab Spider. The female of this species measures, when full grown, from one-third to one-half inch in length. She is milk-white or yellow in color, and usually has a light crimson band on each side of the abdomen. The male is only one-eighth to one-sixth of an inch in length, and has two parallel lines of dark spots and a dark stripe on each side of the abdomen. This spider is remarkable for the change in color which takes place when it migrates from flowers of one color to those of another color. In the spring and early summer it is most frequently found on the Canadian Violet, White Trillium, Dutchman's Breeches, White Fleabane, Dwarf Cornel and other white flowers. Its color is then white, which renders it so inconspicuous that the insects visiting these flowers in search of nectar or pollen do not perceive it, and it thus captures them more readily. Later in the season it migrates to the Goldenrod, and other yellow flowers, and it then becomes yellow. I have found the white form on the Showy Lady's-slipper, and the yellow form on the Larger Yellow Lady's-slipper in the same bog and at the same time. It has been proved experimentally that it takes one of these spiders from ten to eleven days to change from white to yellow on being placed on a yellow flower. The egg-sac of this species is made upon a leaf, and is protected by folding a part of the leaf over and fastening it down with a sheet of silk.

The Crab Spiders are so called on account of the short and broad form of the body, the crab-like attitude in which the front legs are held, and the fact that they walk more readily sideways or backwards than forwards.

Now that the season is approaching in which the worst bush-fires occur, we should try to realize the immense damage done every year by these fires and resolve to do everything in our power to prevent this loss. More than 12,000 forest fires, large and small, occur in Canada every year, and these fires burn down three or four times as much of our timber as is cut by the lumberman. Imagine trampling down four times as much of your grain crop as you haul to the barn! The two cases are parallel, except that the loss of a timber crop costs enormously more to replace. It means that millions of dollars, in which you and your family should share, are passing into smoke. You cannot bring back a burned forest in a year, nor yet in a life-time, as mature timber takes from sixty to a hundred years to develop. And the main thing to remember is that the very large majority of these fires are preventable, they are due to carelessness—down-right, wanton, criminal carelessness. Certain parts of the United States, and all of Switzerland and France scarcely know what a big forest blaze looks like. Why? Because the people and their legislators have made up their minds that a forest fire is a common thief, that it robs the woodsman of his employment, robs the farmer of his markets, causes alternate flooding and drying up of the streams, and raises the cost of lumber for every citizen in the land. If the \$200,000,000 which the Canadian forests pour into the pockets of the country every year were taken away, every community would cry "hard times," and at the present annual rate of destruction by fire it does not take a very long look ahead to see the end of this asset. When the people of Canada realize that the man who sets a forest on fire is a

dangerous criminal and that he should be treated as such, forest fires will be practically eliminated.

A society to encourage the study of the fleshy Fungi has recently been formed in Toronto. The aims of this association are set forth as follows: The collection and tabulation economically and scientifically of edible and inedible-fungi (mushrooms) by means of specimens, photographs, spore-prints and field notes. The preparation, printing and distribution of a simple and uniform set of field notes for collectors. To interest and educate the general public in many kinds of edible fungi as a valuable food, tons of which annually go to waste, and to make easy and certain the recognition of the few poisonous and dangerous species by means of exhibitions, lectures and publications, and further facilitate the study of useful and destructive fungi of all kinds. To promote and conduct excursions for study and collection of mushrooms in the fields and woods. To hold meetings of the society to which the public will be invited in furtherance of these aims. And to maintain a library and museum where the best obtainable literature may be available, and the best methods of study followed by those who may become interested in the study of fungi.

There is a very wide and useful field of operations open to such a society, and we wish them all success in their endeavors. The exhibitions and lectures will only be of use to the people of the immediate vicinity, but by means of their publications and by acting as a headquarters for the determination of specimens they can be of service to the Dominion at large.

THE HORSE.

Putting the Final Touches on Horses for the Show.

The success of horses in the show-ring depends upon different factors, as type, condition, style, action, speed in certain classes and manners. The prospective exhibitor must first decide the class in which he will exhibit. This will depend upon the horse's size, type and action. The only difficulty he has in heavy horses is to decide whether his colt, horse or team should be shown in the draft or agricultural class. The horses of these classes are identical, except in regard to weight. In the larger shows 1,600 lbs. is considered the minimum weight for a draft horse, and those between about 1,400 or 1,450 and 1,600 lbs. are agricultural horses. In most of the rural exhibitions the minimum for the draft horse is 1,500 lbs., and below that to 1,300 or 1,350 are agricultural. In these classes it will easily be seen that a few pounds more or less of flesh will change a horse from one class to the other. In the lighter classes of horses it is often more difficult to correctly classify. In classifying the light harness or road horse, and the heavy harness or carriage horse, more difficulty is often experienced. In such cases action is the main factor. Of course, we recognize certain types as roadster type and certain types as carriage type, but we often see two horses of similar type and perhaps similar breeding, that, when standing, look like a well-matched team, but when in action one shows the typical carriage or heavy harness horse action, and the other typical roadster or light harness horse action. In such cases action must decide irrespective of type and size. In the saddle class, type will, in most cases, decide, as a typical saddler seldom disappoints us in action. He has action peculiar to his class, rather close to the ground, elastic and springy, not the flash action of the heavy harness horse, nor the speed of the light harness horse, but an easy, graceful, rather low, but safe action at all paces. The combination horse is a medium between the saddler and the heavy harness horse in action, hence he gives good satisfaction in either harness or saddle.

In preparing a horse or a pair for show purposes it is necessary to decide the class, and during the preparation the driver or rider should endeavor to intensify the peculiar characteristics of style and action demanded in the class. The general condition of the horse, as regards flesh and coat, can be acquired by careful feeding and regular grooming, provided he is not worked, driven or ridden enough to keep him low in flesh. Excessively fat horses, even in the heavy classes, do not show as well as those in only moderate flesh. The too common idea that it is necessary to give drugs to horses to fit them for show purposes is a mistake, and often harmful. A healthy horse needs no drugs to put him in condition. A reasonable amount of good hay, oats, bran and a little linseed meal, thorough grooming, at least twice daily, and regular exercise, but not sufficient work or exercise to tire him will soon get him in condition with a good coat and sufficient flesh. During exercise pains should be taken to make him as perfect as possible in the desirable style of action demanded in his class. In the heavy classes, of course, it is very important that he be a good walker, and go well at a slow trot, that he backs well, and stands well.

In the heavy harness or carriage horse considerable care should be taken to ascertain the proper weight of shoe, for both fore and hind feet, that he requires to cause him to show to as extreme a degree as possible the intensive flash action desired. In order to do this it is sometimes necessary to change his shoes a few times. The horse that goes high, flash and fast with shoes of ordinary weight is preferable to one that re-

LIVE STOCK.

Unknown Sheep that Thrive on English Hills.

EDITOR "THE FARMER'S ADVOCATE":

I have just been among some breeds of sheep which readers of your paper will, I feel sure, agree they have never heard of before. They are the Lonk, the Fell, the Swaledale and the Derbyshire Gritstone—tough, wiry, hardy sheep that thrive on the wet hills of Lancashire, Yorkshire, Westmorland, Cumberland and Derbyshire. They simply have to stand out on the landscape against wind and wet and snow.

The Lonk sheep is a native of the wet-hill districts of East Lancashire, West and South-west Yorkshire, and Northwest Derbyshire. It resembles the Blackface, but is longer in the leg and longer and bigger in body and head. The face is black with clear white markings, a deep, strong jaw and a Roman nose. The set of the horn of the ram is rather different from that of the Blackface, being more on edge, and the wool comes closer up to the horn, but the face and legs should be free from wool, except a small tuft on the forehead and a little fringe on the back of the hind leg. The tail is rough and long, almost touching the ground. It has a closer, finer and heavier fleece than the Scotch sheep, but it is not quite so hardy.

The ewes generally remain out on the open hills except at the lambing time and in very rough weather, when, if possible, they are brought down to the lower hill grazings, and a little hay is given if absolutely necessary. Lambing takes place in the enclosed pastures and meadows.

Ewe lambs and any wether lambs that are to be kept on for shearings are usually sent for the first winter into the lowlands of Lancashire, Cheshire and Derbyshire. A great number of wether lambs are sold fat in August and September, the remainder run on till the following autumn and produce exceptionally fine, lean carcasses of about 60 to 80 lbs. The draft ewes are sold to go to lower farms where they are crossed with either Longwool or Down rams. Wensleydales and Leicesters are the commonest crosses, but Hampshire and Oxfords have also been tried with good results.

The Rough Fell sheep, one of the hardiest of the Black-faced breeds, is found in considerable numbers on the moors and hills of Northwest Yorkshire, parts of Westmorland and adjoining districts. It is smaller than the Lonk, its wool is stronger and coarser, and altogether it is more like the unimproved variety of the Scotch Blackface. The face may be black with or without white markings, but a black face with grey muzzle is preferred. In other characteristics and in the conditions to which it is subjected the breed closely resembles the Scotch Blackface. Being extremely hardy and good milkers, the ewes produce excellent cross lambs by long-wool rams when brought down to Lowland pasture, the favorite cross being that with the Wensleydale.

The Swaledale sheep is a valuable, hardy, mountain breed, kept on the hills adjoining the dale, and extending to the Pennines and into Westmorland.

The face is black or dark grey, with a mealy nose;

the legs are mottled. Swaledales are not so well woolled in front as the Scotch Blackface, but they are larger and longer. The face is not so strong, and the tail is long like that of the Lonk. Compared with the Scotch sheep they grow a shorter-stapled, closer wool of fine quality except on the breeches, where it is long and coarser, and gives the appearance of lightness in the fore quarters. A good fleece, slightly coarser than that of the Lonk, averages about 5 lbs. for ewes and teds, and is used for similar purposes.

Swaledale sheep are increasing in popularity, they are good grazers, and it is claimed that they are better milkers, produce better and fatter lambs, and fatten more readily than Scotch Blackfaces; but the Scotch crosses are superior to them in quality of head and in darkness of face. To preserve their hardiness, they only receive hay in severe weather in spring. Lambing begins, as in the Scotch mountains, about the middle of April. The ewes are crossed with Wensleydale rams after three or four crops of pure lambs have been taken.

The Derbyshire Gritstone or Dale-o'-Goyt breed was promoted to a position of prominence in October, 1906, by the formation at Bakewell of the Derbyshire Gritstone Sheep Breeders' Society. The name indicates the geological formation on which they have been bred pure for more than 100 years, in the bleak hills and dales of the Peak of Derbyshire. The breed is dark or mottled on the face and legs, and the Society encourages breeders to keep the black very prominent, brown faces not being regarded as characteristic of the breed. The wool is close and fine, and brings a good price, notwithstanding the occurrence of black patches, especially from about the belly, thighs and rump. The ewes are splendid mothers, and the lambs feed quickly into the finest mutton, not over fat. Unlike the other descendants of the old Heath breed, the Gritstones are hornless.

ALBION.

To Make a Wooden Hog Trough Last

Hugh Holland, a Kent Co., Ont. correspondent, writes that he has three wooden hog troughs which have been in constant use for four years, and are still as good as new. To build, nail the two side pieces together, and before putting on the ends stretch number 9 wire on each side good and tight, and staple about every two feet. Bend the wire around the ends, and put a staple in about three inches from the end on either side. The wire prevents the hogs from chewing the trough, and so prolongs the life of the wooden structure.

Probably the German Chancellor will change his mind about settling the war on the lines held by the various nations on the different fronts. These lines may bend back toward the Teuton possessions a little too far for their comfort before long.

Spend the spare time putting the little extra touches on any stock being prepared for the showing. Above all things teach the horses and colts manners, and do not neglect the cattle and calves in this respect.

quires a lot of iron to make him go properly, but the function of the trainer is to "make him go light," even if it is necessary to wear heavy shoes. This horse should also be taught to walk well, and he should show the flash action noted when jogging or going fast, and, of course, the faster he can go the better, provided he retains the quality of action, but he must not show road action at any gait. Manners, in this class, are probably more important than in other classes, as he is essentially a pleasure horse. He must be taught to back well and stand well, and at the same time retain his attractive appearance.

The road or light harness horse should also be taught to back, stand and walk well, and should be taught to show as much speed as possible at the trot. He should not wear heavy shoes, nor show the excessive action of the heavy harness horse, while manners are not so valuable as in the carriage horse they always count for considerable in the ring.

Saddlers should be taught to respond very readily to the will of the rider, whether expressed by the hands or knees. He must walk, trot and canter well, and change gaits promptly at the signal from his rider. He must not lay on the bit, nor yet appear afraid of it. He must stand well and show good manners.

Probably the judge is more annoyed by want of manners in the halter class than in either harness or saddle classes. This occurs especially at small exhibitions. In many cases yearlings, two-year-olds and sometimes three-year-olds are brought into the ring without apparently having had the slightest education. In fact, the boy or man in charge has trouble in leading his exhibit into the ring. The animal shows plainly a want of both fitting and training. Conditions indicate that he is not being exhibited with the idea of educating the public or leading glory to the society, but from the fact that the exhibitor has the idea that he can win a little easy money without much trouble or expense. When the judge asks him to lead him out to show action, the colt refuses to go, the exhibitor often uses a whip, which makes matters worse, and altogether the exhibition of the animal is a poor affair, and inclined to cause the judge to "say things."

As a simple matter of fact, any exhibitor who takes an uneducated animal into the ring should not be recognized in the distribution of the prizes, notwithstanding the quality and general characteristics of the animal. It is not uncommon to see an animal of high-class type and general characteristics, but very green and refusing to show what he is capable of doing, beaten by a much inferior animal in a general way, but one that has some manners and has been trained to lead properly. Such circumstances often subject the judge to adverse criticisms, but we do not think that any judge is justified in giving a place to an animal on account of his type and characteristics indicating that he can perform the functions of his class, but will not. It is necessary that he show the judge his ability to do so, in order that he be entitled to a place above his plainer competitor that performs well.

WHIP.

To Prevent Overheating.

Horsemen will soon need to be on their guard against overheating. Most cases of overheating can be prevented by keeping a few simple things in mind.

Give at least a pailful of water to each horse about 10 o'clock, and again at 3 or 4 o'clock on a hot day.

Be very careful with a horse that is a little out of health, if you are working him on a hot day.

Look out for a horse that after sweating freely suddenly stops sweating. Put such a horse in the shade as soon as possible and give a moderate drink.

Do not put a horse not in good condition for hard work, in the center of a four-horse team in hot weather.

Work carefully on a hot day when the atmosphere is moist and heavy.

A horse can hardly get too hot to water, but one must regulate the amount by the temperature of the water.

In case of an attack of overheating the horse should be taken to the shade as soon as possible. A treatment of the surface of the body, particularly of the head, with cold water should be given until the temperature is within a degree or two of normal. Stimulants, such as whisky or brandy, well diluted, should be given as early as possible.

In most cases it is better to plan to avoid overheating than to plan to treat the horse for it.—M. H. Reynolds, University Farm, St. Paul.

The Horse Still Has a Place in War.

Those whose business it is to equip the United States' cavalry with horses do not seem to realize that the day of the horse is past, for the United States Government has asked for bids on nearly 50,000 horses, and more than 20,000 mules. When placed, the order will be the largest by the War Department in half a century. It calls for 26,550 mature cavalry horses, 14.2 hands high; 22,900 light artillery horses, 15.1 hands high, and 192 light draft horses of larger size, making, all told, 49,642 horses. A notable feature of the Government's latest specifications for horses is the small size of those wanted for both cavalry and artillery. At the last National Horse Show in New York the Army officers who judged military classes selected animals exceeding 16 hands as cavalry mounts, but when it comes to real "business" on the Mexican border, 14.2 hands is the height most desired.—Horse World.



A War Baby.

Colt born in a veterinary hospital at the front. International Film Service.

Some Financial Phases of Bacon Production.

Our experiment stations have conducted numerous investigations regarding the many phases of the swine industry, and the information they have given to the world is valuable indeed. During the last two or three years some of the younger generation of farmers have thrown their hats into the ring and have challenged the older and more experienced feeders to make gains as cheaply as the boys have done. They have, in some cases, even surpassed the results of the experiment stations in economical hog raising, but since their tests were made with fewer swine than are commonly used by the official investigators, and only in rare cases checked against lots fed in different ways, we must still cling to the old records of costs and production. However, the rearing of a few hogs on an average-sized farm is not fraught with the dangers and disadvantages that accrue from herding in numbers or confining them in small pens. The average farmer who tallies up the cost of a bunch of hogs is liable to overlook a few items which the trained investigator would enter with all accuracy. Further, there are usually by-products about the farm which have no commercial value, but when thrown to the pigs they take the place of concentrates which are worth money, and in this way the cost of gain is ostensibly lowered. So far as the farmer, who has the waste material to dispose of, is concerned the expense of rearing is decreased, but anyone speaking of the cost of one pound of gain wishes to know the actual weight of meal, milk or roughage required to put on those sixteen ounces. Almost all feeds can be spoken of in terms of corn, or wheat, or oats, or barley, so the whole matter can be reduced to the weight of meal required to produce one pound of gain. Again, there are influencing factors which govern the effect of the rations. These may be stated briefly, as the breeding of the animal, the way it is fed, and the environments under which it is obliged to exist. As for the breeding, we need not go farther than to assume that we are working with pure-breds of any recognized bacon breed of hog, the cross of two distinct breeds, or a good grade having bacon characteristics. With this class of stock to work on, let us consider the details of hog-raising and the average cost of each pound of gain.

The Cost of a Litter.

The gross returns from a bunch of finished hogs minus the cost of rearing does not represent the net gain or profit. A sow must be maintained about nine months in every year when she is not nursing her young, so the cost of the pigs at six weeks old, or thereabouts, should be considered. At the Ontario Agricultural College, Prof. G. E. Day conducted an experiment with 12 sows and their litters to ascertain the cost of a pig when six weeks old. The average number reared was 6½ per litter, and the average cost of feeding the young and dam for six weeks amounted to \$3.74. It was assumed that a sow would raise two litters per year, which would leave her about 9¼ months out of the twelve when she would be, in one sense, non-productive. It was calculated that \$6.94, or, roughly, \$7 would maintain her for this period, and half of that amount should be charged against each litter. Risk, interest on investment, labor and manure were not considered, but \$1 as service fee was charged. The cost of a litter of pigs at six weeks old would then be somewhat as follows:

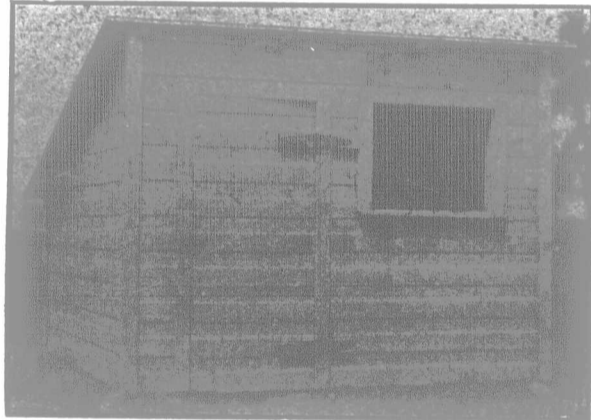
Service fee.....	\$1.00
Half cost of maintaining dry sow (½ of \$7).....	3.50
Average cost of feed for sow and litter.....	3.74
Total.....	\$8.24

In this experiment meals of all kinds, including bran and middlings, were estimated at \$20 per ton; roots, \$2 per ton, and skim-milk 15 cents per cwt. At this time these figures are manifestly too low, but if we add 50 per cent. to the prices listed we shall be as nearly correct as is possible under the many condi-

tions and prices quotable in the different sections of the country where this article will be read. The cost of feeding the dam and young pigs for 6 weeks was \$3.74, and half the maintenance of the sow amounted to \$3.50, making a total of \$7.24. Fifty per cent. added would bring it up to \$10.86, and the \$1 service fee would make the 6½ pigs cost \$11.86 or \$1.82 each. With good breeding sows, which are careful mothers, one might increase the average size of the litter. Throughout the country, eight as an average is quite common. This might increase the cost of feed during the six weeks the young pigs were on the sow, but not to any great extent. At any rate the greater number in the litter would tend to reduce the average cost of each one.

The Cost of a Pound of Gain.

The actual cost of adding one pound in weight to a pig will depend upon two factors; one is the size of the hog and the other is the price of meal. Prof. Henry, in "Feeds and Feeding" sets forth in tabular form the amounts consumed daily as well as per live weight, and the resulting gain on swine of different sizes and ages. Following is an abbreviation of the table:

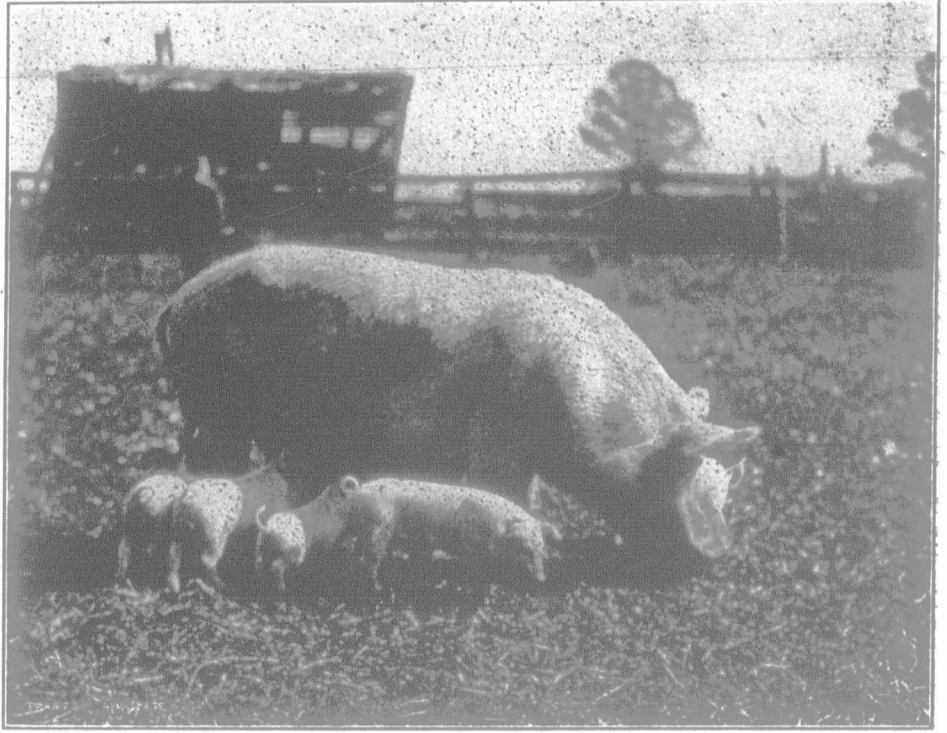


A Serviceable Colony Pen.

Gains and Feed Consumed.

Cwt. of animals.	No. of animals fed	Av. feed eaten daily	Feed eaten daily per 100 lbs. live weight	Average gain per day	Feed for 100 lbs. gain
Lbs.		Lbs.	Lbs.	Lbs.	Lbs.
15-50	174	2.2	6.0	0.8	293
50-100	417	3.4	4.3	0.8	400
100-150	495	4.8	3.8	1.1	437
150-200	489	5.9	3.5	1.2	482
200-250	300	6.6	2.9	1.3	498
250-300	223	7.4	2.7	1.5	511

In this table 6 lbs. of skim-milk or 12 lbs. of whey are rated as equal to 1 lb. of concentrates. The most striking feature of the table is the difference in the economy of feeding young and old swine. Pigs up to 50 lbs. required only 293 lbs. of meal, or its equivalent, to produce 100 lbs of gain, while hogs weighing up to 200 lbs. required 482 lbs. This condition applies to almost all kinds of live stock that are fed for meat purposes. A deduction from the previous table follows to show the cost of gain at the different ages or



Good Pigs Raised in the Big Out-doors.

weights. Concentrates are estimated at \$30 per ton, and it is assumed that 6 lbs. of skim-milk or 12 lbs. of whey will be equal in feeding value to 1 lb. of meal.

The Cost of Gain.

Weight of animals	Cost of 100 lbs. gain
15 to 50 lbs.....	\$4.30
50 to 100 lbs.....	6.00
100 to 150 lbs.....	6.55
150 to 200 lbs.....	7.23
200 to 250 lbs.....	7.47
250 to 300 lbs.....	7.66

Prof. Day, at the Ontario Agricultural College, got very similar results to those published by Henry. Since the animals at Guelph were of bacon type and fed under Canadian conditions, they are worthy of consideration here. The following table shows the relation between weights and gains, while the last column is our own deduction, calculating meal at \$30 per ton.

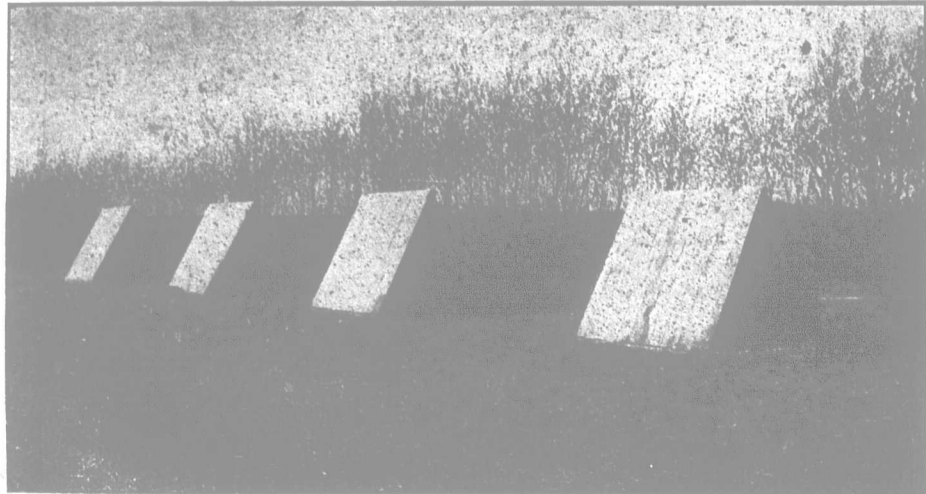
Live Weight of Hogs and Cost of Gain.

Live weight of hogs.	Meal required for 100 lbs. gain.	Cost of 100 lbs. gain.
Lbs.	Lbs.	
54 to 82	310	\$4.65
85 to 115	375	5.12
115 to 148	438	6.57
148 to 170	455	6.82

The average cost of 100 pounds of gain for these four periods would be \$5.91, counting concentrates at \$30 per ton, and giving milk and whey the same values as in previous calculations. Although \$5.91 for every 100 lbs. of gain is quite satisfactory, it cannot be taken as final. Recently, at the Guelph Station, a bunch of pigs from weaning time till they averaged 170 lbs. each, made 100 lbs. of gain on 280 lbs. of meal, and, furthermore, they never tasted skim-milk. Tankage was used as a substitute for skim-milk to the extent of 10 to 11 per cent. of the ration. The tankage cost in the neighborhood of \$50 per ton.

Summer Versus Winter Finishing.

Taking everything into consideration, the most satisfactory way to handle a large number of swine is to have the sows farrow at different periods throughout the season so the young ones will not all come about the same time, and there will be a bunch ready to market whenever the price is good. This is economical of space, both for farrowing sows and finishing pigs, and it distributes the labor more evenly. Under this system a fairly large herd of brood sows will require only a few pens for they can run in the barnyard or pasture except when nursing a litter, and then an outdoor run with a small house is most suitable. An adaptation of this system is quite common in some of the hog raising districts of Ontario. The method there is to winter over the spring and summer litters as thrifty shotes and finish them early the next summer after they have been forced ahead with grass and grain. The litters farrowed the previous fall are also brought along and subjected to the beneficial influences of the grass. In mid-summer they are turned off after making profitable gains. While this system is not generally advocated, some experiments seem to justify the method in that cheaper gains are made in warm weather than in cold. At the Copenhagen Station in Denmark 199 trials were conducted with 2,500 pigs, to show the difference between winter and summer feeding. The results are compiled in the following table, taken from "Feeds and Feeding":



Some A-shaped Houses.

Feeds Required to Fatten Pigs in Summer and Winter.

Weight. Lbs.	Grain equivalent eaten per day per head.		Grain equivalent for 100 lbs. gain.	
	Winter Lbs.	Summer Lbs.	Winter Lbs.	Summer Lbs.
35 to 75	2.66	2.65	371	346
75 to 115	3.96	3.92	446	397
115 to 155	5.26	5.25	516	457
average	3.96	3.94	444	400

It was shown that 444 lbs. of feed were required to produce 100 lbs. of gain in winter, under Danish conditions, which is 11 per cent. more than was required in summer. In Denmark the summers are cool and the winters more or less damp, but not excessively cold. In Canada, especially in the colder parts, the difference might be even more marked. The Danish pound is equal to 1.1 avoirdupois pounds. Where the winters are cold swine raisers might be consulting their best interests when they do not attempt to finish too many pigs between January and April. The grass of early spring will act as a tonic to the shotes, and make finishing an easier and more profitable task.

The Housing Factor.

It is difficult indeed to construct a large piggery that will be economical, and in every way satisfactory. While we desire not to discourage anyone from erecting large and convenient piggeries, we must say that it is very easy to go beyond economy in this regard. In many sections of this country a brood sow, when we consider her constitution and prolificacy, will do quite as well on the sunny side

of a straw stack as in an elaborate house, made of quarter-cut oak. The system of the hog demands contact with mother earth, and too often this is not possible when confined or housed in a large piggery. There are many points in favor of the well-equipped house, but raisers of swine are usually looking for quick returns, and they only come when the expensive equipment gives place to the serviceable and sanitary shelter. The Swine Husbandman of Illinois, William Dietrich, sums up the chief points of a hog shelter as follows: "The soil upon which the house stands should be well drained to furnish dryness; the building should be well lighted, and be built so that the direct rays of the sun fall upon the floor of the pens occupied by the pigs; it should be constructed to be shady and cool during the heat of summer; it should protect the pigs from cold winds and drafts during the winter, and at the same time afford a moderate degree of warmth; and it should be located so that the pigs may have access to pasture, which not only supplies considerable feed and also mineral substances for the development of bone, but also gives an opportunity for exercise, which exerts a profound influence upon the metabolism of the animal."

These are the essential considerations in a piggery, but the farmer could raise a good many swine in colony houses before the expensive plant became a necessity. Counting time, material, etc., the rectangular pen illustrated in these columns would cost in Ontario very close to \$20. It would accommodate two or three brood sows over winter, or about 8 or 10 feeders. The pen is 8 feet by 10 feet on the ground; 3 feet 6 inches high at the back and 7 feet high in front. It has both a door and window in the front side. The framework is 2 by 4-inch studding, and is walled with drop-siding and covered with commercial roofing. A pine ship-lap floor is

laid, and the whole structure is built on runners 4 by 4 inches.

The A-shaped pens, illustrated in these columns, could be constructed at less expense than the one previously described. They can be used for almost any purpose, and can be moved from place to place. By putting one's ingenuity to work, many kinds of shelters can be put up that will serve the purpose and not incur any great outlay of money. In summer an improvised shelter is all that is needed for shotes and feeders on pasture. One made of old doors, old lumber, brush, or a straw shelter will answer. This does not sound like modern teaching, but it is the serviceable and practicable, not the theoretical, that we wish to explain.

The Fencing Problem.

On many farms swine are pastured without much extra feeding, but if one wished to have a proper hog fence around a certain field it could be erected without cutting very appreciably the profits each year. Eight-strand fencing, 34 inches high, now retails at about 32 cents per rod. One square acre would require approximately 50 rods of fencing and 25 posts. The latter are worth 25 cents each on almost all markets. The fencing for the acre would cost \$16 and the posts \$6.25, making a total of \$22.25. Allowing \$7.75 for digging holes, bracing anchor posts, stringing the wire and completing the job, the one acre fenced would cost in the neighborhood of \$30. The life-time of such a fence should be, at least, 15 years, so one would be obliged to strike off \$2 annually from the hog profits to pay for the fence. One acre with a rotated crop should pasture from 12 to 15 shotes. In such a case the fencing would cost about 13 cents or 14 cents for each pig using the pasture. Larger areas could be fenced more cheaply proportionately.

Fitting Live Stock for the Show-ring.

Fitting an animal so that it will appear to good advantage in the show-ring, cannot be done in a day, or a week and possibly not in a year. The breeders who make a practice of following the live-stock exhibitions, and whose stock are in the lime-light to-day, commenced many years ago to prepare the animals for the shows this fall. Animals of nondescript breeding seldom make any impression, even in the grade classes. Good breeding is behind the winning herds and flocks. Breed type and character are wanted in every animal, and in order to get these qualities judgment must be exercised in choosing the sire to mate with the females. Even then, all the offspring will not make show animals. There must be a careful selection made for size, substance, and quality. These things are wanted in pleasing proportions. Having bred right and selected carefully, feed and care are essential in keeping the animal thrifty. Before one show is over preparation should be made for the following year. Everything possible should be done to make the winning animal better for next year, and to overcome deficiencies in those that failed to come up to the judge's ideal. Fitting and showing advertises the stock and keeps the public in touch with the quality of animals that are being produced. They have an opportunity to study the type, conformation and quality of animals that is preferred. The show-ring largely sets the standard for type. There are also many lessons for the breeder. He comes in competition with other stockmen, gets their ideas and sees how animals are placed. This tends to set him on the right track to better breeding, provided he is capable of putting his new impressions into practice.

At the large exhibitions where competition is keen, most of the stock is brought before the judge in fine condition, but at many of the local fairs the reverse is the case. Too many animals are only in field condition. This would not be such a serious offence against the public, who attend fairs to learn something, if a little brushing and cleaning had been done before leaving the farm. The standard of the exhibits could be raised and the entries increased if the stock was only fitted so that there would be some competition, not only between animals, but between the ability of the herdsmen to fit and show those animals. It is humiliating to be defeated just because details in fitting were neglected. It is not so much the cash prizes that should entice a breeder as the pride of having his stock win on their qualities and show condition. There are thousands of good individual animals that have never graced a show-ring. Although the first stage in preparing for the show should have commenced some time ago, there is still time to exercise ability in putting the stock into show condition. Those who have been preparing for the fall fairs have yet to put on the finishing touches. Breeders who now attend the large exhibitions commenced showing their stock at the township fair and there learned their first lessons in regard to what was looked for in the animals of different breeds and in show-ring strategy. The local fairs could be made of much greater value to stockmen if all good animals in the community were fitted and shown. It is no disgrace to come second in strong competition, and the quality of the stock is not lowered one bit if it stands fairly low in a long line of good individuals. Judging is a matter of comparison, and the exhibitor with his eyes open can see, as well as the judge, where his animal is deficient. Many weakpoints in an animal do not become prominent until brought alongside another animal. Off type, lacking in conformation and uniformity of parts, or possibly not sufficient care taken

in fitting may be the reason for one animal being placed below another. This is where the educational features of the show-ring are brought out. The breeder who can see little deficiencies in his own animals and is a good loser comes back the next year with many of the weaknesses overcome. Every young man should look up the prize list of his township fair, and if he has a good individual animal that is eligible to enter one of the classes he should commence now to prepare it for the show this fall. When anyone has good stock and then does his best in regard to fitting and caring for it he has nothing to be ashamed of even if he does not win in the show-ring.

Beef Cattle.

Only the good and long-experienced herdsman can lead the candidate into the show-ring, clothed in that depth of flesh and covered with the mellow skin and glossy hair that attract the ribbon. It is not all in the feed. The watchful experienced eye of the herdsman is ever on his beast. A little more of one feed or a little less of another may improve the appetite and make the coat sleek. Plenty of washing, grooming and rubbing add lustre to the outward appearances, while green or succulent feeds will cool the system and regulate the digestive tract. The horns, hair, tail and hoofs are not neglected; when looking right they add to the appearance of the entire animal, but when not attended to they detract from the chances of any honorable position in the ring.

Size for age is an important influence on any judge, but any degree of roughness will prejudice the exhibitor's chance of winning. Like all other kinds of live stock, the beef animal must show breed type and character, and only upon such a foundation is it worth while building a structure for competition. The animal should be well fleshed, but there is not time between now and the show season to properly flesh a beast for exhibition. For the local fairs a thrifty entry stands a good chance, and there is yet time to improve the appearance and add some flesh to an animal for the local events. Fitting should now be attempted with such feeds as oats, bran, oil cake, perhaps a little corn, but not much, plenty of good clover or alfalfa hay, and such green feeds as rape or vetches where roots are not available. Early roots should be fed as soon as fit, for there is nothing quite so good as roots for cattle under such conditions. Don't forget the silage, if any is left; it is a valuable source of succulency and feed nutrients. The amount of feeds to be given depends very much upon the animal. Over-feeding is a serious mistake. Keep the appetite keen.

The condition of the skin and quality of the hair can be improved by frequent washing. Warm water and soap should be used, followed by a rinsing with clean water without soap. After the bath the beast should be rubbed dry with cloths and the hair combed or brushed out even and fine. Use the brush often, it saves many a pound of feed in adding gloss to the hair, and in fact, the proper gloss cannot be obtained without a great deal of brushing.

Sand paper the horns and then polish them with a flannel cloth or chamois leather. Keep the hoofs clean and bright and comb the switch of the tail till it shines and is not snarled.

Exercise and training are quite as necessary as with sheep or swine. The solid, firm condition cannot be obtained when the cattle beast is allowed to repose in idleness. The hoofs should be pared and the beast should be taught to stand in such a way that any physical

defects will be hidden and the good points made visible. Have the entry well broken to lead and behave when in the halter. A bad-acting brute in the show-ring is altogether out of place.

Dairy Cattle.

The earning power of a cow depends a good deal on her ability to produce at the pail. Although shape and size of udder together with length of milk veins are considered by the judge, the award does not depend altogether on the amount of milk and butter-fat, the cow is capable of producing in a day or a week. Breed type, size, conformation and quality are given a good deal of consideration. It is what the judge can see that counts most. However, in some shows where it is hard to decide which of two cows is the better, they are both milked and the decision rests on the quantity of milk given at that one milking. For this reason a cow in full flow of milk usually has a little advantage over one well on in her lactation period. If a cow is bred so as to freshen shortly before the fair so much the better. It is impossible to change the shape of udder or size and conformation of the cow, but it is possible to change her appearance by good feeding and careful attention.

The dairy cow is not supposed to be loaded with flesh, but she should be in fair condition and the hair and skin should show quality. This is influenced by feed and care. Where a herd is to be shown, select animals of a similar type so that there will be uniformity in appearance from the herd sire down to the smallest calf. There are several types of animals in one breed, and two or three different types in one herd do not show to good advantage. Having selected the animals to show in the individual classes, as well as in the herd, they should be given special attention from now to the day of the fair. It is not too early in the season to keep them in a partially darkened, well ventilated stable during the day. When the flies are troublesome and the sun hot, no animal keeps looking its best in a shadeless pasture. If a light blanket is used in the stable it will aid in making the hair sleek. At night stock may do better in the open pasture field.

As a rule the pasture does not supply sufficient nourishment during the late summer to keep up the milk flow and at the same time put flesh on the body. Extra feed is required, but no radical change should be made. During the day the bulk of the ration should be of a succulent nature. Silage, clover, alfalfa, green oats and peas or corn, might be fed in the stable. Grain should also be fed. At first feed a light ration, but as the animal becomes used to changed conditions the meal allowance can be increased. Rolled oats, bran and oil cake are considered to be the best concentrates to use. They are non-heating feeds and can be fed with a degree of safety. Oilcake produces a sleek, oily skin and tends to keep the animal system in good working order. There is an art in feeding animals, but some feeders never acquire it to the same degree of perfection as others. One man may feed the same feeds as another to the same quality stock and yet not get results. Merely throwing the feed into the manger is not enough. The individuality of the animal must be studied and its appetite catered to.

With young stock even more attention must be given to feeding than with mature animals. Young animals require a variety of feeds, fed regularly. The same kind as mentioned for mature stock serves the purpose of growing young stock. They should have all the feed they will eat, but an effort must be made to keep the appetite keen. Milk is nature's feed for

the young and either whole or skim-milk should be fed until the calf is several months old. Keep the calf growing from the time it is dropped as considerable stress is laid on the size of the young stock for its age. In the next two months good feed and care will make a big difference in the size and appearance of the growing animals. Size counts as well as quality.

The curry comb and brush should be used regularly to keep the skin clean. Then, a day or two before the show, wash the animals thoroughly with lukewarm water to remove any stains or dirt. The horns may require polishing and possibly the feet need trimming. If the feet are too long the animal cannot stand properly. Where the stock is turned to pasture they receive sufficient exercise, but when stabled continually they must be given regular exercise in order to prevent them going off their feed. When it is not convenient to turn them loose they should be led out on the halter every day. Too many cattle are not well halter-broken before going into the show-ring. If every calf was trained to lead, there would be less difficulty with the mature stock. The prize may be lost through the animal not leading well. Live stock learn by habit. It is possible to train them to stand in a certain position so that they will show every good point to advantage and possibly make some weaker part less noticeable. It takes time to get the bones and muscles accustomed to holding the weight with dignity. Start now to train the show stock to pose for the judge. The day before the fair is too late. The more animals are worked with, the quieter and more confiding they become. They soon get to know what is expected of them, and from the appearance of some animals in the show-ring, one would conclude that they were entering into the spirit of the competition as keenly as their masters. There is no honor in winning with an unfitted, poorly-trained animal in a class where there is little competition. Select the stock for exhibiting and then give them regular and consistent attention, feed and training so that they may appear worthy of their herdsman.

Sheep.

Success in the show-ring with sheep depends primarily upon two factors, the shepherd and the sheep. Many a good animal has been placed low because the shepherd did not understand how to fit it and many a good shepherd has been obliged to head his candidate to the bottom of the line because it was a disappointing proposition from the start. The breeding counts for much, and only those should be chosen that are not too large for the breed, typey, smooth, thrifty and well balanced with no defects that are liable to be pronounced when the day for judging comes. After the selection comes the fitting, the aim of which is not to burden the animal with tallow, but to build up and fill out the body with flesh, add lustre to the wool fibre and have the sheep in a thrifty condition so the skin will have the proper tint. The mistake of adding fat is too often made, simply through the lack of exercise and the use of the wrong kinds of feeds. The fingers of the good judge detect this weakness at once. For the fitting season which, properly speaking, is well nigh past, the best grain feed will consist of equal parts of oats, bran, and oil cake in the nut or pea form. One pound of this mixture to every 100 lbs. live weight of the sheep is good feeding. The best clover or alfalfa hay obtainable should be fed and all the cabbage, rape or kale the animals will clean up and digest. The importance of ample green, succulent feed cannot be too strongly emphasized. It is cooling to the system and, to a certain extent, nourishing. As the show draws nearer gradually reduce the bran and substitute peas.

Exercise and training are two important features of the preparation. Pare the hoofs so the animal can pose in the best form, and handle the sheep frequently so they will understand what is expected of them when they are caught and shown. The exercising will develop those muscles that give the best form to the body, and will prevent the animal becoming "groggy," or weak in the legs and it will induce vigor and capacity for feed. In hot weather the exercising must be done in the late evening or early morning. Perhaps at 4 a. m., before the morning feed, is the most satisfactory time of all to drive the fitting animals around the paddock or up and down a lane. Without exercise the show sheep will stand poorly on its feet, it will have a soft feeling to the touch and will probably do badly in the ring. Three or four weeks before show day the sheep should be "blocked out" or "trimmed." Relative to this practice Prof. Wrightson, an eminent English authority pleasingly writes:

"The trimming of show sheep is a matter of importance. There are those who object to trimming, but it is impossible to show sheep in the natural unkempt and rough state. It is really cruel to ask a breeder to exhibit his sheep in a great show, before ladies and gentlemen, without dressing them. What would a horse-breeder say to a regulation insisting that his hunter or Thorough-bred should appear ungroomed and rough, with long tail and uncombed mane? A sheep-breeder has similar feelings, and similar failings. Besides, the public like to see animals well turned out of hand, and even the pigs appear with their hair curled and oiled, and their skins blooming as if they had been immersed in a bath composed of toilet vinegar. Trimming may be overdone, or unfairly done, but to the legitimate use of the art there can be no objection. The methods vary with every breed. The Leicester appears, like the parson, all shaven and shorn. The Lincoln is smeared over with some mysterious unguent, which makes the hands feel very disagreeable if they are allowed to touch the fleece. The Cotswold comes out curly in coat, white, and redolent of soap and water. The Southdown appears as like a plum as a sheep can possibly

be made, and bears evidence of the shears over his entire carcass. A very snug "gentleman" indeed is the Southdown when in his war paint. Trimming is carried to the greatest perfection in the Down races, and they certainly reward the artists who have accomplished their tasks so deftly."

After blocking or trimming, the body is often covered with a very light blanket which keeps the fleece clean as well as smooth and compact. The trimming of a sheep is an art, and the skill is only acquired through practice. The artist at this work has in his mind's eye the picture of a perfect specimen of the breed and the animal under his hand is made to conform as nearly as possible to that type.

Hogs.

Hogs require less fitting than other classes of stock but that is no reason why some attention should not be given to having them in good show form. Selection should be made so that there will be uniformity in size and conformation of those to be shown as a pen. Careful feeding is necessary. Strong, heating feeds must be avoided unless they are fed in combination with green feed or roots. Corn and barley alone do not prove satisfactory, but when mixed with middlings, skim-milk and roots they are all right. Finely ground oats and middlings with skim-milk or whey make a good ration for hogs until they are about four months old, then heavier feeds might profitably be added. Hogs should have access to green feed in some form every day. If they are not in a paddock, green clover, rape or roots should be fed. Only what concentrates that they will clean up readily should be fed. The appetite must be kept keen for every meal. Like all other animals, hogs have likes and dislikes, and an effort should be made to feed a ration that will give results. If the feed is relished and enough is given the hog will do well.

Exercise is essential. Crippled hogs or those that stand badly are a hopeless problem in the show-ring. These difficulties can be largely overcome by forcing the hogs to take regular exercise. Where they are not inclined to do so of their own accord, some feeders drive the hogs around for a certain length of time every day. This aids digestion and tends to strengthen the legs and pasterns so as to carry the body gracefully. All scurfiness must be removed from the skin. This may be done by washing the hog occasionally and then applying sweet oil to put the skin in good condition. Several treatments may be necessary to make the skin soft and the hair silky. It may be necessary to trim the feet so that the hog may stand properly.

Although hogs are stubborn creatures, it is possible to train them to be on their good behavior in the show-ring. Make a study of each individual and then practice having the hog stand correctly. If this is done several times it may be the means of avoiding difficulties on show day. It is possible to train a weak-backed hog so that the weakness will not be noticeable. In the same way a hog with a humped back may stand so as not to show it. A hog cannot be put in show condition on the morning of the fair. It may pay to commence now to get ready for the day when the choicest stock of several pens come into competition.

THE FARM.

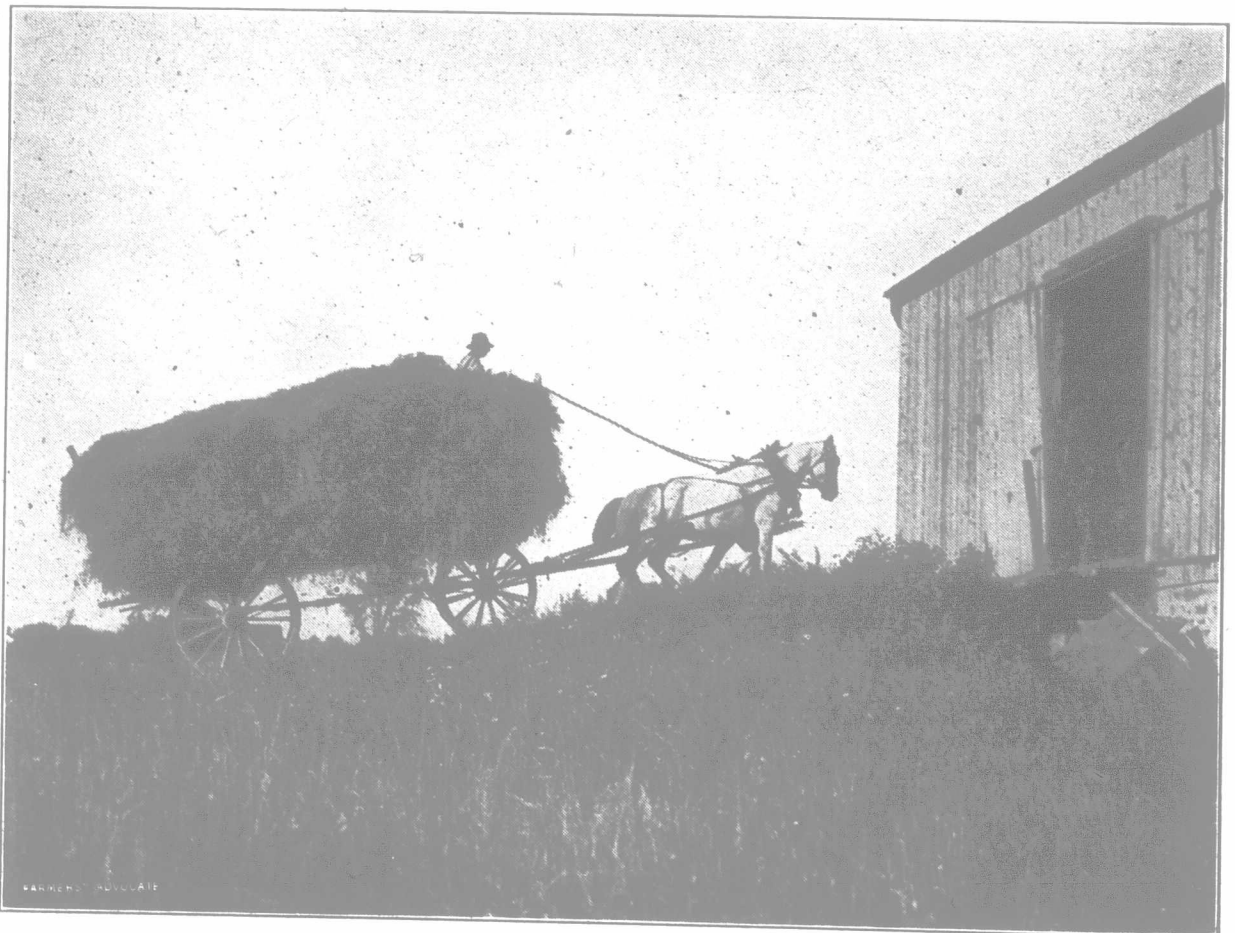
The Cycles of Destiny.

EDITOR "THE FARMER'S ADVOCATE":

Science finds law everywhere in nature. May not war, even, be a necessary part of the course or cycle of events just as earthquakes or other catastrophes? The universe, to farthest limit of man's explorations, the minute as also the sublime, is found to be constituted according to definite order, and to be obedient to laws immutable, inexorable. "Nothing walks with aimless feet." Nothing is left to chance, or to the caprice of mythical deities. No effect can arise without adequate cause. The law may be known or unknown to us. The physiological law of the circulation of the blood was as much a fact before its discovery by Harvey as since. So the law of gravitation was a physical fact before Newton made it known. The chemical fact that the elements in nature are arranged in definite proportions, according to their atomic weights, was no less certain prior to Mendeleef's enunciation of his "Periodic Law." The microscope has revealed worlds of infinitesimal living forms which for ages were invisible. Suns and nebulae afar in the depths of space are, by modern science being brought under observation and research. The recent announcement of the influence of solar rifts or openings on the weather conditions of our planet is also significant.

Perhaps the wreckage of war is no more inconsistent with a general scheme of beneficence than the upheavals and cataclysms of geologic ages, which convulsed the earth and raised the mountains in majesty and sublimity toward the sky. These eruptive forces caused the general elevation of the land and the subsidence of the waters of the earth, thus gradually bringing forth order, beauty and fertility. To contemplative beings, the tremendous agencies at work may have seemed appalling and utterly destructive; yet all contributed to the making of a world fit for its future possessor—Man. Since, in material things, the variety and loveliness of landscape, the vastness and silence of ocean were thus evolved from chaos, have we not ground for assurance that in the realms of sentiment, intelligent being a new and better order shall be evolved; that out of the calamities of war a "new earth" shall appear? We cannot believe in a higher law for stones than for men. The Governing Power that gave to each stone its characteristic crystal, its peculiar constituents, and its place in the cycle of things—so that the skilled mineralogist can recognize and classify it if shown a single crystal—will not leave man in ruins or eternal self-stultification. As past revolutions have cleared the air, aroused man from lethargy or self-indulgence and raised him to better life, so shall he again arise. The commotion of the hour is but an incident in the drama of ages, a cycle within the great cycle of existence, a "wheel within a wheel," as in Ezekiel's vision, who admonishes against fear, though there be "lamentation, mourning and woe."

Great causes are needed to produce great results; and conversely, great results are born of great causes. Vast power was needed to lift the mountains from their primal ocean-beds, but the long-confined gases in the crust of the earth at length gained explosive energy, colossal masses were successively raised, and lo! the grandeur of mountain and valley on this planet. So, the final outcome of the war, let us feel assured,



The First Load.

shall be the exaltation of humanity to a higher, freer, better-ordered existence. Analogy rules. Out of vast disturbing forces—crash and readjustment of rock-masses, surge and rush of seas—a world was born; out of the thunder and shock of battles, the deluge of human blood, shall come the regeneration to complete the cycle. God saith, "A whole I planned." Through all things run evolution and progression to-

ward completeness. Man must learn the "highest good," but he can be taught only by severe discipline. He must be tried by fire and sword; he must be moulded in the crucible of trouble. Science can solve neither origin nor destiny. Philosophy, even, can never be complete, since its field is infinity, which it cannot compass. Philosophy, however, based on ascertained facts and following its

guiding star—Analogy—into the future, can affirm with the force of moral certainty the triumph of Right and the general betterment of man. Universal sovereignty of Truth with Peace enthroned, is the goal of Destiny.

Kent Co., Ont.

W. J. WAY.

Through the Clay Belt to the Gateway of the West.

"To-morrow to fresh woods and pastures new."

Canada is a big country—so big in fact that most of the population do not realize the vastness and the undeveloped greatness of the Dominion. To-day many labor in the larger centers and upon the smaller farms of the older-settled parts, who to-morrow will seek "fresh woods and pastures new." Let us be thankful that they will not have to journey outside the boundaries of this almost boundless Canada of ours, for to the north and to the west lie undeveloped resources, which in the days and ages to come, will place Canada in the very forefront of the great countries of the world. Indeed, to reach these fresh woods, which, in the no distant future, will be turned into pastures and cultivated fields, we do not have to journey outside the Province of Ontario. Ontario is a big province, but, thanks to the network of railways, distance has no terrors for the farmer or settler who would journey north and west, and the man from Old Ontario, from Quebec, the Maritime Provinces, from Europe and the four corners of the earth can ride in comfort to his destination or very close to it.

We would like to take our readers over the lines of railroad traversed by "The National," one of Canada's new transcontinental trains, from Toronto to Winnipeg. This train uses the rails of the Grand Trunk (G. T. R.) line from Toronto to North Bay, and then the Ontario Government or Timiskaming and Northern Ontario (T. & N. O.) from North Bay to Cochrane, which is on the main line of the National Transcontinental or Grand Trunk Pacific (G. T. P.), the portion from Winnipeg east being operated by the Canadian Government (C. G. R.).

The route is a scenic one all the way, particularly for any one who has an inherent love for agriculture, for nature and the things of the great outdoors. For a few miles north of Toronto the line runs through some of the fertile fields of Old Ontario. York County, with its fine homes and outbuildings—Simcoe with its fertile, rolling fields and upland pastures, and then the summer resort of this old province—Muskoka District. Lake Simcoe, Lake Couchiching, Kawartha Lakes, Lake of Bays, with numerous inlets, and the whole country drained by rivers and brooks, fished and still alive with fishes—this is the country which starts the traveller in good humor on the 1,257-mile trip from the Queen City of Ontario to the Gateway of the Great West. Then on up through the health resorts famous the country over, past Barrie and Orillia, through Gravenhurst, Bracebridge and Huntsville, and then on through a lightly-wooded, rocky stretch to North Bay on the eastern shores of Lake Nipissing.

From North Bay to Cochrane is an interesting trip. There is a sameness about much of the country that grows monotonous to some, who have been many times over the road, and to others who fail to appreciate nature at her best. North Bay is 227 miles from Toronto, and Cochrane is 480 miles, so the T. & N. O. is 253 miles long. The first half of the journey is scarcely of the same interest as the last half, for, while lakes and rivers sparkle on both sides of the road, settlement is sparse until the northern half of the Timiskaming District traversed is reached and New Ontario proper is entered. New Ontario is a big place and a good place to farm. The country is rugged, but rugged pioneers make good. Some of the world's beauty spots are to be found around Timagami, Rib Lake, Twin Lakes and the hundreds of other waters in the stretch from North Bay to Cochrane.

There is more than clay in the North. Cobalt and Porcupine are the centers of the greatest silver and nickel mining fields in the world. The waterways, besides being filled with fish, are full of energy, which some day will mean cheap power and plenty of it. All the silver has not been found yet. Most of the fish have not been caught. Little of the power has been developed, and few of the acres and acres of poplar and spruce pulpwood have been cut. There are twenty million acres of farm lands, mostly awaiting the settler in Northern Ontario.

Soon after leaving Cobalt, and Haileybury, which is connected with the former by trolley as well as by the T. & N. O., a few clearings are noticed, and one remarks at the wonderful growth of clover and the fine color of the spring grains. New Liskeard is on the southern edge of the great Clay Belt, a tract of land the greatness of which is not within the conception of the average mind. Settlers and farmers are making the country from Liskeard to Monteith show what is possible in that new country. The settler clears what he can and endeavors to make the pulp cut pay for the clearing. He also crops as much as possible. The farmer has more land cleared, and is making it productive. There is no question about the fertility of the soil. Suitable crops, such as clover, potatoes and spring grains do well. At Monteith the Ontario Government has an experimental farm

upon which are tried out hardy crops for the North Districts. There is some fine country around Englehart, and quite a settlement around Matheson. The man who clears a farm gets from \$4 to \$4.50 per cord for his pulpwood, in the rough, which means wages for the work of clearing. Clover is about the first crop tried and it does well. Some of the land is covered with muskeg, which must be loosened with the plow, allowed to dry, and then burned.



A Scene on the Line of the C. G. R. in Northern Ontario.

But we must pass on. Cochrane is the junction with the C. G. R. It is a busy little town, largely composed of railway men, but adjacent to it is some fine land once it is cleared. Cochrane is over sixty miles south of Winnipeg, and so lies south of much of the best wheat-producing country of the prairies. For miles north of Cochrane the clay should produce abundantly some day when the land is cleared, and the resultant tempering of the atmosphere is brought about. It is 777 miles from Cochrane to Winnipeg. It is 130 miles from Cochrane to Hearst, and for about 40 or 50 miles west of Hearst the clay belt extends. All the intervening country is covered with pulpwood, is cut by numerous rivers, and is dotted with dozens of lakes. At Jacksonboro is found an extensive lumber mill, and some clearings developing into fine farms. It is on the Mattagami River. Pulp mills are numerous in this country.



A Pioneer's Clearing and House near Cochrane.

A few miles west of this is the Ground Hog River, and farther west, at Macpherson, the Kapuskasing River, on the banks of which is located a big internment camp for enemy aliens. The traveller gets an idea here of what most of the twenty million acres of the clay belt will be like some day in the future. Two thousand acres have been chopped over on the banks of the Kapuskasing. Two hundred acres or more have been cleared of stumps, and a big hip-roofed barn built. The land is gently sloping to the river—just enough for drainage, and the clearing is a revelation to all those who pass through the country. Here and there along the line until well beyond Hearst, the next divisional point, settlers' log shacks are in evidence, and the hardy pioneer is starting the opening of a big country. The trees are comparatively small—eight to twelve inches through, many smaller, and are not so hard to chop off as the big hardwoods of Old Ontario. The land, in most cases, requires surface ditches for drainage at the start, but there are good outlets. The climate is cold in winter, and the summer seasons are short. Settlement will improve these. New Ontario awaits the settler, but he must be hardy, rugged, filled with pluck and stamina. In the words of the poet of the Yukon, New Ontario calls:

"Send not your foolish and feeble; send me your strong and your sane"

and
"Send me men girt for the combat, men who are grit to the core."

Passing west and ever west in almost a straight line through Hearst and then on between there and Grant, the next divisional point, the trees become smaller, the lakes more numerous, and outcroppings of granite rock occur frequently. North of Lake Nipigon, Armstrong, another divisional point is reached. All this country is rocky, covered with stunted poplar and spruce with an occasional birch, but it is very picturesque. The lakes teem with fish, and the forests harbor deer, moose and big game. The line here must be 150 miles north of Lake Superior, and the next divisional point west of Armstrong is Graham, only a few miles west of Superior Junction, where the line runs down to the head of the lakes at Port Arthur and Fort William. Most of the wheat in the fall cuts off here and comes down the lakes. In the winter it is hauled straight east over the main line.

Reddit is the last divisional point in Ontario. It is 1,128 miles from Toronto, and 748 miles west of Cochrane. Just west of this place is one of the prettiest lakes on the line, and the tracks follow around its borders for several miles through tunnels and deep rock cuttings. Trees, rocks and water—all as nature made them—miles and miles of them impress upon the man accustomed to city streets or old-settled districts the call of the wilds and the magnitude of the great north.

Over the Provincial border line into Manitoba the outcroppings of rock gradually grow smaller and farther apart. Lakes are still in evidence, and an occasional summer resort indicates that the train is nearing a large center. Gradually the land levels down to muskeg and swamp, and then clearings and prairie. We are emerging on the edge of the Great West. We soon reach Dugald, and tractors and teams are busy on the wide summer-fallows. In the distance, Winnipeg looms up, and in a few minutes the long trip is ended in the greatest city of Western Canada.

A long trip—yes. Monotonous—no, not to the man interested in a new country with great possibilities. The roadbed of the line is smooth. Time



New Government Road Being Cut Through near Cochrane, Ont.

made is good, and service all that could be desired. It speaks well for the management of the roads, and the Government-operated roads are a strong point in favor of Government-owned railways. East is East and West is West, but the two are

not far apart, even though they never shall meet. Just a few hours! The New Ontario farmer can get to Toronto in a night, the man from the West in forty-two hours. Canada is a big country, but no bigger than its railway enterprise.

The Value of Head Selection in Grain.

By W. T. T. Wiener.

We have relatively speaking five systems, if they may all be called systems, of improvement of our grain crops:

1. Mass selection (at random);
2. Mass selection with the individual plant as the unit of selection;
3. Individual selection;
4. Pedigree and line breeding;
5. Hybridization followed by proper selection.

There is no clearly defined line, however, between individual and pedigree selection; however, at this time it is of no importance to us whether there is or not.

Selection.

The term "selection" as commonly used, conveys a general, as well as a specific idea. In a general way selection is practiced by every farmer, in picking out those varieties of grain best suited to his particular conditions of farming; secondly, by the selection of the best, largest and strongest seed; thirdly, by the selection of seed from the best plants in order to ensure vigor and vitality.

The first two we will eliminate from the discussion, and consider only the latter, viz.: the systematic choosing of specific wheat plants for future reproduction, with the object of bringing about an amelioration of type. It recognizes that there are endless variations of type in an ordinary wheat crop. Selection seeks to isolate those plants or types coming nearest the ideal, and to systematically choose from the produce of these types the variations which are likely to be of material value.

This is the manner in which most of the improvements in our field crops have been effected.

History of Early Selection.

The idea of improving cereals by selection is of comparatively recent origin. The most noted early plant breeders to follow this system of improvement for wheat are Le Couteur, of Jersey; Shirriff, of Haddington, and Hallet, of Brighton.

Le Couteur, nearly a century ago, noticed that an ordinary field of wheat was extremely variable, and concluded that some of the various types in a growing crop would yield better than others. He isolated twenty-three types, grew them separately, and was successful in bringing many new types into cultivation.

Patrick Shirriff placed on the market four distinct varieties of wheat, all of which were extensively grown in his time. His method was to walk through his fields at harvest time and mark any plants that stood out prominently from those surrounding them. He isolated these plants, sowed the seed separately and tested them out, selling seed from the best types.

Neither Le Couteur nor Shirriff adopted methods of hybridization, but simply isolated prominent plants, multiplying the seed as rapidly as possible. There was one selection, followed by rapid production. In this they differed from Major Hallet, who began his work of selection in 1857. He introduced repeated selection. His method being to select each year the best grain, from the best heads of desirable plants in his wheat field, and repeat the process for a number of generations, working upon Darwin's theory of improvement by the accumulation of small differences by consecutive selection. During his first five years' work the length of head was doubled, the number of grains per head trebled, and the tillering capacity increased five-fold.

The improvements effected, however, were in a measure artificial, inasmuch as he grew his selected plants on his best garden soil; but on the whole his strains were a success, and greatly improved the yields of that period.

The work of selection at Svalof was commenced in 1866. By a comprehensive series of trials the principle was firmly established, that the proper unit of selection is a single head or plant. Further investigation brought out the fact that, in an ordinary field of wheat, there were dozens of different types, most of which bred true. It has been demonstrated in a number of instances that various characters of apparently negligible importance are really trustworthy indicators of the productive power of the individual and its quality. That it could be told by certain morphological characters what certain physiological characters would be has been also advanced by this station. This principle of co-relation of characters has been found applicable to guide the improvement of crops, and is a short cut to success, it effectively debars any but the trained specialist from a speedy recognition of new varieties by selection.



After a Hot Day.

Coming in from mowing the fence-corner weeds and grass.

Two General Methods of Selection.

The two general methods of selection adopted by plant breeders are: Mass and Individual Selection. Mass selection consists of continuous and repeated selection of a number of the best grains, heads or plants. It is based on Darwin's theory of the origin of species, and it is supposed that by repeated selection of a number of elite plants each year, the race as a whole will gradually improve.

Mass selection is most effective when the individual plant is the unit of selection, and not the individual head or grain, for it frequently happens that large grains and heads are from relatively inferior plants. Mass selection thus practiced tends

towards improvement of the type by propagating the best plants and excluding the inferior ones. It has one disadvantage in that often some plants will have an excessive supply of food, and show it strongly, while—under ordinary conditions—they would come below the average of the species.

The Value of Mass Selection.

Mass selection is valuable in keeping up the general excellence of a strain. In the first place a mass selected stock, containing as it does a number of distinct biotypes, may be able to give higher average returns than a pedigree sort, which consists of a single biotype, requiring more exact conditions of culture and soil. It has been proven useful, both before and after crossing, and in line-breeding work. In both instances it has served to assist nature in eliminating the weak and saving the hardy. As a forerunner of pedigree work from old mixed varieties, the value of this method is fully recognized by most investigators; for the reason of the inability to test more than a few dozen pedigree cultures, it is important that there be included among them as few inferior ones as possible. Two or three years of mass selection as preparatory work, is believed to be capable of reducing very materially the chances of selecting such types.

While mass selection is not looked upon to-day as a means of rapid improvement, by this means new varieties have been produced. At Svalof we find that by this method clay and moss barleys were produced. The clay type being produced from an open head selection, the moss variety from a selection for compactness of head. Awnless Probstier oats are also a product of this system, as is Renodlad (selected) Squarehead wheat. Renodlad Squarehead wheat was produced by mass selection from the best plants after the severe winter of 1891, when a selection was made from those plants which had survived. Other selections were made in later years, following the severe winters of 1899 and 1901. By these repeated selections the proportion of hardy Squarehead individuals within this variety have, accordingly to Nilson-Ehle's report, gradually increased until it is now among the most hardy, high-yielding sorts. Thus the mass selection work at Svalof has not been carried on without results.

Individual Selection.

When the individual plant is made the starting point we have what is known as individual selection. The selection commences with a number of superior plants of a given variety and seeds from each plant are separately planted. Thus enables a strict comparison to be made of the progeny of each individual, in a few years the best strain from the original selection may be determined and multiplied.

Dr. H. Nilson-Ehle, of Svalof, after subjecting the older methods of mass selection to a critical examination, decided to adopt a method of individual selection (used by Shirriff and Le Couteur) and in this line of work has achieved considerable success. This method is based upon De Vries' conception of the origin of species, that continued selection is unnecessary. It has one objection, however, in that it requires an elaborate set of records and proficient men in order to make rapid progress; in short, this is the work of a specialist.

The Practical Application of Selection.

We have dealt, at considerable length, with selection from the viewpoint of the specialist; let us now turn our attention to the practical application of these on the Canadian farm, in order to arrive at some conclusion of their value as a means of improvement. Hybridization work is that of the specialist, hence we will eliminate it from the discussion. The work of selection, especially mass selection, has a more or less beneficial and practical place in the improvement of crops on the farm. Hence the following work carried out along this line may assist us in arriving at our conclusion, and placing a more nearly correct value upon the system as a means of wheat improvement.

The father of the writer has carried on considerable mass selection work with Red Fife wheat. The work up to the present has been constantly under the observation of the writer; so I take the liberty of outlining some of the more important phases of the work, and the value he has set upon selection as a means of wheat improvement.

In the year 1907, John Wiener made the first selection of heads from promising Red Fife plants for next year's seed plot. The general crop at this time was so badly mixed that at least a dozen varieties were isolated out. Owing to the loss of yield that occurred every year by unequal ripening, he concluded that some method was necessary, whereby elimination of as many inferior sorts as possible should be brought about, preserving only those of the Red Fife type.

By a method of mass selection, as is outlined by the Canadian Seed Growers' Association, he was able to decrease very materially the inferior types and other varieties of the old mixed sorts. By continuous selection from the best plants in the seed plots every year, for a period of seven years, he has increased the yield somewhat. The increase in yield, however, is not due to an improvement of the plant, but rather by the decrease of inferior types and sorts, by propagating seed from only those showing superior qualities. After the elimination of the bulk of inferior sorts, which requires about four years, little is to be expected by way of improvement in yield from this system, other than it provides a means of maintaining the standard of excellence. Below are the results of seven years' work from this system:—

Average yield from mixed wheats 1901-1907, 30 1/2 bushels.

Average yield from selected stock, 1908-9-10-11, 36 1/4 bushels.

Average yield from selected stock, 1912-13-14, 35 3/4 bushels.

The crop of 1914 reduced the average for the last few years, due to the drought which prevailed throughout the entire growing period.

However, we can draw some conclusions, which are of value:

1. That mass selection did increase the yield of wheat in a marked way.

2. That the greatest increase came after four years of selection.

3. After four years of selection little is to be expected from this system by way of improvement, other than that it provides a means whereby we can maintain the excellence of the strain.

4. It has a value to the farmer as a means of keeping his grain in an approximately pure condition, as any marked deviation from the type under consideration is eliminated by a process of selection.

5. The improvement is not the result of an improvement of the plants themselves, but rather an increase in the number of high-producing plants within the sort.

Some of the factors aimed at in selection work may be briefly outlined under the following heads:

1. Purity as to variety.

2. Increasing the uniformity of ripening.

3. To increase the yield.

4. To decrease the time required for the crop to mature.

5. To increase disease resistance.

6. To improve quality and color of grain.

7. To increase stiffness or length of straw.

8. To eliminate presence of awns.

9. Other factors such as closeness of glumes or chaff on the grain; to increase the number of fertile glumes present in the spikelet or panicle; to increase the length or compactness of head.

With the farmer and seed grower, purity is the most

important object of selection. He is not in the position of a seed specialist to make numerous selections with the object of producing new varieties, but rather to keep up the standard of excellence of the crop under consideration.

While there may be little increase in yield from mass selection after a certain period of time, yet we find there is an increase where the grain was badly mixed when selection work commenced. The increase in yield may be attributed to three factors: first, the elimination of inferior varieties; secondly, more uniformity in ripening, hence smaller loss from shelling, and thirdly, a decrease in the period of ripening by the elimination of late maturing varieties.

Disease resistance, quality and color in grains, stiffness and length of straw are all of prime importance, but the successful grower, in handling these factors depends upon hybridization and individual selection entirely as a means of obtaining results. A little carelessness on the part of the grower or breeder when working with such characters will often spoil years of persistent labor.

Just in finishing let me say a word on making head selections. There are a few factors of first importance to be taken into consideration before taking on selection work.

Decide on the variety of grain with which you wish to work, know something of its value as a commodity on the market and its adaptability to your particular condition of soil and climate. Have an ideal fixed in your mind of the plant with which you are working, which may take in merely the head or include the whole plant; you should also have fixed in your mind clearly those factors which you consider to be of prime importance in improving the particular strain or variety. Do not change your mind too often with regard to the variety with which you are working.

Also in making selections from the field make them from such sections of the field as are under normal conditions. It is always well to avoid selecting the large heads from the outer rows of the field, make the

necessary selections from the centre of the field. The plant is the unit of selection, do not forget to take this into consideration. In order to insure good yield and uniformity, keep all weeds removed from the field. It is absolutely essential to keep down the noxious weeds. A field with noxious weeds will never pass the inspector if he does his duty; and lastly, but not least of all, do not try to grow or work more than one variety of wheat, oats or barley on one farm. You can't do it; they will mix in spite of all good management.

Waterproofing Canvas.

EDITOR "THE FARMER'S ADVOCATE":

A short time ago I saw an inquiry as to the best way to waterproof canvas. Last summer we made a large canvas stack cover, and the plan of waterproofing it was given me by a London firm of tent and awning makers. They said linseed oil would take the life out of the material.

Melt two pounds paraffin wax (more or less will do) and pour into a gallon of gasoline, and apply at once to the canvas with a brush. I used a white-wash brush. The canvas is better spread flat on the ground in the open air, the latter being the only way when using gasoline. If hung up a lot of the gasoline will be wasted. One gallon will cover about 75 square feet, more or less, depending on how it is applied. We found our stack cover perfectly watertight, and last summer certainly gave it a good test.

This method does not color the canvas at all, and I certainly consider it much superior to the oil. The paraffin can be procured in large cakes. It cost us 9 or 10 cents a pound from our local merchant. I am sorry not to have advised you sooner, as I fear your enquirer will have treated his tent by this time. Middlesex Co., Ont. J. R. COLEMAN.

Canada's Young Farmers and Future Leaders.

Profit in Feeding a Young Bull.

EDITOR "THE FARMER'S ADVOCATE":

It was in February, 1915, that I had a chance to buy a pure-bred Shorthorn bull calf, three months old, for thirty dollars. He seemed to be a good, thrifty fellow for his age, so I bought him. When he was brought home he would eat a few pulped roots, a little silage and hay, and a few rolled oats, but as he had always sucked a cow he could not, or would not drink, and as we had no fresh cows for him I was beginning to think that he would not last long. When I offered him some water for the fifth time on the third day, after considerable sniffing and snorting, he seemed to make up his mind in a hurry, and I thought that he would choke himself by the way he gulped it down. After that he grew as a pure-bred should. I kept him for seven months and then sold him for seventy-five dollars. His total cost to me was: Grain, \$1.50; silage, 75 cents; roots, \$1.25; pasture, \$1.50; hay, \$1.00; total, \$6.00. His sale left me thirty-nine dollars cash gain, and I had not done any extra work. But that was not my biggest gain. It proved to me that a dollar invested is worth a great deal more to a man than a day's hard work, unless he has something invested to work at.

I know of a place where three dollars and a quarter can be made daily, but you must work fifteen hours a day to get it, and I never knew a man to hold the job for a period of more than two weeks, while at the same time ten good cows will bring in five dollars per day for six months of the year and the cows are still there, and surely their value would make it worth while to keep them over until the next season.

When the future generation grows up I hope they will stay on the farm long enough to try out the theory of making their heads save their heels, and see if it will not be more profitable than going to the cities. That is what I am going to do.

Peterboro Co., Ont. FRED M. CROWE. Note.—You certainly fed your calf cheaply, Fred.—Editor.

Profits from a Pail of Potatoes.

EDITOR "THE FARMER'S ADVOCATE":

In your issue of June 22 you asked the boys and young farmers for some experience they had in the previous year, and I am sending you a report I kept of a plot of potatoes. After reading it you will readily agree with me that there is money in potatoes, but it also requires a little labor to get the largest returns.

I bought a pailful of Dooley potatoes last spring to give them a trial, as they are a new variety in this part of the country, and I must say they gave excellent results. Before going farther I will tell you what the Dooley is like, so you will know it whenever you may chance to see it. It is a large, flat, white potato, with shallow eyes. The stalks grow spindly and the tubers are few in number in the hills but of a very large size.

Like every other kind of roots they do better on a certain kind of soil than when just planted wherever handy. A rich loam, clay and sand mixed or terra cotta, manured and plowed in the fall, and well worked in the spring makes a very nice seed-bed.

When the weather got nice and warm and the ground was in good condition I had the seed all cut ready, and found I had enough to plant one-hundred hills. Once they were in the ground there was no more trouble with them, only I kept them harrowed occasionally with the drag harrow, to keep down the weeds until they got too large, then I kept them clean with a cultivator. After the blossoms came on them I sprayed them once, one spraying was all that was necessary, as there was no blight and the bugs were not very numerous. About the middle of October I dug the potatoes and found on an average they put up four pounds to the hill, and produced four hundred pounds of salable potatoes or four and one-third bags. These I sold at storing time for \$1.50 per bag.

Now I will give you a summary of the cost of producing and the returns of the potatoes, and when you read my report and compare the returns you will agree that I was well paid for my time and trouble.

Table with 2 columns: Item and Amount. Includes: To 1 pail of seed potatoes, To Labor, To 1 cart manure, To spraying, Expense, By 4 1/2 bags potatoes at \$1.50, By 1st. prize on 1 bushel at fall fair, Gross returns, By cash from potatoes, To expense of producing, Total net profit or gain.

We now grow the Dooley extensively and find it to be the most profitable tuber we handle. The only fault we find with it is that it does not mature early enough to get the highest prices. I think they are well worth planting, don't you? Carleton Co., Ont. HAROLD MOORE.

Good Returns from Sheep.

EDITOR "THE FARMER'S ADVOCATE":

My most profitable experience last year was with five pure-bred Shropshire ewes. In the spring I bought them for \$50. Three ewes had single lambs, and the other two had twins. Three ewe lambs and four ram lambs. When they were seven months old I sold one ram lamb for \$13, and the other three for ten dollars each. The three ewe lambs I sold for twenty dollars. The wool averaged ten pounds from each ewe, and I received 30 cents per lb. for it, unwashed, netting me fifteen dollars. The five ewes made me seventy-eight dollars.

This year I had better success. I had only four ewes, and they produced six ewe lambs and one ram lamb about the middle of March, and not a loss so far. The ram weighed 70 pounds when he was three months old, and some of the ewe lambs weigh sixty pounds each. I clipped the four ewes about the

middle of April, and sold the wool then (unwashed) for thirty-five cents per pound. The four ewes averaged ten pounds each. One fleece weighed twelve pounds, making for the four, fourteen dollars. I value the ewe lambs at ten dollars each, and the ram lamb at fifteen dollars. That would make me eighty-nine dollars for these four ewes this year.

The sheep received no special care during the winter. I just fed them all the pulped turnips they would eat, and, having no clover hay, they wintered on oat and buckwheat straw and a few oats.

Although I have had sheep since 1912 the dogs have never bothered them. A little time taken night and morning will relieve a person of all worry at night, if he will put them in a pen. This must be the reason that the number of sheep in Canada decreased over 20,000 in the year before last, but this should not discourage the farmer when the prices of wool and mutton are so high, and Canada certainly does need more sheep. I would say that when a man is investing a little money in sheep, why not add a few more dollars to it and get pure-breds? They take no more care than the scrub, and see the difference in the prices when selling them. Raise more sheep. York Co., Ont. ROSS E. RATCLIFF.

How to Grow Big Squashes and Pumpkins.

EDITOR "THE FARMER'S ADVOCATE":

"My land is in good condition, being heavily manured every year, and is of a gravelly formation with about sixteen inches of clay loam on top. A three-hundred-pound squash can be grown on any part of it by the following cultivation. For each hill I intend to plant, about the first of April, I take two good wheel-barrow loads of hen manure, and mix with four good barrows of fine soil taken from some other part of the plot. This is mixed a second time the middle of April. The first of May I add four barrows of well-rotted manure and mix thoroughly, then about the eighteenth of May make the hills and plant. I dig out a space seven feet in diameter and fourteen inches deep and fill in my compost, mixing with it some of the best earth which was thrown out, and when finished the hill will be about ten feet in diameter and six inches higher in the centre than the surrounding level. Then plant the seed. Hills should be twenty-four inches apart, having eight to ten seeds in a hill. After they have attained their rough leaves and danger of bugs is over, thin out, leaving three or four of the strongest plants in each hill. Work the ground well until the plants commence to run. When about three feet long I mulch the ground all over for twenty feet in diameter around each hill with horse manure, three inches deep, and stake the vines down with sticks to keep the wind from rolling them about, so that they may root at every joint. It is of great advantage to keep the vine from fruiting as long as possible, by pruning all fruit bloom off until about the last week in July. This will give time enough to mature a three-hundred-pound specimen by the first of October, for there must be a big vine

to produce a big specimen. I practice fertilizing a few of the first bloom that come, when I think the vine is strong enough to grow a good specimen, by cutting off some of the fresh false bloom, trim the corolla or flower leaf off, and rub the stamen in around the fresh fruit bloom; this is necessary when fruit bloom opens on a morning that is unfavorable for bees to do their work, and it assures the setting of the specimens just where you want them. It also gives extra vigor to the growth of fruit to be well pollenized. When the perfect specimens have set well, say four or five inches in diameter, cut all other fruit and blossoms off and nip the ends of vines and all bloom that shows twice a week, so that the vine is not exhausted with the great quantity of false bloom that would naturally come. Now, while the great growth of the squash is going on I use liquid manure twice a week along three or four of the principal vines of each hill. I expect all have heard of feeding squash, but this is a silly humbug. The only thing that will increase the size of the fruit comes out of the vine, and the vine must get its support from the natural roots."

Lennox and Addington Co., Ont.

ROY EMBURY.

The Value of Underdrainage.

EDITOR "THE FARMER'S ADVOCATE":

What has struck me most of late is the value and importance of tile drainage, and how little farmers avail themselves of the opportunity of improving their land in this manner. I will quote a few particular instances of the effect of tile drainage that I have come across.

Our farm has a certain amount of tile-drains where they are most needed, but has by no means a thorough system. They were put in before my time at the rate of about one drain a year. A field we had in corn last year was always wet on the south side when the rest of the field was fit to work, and consequently was seldom worked up well, and, on account of this and its low-lying condition, never raised more than half a crop. A few years ago a five-inch drain was put through it, and although this did not drain it thoroughly, this part of the field always raises one-third better crops. Last year was wet and we had the field in corn. At one time, on such a year, there would have been practically nothing on this strip but the tile did the business, and it went 100 bushels to the acre and the rest of the field about fifty.

Another field was in oats last year and seeded down to alfalfa. There are several drains running across the field, but at quite a distance apart. When I mowed the field I received an object lesson. A few rods on each side of the tile drains there was a fine, thick crop, but farther away the alfalfa was badly winter-killed and hardly worth cutting. If the field had been thoroughly under-drained it would easily have yielded two loads per acre. As it was it barely went a load to the acre and almost all of that came from over the tile drains.

We intended to put two fields in oats this year. They were both good fields and of similar soil. One is well underdrained, the other has no drains in it. The drained field was fit early, worked up nicely, and was one of the first sown in the vicinity. The other field was wet and stayed wet until it got too late for oats, so we decided to plow it and plant it in corn. The weather suddenly changed to the other extreme and became hot and dry. We were finishing another corn field and by the time we were ready to plow this field it was too hard and remained so until it was too late for corn. So in this instance lack of tile drainage meant the loss of a crop. These are just a few of many similar personal experiences in this line.

Now, I may be wrong in making such a general assertion, but from my personal experiences tile-drainage means at least one-third better crops, or an increase in production of 33 per cent. Now by a recent law in Ontario a farmer without sufficient funds can, I believe, borrow up to \$1,000 from the township for the purpose of tile drainage, and be charged interest on it in his assessment, together with his other drainage taxes, at the rate of 6 per cent. If he can invest this money at a profit of 33 per cent., and only pay 6 per cent. for it what better investment could he desire? Why is he so slow to avail himself of this golden opportunity?

Essex Co., Ont.

REGINALD JUKES.

THE DAIRY.

The Dual-purpose Cow is the Farmer's Cow.

A Visit to the Hill Herd.

Dual-purpose cattle have aroused considerable controversy. Dairymen, straight beef producers and a few sceptic authorities will say, "There is no such animal as a dual-purpose cow." They will inform you that there is no place in agriculture for them and that they cannot be made to breed true. They believe in the single standard, the beef breeds to produce the meat and the dairy breeds to supply the milk and butter. They are of the opinion that beef raisers should have one standard and should gauge their breeding operations accordingly, while the dairy cattle breeders should have another, that in harmony with the heavy milk production. Claimants of this system do not give consideration to economic facts, and hence leave no room for an animal of a dual-purpose nature.

The weakness in this system lies largely on the side

of meat production. At the present time the great bulk of meat is produced on the range or in semi-range conditions where land is cheap and the expenses entailed are small. When the range has become higher and higher in price, where then will the beef be produced? It is apparently a fact that beef cannot be economically raised on good arable valuable land from beef cows. It will not be done, because the expenses entailed in keeping a cow for her calf alone are too costly and cannot compete with the cow which produces a fairly good calf for beef, besides yielding considerable milk and milk products for sale. In other words straight beef production will necessarily be relegated to the cheaper land not fit for dual-purpose cattle, and thus limited in extent. In brief, on high priced land no dividends can be secured with cows that do no more than raise their own calves, and the beef will come from the source that is more profitable, which is nothing more nor less than from a dual-purpose cow located on small fenced farms. We have heard men argue that with the elimination of the range that beef will go higher in price sufficiently to warrant the maintaining of beef cows to produce beef alone. This is really no argument since by such a condition the remuneration from the dual-purpose cow would be still greater and hence would afford more strenuous competition than the beef proposition could withstand. Finally, the average farmer will continue to produce both beef and milk, satisfying the demand for meats and deriving considerable revenue from the milk line. The sum total of food elements produced by the dual cows is greater than from the beef animal and, therefore, justified in the higher returns.

Even the dairy industry, which in its legitimate location can flourish at present on higher-priced land than the dual-purpose herd, may on the passing of the range find keener competition than in the present or past. The elimination of the cheap source of meat from the range may cause the dual-purpose cow to be more lucrative. The other statement often made, that it is not possible to breed for dual purpose is absurd, since laws of breeding hold as true with the dual as with the beef or dairy. It is possible to breed almost anything. In breeding dairy cattle we select for a certain type based on milk production, and it varies in accordance with the individual ideals of the various breeders. It will be just so in dual-purpose Shorthorns that while the general type is in harmony with moderate meat and milk prolificities the type will vary with the individual leanings of the various breeders at work.

In proof of the above statements may we enquire what type of cattle the average farmer of the continent on high priced land is breeding? It is none other than the dual-purpose Shorthorn. It is so in Eastern Canada and in the United States. It is so because the average farmer has found them better revenue producers than the straight dairy or the beef, it is this authority of the great mass of farmers who are practical commercial breeders without favor, for the money in the business, that we can't afford to ignore and who have adopted the type of breeding cattle that will best yield a revenue. The fact that we find few cows maintained for the beef calf alone is an index of its ability to compete. When the ranges have passed into history we have no reason to believe that the beef proposition will be able to then contend successfully except in the cheaper and rougher districts. The farmers of Ontario and of the United States have maintained herds for their dual qualities and found them to their economical advantage against great odds which threatened to engulf the industry. These obstacles centered in the breeding fraternity which have not until recent years recognized the dual-purpose field. The Shorthorn breeders have been trailing

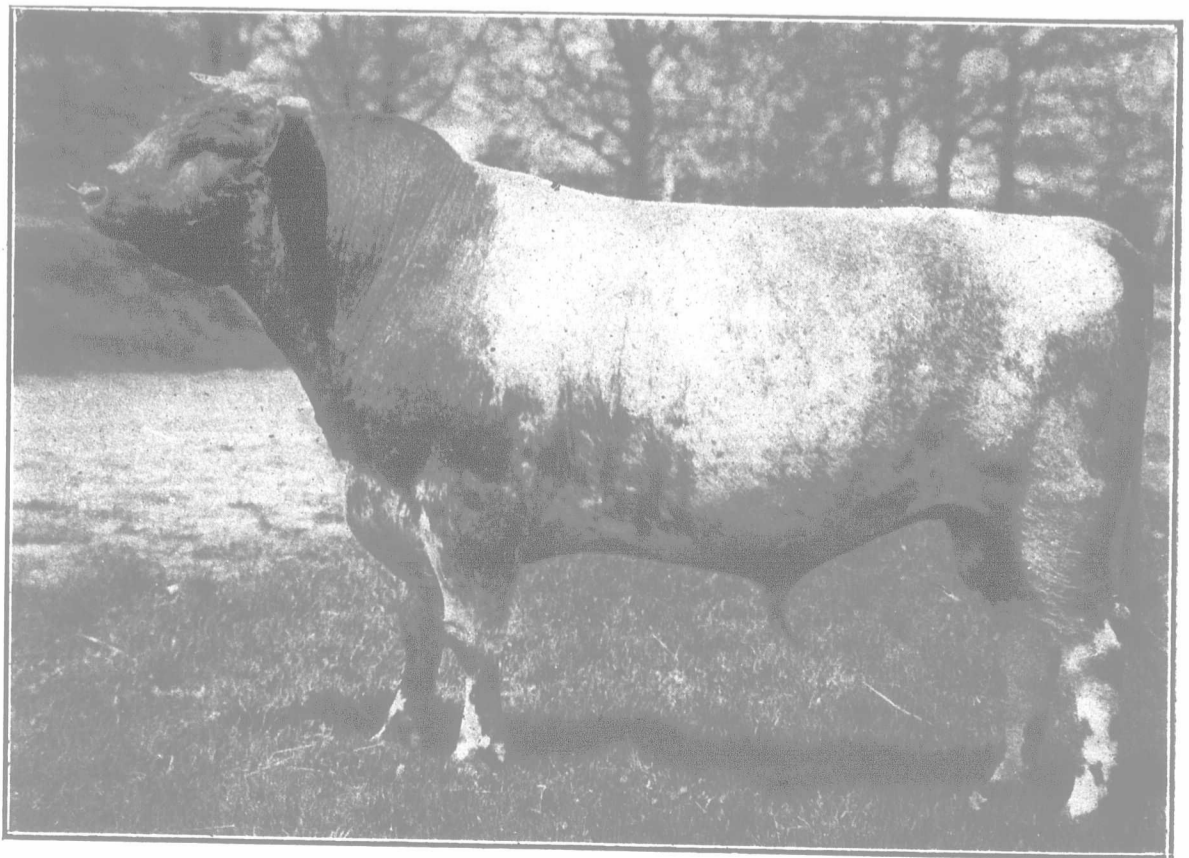
the breed into competition with the distinct beef breeds. They did not recognize the average farmer's need which Shorthorns were originally intended to meet. They sacrifice the deep-milking tendencies to get perfection in beef production. In spite of this fact farmers continued to use the Shorthorn for its dual qualities. We can remember back 15 or 20 years ago when the Shorthorn cow was more of a dual type than she is to-day. We can remember when the farmers commenced to criticise because the bulls were too beefy and the young stock was not so good at the pail as their mothers. In spite of this faulty breeding the average farmer did not find a better money making system and continued with the breeding system against him to do business at the dual-purpose stand. In some sections of the East and in the United States farmers even at some distance from markets entered the dairy industry while others commenced to use dairy sires, largely because of the obstacles met. However, now that Shorthorn breeders are commencing to view the situation more clearly and are giving attention to milk production, in other words stepping back into the field for which the Shorthorn was originated, the dual-purpose herds will gain in favor and make greater progress. It is almost ludicrous that Shorthorn breeders should have made such a mistake, yet the fact remains they have, and now it is being rectified. Through the lack of dual-purpose ideals in pure-bred Shorthorn establishments a mint of money has been lost by the farmers on small holdings. The questions arises that if the dual-purpose system on the farms could hold its own encumbered with faulty breeding what could it do if assisted by a dual-purpose ideal in our pure-bred Shorthorn herds?

Not only is the dual purpose adapted to the intelligent farmer but also the unintelligent. The former can bring the milk yields up to a fairly high standard and also turn off some well finished beef steers. If the demand for baby beef is strong he can turn a couple of calves on a cow and milk by hand the other half of the herd. The haphazard farmer can undoubtedly make more from a dual-purpose than he could from either straight beef or straight dairy. His cows under miscellaneous treatment will yield almost as much as a poorly-cared-for dairy herd and he has the beef steers besides. The system seems in actual practice to work well with farmers of all degrees of intelligence.

In this outline we have endeavored to circumvent the situation with respect to dual-purpose cattle. We have referred more particularly to the Shorthorn because they have more closely woven themselves into Canadian agriculture than any other dual-purpose breed. The pioneer work which was done by Thos. Bates from 1800 to 1840, and which on this continent has been abused by breeders, is now approaching a saner basis in harmony with our agriculture.

The Great Minnesota Herd.

On a recent American trip the writer was privileged to see one of the best dual-purpose Shorthorn herds on the continent, that owned by the late J. J. Hill at his North Oaks Farm near St. Paul, Minnesota. It is a herd composed of 55 head, comprising 9 bulls and bull calves, 4 steers, 15 heifers and 28 cows. It is not a herd the progeny of this continent, but largely imported from the noted establishments of Great Britain. It is one got from the home of true dual-purpose Shorthorns and with very long ancestry of dual-purpose breeding. In viewing the various cows in this herd one was forcibly impressed with the similarity of type, which consistent breeding had stamped upon them. They did not vary in type any more than many other pure-bred breeds of a single standard. What variation there was, centered



Tamony.

One of the dual-purpose Shorthorn bulls used in the Hill herd.

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in the slightly varying degrees of meatiness. In the herd were many roans, which appear to be among the outstanding in dual nature. Four of the cows, imported in 1914, have yearly records averaging over 11,790 pounds, most of these coming from the Robt. W. Hobbs & Sons establishment at Kelmscott in Great Britain. This latter herd had 170 cows that averaged over 6,000 pounds of milk per year. One cow, Rose 26th, during six years averaged 10,642 pounds of milk. In proof of the dual-purpose cow's ability to produce large flows of milk, it might be well to mention the late Geo. Taylor's establishment in England, from which 32 cows were sold in 1912, having to their credit 10,000 pounds of milk per year. The cow, Darlington Cranford 5th, owned by Mr. Taylor, averaged more than 10,000 for 10 years, and during that time produced 11 calves. The cow, Dorothy, in the Tring herd, averaged 10,553 pounds for 10 successive years ending with 1913. In that year her milk record was 15,951 pounds.

The blood in the noted English herds traces back to the Bates Duchess family, as sold in 1873 at the New York Mills' sale, 24 years after the great breeder's death. At this sale fabulous prices were secured, the breeders in the Old Country recognizing the constructive breeding performed by Thos. Bates, of Kirklevington. The highest-priced individual at that sale, a cow, was \$40,600, another cow of the same family sold for \$35,000, another \$30,000, another \$27,000, and another for \$25,000. Forty head belong to this celebrated family sold at an average of \$18,742. Probably they were not worth the money paid for them, but due to the fact that they comprised the main breeding descended from the Bates establishment, and recognized to be of great merit, they were secured as a foundation herd to continue the dual-purpose breeding, and were a sterling tribute to the work of that great breeder. Although a few of the beefier types have been used from time to time, the general conformation largely represents fairly consistent breeding since 1800, in which attention was paid to perpetuating the deep-milking kind of such a type that produces a good beef steer. Hence the breeding that is to be seen on Mr. Hill's establishment is no short-lived line, but dual-purpose ancestry of such a type produced by long years of fairly consistent work. Some will be skeptical of their merits as beef producers, in view of the fact that such productions have been secured. We had the opportunity of seeing four steers from heavy producers on Mr. Hill's farm which had been raised by hand, and very creditable in beef type. In further proof, one of his cows, Charming Lass, was shown at the Minnesota State Fair last year, which furnished an excellent illustration of the presence of the dual quality in this class of cattle. She had to her credit 11,000 lbs. of milk in a year, and her progeny, the steer Joe by her side, was an exceedingly fine specimen of beef animal, weighing 2,060 pounds at three years old.

In type the cows are fairly large with moderate beef tendencies, and with large udders. Those that were dry were in high flesh, while those in heavy milk were of the thinner order as could be expected, but yet not approaching by any means the lack of fleshing evident in straight dairy cattle. There are two notable herd bulls, the one Bronsbys Coming Star, by Royal Broadhooks, with 10,000-pound dams behind him, and the other Tamony by Tamini, whose dam, Harmony the 2nd, produced 10,045 pounds of milk per year. Coming Star is a red bull of great scale, finer at the shoulder than beef bulls, and not so heavy in the hindquarters, while Tamony is slightly more of the massive order, deep at the heart and heavier at the shoulder. These two bulls have a number of nice heifers, and although several of them are heavy in calf, they have not had an opportunity as yet of proving themselves.

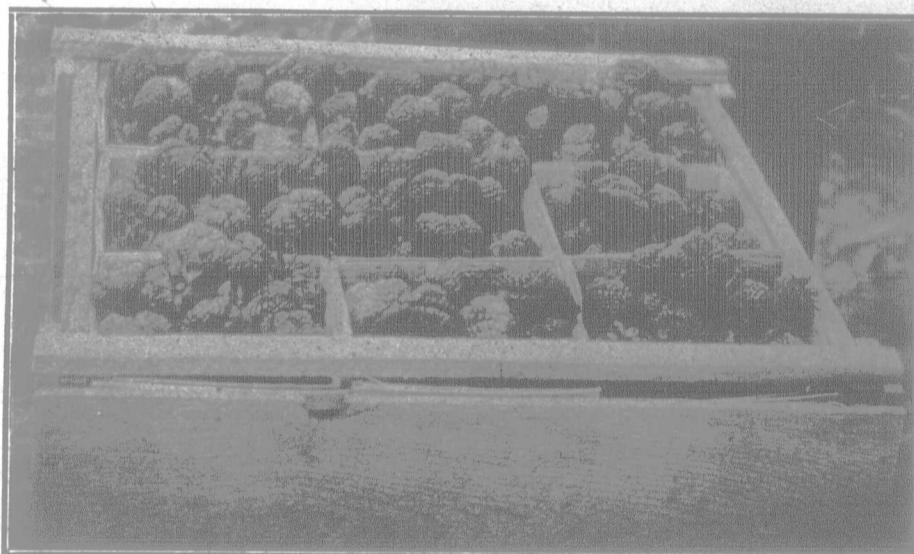
What Prof. Shaw Says.

In regard to the type of dual-purpose Shorthorns we inquired of Professor Thomas Shaw, who is a great advocate of the breed and instigator in founding the herd on the late J. J. Hill's farm, his opinion concerning the matter he stated, "I desire dual-purpose Shorthorn bulls that show good fleshing properties as shown in the form and covering. They should be equal in size at least to the beef bulls, but it is not necessary, though probably desirable to have them of the same thick and blocky form. The outstanding characteristic of the bulls as contrasted with beef bulls is that they are a little longer in the head and neck, not quite so wide, and a little longer in the limb. They have rather more easy movement, and the difference is less relative than between the milking and beef females. The main resemblance of the bulls to the dairy type is in the length of body, but this must not be carried too far." In reference to the females he stated, "The dam should be less massive than the dams of beef type. Should resemble the cows of the dairy type mainly in length of barrel, and moderate length and lightness of the neck. They should not be sharp at the withers or spinal column, or unlevel above the hips, or light in the thighs as in dairy cattle. They approach more nearly if anything to the beef form than to the dairy, and yet there is an appearance that indicates sure breeding qualities, more surely than in the case of the very compact beef conformation. The spring of rib is rounder than in dairy cattle."

The general outline of dual-purpose type no doubt emerges from Prof. Shaw's experience in breeding dual-purpose Shorthorns, and of seeing some of the most notable individuals of the breed. Other questions asked, to which he replied, are as follows: What production would be considered commendable in dual-purpose Shorthorns, and yet with beef qualities retained? "6,000 pounds a year up to say 8,000 pounds are quite compatible with splendid beef production. I do not think the aim should be made to carry the production higher in an average herd. We do not want straight dairy

Shorthorns. I deprecate the name." Is it not true that the greater the production the nearer the cow approaches dairy type? "It is generally true that wherever a high production in milk is sought there is a tendency to swing to more prominent dairy form, but this is not true where only good production, say 6,000 pounds a year is sought." Under what conditions are dual-purpose Shorthorns suitable? "Wherever there is a desire to produce beef on the average farm along with milk. These go splendidly together under conditions of high-priced labor and land." Would an intelligent farmer, living near a dairy market find dual-purpose Shorthorns to his economical advantage in preference to a straight dairy type? "Unquestionably so, unless he has a special market for a specially prepared dairy product. The increase in meat in the future must come from the average farm." Is it true that in Great Britain farmers near dairy markets supply milk from dual-purpose Shorthorns, or do they approximate the straight dairy type? "Nearly all the farmers in Britain cling to the dual type, but a few breeders seeking extraordinary milk records are getting nearer to the dairy." Would it not be to their economical advantage to use a dairy breed where greater production could be secured? "I do not think so, for I believe they make as much profit relatively from the beef as from the milk." Is it probable that the average breeders of dual-purpose Shorthorns can breed intelligently, maintain the type, and increase the product of both meat and milk? "Unquestionably so. Dual inheritance from great ancestry is as true as any other kind of inheritance. The men who have said otherwise did not know whereof they were speaking." Have we on the American continent the foundation stock for dual-purpose Shorthorns? If so, where, and if not, where can they be secured? "We have some in the United States, but not nearly enough. We are rounding them up. We must import freely from Britain after the war. In Canada I think they have relatively more such material than we have on this side of the line."

Prof. Shaw is an intense dual-purpose Shorthorn enthusiast. He was instrumental in forming the American milking Shorthorn Association which has for its purpose the encouragement of breeding Shorthorns to measure up



A Crate of Glen Mary Strawberries.

The moist weather of early summer brought forward a good crop, but the recent dry spell rather curtailed the production.

to a high standard in the production of both meat and milk. It possesses a separate herd book from the American Shorthorn Association which corresponds to our Canadian Association. The basic reason for this new association was due to the fact that the established Shorthorn Association did not give sufficient attention to dual qualities, but only encouraged the production of beef types. However, of recent years the American Shorthorn breeders, as also the Canadian, have recognized the great field for the dual purpose, and by instituting the record of performance are endeavoring to increase the milk producing proclivities which had in the past been neglected. In Canada the same revolution in many of our breeding establishments is occurring through being encouraged by the Canadian Record of Performance tests and backed by the farmer's sympathy. A new association for promoting dual-purpose Shorthorns in Canada would seem unnecessary providing the present Shorthorn Breeders' Association give encouragement to the dual type. Marked progress has during the past three years been made in this respect among Canadian herds. There are many, especially in Ontario, and a few in the West who are breeding for both meat and milk, and they find little difficulty in disposing of for breeding purposes all they can produce. Since the farmers of the country desire better milking qualities and are likely to base their selection for a time on the same, some of the breeders will undoubtedly promote heavy production in order to secure the trade. They may do this at the expense of beef qualities, trailing the Shorthorn to the extreme in dairy type. It would be well for the farmer when purchasing, to enquire not only concerning the milk records, but also the type. Usually great records are associated with dairy form which has no place in a dual-purpose herd. We desire the highest possible production in keeping with a dual type. We desire a cow that can not only give good yields but can give good account of herself at the block and can raise a steer that can do so. In brief, one cannot expect the same high production as in dairy breeds nor the

extraordinary steer as in the beef breeds, but rather moderate merit in both.

While on the farm of the late J. J. Hill there are dual-purpose Shorthorns with a long ancestral line of dual breeding, we in Canada are largely making our foundation on the breeding already in the country which has not become denuded of deep-milking tendencies. It will take time to fix the type which no doubt will be aided by importations. The advancement made will depend upon the breeders' art to combine milking and beef qualities to a higher and still higher degree within the herds they are constructively breeding.

POULTRY.

Crosses to Get Big Chicks.

EDITOR "THE FARMER'S ADVOCATE":

Having read with interest the letter in your paper some time ago on Indian Runner Ducks, I was pleased with the later letter replying to or commenting on the first one. I agree altogether with the second writer and think there is nothing like the Pekins. I was offered settings of Indian Runners for nothing this spring, but refused them, preferring to keep only our own breed, which is Pekins, and which has always given the best of satisfaction.

I would like to give my experience with raising chickens for market. We have been keeping pure-bred Black Langshan roosters and have six of the hens this year, but intend keeping only two hens in the following years so as to keep ourselves with pure-bred male birds. Some people claim that the Langshans are not good layers, but our six this year have laid more, according to numbers, than the remainder of the flock, which are Brown Leghorns, a few Minorcas and Rocks. The six have been laying almost steadily for months now, but a couple of weeks ago one started to cluck so she is set on duck eggs. Two of the six were very late, last-year chickens. However, the Langshan chickens do not mature as quickly as some other breeds, and

as we sell all the cockerels in the fall it is weight we're after, so have been trying to discover which breed crossed with the Langshan males produces the heaviest chicks by fall. So far, and we've tried several breeds, we find that the Langshans crossed with White Rocks give the plumpest, heaviest and cleanest-looking, well-fleshed chicks. The chicks are nearly always white with feathered legs, and although they may look smaller than some of the others, the weight is there every time. The Rocks are not the very best of layers, at least we find it so, and we are going to try Rhode Island Reds. We find that by crossing them we get much heavier chickens than by keeping Rock males or roosters of any other breed.

We find the raising of chickens and ducks a very interesting and profitable work. One fall we had over 200 chicks and 57 ducks all raised the old way, by hens. When the spring and nice warm weather is here we seem rather lost until we have a flock of the little fowl. However, there are times when one is almost totally discouraged with losses in different ways, but when it is all over and we look back we think it hasn't been half as bad as we thought at the time. There are so many things on a farm that there are nearly always losses occurring.

Northumberland Co., Ont.

MARION.

Duck and Turkey Ailments.

EDITOR "THE FARMER'S ADVOCATE":

1. Would you kindly advise me, through the columns of your paper, concerning the following: Ducks about four weeks old, apparently thriving, ate heartily of a feed of one-third shorts and two-thirds bran mixed with water till it was crumbly. Next morning 50 per cent. were found dead with necks full of undigested food. Ducks had soft water to drink but not to swim in, they had plenty of sand. Was the ration fed the cause of death? Kindly give a suitable ration for growing ducks.

2. Turkeys—Turkeys about three weeks old, fed breadcrumbs dampened with sweet skim-milk, with dandelions and onion tops for green feed, suddenly seem to have cold in their heads, first closing one eye, finally both eyes are closed with swelling. What is the cause of this disease? Would the disease be blackhead? Would you give a preventive? These turkeys were kept dry and clean.

SUBSCRIBER.

Ans.—1. The ration given would not be considered a good one for ducks, but, on the other hand, there is nothing in it which would cause such a high

mortality at once. I would judge in this case that there was accidental poisoning of some kind, or that some animal, such as a weasel, got among them and killed a portion of them. Certainly the bran and shorts would not kill them.

A ration composed of one-quarter of shorts, one-quarter of bran, one-quarter of barley or oat chop, and one-quarter of corn meal wet with sour milk, or, if wet with water, ten per cent. of meat meal added, would give better results. Between the ages of two and seven weeks about one-third of the bulk of the ration should be of finely-cut, green oats or clover hay, or, in fact, any other green feed. Between the eighth and tenth weeks, when the ducks are being fattened for market, eliminate the shorts and bran entirely and add a little more meat meal, or, if using sour milk, give fifty per cent. of the ration of corn meal if possible.

2. In reference to turkeys—I think the turkeys would do better if the bread was dampened with sour milk, then squeezed fairly dry. Turkeys require feeding frequently but very little at a time, and would be better fed out of the hand or a clean dish. Do not feed them on the ground. If you would add to the bread about an equal amount of shorts or middlings it would add to the value of the ration. I would not advise the use of sweet skim-milk. Where turkeys of this age have a cold in the eyes as mentioned it would indicate that either the old turkey hen had been infected some time herself during her life and probably has the germs still attached to her feathers, or else the coop in which she is confined has had birds with similar trouble, either turkeys or common hens. The disease is not blackhead. It is somewhat difficult to cure, and with turkeys as small as these are about the only thing you could do would be to wash the eyes with a weak solution of boracic acid and give the small turkeys each about two small grains of Epsom Salts in their food to each bird every day. If there is no infection in the coop or with the old turkeys the trouble must be looked for either in dampness or from being in a very drafty place, but I presume from the question that this is not the case. We are taking it for granted that the turkeys have all the grit they require.

W. R. G.

Try this Mixture to Grow Pullets.

The pullet to lay early next fall must be matured as early as possible. A little forcing will do no harm. Many mixtures are good, and a mash should always be supplied once daily. Good success has been found to result from feeding the following mixture: wheat bran, 25 lbs.; corn meal, 25 lbs.; ground oats, 10 lbs.; beef scrap, 5 lbs.; shorts, 15 lbs.; ground bone, 5 lbs.; charcoal, 1 per cent. This should be thoroughly mixed, and many breeders prefer feeding it just moist enough to be dampened through. If sour milk is available to moisten the mash no meat feed is necessary. Give plenty of green feed if not on free range.

FARM BULLETIN.

East Middlesex Notes.

EDITOR "THE FARMER'S ADVOCATE":

Since writing about a month ago the weather has "faired up," and now, July 10, seems about normal, if not on the dry side. We think that the fruit crop will not fulfil the rosy promise of last month. There's many a slip in the production of fruit, but the bees are doing fairly well so far. As the season is late it is not advisable to make any very definite statements about the honey yield just yet. Suffice to say they are off with a good start. Being a dairying district there is plenty of white clover, and almost every farmer sows a few pounds of alsike in his hay crop, but that doesn't always mean honey, even if there is abundance of bloom. So ye beekeepers don't all rush in here expecting to get rich quickly. Middlesex is already about as well supplied with beekeepers as any other county in the province, and we have one serious drawback—the lack of buckwheat to supply honey for winter feed. A few farmers sow a small patch near the hen-house and let the hens do the harvesting of the seed. It is valuable in this way, as it is used at or near the moulting period when hens need extra feed. Others sow some for pig feed, but generally these patches are few and far between. However, we hear of more being sown this year than usual in the hope of its helping out the grain ration. But the spring grain crop has improved rapidly since the deluge of rain ceased, but, of course, most of the fields are more or less "patchy," as the low spots are backward or killed out entirely. Many have commenced haying, but except on high land we believe it is not ready to cut. Probably they have got so used to rain that they think this dry spell cannot last. But it is not wise for a farmer to get panicky. He should be optimistic, believing that as long as the earth remaineth seed time and harvest shall not cease. An attempt is being made to revive the flax industry in this district. A building in St. Mary's town is being equipped with machinery, but farmers around here are not so fond of growing flax as they once were, when the land was new, with fertility to spare and rough land to subdue. Thirty or forty years ago flax was an important crop here, but the scarcity of help to pull it, and the increase of level land which would grow a crop that could be harvested with machinery, and the idea that flax was hard on

the land, because everything went off, resulted in its losing favor. If a satisfactory puller could be invented it would go a long way towards solving the help problem, but while several have been invented apparently there are none that are very satisfactory. Sugar beet growing seems to be coming into favor again. Quite an acreage was grown last year by some who were near a shipping point. Five miles seems to be about the limit for profitable hauling. Some, we are told, did not make expenses, while others did well. Like any other crop, they pay if one can grow enough of them, and that depends mostly on the man. This year the wet weather prevented more being sown.

Middlesex Co., Ont.

J. H. BURNS.

A Summer Talk.

BY PETER MCARTHUR.

I don't care what anybody says, I didn't get "bushed." It is quite true that I stopped cultivating corn in the middle of the afternoon and curled up in the shade of a tree for an hour or so, but that was not because I was "bushed." I could have kept going all the rest of the day if I wanted to, but it seemed wiser to stop, and having stopped there was no reason why I shouldn't rest in the shade of a tree. The fact of the matter is that I stopped on account of the mare. The blue-headed flies got after her until she was almost crazy. At the end of every round I would stop and slap the flies until I killed a dozen or two, but it seemed to make no difference. They swarmed around her like bees. As the day was unusually hot and the corn patch is in a corner by the woods where it is exposed to the full glare of the sun and not a breath of air was stirring, we soon got "het up." Then the flies began to pester the mare. She would slap at them with her hind feet, and every time she would bring down her feet on hills of corn. That made me fussy, even though I couldn't blame her. She was being tortured by the heat and the flies, but that didn't make it any pleasanter for me to see the corn being trampled, so I decided to stop and do the rest of the cultivating in the cool of the evening. And having stopped cultivating I saw no reason why I should not take a rest under a tree. So you see there is nothing to the story that I got "bushed."

We have certainly had some great haying weather, but unless we get some rain before long it will go hard with the corn and oats. Fields that you could not cross a month ago without danger of being mired, are now so that you are in danger of falling into the cracks. There are spots in the corn field that are baked so hard that about all the cultivator does is to make marks on the ground. Even the best corn fields in the district are beginning to look parched, and all of them are at least a month later than on ordinary years. But the hay crop is unusually good and is being harvested in excellent condition. The long, wet spring caused a luxuriant growth of all kinds of hay and most of it is being gathered in without being touched by a drop of rain. So we have something to be thankful for, even if the weather is as much too dry just now as it was too wet a month ago.

A few days ago I received a letter from a man who has been travelling about the country and who takes some interest in politics. He wrote:

"It is wonderful the things that are being discussed in the country. The people have less regard than ever for so-called leaders in party politics. People are certainly doing their own talking and probably their own thinking." While this does not indicate what people are either thinking or talking it points to a healthy unrest. It is in just such periods that new public policies are developed. It is a state of affairs that makes one hope for something progressive. But some discussions that I have heard do not make me feel unduly hopeful. It will not do to try to make comments on these discussions, because a couple of weeks ago an editor had his paper suppressed because he wrote an article in which he claimed to say what everybody was thinking, but everybody was afraid to say. He was entirely wrong in his claim for all the people are by no means thinking or saying the same things. I have heard comments on the war that ranged from the ultra-loyalist attitude, which would sacrifice everything and everybody Canadian to the cause, to angry protests against Canada doing anything. Between these extreme views there are many shades of patriotism and discontent. Obviously no editor could possibly write an article which would express all these views, and he deserved to be suppressed for claiming that he had done it, if for no other reason.

One of the most disquieting things that has come to my notice is the tone of letters from returned soldiers that have been appearing in the evening papers of various cities. These letters are evidently written for the purpose of stimulating recruiting, but some of them are unfortunate in their method. They assert that when the war is over no explanations will be accepted from men who did not enlist, and they will be despised. It is to be hoped that this view is by no means general, for it would create an intolerable situation. There are men engaged in various productive occupations whose work is contributing materially to the success of the war and they do not deserve to be slurred at in this way. Moreover, they are the men who will be obliged to assume the financial burdens of the war, to provide the funds while it is in progress and the

pensions after it is over. To say that because they have not donned khaki they are contemptible is wholly unjust. The worst evils of our haphazard methods of recruiting will develop after the war, rather than during its progress. Those who would be exempted from active service even under conscription will be open to insults of this kind and much bitterness is likely to develop. What makes me dread this sort of thing is the state of affairs that prevailed in the United States after the civil war. Although it was twenty-five years after the war when I first had a chance to observe conditions I found that every public man from the President down was fiercely scrutinized as to his military record. If he had not taken part in the great conflict no explanation he could make would satisfy his opponents. I should hate to see that state of affairs reproduced in Canada.

It is daily becoming more apparent that peace will test the quality of our patriotism and public spirit even more than war. The war has a glamor that arouses enthusiasm and appeals to the imagination of many, but will bring burdens that must be borne almost entirely by the producers of the country, the laboring men and farmers, and the way they face their problems will be the true test of their manhood and citizenship. If they will hold together the burdens can be borne without becoming crushing, but if they allow themselves to be divided they will be robbed worse than ever. "Divide and rule" is about the oldest political maxim in the world and the seekers for special privilege will be sure to use it. If they can keep the people divided they can increase their profits and it is fairly certain that they will try to do it. The most dangerous demagogues of modern times have not been discontented men who have made speeches to mobs on street corners, but able men who have carried out the orders of Big Business in parliaments and senates. They are the men whose leadership we must be cautious about accepting. And it is not only the home-keeping citizens whose patriotism will be tested by peace. The soldiers will find their patriotism tested by the issues of peace fully as severely as it is being tested on the battlefields today. The future peace and prosperity of Canada will depend to a large extent on the attitude they assume towards the government and the civilian population. Even though they are citizen soldiers rather than professionals they cannot help learning something of the military point of view, and those who seek to divide so that they may rule will be sure to try to establish a line of cleavage between them and those who did not go to the war. The present time is critical and it behooves every man, whether soldier or civilian to give careful and independent thought to every public problem that presents itself.

A Good Show at Calgary.

From every viewpoint the summer exhibition held at Calgary was a pronounced success. The weather was favorable, there was an increase in the number of entries, crop outlook is good, and all things worked together to make the best exhibition ever held in Alberta. Farmers turned out in large numbers and evinced great interest in the various classes, both in the stable and at the ring-side. The cattle classes were particularly strong, so good in fact as to be worthy of their place as the outstanding feature of the show. The dairy classes were strong as well as the beef. In horses there was a slight falling off in numbers, but the show was good all round. Sheep were more numerous than usual, and the hog pens were well filled.

The following is a list of the judges: Clydesdale and Shire horses, E. W. Cargill, Seven Persons, Alta.; Percherons, Belgians and Suffolks, Wayne Dinsmore, Secretary the American Percheron Association, Chicago; beef cattle, Mr. Meyers, Edmonton; dairy cattle, Mr. Standish, Ohio; sheep, J. McCaig, Edmonton; swine, G. H. Hutton, Lacombe.

Horses.

Clydesdales were not out in as great numbers as usual, but the competition was keen. In aged horses Scotland's Splendor repeated his success at the spring show, stood at the head of the list, and later won championship for D. Thorburn, De Winton, Alta. Baron, owned by P. M. Bredt & Co., and well known in Ontario, stood second. In three-year-olds Murray McNeil was an outstanding winner for T. MacMillan, Okotoks, Alta. In the two-year-old class, competition was very keen, Castor finally winning for A. D. MacCormick.

Female classes, if anything, were more keenly contested than the stallion classes. Of four brood mares Rosie Elcho won for Thorburn, Maggie Fleming standing third for the same owner, with Fred Jones' Miss Newton in second. There was keen competition in the yeld-mare class, the winner eventually taking the Canadian-bred championship. Her name is Albioness, and she also is owned by Thorburn. In the two-year-old class the champion of the open classes was found in Monafly, owned by John Graham, Carberry, Man. There were no Eastern breeders exhibiting Clydesdales, or, in fact, any horses.

In Percherons five horses came out in the aged-stallion class, Kaddion, a newcomer, winning first and championship for L. Palmer, of Llanelly, Alta. Marathon, a former winner, stood second, and the Calgary spring champion, Docteur, third. First of the three-year olds was Grenade, owned by W. H. Devine, Calgary; W. E. Upper stood second with

Cyrus. Geo. Lane made a good showing in two-year-olds and yearlings.

There was really more keen competition in the females than in the males. Of five brood mares Joyeuse went first for W. W. Hunter, of Olds, Alta.; E. A. Davenport stood second, third and fourth in this class. The champion mare was Brilliantine, owned by E. A. Davenport, of Acme, Alta.

The futurity was held at Calgary this year, the only disappointment being the small number of entries. The stallion event in entries and placing was the same as the yearling class, Geo. Lane standing one, two, three and four. The fillies made a little better showing with a strong class of eight. Lane stood one, two and three in yearling fillies, and took first place for three progeny of one sire.

There were only two or three Suffolk-Punch on the grounds, and only two stallions to represent the Belgian breed.

Cattle.

As is generally the case the Shorthorn exhibit was a good one, and interest never lagged while the reds and roans were in the ring. Two Ontario herds were in competition with the Western breeders, namely, A. F. & G. Auld, of Guelph, Ont., and Kyle Bros., Drumbo, Ont. The red ribbon in the aged-bull section and ultimately the open championship was placed on Burnbrae Sultan, Auld's massive white bull, with Yule and Bowes standing second with Opportunity. Kyle Bros. won in two-year-olds, with Sea Gem's Pride. Yule & Bowes took first place on senior yearlings with Oak Bluff Marquis. Auld's were first and second in senior calves with Royal Triumph and His Majesty; Kyle Bros. standing fourth with Silver Mint. In junior calves Kyle Bros. were first on Gold Mint, Auld's standing two and three with Ambassador and Royal Favorite. Aulds won the championship on Burnbrae Sultan. Kyle's Sea Gem's Pride stood reserve. The junior champion was Oakland Marquis, owned by Yule & Bowes. He was also reserve for grand championship.

There were some remarkably well-finished individuals in the female classes. In the aged classes only three females came into the ring, Kyle Bros. winning with Lady of the Valley 7th, Yule & Bowes' Spring Valley Buckingham standing second. Silver

Queen headed the three-year-old class for Aulds. In two-year-olds Aulds were first and second on Rosebud and Countess 16th. Kyle Bros. got third and fourth on Meadow Queen and Golden 20th. In senior yearling heifers Aulds were first and second with Queen Elizabeth and Countess Missie. Kyle Bros. stood third with Jealousy 7th. Aulds won again in junior yearlings, Kyle Bros. standing two and three. In senior calves Aulds were first and second, and Kyle Bros. third. In junior calves Yule & Bowes were first, Kyle Bros. second, and Aulds fourth. Silver Queen was made senior champion for Auld. Auld also had the junior champion in Evelyn, the junior yearling winner. In graded herds Auld was first and Kyle Bros. second. In junior herd Auld was first, and Kyle Bros. second. Auld got first and second on herd of three calves, with Kyle Bros. third; and Auld was first and second on three the get of one bull, with Kyle Bros. third and fourth.

Space will not permit of a full report of the other classes, but we give here in condensed form a list of the champions in the different breeds, and more of the report will appear in next week's issue.

Champions.

Clydesdales—Scotland's Splendor, D. Thorburn; Monafly, John Graham. Percherons—Kaddon, L. Palmer; Bichette, Geo. Lane. Shires—Windridge Lad, W. W. Hunter; Kenley Dawn, Stuart Walker. Shorthorns—Burnbrae Sultan, A. F. & G. Auld; Silver Queen, A. F. & G. Auld. Aberdeen-Angus—Black Abbott Prince, J. D. McGregor; Key of Heather 2nd, J. D. McGregor. Holsteins—Korndyke Posch Pontiac, Jos. Laycock; Tensen Burke, Geo. Bevington. Ayrshires—Morton Mains Planet, Rowland Ness; Lessnesock Pansy, Rowland Ness. Jerseys—Kentucky Wonder, Jos. Harper; Noble's Isben, Jos. Harper. Shropshires—ram championship, A. McEwen; ewe championship, A. McEwen. Oxfords—ram championship, Peter Arkell & Sons; ewe championship, Peter Arkell & Sons. Suffolks—ram championship, Jas. Bowman; ewe championship, Jas. Bowman. Leicesters—ram championship, Herbert Smith, ewe championship, Herbert Smith. Berkshires—boar championship, Wm. Gilbert; sow championship, S. Dolson. Yorkshires—boar championship, S. C. Swift; sow championship, S. C. Swift. Hampshires—boar cham-

pionship, W. J. Hoover; sow championship, W. J. Hoover. Poland Chinas—boar championship, Jos. Laycock; sow championship, Jos. Laycock. Durock-Jersey—boar championship, Oscar Miller; sow championship, Oscar Miller. Tamworth—boar championship, S. Dolson; sow championship, Wm. Gilbert.

Crop Prospects in Prince Edward Island.

EDITOR "THE FARMER'S ADVOCATE":

The last week of June and the first week of July were unusually wet, rain falling almost every day. Some injury was done on the lower lying lands, but it was small.

The hay crop will be about average, being lighter in the Western part of the Province than usual and heavier in the East. Early clover is about ready to cut and hay making will likely be general next week.

The grain, potato and root crops never looked better at this time of year and the pastures are in good condition.

Fruit prospects are good. Wild strawberries are very plentiful and the cultivated will be in by the first of the week. The first of them are now on the market. The cherry crop will be light, but fairly well distributed. Raspberries, blueberries and apples give promise of abundant crops.

Horses are abundant, but there is practically no demand.

Both beef and milch cows are scarce and are bringing very high prices.

Sheep and lambs are doing better than usual, but there has been a considerable loss of young pigs.

FARMER.

Restrictions Removed.

Dr. F. Torrance, Veterinary Director General, advises that the special restrictions against the importation of live stock, their products, and other commodities, from the State of Illinois, were repealed on the 17th instant. Therefore, importations from the State of Illinois will be omitted under the usual regulations.

England's Seventy-seventh Royal Show.

The 77th annual show of the Royal Agricultural Society of England has just been held on one of the outskirts of Manchester, and a rare good display of pedigree stock it made. It attracted 2,338 entries of that kind, 1,519 head of poultry, 565 produce exhibits, and 2,310 implement entries—all competing for the £10,000 offered by the Society. All the best people associated with the agricultural interest were either at the show or well represented in the classes.

The King was unfortunately unable to visit the show. But he sent some of the best representatives of his flocks and herds. His Majesty had no fewer than 29 entries, and, besides a championship and a challenge cup, he gained four firsts, three seconds, three thirds, and a fourth in the cattle department, and eight prizes in the sheep section, not to mention a number of reserves and commendations. The following were the details of the prizes awarded to His Majesty:

Cattle.—Shorthorns, a first and two seconds, and reserve for champion bull; Herefords, a third and a fourth; Devons, bull championship, a first, a second, and a third; Red Polled, a first and a third; Dexter, challenge cup and a first.

Sheep.—Southdowns, a first, five seconds, and two thirds.

The Prince of Wales had an entry of three bulls, but only won a third prize.

The Horses.

Some of the best studs in the country were represented in the Shire section, in spite of the fact that the entries were seventeen fewer than a year ago. The Shire type is still indispensable in doing heavy and intricate haulage in the cotton industry, and the farmers show a natural preference for weighty, draft animals that are able to earn their keep earlier than the lighter kind. For good, commercial horses prices continue to be well worth while breeding from the best sires, as mares and geldings easily fetch anything up to 150 guineas or 160 guineas, and noted sires are available.

A very strong class of about a dozen yearling colts came out, and the red rosette was awarded to Sir Walpole Greenwell's very promising bay, Marden Dagnam, a son of Champion's Goalkeeper, that obtained second honors at the London Show, and Messrs. Forshaw & Sons secured the second prize with Newark Coming King, a good mover with beautiful feather, that won at the Notts County Show. The male champion was the Duke of Westminster's Eaton Fenland King. He is a weighty, muscular, brown three-year-old, standing on capital legs and feet, and reflecting the best qualities of his sire, Eaton Nonsuch. The reserve champion was Sir Walpole Greenwell's Capernway, a two-year-old that was bred in the Carnforth district from Warton Dray King and Capernway Queen, and was fourth at the Shire Horse Show. He was a well-built, sily colt with plenty of bone, and a good mover. Each animal stood at the head of his class. The second of the

two-year-olds was Messrs. Forshaw's Brook Vale Foreman, a big, smart horse with good action that led Nottingham.

In the female section premier position among the yearlings was accorded to J. G. Williams for Pendley Duchess, a filly full of quality, well balanced, and a fine mover. Again in the two-year-old class his Pendley Royal Princess was in the first place and also reserve champion. She was the London winner, and is a stylish filly with a big future before her. The Nottingham winner, Bradgate-Pearl, a capital bay with good shoulders stood second. The championship fell to John Bradley's noted mare, Halstead Royal Duchess, now in her seventh year. She was first and champion at Nottingham, and is in splendid form.

Clydesdales well maintained their reputation at the Royal, even though the entries showed a drop from 53 to 43. Export is stopped for the time being, but the home demand is very good, and prices have never been better. Wm. Dunlop, of Ayr, was again a conspicuous winner, and scooped up the best awards in most of the classes. Among the yearling stallions his bay, Dunure Ernest, defeated for the first time James Gray's brown colt, Botha, which has held pride of place at all the Scotch shows up to now. The same owner took the male championship with Dunure Independence, a big bay that, in respect of size, substance and weight quite overshadowed the rest. The female champion was G. A. Ferguson's three-year-old black mare, Rosalind, which has already won the Cawdor Cup, the blue ribbon of the Clydesdale breed.

Again the entry of Cleveland bays and coach horses was disappointing, being confined to two small classes, and this year His Majesty, who has given some encouragement to the breed, had no entries. Steady in its adherence to type and color, the Yorkshire bay makes a stately turnout, though it is hard hit by the ever-increasing fashion of the motor car. For the fourth time in succession, which must almost constitute a record for the Royal, John Lett's Rillington Victor, by the famous sire Breaston Prince, was the leader in any age class, and the second prize fell to his Rillington Resolute, by Cholderton Luck, which was second at the last Yorkshire Show. In the brood-mare class the same owner's Stillingfleet Princess won, and J. Webster's Harome Beauty was second.

Hackneys are suffering from the competition of the motor car, although there is in their case a ground for hope, because the Hackney has considerable military value. The better days have, however, not come yet, and this was made evident by there being only two yearling colts on exhibition. The first prize went to H. B. Brandt's Capern Killada. In the two-year-old class Sir Lees Knowles' Salford Victor, which has a long record of successes, including three prizes in London this year, was placed first; and in the three-year-old class another well-known animal, W. W. Rycroft's Hopwood King, came out

at the top. He is a big, good-looking horse, with good action. Later in the day he gained the Hackney Horse Society's gold medal. In London this year he was reserve champion. The second prize in this class went to Walter Briggs for Garston Leopard, a nicely-balanced, chestnut roan. The champion Hackney mare was E. Bewley's Adbolton Bountiful, and her reserve was J. Makeague's slashing Dorothy, bred by the late Sir Walter Gilbey.

Seeing that hunting is virtually stopped and that the large majority of hunting men are serving in the army or navy, it is really remarkable that the hunters made so good a show. There are manifestly a lot of excellent hunters in the country, and the classes for young stock show that more are coming on. In the class for yearling colts or geldings George Dickinson, a Lancashire breeder, was successful with Cork Good Lad, a bay that promises to do well because of its conformity to high standard in respect of build and its very good action. The three-year-old geldings were a small class, in which Lord Middleton's Meteor which had the reserve place in London, had a pretty easy victory.

In the class for yearling fillies Captain H. B. Money-Coutts was successful with Golden Girl II., and the winner in the two-year-old filly class was a particularly nice chestnut shown by Major L. B. Holliday. She has both size and quality and moves well. There was little difficulty in giving the first prize for three-year-old fillies to J. Robertson for Wisdom, a dark brown, bred by himself.

Brood mares to carry from 12 to 14 stones were a large class, and a good first was found in H. D. Spencely's Eileen Oge, which is of the true hunter type, and moves with great freedom. In the brood-mare class up to more than 14 stones, F. B. Wilkinson took the lead with Stormy Petrel II., which was second at the Nottinghamshire Show, and first at the Leicester. She also won the Hunters' Improvement Society's gold medal for the best mare four years and upwards. The corresponding medal for the best filly, not exceeding three years, went to Robertson's Wisdom.

Cattle.

Shorthorns were the outstanding feature of the large cattle section, and the young bulls were most impressive classes. The champion bull was J. M. Strickland's Yorkshire exhibit, Brandsby's Count 6th, which was champion at Nottingham. The King's yearling Windsor Augustus was reserve. A keen contest was witnessed when the champion female Shorthorn was chosen, W. M. Cazalet's fine cow, Lady Ramsden 3rd being only defeated at the last moment by J. H. Toppin's white, three-year-old heifer, Bright Pearl. The pedigree dairy Shorthorn classes were well filled, the champion bull being Messrs. Hobbs & Son's Kelmscott Acrobat 4th, and champion cow Lord Lucas' Primrose Gift, who defeated her daughter, Primrose Dairymaid.

Lincolnshire Red Shorthorns were not so numerous as usual. In the male classes F. B. Wilkinson's

Somercotes Polar Star, no stranger to the honor, was champion, while J. G. Williams won female championship with Penalty Rose.

T. L. Walker's very massive bull, Sentry, very fresh for his years, was the male champion of the Hereford section. The Earl of Coventry's veteran cow, Madrigal led in females. Longhorns were relatively in few hands. Lord Gerard's bull, Eastwell Empire, was the champion male, and the champion female was Captain Cottrell-Dormer's Romp of Rousham. The Sussex breed made quite a fair display, J. Raynor Betts winning the male championship with Otham Oddfellow 4th, and J. Aungier the trophy for the best female with Lynwick Knelle Flirt 4th.

The champion Red Poll bull was W. Woodgate's Redgrave Reveller, and the champion cow or heifer, the Marchioness of Graham's Ashlyns Fawn.

In Aberdeen-Angus the breed society's chief prize fell to a young Dalmeny-bred bull, bred by the Earl of Rosebury but owned by A. W. Bailey Hawkins, Stagenhoe, Welwyn, and a nice, evenly-fleshed bull, short on the leg and boasting a deep body. James Kennedy's bull Matador of Bywell was reserve.

David Brown's bull Jovial of Blackmore won the Galloway breed's memorial prize.

Jerseys again made keen competition. The champion bull was from Middlesex, W. M. Jackson, Potters Bar, winning with Mabel's Star, while a five-year-old cow in milk, Pretty Victress, from the herd of the same exhibitor, took the female championship award. The Royal Jersey Agricultural Society's special prize for three animals went to J. H. Smith Barry, Stowell Park, Wilts, with an aged cow, a three-year-old and a calf.

Guernseys included some notable cattle, among them being F. Pratt-Barlow's bull, Robert Boy Sequel, from Hazlemere, which won the English Guernsey Cattle Society's championship for males, Mrs. J. J. Jervoise, Basingstoke, being reserve. The female champion-

ship fell to Hertfordshire, where the Channel Islands dairy breeds are very popular, Mr. Bailey Hawkins being the victor with Stagenhoe Rose of Gold 1st; J. F. Remnant, M.P., Twyford, was reserve with Donnington Jane.

Sheep.

Some typical classes of the Wensleydale breed of sheep were on show. The quality of the exhibits was also well maintained. Always a prominent Royal winner, Lord Henry Bentinck, M.P., Kirby Lonsdale, swept off the bulk of honors in these classes, three firsts and three seconds falling to his exhibits. His chief competitor was J. A. Willis, Manor House, Carperby, Yorkshire, who won three thirds, a first and a second. Another Yorkshire exhibitor, J. W. Greensit, Holme-on-Swale, Thirsk, won the chief awards with a shearing ram and a pen of three shearing ewes. In three classes of Lonk sheep, Edward Smith, Summerhouse Farm, Cowling, Keighley, met with much success, but he had a strong competitor in Sir John O. S. Thursby, Bart., Ormerod House, Burnley, whose ram, Field Marshal, was placed first in its class, and whose pen of three shearing ewes brought him a similar honor. The Earl of Lonsdale and S. D. Stanley-Dodgson, Cockermouth, shared honors in the classes of Herdwicks, and Walter N. Cochrane, St. John's Chapel, Durham, had matters much his own way with his exhibits of black-faced mountain sheep.

In Southdown sheep His Majesty the King won one first, five seconds and two thirds, his chief antagonist being Captain Dermot McCalmont, still in the trenches with his regiment. In Shropshires, leading honors fell to A. S. Berry, E. C. Tanner and the Duke of Westminster. In Lincolns, R. & W. Wright, Nocton, took premier prizes, and E. F. Jordon and George Harrison scored in Leicesters. R. G.

Murray & Sons won the championship cup in Border Leicesters.

Pigs.

The middle white breed of pigs was perhaps the feature of that section. There was a strong parade of old boars, the first prize and champion medal going to Shrewsbury, shown by John Chivers, Histon, Cambridgeshire. The Yorkshire breeder, Leopold C. Paget, Middlethorpe Hall, York, won second and third awards. In young boars Paget won a first and second in a strong lot of exhibits, and among the breeding sows John Chivers had his Perfection Pride placed first. Sows farrowed in 1915 made up what is perhaps the strongest class of gilts ever seen at the Royal, and Chivers won with Histon Pride, true to type. The animal also won championship honors.

In large white boars the judges gave first to Spalding Vulcan, shown by A. W. White, Hillegom, Spalding. Second and third awards went to Sir Gilbert Greenall, Bart, C. V. O. There was a fair class of boars over 18 months old, and Sir Gilbert carried off the first and second awards. Among young boars, D. R. Daybell, Rottesford, Nottingham, won first and second prizes with two good animals. The pick of the breeding sows, farrowed in 1912, 1913, or 1914, is undoubtedly Sir Gilbert Greenall's fine sow, Worsley Lady, last year's Royal winner, and the same breeder again scored among the sows over 18 months old with Worsley Queen. The two champion gold medals offered for the best boar and best sow both went to Sir Gilbert.

Julius Fricker won the Berkshire championship, and Robert Ibbotson appropriated both Tamworth honors. In large blacks K. M. Clark and T. F. Hooley won the supreme titles, as did H. Caudwell and G. Simpson in curly-coated Lincolnshire pigs.

ALBION.

Automobiles, Farm Machinery and Farm Motors.

Hot Weather Lubrication.

It is a well recognized fact that any piece of machinery requires lubrication, and so we cannot too strongly urge car owners to keep this salient point constantly in sight. A visit to any large factory engaged in the iron and steel business, will reveal to visitors the very evident care that is taken at all times in the operation of every device doing hard work of any kind. Most of the machines are operated with oil sprays placed upon vital parts and this open air lubrication can be readily seen and thoroughly understood. In automobiles the system of oiling is along the same principle, but not as apparent. Oil from the reservoir in the lower half of the crank case is pulled through a screen to a pump that forces it past a little round glass on the instrument board. The latter is called a sight feed. It assures the driver, when in operation, that the circulation of the oil is being accurately cared for from the sight feed. The oil is distributed to splash trays or troughs where connecting rod strips force it around such vital parts as the connecting rod bearings, the interior of the crank case, the pistons and cylinders. There is an intense heat developed under any circumstances by the motor, but in these hot July days the extra strain calls for the exercise of maximum care in order that troubles may not develop on the road through carelessness. It is well to remember, however, that too much lubricating oil carbonizes the cylinders and makes it necessary to have them burnt or scraped out in order that a knock may not develop in the machinery. There is an old expression that an ounce of prevention is worth a pound of cure, and so we would suggest that the best manner of fighting carbon is the introduction of a spoonful of kerosene through the spark plug holes and allow it to stay in the motor for ten or twelve hours. Do not put in too much of the mixture, however, as it may lower the quality of the lubricating oil and produce seizure around the pistons.

Your motor oil should be a high grade, medium heavy product with a flash point of not less than 400

degrees Fahrenheit and be used exclusively for the pump shaft bearing and for all small parts not included in the regular system of lubrication. We refer to such pieces of machinery as the rocker-arm ball joints, clutch-release yoke, small joints of spark throttle and accelerator connections etc. Steam cylinder oil should be a heavy mineralized brand entirely free from acid, and should be utilized for the timing, transmission, differential and steering gears. Hard cup grease finds its best use on the rocker-arm brackets and fan spindle. Do not purchase it until you are sure that the stuff offered has a melting point of not less than 250 degrees Fahrenheit. Soft cup-grease of pure mineral production must be placed in all other grease cups, such as those found on the front axle, the brake shafts, driving yoke and ring, steering connecting rods, wheel hubs, etc.

There is a happy medium in the use of oil. Do not put in too small a quantity and certainly do not use too much. The former method may find you developing too great a friction and the latter plan will only result in the collection of dust and dirt in those parts of the car where the excessive oiling runs into the open. We would strongly urge that you drain out the motor, transmission and rear axle three or four times a year, washing them out thoroughly with gasoline before refilling. At least once every twelve months the car should receive a thorough overhauling in order that you may determine exactly what effect your lubrication is producing. If the parts are found to be in perfect alignment and free from wear, you can rest assured that your efforts have not been in vain, but should you find excessive use at any one point, the fact is established that your oiling has not been properly done. Perhaps it would be well for the new driver to secure the literature of well known oil manufacturers, as their books, present plans whereby the utmost efficiency can be secured at minimum expense, and one can safely advise the novice to frequently consult garage superintendents regarding the car's condition. Do not think that a perfect system of lubrication is going to cause a great deal of worry as in a month or two, a very rapid glance is enough to satisfy a fairly expert driver as to the condition of automobile mechanism in so far as its easy running is concerned.

AUTO.

About Nails.

The holding power of nails varies with the kind of wood into which they are driven. Austin T. Byone gives the relative holding power of woods about as follows: white pine, 1; yellow pine, 1.5; white oak, 3; chestnut, 1.6; beech, 3.2; sycamore, 2; elm, 2; basswood, 1.2.

Very thorough tests of the comparative holding power of wire and cut nails of equal lengths and weights were made at the United States Arsenal in 1892 and 1893. From 40 series, comprising 40 sizes of nails driven in spruce wood, it was found that the cut nails showed an average superiority of 60.50 per cent.; the common nails showed a superiority of 47.51 per cent., and the finishing nails, an average of 72.22 per cent.

In eighteen series, comprising six sizes of box nails driven into pine wood, in three ways, the cut nails showed an average superiority of 99.93 per cent. In no series of tests did the wire nails hold as much as the cut nails.

The quantity of nails required for different kinds of work are as follows:

For 1,000 shingles, allow 5 lbs. 4-penny or 3½ lbs. for 3-penny.

For 1,000 laths, 7 lbs. 3-penny fine, or 10 lbs. for 100 square yards.

For 1,000 square feet beveled siding, 18 lbs. 6-penny.

For 1,000 square feet sheathing, 20 lbs. 8 penny, or 25 lbs. 10-penny.

For 1,000 square feet flooring, 30 lbs. 8 penny, or 40 lbs. 10-penny.

For 1,000 square feet studding, 15 lbs. 10-penny and 5 lbs. 20-penny.

For 1,000 square feet 1 inch by 2½ inch furring 12 inch centers, 9 lbs. 8-penny or 14 lbs. 10-penny.

For 1,000 square feet 1 inch by 2½ inch furring 13 inch centers, 7 lbs. 8-penny or 10 lbs. 10-penny.—S. I. Ross, Colorado Agricultural College, Fort Collins, Colorado.

A motor car has been used as power in moving a house in Tulsa, Oklahoma, relieving a number of horses.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

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

	City	Union	Total
Cars.....	51	476	527
Cattle.....	546	5,036	5,582
Calves.....	168	718	886
Hogs.....	523	7,461	7,984
Sheep.....	937	2,470	3,007
Horses.....	81	2,053	2,134

The total receipts of live stock at the two markets for the corresponding week 1915 were:

	City	Union	Total
Cars.....	25	783	808
Cattle.....	145	7,301	7,446
Calves.....	37	830	867
Hogs.....	569	12,202	12,771
Sheep.....	485	2,568	3,053
Horses.....	82	4,797	4,879

The combined receipts of live stock at the two markets for the past week show a decrease of 281 cars, 1,864 cattle, 4,787 hogs, 46 sheep, and 2,745 horses, and an increase of 19 calves.

The past week was very unsatisfactory to the commission men. Packers not seeming to care whether they bought cattle or not. Heavy fat steers were especially slow at from 50c. to \$1 lower

than the week previous. Light butcher cattle held their own until Thursday, when packers cut the price by about 25c.

Cows.—Choice cows were steady to firm all week. Choice milkers and backward springers of good quality were steady to strong, but poor-quality animals were not in demand.

Stockers and Feeders.—There is a steady market for the better class, but very few are being offered.

Sheep and Lambs.—Choice, spring lambs and light, handy sheep were firm at prices quoted below. Heavy, fat sheep are, however, not wanted and hard to sell at any price.

Hogs.—The hog market was steady to strong all week at prices quoted by the packers: select hogs selling at \$11.25, fed and watered, and \$11.50 weighed off cars. Packers say they will be 25c. per cwt. lower this week.

Butchers' Cattle.—Choice, heavy steers, \$9.10 to \$9.50; good, \$8.60 to \$9. Steers and heifers, choice, \$8.90 to \$9.40; good, \$8.50 to \$9; medium, \$7 to \$8; common, \$6 to \$7. Cows, choice, \$7 to \$7.75; good, \$6.25 to \$7; medium, \$5.75 to \$6.25; canners and cutters, \$3.50 to \$4.50. Bulls, best, \$7 to \$8.25; medium to good, \$6.50 to \$7; common, \$5.25 to \$6. Stockers and feeders, \$5.50 to \$8.25; milkers

THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000
 Capital Paid up - - - 11,785,000
 Reserve Funds - - - 13,236,000
 Total Assets - - - 214,000,000

HEAD OFFICE: MONTREAL
 Branches throughout every Province of the Dominion of Canada.

Accounts of Farmers Invited
 Sale Notes Collected

Savings Department at all Branches

and springers, \$50 to \$95 each; veal calves, choice, 11c. to 12 1/4c. per lb.; good, 10c. to 11c. per lb.; common, 7 1/2c. to 9c. per lb.; eastern grass, 6c. to 7 1/2c. per lb.; spring lambs, 11c. to 14 1/2c. per lb.; light, handy sheep, 6 1/2c. to 8 1/2c. per lb.; heavy, fat sheep, 4 1/2c. to 5c. per lb.

Breadstuffs.

Wheat.—Ontario, No. 1 commercial, 97c. to 98c.; No. 2 commercial, 93c. to 95c.; No. 3 commercial, 87c. to 89c.; feed wheat, 85c. to 86c. Manitoba, (track, bay ports)—No. 1 northern, \$1.23 1/4; No. 2 northern, \$1.22; No. 3 northern, \$1.19.

Oats.—Ontario, No. 3 white, 47c. to 48c. Manitoba oats (track, bay ports), No. 1 C. W., 51 1/2c.; No. 3 C. W., 50 1/2c.; extra No. 1 feed, 50 1/2c.; No. 1 feed, 50 1/2c.; No. 2 feed, 49 1/2c.

Barley.—According to freights outside, malting barley, 65c. to 66c.; feed barley, 60c. to 62c.

Peas.—According to freights outside, No. 2, nominal, at \$1.70 to \$1.80; according to sample, \$1.25 to \$1.50.

Buckwheat.—According to freights outside, nominal, 70c. to 71c.

Rye.—According to freights outside, No. 1 commercial, 94c. to 95c.

Corn.—American (track Toronto), No. 3 yellow, 88 1/2c.

Flour.—Manitoba first patents, in jute bags, \$6.50; second patents, in jute bags, \$6; strong bakers', in jute bags, \$5.80. Ontario, winter, according to sample, \$4.05 to \$4.15, track, Toronto, \$4.15, bulk, seaboard.

Hay and Millfeed.

Hay.—No. 2, per ton, best grade, \$16 to \$17; No. 2, per ton, low grade, \$13 to \$15.

Straw.—Car lots, per ton, \$6 to \$7, track, Toronto.

Bran.—Per ton, \$20 to \$21.

Shorts.—Per ton, \$24 to \$25.

Middlings.—Per ton, \$25 to \$26.

Good Feed Flour.—Per bag, \$1.55 to \$1.60.

Beans.—Beans have advanced. The Prime Whites selling at \$4.50, while hand-picked bring \$5.

Country Produce.

Butter.—Butter remained about stationary on the wholesales during the past week. Creamery, fresh-made lb. squares, 30c. to 31c. per lb.; creamery, solids, 29c.; separator dairy, 25c. to 27c.; dairy, 23c. to 25c.

Eggs.—New-laid eggs again firmed slightly on the wholesales during the past week, the case lots are now selling at 30c. to 31c. per dozen, and cartons at 33c. to 34c. per dozen.

Cheese.—Old, 21c. to 22c. per lb.; new, 17c. to 17 1/2c.

Poultry.—Spring chickens, ducklings and fowl of all kinds declined in price during the past week, as there is very little demand for them. Live weight—Spring chickens, 25c. per lb.; spring ducks, 17c. per lb.; turkeys, young, 20c. Fowl, 4 lbs. and over, 15c. per lb.; fowl, under 4 lbs., 14c. per lb.; squabs, per dozen, \$3.50 to \$4.

Hides and Skins.

Wool is still coming in freely, but there is very little sale for it, as the mill people will not pay the price asked. Lamb skins and pelts, 55c. to 70c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; city hides, flat, 20c.; country hides, cured, 18c.; country hides, part cured, 17c.; country

hides, green, 16c.; calf skins, per lb., 30c.; kip skins, per lb., 28c.; horse hair, per lb., 43c. to 45c.; horse hides, No. 1, \$5 to \$6; horse hides, No. 2, \$4.50 to \$5.50; tallow, No. 1, 7c. to 8c.; wool, washed, 42c. to 46c.; wool, rejections, 35c. to 38c.; wool, unwashed, 32c. to 35c.

Wholesale Fruits and Vegetables.

The extremely hot weather affected the fruits during the past week, causing the strawberries to become very soft, and the cherries wasty.

Strawberries sold well at the beginning of the week; easing off in the middle at lower prices, and recovering towards the end, because the shipments were so light they did not begin to supply the demand closing at 8c. to 11c. per box, a few bringing 12c.

The first raspberries arrived on the market on Tuesday last, bringing 25c. per box, and continued to be shipped in small lots during the remainder of the week, closing at 18c. to 22c. per box.

Red currants also began to come in and gradually improve in quality, selling at 7c. to 8c. per box, and 40c. to 50c. per 6-qt. basket.

Cherries, the bulk of this fruit showed waste when it arrived upon the market and rapidly became worse, which caused the prices to vary materially. Black cherries sold at 65c. to 90c. and \$1 per 6-qt. basket, and 75c. to \$1.75 per 11 qts.; the sour variety at 25c. to 40c. per 6 qts., and 50c. to 75c. per 11 qts.

Gooseberries were a drug on the market, selling at 5c. to 8c. per box, and 35c. to 50c. per 11-qt. baskets.

California fruits continued to come in freely; plums selling at \$1.75 to \$2.25 per case; peaches at \$1.50 to \$1.75 per case; peas at \$3.50 to \$3.75, and grapes at \$4 per case; cantaloupes keeping high at \$6.50 per case.

Georgia peaches arrived in greater quantities and were of good quality, selling at \$3.25 per six-basket carrier.

The first of the blue berries for this season arrived on the market on Tuesday and sold at \$2 per 11-qt. basket.

Green peas came in very freely during the past week, declining towards the end to 25c. to 50c. per 11-qt. basket.

Beans declined slightly, as they were received in larger quantities, closing at 65c. to 85c. per 11-qt. basket.

Carrots and beets also went at slightly lower prices, selling at 30c. to 35c. per dozen bunches.

Cauliflower was only shipped in lightly, selling at 75c. per 11-qt. basket.

Cabbage declined, the Canadian variety selling at \$3.25 per case.

New potatoes continued to decline, and sold at \$4 per bbl.

Montreal.

The weather has now become the hottest of the year, and as a consequence consumption of fresh meat has fallen off in a marked manner. Offerings continued fairly large, and, in fact, were said to be more liberal than previously. In consequence of this and the falling off in demand the tendency of prices was by no means strong, although little actual change took place.

The best steers offering sold at 9 1/4c. to 9 1/2c. per lb., while medium stock brought 8 1/2c. to 9c., and the commoner grades sold down to 7c. Butchers' cows ranged all the way from 6 1/4c. to 8c., and bulls from 6 1/4c. to 8 1/4c. per lb. Demand for sheep and lambs was fairly active and offerings were moderately light, with the result that prices were quite firm. Sales of sheep took place at 7c. to 7 1/4c. per lb., and of lambs at 12 1/2c. to 13c. per lb. Calves sold all the way from 5c. to 10c. per lb., according to quality. There was a moderate demand for hogs, and sales of selects were made at 11 1/4c. to 12c. per lb., while rough stock sold at 11c. to 11 1/2c. per lb., weighed off cars.

Horses.—There was very little interest in the horse market. Supplies were exceedingly light, but were quite sufficient to meet the occasional demand. Prices were unchanged as follows: heavy draft horses, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft horses, weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each; culls, \$50 to \$75 each; fine saddle and carriage horses, \$200 to \$250 each.

Dressed Hogs.—Dressed hogs met

with a steady, seasonable demand. Prices showed very little change, although they were fractionally lower than the previous week at 16c. to 16 1/4c. per lb., for abattoir-dressed, fresh-killed stock.

Potatoes.—Trade turned towards American new crop potatoes, and offerings were larger. Prices were tending lower, and quotations were in the vicinity of \$4.25 to \$5 per barrel, according to quantity, the lower figure being ex-track, and the higher ex-store. The Quebec crop is said to be very poor.

Honey and Maple Syrup.—The market for honey was fairly steady with white clover comb quoted at 15c. per lb., and extracted at 12c. to 12 1/2c. Brown clover comb, 12 1/2c. to 13c., and brown extracted, 10c. to 11c. Buckwheat honey was 9c. to 10c. Maple syrup was unchanged, selling at 85c. to 90c. per 8-lb. tin; \$1 to \$1.10 for 10-lb. tins; \$1.25 to \$1.50 for 13-lb. tins, according to quality. Pure sugar was 12c. to 14c. per lb.

Eggs.—The market for eggs continued quite firm, and there was every prospect that prices would be high during the coming season. Straight-gathered stock was quoted at 28c. per dozen, strictly new-laid at 35c., No. 1 selected at 32c.; No. 2 selected at 30c.; No. 1 candled stock at 29c., and No. 2 candled at 27c. per dozen.

Butter.—The quality of the creamery offered during the mid-summer is never the choicest of the year, and at the present time finest creamery was quoted lower than it was recently, being 29 1/4c. to 29 3/4c., while fine was 1/4c. under these prices, and undergrades yet another 1/4c. down. Finest dairy was 24c. to 25c., and good, 22c. to 23c. per lb.

Cheese.—At the sale of the Quebec Agricultural Co-operative Society, No. 1 white, Quebec cheese sold at 14 9-16c.; No. 2 white, at 14 1/2c.; No. 3, at 14 1/4c., and No. 2 colored at 14 1/2c.

Grain.—There was a firmer feeling in the market for oats, but prices did not change greatly. No. 2 Canadian Western oats were 54c. to 54 1/2c. per bushel, ex-store. No. 3, were 53c. to 53 1/2c.; extra No. 1 feed, 53c. to 53 1/2c.; No. 2 feed, 51c. to 52 1/2c., while Ontario and Quebec No. 2 white oats sold at 52 1/2c.; No. 3 being 51 1/2c., and No. 4 being 50 1/2c. per bushel.

Flour.—Market was steady at \$6.60 per barrel for Manitoba first patents; \$6.10 for seconds, and \$5.90 for strong bakers', per barrel in bags. Ontario choice patents were \$6 to \$6.25; 90 per cent's being \$5.40 to \$5.60 per barrel, in wood, and the latter \$2.55 to \$2.65 per bag. Straight rollers were \$5.10 to \$5.30 per barrel, and \$2.40 to \$2.50 per bag.

Millfeed.—Bran was steady at \$20 to \$21 per ton in bags; shorts being \$23 to \$25; middlings, \$25 to \$27; pure grain mouille, \$31 to \$32, and mixed mouille, \$28 to \$30 per ton.

Baled Hay.—The market was slightly firmer, at \$21 to \$22 for No. 1 hay, and \$20 to \$20.50 for extra good No. 2, while No. 2 was \$19 to \$19.50; No. 3 being \$18 to \$18.50, and clover mixed \$17 per ton.

Hides.—The market was unchanged at the previous week's quotations.

Buffalo.

Cattle.—The worst break in prices on good cattle for the year was had here last week, and conditions were very similar in the West. The fact that the grassers are beginning to move and that the consumer has been vigorously protesting against the prevailing high prices of dressed beef, has no doubt played its part in pounding down values all the way from a quarter to seventy-five cents last week. Best shipping steers last week dropped down to \$10.40 to \$10.75, and sellers found the dullest and most unresponsive market on these witnessed at Buffalo for many months. The situation at the Western markets was identical, good steers showing a decline of a full half dollar to seventy-five cents, and buyers, who bid on steers during the morning hours in the West last week and their bids were refused, succeeded in getting the same cattle during the afternoon sessions at half dollar under morning bids. There is reason to expect that now that the big packers have broken the high range in prices that it will be some weeks before prices

get back to anything like they were. Sellers generally agree that it will require light runs, and that with light runs the killers will again be placed in the position of having to settle, but it remains to be seen, with the grassers moving to market, whether the runs will be moderate or not for the next few weeks. There were several loads of Canadians here last week, and they sold good, compared with the choice natives, which usually show a better killing percentage. Canadians the past week reaching \$10 to \$10.25. Butchering cattle, excepting fat cows and bulls, which sold about steady, sold from fifteen to a quarter under the previous week. Stockers and feeders were mostly the light, common kinds and not in very strong demand, but there was request for the 700 to 800-lb. feeders, and these were wanted at steady prices. Milchers and springers sold \$5 per head higher. Receipts for the week were 4,275 head, as against 3,075 for the previous week, and 5,550 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$10.25 to \$10.75; fair to good, \$9.50 to \$10; plain, \$9 to \$9.25; very coarse and common, \$8.50 to \$9; best Canadians, \$9.75 to \$10; fair to good, \$9.25 to \$9.50; common and plain, \$8.50 to \$9.

Butchering Steers.—Choice heavy, \$9.75 to \$10.25; fair to good, \$9.25 to \$9.50; best handy, \$10 to \$10.40; light, thin, \$7.50 to \$8; yearlings, prime, \$9.75 to \$10.25; common to good, \$8.25 to \$9.50; best handy butcher heifers, \$8 to \$8.50; common to good, \$7 to \$7.75; best heavy, fat cows, \$7.50 to \$8; good butchering cows, \$6.50 to \$7.25; medium to fair, \$5.25 to \$6; cutters, \$4.50 to \$4.75; canners, \$3.25 to \$4.25.

Bulls.—Best heavy, \$7.50 to \$7.85; good butchering, \$6.25 to \$6.50.

Stockers and Feeders.—Best feeders, \$7.50 to \$7.75; common to good, \$6.75 to \$7.25; best stockers, \$7.25 to \$7.50; common to good, \$6.25 to \$7.

Milchers and Springers.—Good to best, in small lots, \$80 to \$100; in car loads, \$70 to \$75.

Hogs.—Prices held to a high level again last week, and the range was the narrowest for many months back. Monday the top was \$10.55, with bulk selling at \$10.50; Tuesday sales on best grades were made at \$10.45 and \$10.50; Wednesday the general price was \$10.50, one deck \$10.55; Thursday it was a \$10.50 market for packers' kinds and good york weights, and Friday bulk sold at \$10.50, few made \$10.55, and one deck reached \$10.60. Pigs the entire week sold mostly at \$10.25; roughs \$9 to \$9.10, and stags \$7.50 down. Receipts last week were 21,400 head, as compared with 23,236 head for the week before, and 24,800 head for the same week a year ago.

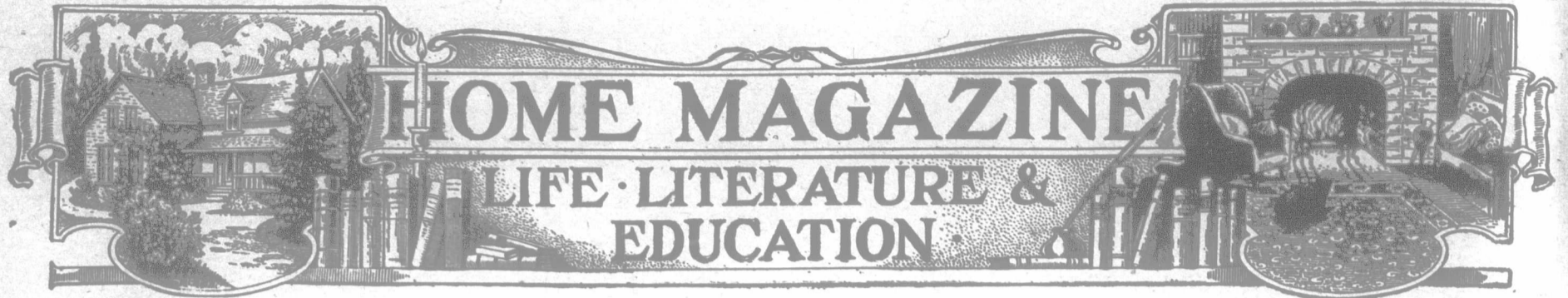
Sheep and Lambs.—Receipts last week did not exceed 3,100 head, as against 2,575 head for the week previous, and 6,550 head for the corresponding week a year ago. On the opening day of the week a few top lambs reached \$11.50, but after Monday the market eased off, and the next four days buyers landed top spring lambs at \$11 and \$11.25, while culls ranged from \$9.50 down. Top for yearlings was \$9.50, wether sheep, with a few ewes sold up to \$8.25, and the general range on strictly ewes was from \$7.25 to \$7.50.

Cheese Markets.

Montreal, finest Westerns, 15 1/4c. to 15 1/2c.; finest Easterns 14 1/2c. to 14 3/4c.; New York State, whole milk flats, fresh specials, 15 1/2c. to 15 3/4c.; average fancy, 15c. to 15 1/4c.; Wisconsin whole milk, fancy twins 15 1/2c.; St Hyacinthe, Que., 14 1/4c.; Belleville 15 1-16c.; Vank-leek Hill, white, 14 9-16c.; colored 14 1/4c.; London colored, 15 1/8c., white, 15c.

Chicago.

Cattle.—Beeves, \$7.10 to \$11; stockers and feeders, \$5.40 to \$8.40; cows and heifers, \$3.50 to \$9.60; calves, \$8.50 to \$12.
 Hogs.—Light, \$9.35 to \$9.85; mixed, \$9.30 to \$10; heavy, \$9.25 to \$10; rough, \$9.25 to \$9.45; pigs, \$8.10 to \$9.50; bulk of sales, \$9.55 to \$9.90.
 Sheep.—Native, \$6.75 to \$8.30; lambs, native, \$7.25 to \$10.70.



Remounts.

In the rosy red of the dawning your
hoofs on the roadway ring,
You that shall carry our heroes, you that
shall fight for the King,
You that shall lead the triumph in a last
long trampling line
When the swords have saved us Europe
and slashed their way to the Rhine!

Called from an Irish farmyard, called
from English fen,
Called from a prairie pasture to measure
the lives of men,
What courage that laughs at danger,
what spirit that scoffs at Death,
But, born to our Empire, freedom ye
have drunk with your every breath!

Bred in our conquering kingdoms, you,
too, are the Empire's sons.
You that shall tug at the wagons, you
that shall gallop the guns,
You that are part of our glory, whose
help has the years bestowed
Whenever our grandsires gathered, where-
ever our fathers rode!

And, faith, ye shall never fail us when
the whimpering bullets fly,
When the lances shiver and splinter and
Death in his spurs goes by:
When the stricken reels in his saddle and
the chill hand drops the rein,
And bloody out of the battle ye wheel
to the tents again!

Hail to the hero that waits you, gunner
hussar or dragoon!
Hail to the day of your glory—and the
War-God send it soon!
Luck to your prancing squadron whose
hoofs on the roadway ring,
Proud ye shall carry the victors who
carry the swords of the King!
—Will H. Ogilvie, in Saturday Post.

General Sir Douglas Haig. Commander-in-Chief of the British Forces in France.

FROM "TO-DAY."

"From the General to the rawest
Tommy in the trenches," said a Captain
of Hussars to the writer a few days
ago, "there is no British soldier at the
front who does not swear by Haig. Sir
John French in one of his despatches
said, 'I cannot speak too highly of
the valuable services rendered by Sir
Douglas Haig; he is a leader of the
greatest ability and power'; and if you
ask Tommy's opinion of French's suc-
cessor, he will answer enthusiastically,
'Oh, he's a bit of orl right! Give 'im
'arf a chance and you'll see; he'll make
things 'um!'"

The Fighting Haigs.

Probably no commander of an army
in the field ever inspired more universal
confidence or better deserved it; for if
ever there were a born soldier and leader
of men it is certainly Sir Douglas Haig.
And, indeed, it would be strange if it
were not so, for he has in his veins the
blood of centuries of as gallant men as
ever dealt lusty blows in battle. Ask
any Scotsman who knows his country's
story and he will tell you that Scotland
has never bred a finer race of fighting
men than the Haigs. There were Haigs
who covered themselves with blood
and glory on Bannockburn field six
centuries ago. Haigs were among the
first to rally to the standard of the
"Bonnie Prince" when he landed with
his handful of stalwarts in the Hebrides
in the '45; and they fought bravely
by the side of the yellow-haired laddie
from the glory of Prestonpans to the
tragedy of Culloden. And through the
intervening centuries there was scarcely
a Scottish battle or raid in which the
Haigs were not in the thickest of the
fighting.

"Duggy" at Clifton and Oxford.

It was thus fitting that when Douglas
was cradled at Cameronbridge, Fife, one
June day fifty-five years ago, he was
destined to continue the family tradition.
In his school days at Clifton, where his
father, a Scottish laird, sent him for
education, Douglas (or "Duggy," as
he was affectionately dubbed) was far
more notable for his achievements on
the playing-fields than in the class-rooms.
At cricket and football he was as superior
to his fellows as any of them were his
superiors in Euclid and Virgil. "A
sturdy, muscular, fresh-faced Scots
laddie," he is described by a con-
temporary, "the strongest and most
athletic boy in the school, a terror
to the bullies and the champion of the
smaller boys. One of the most amiable
and good-natured of fellows, as straight
as a gun and the very soul of frankness and
candour, he was immensely popular;
and many of the friendships he then
formed still survive as strong as ever."

From Clifton he migrated to Brasenose
College, Oxford, where again he was
more conspicuous for his muscle than
for his learning; and it was only after
he had passed his twenty-fourth birthday
that the future Commander of Britain's
greatest fighting army began his career
as a soldier. Curiously enough, al-
though he was physically "as fit as a
fiddle," he had the narrowest possible
escape of missing his career altogether;
for when he sought to join the Staff
College, the medical examiners dis-
covered that he was colour blind and
forthwith turned him down. But young
Haig was not the man to submit to
this shattering of all his hopes without
a big struggle. He consulted specialists
in London and Paris; argued and appealed
here, there and everywhere, until at last
he was fortunate enough to win the
sympathy and assistance of the Duke
of Cambridge, who gave him a special
order admitting him to the College.

In the Hussars.

Haig had not long worn the uniform
of a Hussar subaltern before his smartness
and zeal and soldierly qualities won the
high appreciation of his seniors; but
he had many years to serve before the
Soudan campaign, in 1898, gave him the
first opportunity of showing the stuff
he was made of. He took a conspicuous
part in the fighting at Atbara and
Khartoum, and so distinguished himself
that he was singled out for specially high
praise in despatches, and returned
home a brevet-major. Nor had he long
to wait for fresh laurels, for in the following
year he was in the thick of the fighting
in South Africa—this time as Chief
Staff Officer to General French, who had
already marked him out as a man of
exceptional gifts and promise, an opinion
which he speedily justified by much
brilliant work, especially during the
operations at Colesberg.

It was during the South African
campaign that Major Haig's career
narrowly escaped a tragic termination.
On the day of General Cronje's surrender
at Paardeberg, he was crossing the
Modder River, swollen by heavy rains,
when his horse reared and flung him
into the swift-rushing water, which
swept him helplessly away. Fortunately
his danger was seen by an officer, who
dashed gallantly into the river to his
assistance. The next moment the would-
be rescuer was also unhorsed, and equally
at the mercy of the turbulent river.
Nothing daunted, however, he shook
himself free from his horse, struck out
gallantly for the drowning man, and after
a long and seemingly hopeless struggle,
in which he nearly lost his own life,
brought him to safety. The officer who
thus bravely rescued Haig from death
was General French.

Facing Death.

This, however, was by no means the
first or last occasion on which Sir Douglas
Haig has looked death between the eyes.
In the Soudan, in the preliminary scout-
ing before the battle of Atbara, he vol-
unteered to inspect at close quarters
an enemy zareeba, which blocked the
line of advance. The zareeba, which
was large enough to conceal an army;
and although there was no sign of life
behind it, it was almost certain death
to approach it. Although none knew
this better than Captain Haig (as he
was then), he rode to within a couple
of hundred yards of it, sat calmly on his
horse, making the necessary observations,
in the midst of a perfect tornado of
bullets as coolly as if on the parade ground,
and by a miracle rode back to our lines
untouched.

When Haig returned from South
Africa at the end of the war he had
established his reputation as one of the
ablest and most brilliant soldiers in our
Army. Despatch after despatch had made
his name and fame known to the world;
he was now a Colonel, a C. B., and
A. D. C. to the King, wore the King's
Medal and the Queen's Medal with



General Sir Douglas Haig.
Commander-in-Chief of the British forces in
France and Flanders.

seven clasps, and was marked out for
a big career. But many years of peace
were to follow before his great opportunity
came with the present war—years during
which he did excellent work and con-
firmed his high reputation in a variety
of responsible offices, from Inspector-General
of the 17th Lancers. At forty-three he
blossomed into a major-general, within
nineteen years of first wearing his sub-
altern's uniform; and two years later
he was Director of Military Training,
an office quickly followed by that of
Director of Staff Duties at Army Head-
quarters.

Queen Alexandra as Match-Maker.

Long before this General Haig had
established himself as a special favorite
of King Edward, who had the greatest
admiration for the clever, genial Scots-
man; and it was, so it is said, Queen
Alexandra, with whom he was an equal
favorite, who played "match-maker"
in the romance which had its climax
when General Haig led to the altar the
prettiest of her maids-of-honor—Dorothy,
one of the beautiful twin-daughters of
Lord Vivian, one day in 1905.

And probably never has a marriage
proved more happy, for Sir Douglas is
as devoted to his charming and lovely

wife as she is to the great soldier her
husband. As Queen Alexandra wrote
at the time to a friend, "I do not know
anything that has pleased me more than
this match, on which I had set my heart;
for they are ideally suited to each other.
They are both so ridiculously happy
that I do not know whether to be more
amused or delighted."

Of Sir Douglas Haig's brilliant work
in the present war the world knows as
much as it is permissible to know. Pro-
bably, however, it does not know how,
on several occasions, he has had almost
miraculous escapes from death.

On the Haystack.

On one occasion Sir Douglas, with a
member of his staff, mounted a haystack
some distance behind our trenches near
La Bassee to watch the progress of an
action. He had not been many minutes,
however, on his "bad eminence," before
a German shell crashed on to the top of
the haystack. As luck would have it,
it failed to explode. The two officers
had barely recovered from the shock,
to congratulate one another on their
marvellous escape, when a second shell
dropped almost at their feet—again
without exploding. "I think, sir," said
the aide, "it is getting a little too warm
for comfort up here. Don't you think
we had better climb down?" "Yes,
I think it would be wiser,"
coolly answered Sir Douglas, with a
smile, as he prepared to descend
to a less conspicuous point of vantage.
On another occasion Sir Douglas had
only just left a barn near Armentieres
where some of his men were lodged,
when a shell crashed into the building
and killed nine of them.

In the Trenches.

But such risks as these are "all in the
day's work," and Sir Douglas faces
them with a smile and without a tremor,
for he does not know what fear is. Nor
does he expect his men to face any danger
which he is not ready to share with them.
Probably no general has ever spent more
time than he in the trenches, cheerfully
risking his life in order to cheer his
men in the same venture. And certainly
no general was ever more beloved by
his men, not only for his courage, but
for his simple friendliness and un-
affected geniality. "E's just like
one of us," one enthusiastic Tommy
said to the writer a year or so ago. "You
should just see 'im popping up in the
trenches with a smile on 'is face and a
cheery. 'Well, boys, 'ow are you getting
on? Is there anything I can do for
you?' Why, we feel as if we could just
'ug him; and there's nothing he could
ask us to do that we wouldn't do, even
to chucking our lives away."

And this admiration is mutual, as is
proved by the following extract from a
letter sent by Sir Douglas to a friend,
from the front. "We have had hardish
times," he wrote many months ago;
"but nothing in our history has surpassed
the fine soldierly qualities displayed by
the troops. They have marched and
fought and supported hardships in the
trenches—heat and wet and frost—in
a manner beyond all praise."

And by his officers, from the Brigadier
to the youngest Sub., he is equally beloved
and respected. There is not one of
them all who has not the most implicit
and unbounded faith in him, and who
is not assured that, when the time comes,
Douglas Haig will certainly lead them
to victory. The world will then know
why the Commander-in-Chief of our
armies in France has been dubbed "the
Thruster."

The Man.

And what kind of man is Sir Douglas
Haig? In appearance he is the ideal
soldier and leader of men. He has the
characteristic soldier's face, with strong,
well-cut features, a resolute, aggressive
jaw and chin, a firm mouth, half-exposed

beneath a fiercely bristling moustache, and clear, keen, commanding eyes which seem to look straight through one. Many are the stories of the cheering and encouraging effect produced on the battle-worn troops of the First Army in the terrific and bloody welter of the first battle of Ypres, by the appearance of this soldierly figure riding along the famous Menin road, "exquisitely turned out, with beautifully polished field boots, and seemingly all unperturbed by the sights and sounds of war all around him, or by the appallingly grave situation of his command."

For the rest it may be said that Sir Douglas Haig in private life is one of the staunchest of friends and the most genial and pleasant of companions, with a nature as simple, and a manner as unaffected as those of a boy. Children adore him, and the great General is probably happiest when "playing soldiers" with his little boy-friends at his home in Prince's Gate, or prancing "like a real horse" with some wee mite on his shoulder.

One Woman's Experiment.

BY KATHLEEN BOWKER
II.

July 11th. To-night I went to the Grand Patriotic Mass Meeting of the Women's Emergency Corps of Military District No. 1. It was certainly grand, and just chock full of patriotism; but one could have wished that there had been a little more massing.

IT WAS HOT.

A resolution was moved and seconded that we pledge ourselves to the help of our Country, in every way in our power. The President, in asking for a rising vote, especially requested that nobody should rise who was not in hearty accord with the motion.

One lady only remained seated. I wish I knew whether she was kept down by the weight of her convictions, or merely by a combination of varnish and temperature.

Colonel Molloy, the blind hero who sees so clearly, left us a splendid motto; the motto his mother instilled into him from his youth up: "If you are once thoroughly convinced that you OUGHT to do a thing, go ahead and do it, regardless of consequences."

Everybody agrees that's right, and probably we would all act upon it, if only we had sufficient power behind that "OUGHTO."

And then I walked into my moonlit garden.

"A Garden is a lovesome thing, God wot!

Rose plot,
Fringed pool,
Ferned grot;
The veriest school
Of peace; and yet the fool
Contents that God is not.
Not God! In gardens! When the eve
is cool?
Nay but I have a sign;
'Tis very sure God walks in mine."

Wasn't it nice of wise old Thomas Edward to word that so well for the gardens of all time? There are lots of times when I don't like gardening. All gardeners know those moments! But there are certainly times when it's worth while. Everything lay warm and silvery in the moonlight. My two big beautiful National trees, at either end of the hollow, stood up like beneficent giants against the "Blue deep" above them. To get to them I walked the little grass paths that divide the rose-beds. The red roses—Richmond, Ulrich Brunner (a good mark for Germany!) and that beau ideal of a red rose, General McArthur (standing to attention on his perfect stems, as straight as any soldier) were purple-black, hardly to be seen, heavenly to be sensed. Crimson rambler, blooming their very heads off, were more vaguely visible. White roses startled me by their beauty. Night blooming stock—that ragged weed by day, that Glory-to-God by night—cried out with sweetness, mingling with the mignonette. Six tall lilies lifted up their faces to be kissed. And my Lady Nicotine waved her censurs across my path. Gardens may be gay in the daytime. But under the moon, they are intoxicating.

Even the potatoes look romantic then, with blossoms like white butterflies poised above their mysterious shadows.

To-day I dug one hill; and got a very

respectable dish full. These were our first, and how extra succulent and sweet! I was advised that it was a little early to dig them; as they were not put in till fairly late. But I just couldn't wait any longer, to see what the roots were doing, and there was that brave half potato, looking as large as life, and twice as natural, the original "seed", like a kind of brooding hen, fairly SPROUTING little potatoes below, and great green stalks and leaves above. Not that I ever saw any kind of a hen sprout. But any intelligent Farmeress will know what I mean. (And who will dare to label herself unintelligent!)

I didn't think of it till this minute, but next time I'm going to plant the root again, and see just what will happen. For there were such a lot of embryo potatoes. It reminded me of my mother digging potatoes in our home garden in my childhood, against the impassioned protests of the old gardener.

"Murder, I call it," he used to say, with the tears in his eyes, "just MURDER."

It does seem rather a shame to let those innocent infant potatoes die without so much as anointing them with melted butter!

Green peas we had to-day, too. And sugary young beets, and carrots the size of my thumb. I wonder if the Germs live on that kind of thing, now that meat is limited. I don't one bit mind conserving the Country's Resources in a Menu like that. And then the lettuce, crisp as ice, cool as cucumber, rich as butter. And such an ideal green. There are little threads



Prince Edward of Wales.

Heir apparent to the British Throne.



Princess Jolanda of Italy.

Who is engaged to Prince Eddie. She is fifteen years of age.

of spring onion too, that "prose among roots" as R.L.S. says; and crisp radishes, and soon there'll be

"The bean
That gathered innocent and green
Outsavour's the belauded pea."

A General may give orders, and the troops that he has trained move to the word of command. But the gardener trains his vegetables to rise from the very ground itself, to meet his eye, and stand to attention in ordered ranks.

What an achievement!

I survey the potatoes proudly, forgetting the roving potato bug, and the eternal twitch grass, for this enchanted moment underneath the moon.

And I "thank whatever gods there be" that part of my "OUGHTO" lies in the garden, and I may dig it up.

Sir George McLean was once out riding in Australia, and saw in the distance someone who afterwards turned out to be a clergyman. He asked his native guide who the gentleman was, and was told, "Him white man—belong to Sunday. Put his shirt outside trousers, and talk long corrobory 'bout debble-debble." Which was almost as cruel as George Canning and Hookam Frere were to Bishop Legge, whose first sermon as Bishop of Oxford they had gone to hear. Afterwards they lunched with him, and, full of his newly-acquired dignity, he asked them what they thought of his sermon. Mr. Canning replied, "You were short." The Bishop rejoined, "I am glad you found me short, for I was afraid of being tedious." Whereupon Mr. Frere remarked, "You were tedious."

Hope's Quiet Hour.

The Responsibility of Privilege.

Who knoweth whether thou art come to the kingdom for such a time as this?—Esth. 4:14.

Rise! for the day is passing,
And you lie dreaming on;
The others have buckled their armour,
And forth to the fight have gone.
A place in the ranks awaits you,
Each man has some part to play;
The past and the future are nothing,
In the face of the stern to-day.

A. A. PROCTER.

Those lines may give you the impression that I am about to write a recruiting sermon. I am not. But we are all called to be soldiers in the army of Christ, and it is well to remember that privilege means responsibility. An officer must think and plan for his men's safety and comfort, and—if necessary—sacrifice himself for them. The king is bound to serve his people. The captain of a ship must not use his power to save himself, but to save those under him.

The lesson of our test is that no one comes to his place by accident. The General of the great Army has Himself allotted to each soldier his

message charging her to plead with the king for her people? "Think not," said Mordecai, "that thou shalt escape in the king's house, more than all the Jews. For if thou altogether holdest thy peace at this time, then shall there enlargement and deliverance arise to the Jews from another place; but thou and thy father's house shall be destroyed: and who knoweth whether thou art come to the kingdom for such a time as this?"

We know how nobly Esther accepted the responsibility of her high position. Demanding that her people should fast for three days—pleading in humble self-abasement their common cause before God—and fortifying herself in the same manner, she faced probable death by venturing into the presence of the king and asking from him safety for the Jews.

"If I perish, I perish," she said calmly. Humanly speaking, there seemed little chance of success, but she did not hesitate to accept the heavy responsibility laid upon her. God had not made her a queen for her own sake. Now she understood why He had endowed her with singular beauty and charm. Before the danger threatened His people, the way of deliverance had been prepared. She—a frail and gentle woman—had more power with the mighty king than anyone on earth.

But all the Jews in Shushan must uphold her hands. By fasting and—we cannot doubt—by united prayer their safety must be won. Though Esther pleaded with the king her eyes were upon God. The kingdom and the power were His. She used every earthly means at her disposal, enhancing her beauty by royal apparel, and charming Ahasuerus as he feasted with her.

It is easy to see the responsibility attached to high privilege in Esther's case. Perhaps it is not so easy to see it in our own. We are just ordinary people, and it does not seem as though our faithfulness to duty would affect the world much. But we never know the consequences of our actions nor the importance of our lives.

Think of David Livingstone, who was one of the greatest of all missionaries. When a young man it seemed as if he would be an utter failure as a missionary. He was on the verge of being rejected by the London Missionary Society. On one occasion, when he stood in a pulpit to preach, his carefully-prepared sermon vanished from his mind, and he fled from the chapel in shame and dismay. What reason had that young man to think that the future of Africa—under God—hung on his determination to follow what he felt to be his vocation?

We can never measure the power of one prayer, word, or act. A few weeks ago I received a letter from one who said that she had a great desire to publish a book, but the way had not opened. "But," she said, "it is good to write and work for the eyes of the angels, and to make the work an offering to God." We can all do that, can't we? When the books are opened it may be found that God has, in His library, literature more inspiring than anything ever published on earth. Perhaps his angels are even now recording thoughts of unknown saints which are too beautiful to be allowed to perish.

What if Esther had thrown away her opportunity? Mordecai's faith assured him that God would find another way of deliverance, but Esther's would be the loss. He that loveth his life shall lose it, and he that is ready to be offered for God and man shall find life that will last. Many in these days have shown themselves ready to follow in the train of heroes and martyrs. Let us try to do to-day's duty as a loyal offering to God, praying that He may give us courage and strength to obey fearlessly if called to follow our Master into the danger-zone. If we try to walk in our own strength we are courting failure.

Christ invites us to follow Him, counting all privileges as higher opportunities of service. He "counted it not a prize to be on an equality with God, but emptied Himself, taking the form of a servant."—Phil. 2:6 (R. V.) He did not stay out of danger in heaven, but sacrificed Himself in order to rescue those in danger of perishing.

How many men and women have proved themselves likened in these days? Of their own choice they have turned their backs on the place of

comfort and safety, and eagerly hurried to the danger-line—saying, like Esther, "If I perish, I perish." They count it a high privilege, as well as a duty, to do their best to save others from danger.

Our Lord understood St. Paul's enthusiastic nature when He enticed that noble spirit by showing him "how great things he must suffer" for God and man. So the soldiers are usually jubilant when permitted to move forward where they will encounter hardships and danger.

Privileges—health, leisure, money, education, etc.—are never given us for our own advantage solely. They are opportunities of serving others.

On the walls of an old temple there was a picture of a king forging his crown into a chain, and a slave making his chain into a crown. Underneath was written: "Life is what man makes of it, no matter of what it is made."

Napoleon used his power for himself and his own selfish interests—and so forged his crown into a chain. Joseph—a slave in Egypt—devoted himself to the service of others and so forged his chain into a crown of honor.

Jesus, the village Carpenter, has taught the world by word and act the glory of living for others. If our own gain or ambition be the object of our everyday life, we are throwing away life's splendid opportunity of walking in His steps.

We hear much of "Women's Rights" in these days—if you are an enthusiast on that subject be careful to agitate for the rights of other women rather than for your own. Everywhere we see the question: "Who is fighting for your women and children?" The man's strength gives him the right to defend the weak, his privilege is the rousing call of Opportunity. The woman's glory is to forget herself in glad service. She may be called to sacrifice herself for her nation—like Esther—or to glorify a home like the mother of our Lord. Great as Esther was, Mary of Nazareth was greater. In this time of thrilling deeds of heroic self-sacrifice, don't let us lose sight of that life of quiet loveliness, the life of one declared by God Himself to be blessed among women.

"Despise not thou small things,
The soul that longs for wings
To soar to some great height of sacrifice,
Too oft
Forgets the daily round,
Where little cares abound,
And shakes off little duties while she
looks aloft."

DORA FARNCOMB.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

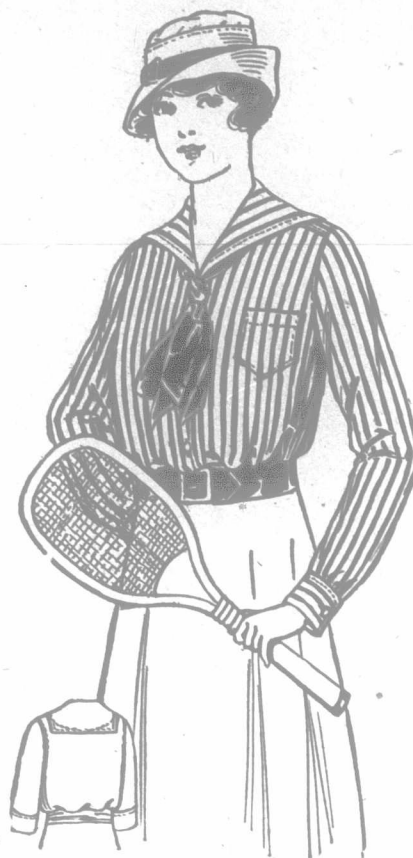
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8455—Work apron, 34 to 44 bust.



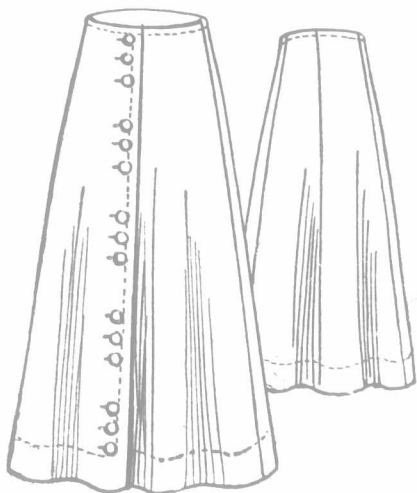
8700—Sports blouse, 34 to 44 bust.



8826—One-piece dress for misses and small women, 16 and 18 years.



8650—Dressing jacket, consisting of one piece, one size.



8788—Five-piece skirt, 24 to 34 waist.



8691 Two- or Three-Piece Skirt with Yoke, 24 to 32 waist.

The Beaver Circle

Loons.

I wonder how many of our Beavers live near inland lakes upon which loons take up their summer residence. What great, handsome birds they are! I remember very well how interested a camping party of us used to be in a pair of them that used to come every year to a small, quiet lake with deep woods all about it. Sometimes in boats we would try to get near them as they swam about on the water, very little visible except the black, glistening head with its watchful eyes. But we never could manage it. Just so far could we go, then down would go the black head, only to reappear perhaps far on the other side of the boat. It is because of its great diving powers that this bird is sometimes called the "hell-diver."

In the evening, and often during the night we used to hear the cries of the birds, sometimes a long, hollow, trumpeting call, sometimes a strange laughter, like the laughter of a madman.

After we had left the lake for good, folk living near it told us that, early one summer, someone shot one of the pair, but the other one stayed on, calling and calling for the mate who could never come back—"crying," the kind woman called it. "Oh, it was a shame to kill that bird," she said, "I felt so sorry for the other one I could have cried with it."

And now I want to quote for you a legend about the loons, very prettily put into verse by the Canadian poet, Archibald Lampman. It concerns the mythical, Indian hero, Glooscap.

Once ye were happy, once by many a shore,
Wherever Glooscap's gentle feet might stray,
Lulled by his presence like a dream, ye lay
Floating at rest; but that was long of yore.
He was too good for earthly men, he bore
Their bitter deeds for many a patient day,
And then at last he took his unseen way.
He was your friend, and ye might rest no more.

And now, though many hundred altering years
Have passed, among the desolate northern meres,
Still must ye search and wander querulously,
Crying for Glooscap, still bemoan the light
With weird entreaties, and in agony
With awful laughter pierce the lonely night.

"Scout" Letters Wanted.

Can't we have, for a change, a number of letters written by Boy Scouts? I have a perfectly splendid "Scout" picture which I shall be glad to publish along with a few of such letters.

PUCK.

Little Bits of Fun.

A little girl described a toad as "a big green bug with warts all over it, who's always sitting down behind and standing up in front." Her composition was almost as interesting as that of the little boy who wrote the following essay on soap: "Soap is a kind of stuff made in cakes which you can't eat. It smells good and tastes orfal. Soap always tastes worse when you get it in your eye. Father says Eskimose don't never use soap; I wish I was an Eskimose."

"Are caterpillars good to eat?" asked little Tommy at the dinner table.

"No," said his father; "What makes you ask a question like that while we are eating?"

"You had one on your lettuce, but it's gone now," replied Tommy.

Some More Competition Letters.

Dear Puck and Beavers.—On seeing in "The Farmer's Advocate" that you were holding a competition for an essay

on "A Fishing Trip," I thought I would try my luck. My brother has taken "The Farmer's Advocate" for a number of years, and we all like it fine. I enjoy reading the letters and essays, so I thought I would try one myself. So here it is:

"A Fishing Trip."

Harry was a little boy ten years of age. He lived in a beautiful part of the country. About half a mile from his home was a lovely pond, where he so often enjoyed fishing. He had a great playmate named Ralph, who had a lovely, big, curly dog.

One day the two boys went fishing; they took the dog with them. Harry's mother had prepared a nice lunch for them, and they intended staying all day.

When the boys reached the pond they began fishing at once. Harry perched himself upon an old stump, but Ralph sat on the limb of an old tree which hung out over the water. Harry said, "Ralph, if I were you I would get in a safer place than that old limb," but Ralph took no notice of Harry's good advice but kept on fishing.

They fished for some time, then sat down in the shade of an old tree and ate their lunch. When they had finished their lunch they went back at the fishing again.

Harry was pulling a fish out of the water when he heard a crash, and looking up saw what had happened. The limb on which Ralph had been sitting broke and he fell into the water. It was a very deep pond and Harry tried to think what he could do to save his friend's life. First he called for help, then climbed to the bank at the other side of the pond and called out, "are you living? Oh, Ralph! what shall I do?" He then got a long stick and held it out to Ralph. Ralph caught the stick, but by doing so pulled Harry into the water. On hearing the boys scream the faithful old dog came running to the pond, jumped in and brought Ralph out, then went back and got Harry. Ralph was by this time unconscious, so Harry ran home, told the story, sent for a doctor and came running back with his father and big brother, who carried Ralph home where the doctor soon brought him to life again.

The faithful old dog was given a collar on which was printed "Faithful." This fishing day will never be forgotten by either of the boys and many of their friends. It has also taught Ralph a good lesson which he will never forget.

CHARLOTTE POTTER, (Age 13).
R. R. No. 6, Goderich, Ont.

A Fishing Trip.

One nice spring day my cousin and I went fishing in the Nith River. The place where we went was very beautiful. On one side of the river there was a bank about forty or fifty feet high, with nice evergreen trees growing on the side of the bank; on the opposite side there was a large meadow with about fifty head of cattle grazing in it.

We fished for some time with small success, but after a while my cousin's cork went straight down. He tried to pull out but he couldn't. There was a large fish on the line, and it pulled him in the water. I jumped in after him and got a hold of his arm and rod, but the fish pulled us both; the water was deep (because we didn't touch the bed). It pulled us till we came to shallow water where we got the monster out. We went home, but we were wet. We undressed and put dry clothes on. We put the fish on the scales, and what do you think it weighed? Twelve pounds, and measured two feet ten inches in length.

REUBEN WETTLAUER, (Age 12).
R. R. No. 3, New Hamburg, Ont.
Is this a "really, truly true" story, Reuben? Or is it a "fish story?"

Dear Puck and Beavers.—I have never written to your Circle before, and so will begin by entering this competition, entitled "A Fishing Trip." Well, I guess I will begin.

A Fishing Trip.

It was summer holidays. All holidays mother had promised to take her twin girls, Dorothy and Helen, to the lake for a fishing trip. Well at last they planned a day. They were to ask six

of the girls to go, and, of course, bring their lunch. The girls were so happy that they could not do any work all the day before. In the previous evening mother had put their fishing lines, bathing clothes, and lunch into a hamper to be all ready next morning.

Little Donald, four years old, was to stay at home with daddy. In the morning the girls heard crying. They did not know who it was, so they went to see. There sat Donald with his hands up to his face crying. Dorothy asked him what he was crying for, and he said he wished that he could go too. Suddenly a thought struck Helen. She whispered to Dorothy who then whispered to Donald. Then all three ran out in the lawn where the hamper was.

Soon mother was ready to go, so daddy lifted the hamper into the buggy and they were off. They were kept for a while, because mother had wanted to see Donald before she went, but could not find him. So they had to go without seeing him.

was overboard. The first thing they knew the dog was out after him and soon the dog was swimming towards the boat with him. Mother lifted Donald in and the dog took a leap and got in too. They had to go back to get Donald changed, so they went to a cottage. Then they left Donald at the cottage and went out fishing again. They caught nine more fish. Soon they went home and were glad to get rested. None were up before ten o'clock next morning.

Rodney, Ont. ALICE PATERSON.

The Windrow

Lord Kitchener left an estate valued at about \$850,000, bequeathed to relatives and friends.

The German Government has prohibited the wearing of wide skirts.

The two great political parties in the

in every possible way.—Woman's Century.

The number of Chinese at present being educated in the United States is 1,461. Of these 130 are women. They are capturing in fair competition even more than their share of prizes and college honors.

More than half a million able-bodied men have been killed or crippled for life in the fighting about Verdun.

The corner stone of the old Parliament building at Ottawa, which was laid in 1861 by the late King Edward VII, when Prince of Wales, is to be the corner stone of the new building, and will be laid by the Duke of Connaught before he returns to England.

Liebknicht has proved himself to be the gentle friend of the starving laborer, of the distressed widow, of the stricken orphan. He carries in his heart boundless love for humanity. He is the brave and unwearied advocate of honor and truth and justice, looking into the future with confidence that the verdict of posterity will be given in favor of the guardians of righteousness, and against the lying miscreants concealing our losses and sacrificing our gallant sailors in the North Sea and our bravest soldiers at Verdun.

KARL BERNSTEIN AND OTHERS,
German Humanity League.

Change Partners.

British, French, Italians and Russians are now fighting the Turks in order that Russia may get Constantinople. Sixty years ago British, French, Italians and Turks were fighting the Russians in order to prevent Russia from getting Constantinople. In those days the Russians firmly believed that the United States would come to their aid. "They spoke of the help they were to receive with as much assurance as if a treaty had already been signed on the subject," writes an English woman in Russia during the Crimean War. The Russians expected that the American fleet would enter the Baltic and attack the Allied fleet from the west, while the Russian ships attacked it from the east. Yet the Russians were rather ashamed of their supposititious allies from over the ocean, for they "always spoke of the United States as a half-savage country and of the American as half civilized." But the English were regarded by the Russians as more than half savage on account of their treatment of prisoners and the use of long range guns and "asphyxiant balls." "It is a perfect disgrace to any people to invent such, and it is cowardice and baseness to make use of them."

Ten years later things were reversed. Then the Americans looked to Russia for help if the English and French should combine to attack the United States. Although no treaty to that effect has been disclosed, it was firmly believed that the Russian warships in Boston harbor were under sealed orders to take the side of the United States in case Great Britain openly espoused the cause of the South.

In 1900 France, Germany and Russia were denouncing England for crushing the little Boer republics and treating the women and children with frightful cruelty. Minister Delcasse had great difficulty in preventing French officers from enlisting to fight the British. Kitchener, then, execrated by the French on account of Fashoda, and by the Boers because of the concentration camps, is now honored and mourned by French and Boer alike. The present administration in Washington, now accused by its opponents of being pro-British, is the same party which in its platform of 1900 vigorously espoused the cause of the South African republics against the British.

Two years ago Great Britain refused to concede the Belgian annexation of the Congo. Now the British are aiding the Belgians to defend the Congo against the Germans. Twenty-two years ago the English press was fiercely, and not without reason, denouncing the "Japanese atrocities" in China, thirteen years ago the "Serbian atrocities" in Belgrade and "Russian atrocities" in Kishinev, ten years ago "Belgian atrocities" in



British Preparation for the Defence of Salonika.

Unloading a heavy piece of ordnance from one of the British ships at the quay in Salonika. International Film Service, N. Y.

When they got to the lake they found all the girls there, so they were the last. All the girls had opened their lunches and spread them on the grass, so Dorothy and Helen took down their hamper, mother opened it, and out jumped Donald. The girls had taken the dishes out, put holes in the sides for Donald to breathe, and put him in. At last mother said she would let him stay. After dinner they went out in a boat with their fishing lines. One of the girls had a dog which got into the boat too. They went quite a way out and then they started fishing. The fish would not bite very well, and at last Helen declared there were no fish in the lake. Just then Donald pulled up his line with a big, fat fish on it. Everybody cheered Donald for catching the first fish. After that the girls felt encouraged and the fish bit very well, only Helen's first one was a crab. They were looking at something on the land when there was a splash and Donald

United States have practically declared themselves in favor of woman suffrage.

Australia has taken up in earnest the work of placing women on the land. At the instance of the Women's Political Association of Victoria, a farm has been established at Mordialloc in order to give the necessary training to unemployed and other women, and will be placed in charge of the Women's Rural Industries' Company, an organization established to secure the widest support possible and to provide other training farms as occasion arises. Some little time ago the founder and manager of the farm, Miss Cecelia John, and other ladies interested, waited on the State Minister of Lands to explain the scheme and place the needs of the farm before him. Mr. Hutchinson expressed himself as greatly impressed with what had already been accomplished, and promised the deputation that he would assist the project

Africa, and five years ago the "Italian atrocities" in Tripoli. Twelve years ago Russia and Japan were fighting each other, now they are on the same side. Four years ago Serbia and Bulgaria together were fighting Turkey. Three years ago Serbia and Turkey together were fighting Bulgaria. Now Turkey and Bulgaria are on the same side and Serbia on the other. Fifty years ago Prussia and Italy were fighting against Austria. A hundred years ago Prussia and England were fighting together against France.

So it goes. Friends to-day and foes to-morrow. Alliances form and dissolve. Countries shift and recombine as though the map were a kaleidoscope. What will be the next rearrangement?—The Independent.

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.]

On waking this morning my attention was attracted by a waving mist of white just outside of the window of the room where I had slept. A second later found me drawing back the curtains to get a better view—and what do you think it was? Just a clump of meadow-rue, the feathery meadow-rue that grows along brooks anywhere where cattle have not wrought too much devastation with the plant-life. Someone had transplanted a bit of the damp woods itself to this moist, shady spot of a city garden—ferns and turtle-head, and in the midst the clump of meadow-rue. But what a glorified meadow-rue it was. Twice as tall, almost, as any I had ever seen in its native haunts, with great white flower-panicles many times larger than ordinarily. I suppose the reason of the development was that grass had not been permitted to crowd and encroach too much upon it. There are many of our native flowers that respond just in this way to a little care in a garden. Eben Rexford tells of a golden-rod that grew seven feet tall when so treated, and drew forth the admiration of all who saw it. And what is the Shasta daisy, but an ox-eye daisy, developed both in flower and leaf by careful growing? It would be an interesting experiment to take up some of the roots of this plant next fall and force them during the winter. In spite of the dislike with which the plant is regarded by farmers—and with good reason—the flower is really beautiful, and a few pots of it would be very acceptable in January or February. The method I should think, would be very similar to that used in forcing other things, except that the vitality of the daisy is such that, no doubt, it would require but a very short "rest." One might try marking a few roots, taking them up very late in fall, leaving them for a week or so in a cold dark place, then forcing with light, heat and watering.

The last few days have been exceedingly warm, bringing visions of verandah teas and out-of-doors' living, very heavenly indeed to those of us who are shut up in offices. I do think verandah teas are the loveliest things, although I confess a weakness for regular table affairs, white table cloths, flowers, knives and forks, everything precisely as though indoors. Of course a broad verandah is needed for such an arrangement, but then all verandahs should be broad.

For Women's Institute and other club refreshments, however, a useful suggestion might be to follow the example of city folk and pass around just cups and saucers, making the sandwiches, cake, etc., in pieces small enough to place conveniently on the edge of the saucer. This means a great saving in dish-washing, and where there are not plenty of tables, simplifies things generally. If there is one predicament which anyone might wish to escape it is that of trying to manage a plate, cup and saucer, plus fork or spoon, all on one's lap.—And did you ever, ever see a more pitiable object than a man condemned to such a half-hour?

I wonder if the same old trouble persists in regard to Women's Institute refreshments—viz., that too many things are served, a real grievance where the Institute meets about from house to house. No Institute or Club meeting should be permitted to be a burden to anyone, and the danger of this would be forestalled if an absolutely inflexible rule were made providing that nothing more than sandwiches and cake, or bread and butter, salad, and cake with tea, shall be served. These provide quite enough for "refreshments."

And what delicious sandwiches are made nowadays—perhaps none better than those made with walnuts, salad dressing and lettuce. The requisites are plenty of walnuts, (peanuts or hickory nuts will do), crisp lettuce, and, if possible, a food-chopper for putting the nuts through.

This talk seems very much about eating, doesn't it? But it's too hot to think about anything strenuous. Anyhow, you remember the old "poem," which tells us that though we can live without poetry, music, art and books, "civilized man cannot live without cooks."

The other day I read about a dairyman's wife who has taken over her husband's business while he is away helping to fight the battles of the empire. I think it would be interesting if you would send in similar items of news about women in your own neighborhoods for publication in this column. What think you?—JUNIA.

Making Hard Soap.

Several methods, differing slightly, have been sent for making hard soap. Here are two:

"A Reader," writes that this one is used in her house for everything except toilet purposes:

No. 1. 1 can Gillett's Lye, 1 pkg. Borax, 4 lbs. grease. Melt the grease and let it stand till just cold, (not enough to settle). Dissolve the lye in 1 qt. of soft water and the borax in 1 qt. boiling water. When the grease is cold pour into it the dissolved lye and borax. Stir until the soap is thick as custard. Pour in a box or pan and let stand a day and then cut into squares.

Numbers 2, 3 and 4 have been sent by Marjorie Lunau, North Markham, Ont.

No. 2. This hard soap must be made from clean grease, 25 quarts soft water, 2 boxes Gillett's Lye, ½ lb. rosin, 9 lbs. clean grease, ½ lb. borax, 1 cup salt. Put soft water, lye and rosin in a kettle and stir well, then start the fire and when it has dissolved, add grease and borax. Boil slowly for 2 hours, then add the salt dissolved in ½ gallon cold soft water, and boil 1 hour longer. Let this stand over night, then cut in squares, and dry in a cool, airy place.

No. 3. Caustic Hard Soap.—It is necessary for this soap to be made from clean grease, and it may be made from odd scraps of fat, such as cracklings from rendering or goose grease, etc.: 20 quarts soft water, 25 lbs. grease, 5 lbs. caustic, 3 cups salt, 5 ounces lump borax. Put the grease in a kettle. Reserve 1 cupful of caustic, and pour remainder over grease, then add 20 quarts soft water. Mix well and boil for 2 hours, then add 2 teacups of salt and boil for 1 hour longer, then let this stand until next day, then cut out the soap, and in the bottom of the kettle will be found the impurities in the grease, empty this and wash kettle, then put in again the cut out soap, the cupful of caustic reserved the day before, 1 teacupful of salt, 5 ounces of borax and 1 large pail of soft water. Just as soon as this comes to a vigorous boil, the fire should be extinguished. Then let it stand until next day and cut out in squares and dry in a cool, airy place.

Remember in making the soap it is necessary to give it attention, as it boils suddenly and will boil over. Lessen the fire and just allow it to simmer the remainder of the time it is on the fire.

No. 4. Soap Jelly.—In cutting the soap out of the kettle, some small pieces will adhere, and break off the squares. Pour a few quarts of soft water over the pieces and give heat to dissolve and when it cools you will have soap jelly. At any time, shave a square of the dried soap into 5 quarts of soft water and let it gradually heat and dis-

solve, and when cold you will have beautiful soft soap, white and firm.

One experience will teach any person, what quantity of soap and water is required.

Ink Stain—Freckles.

Will you please give a receipt for taking an ink stain out of a lace collar without washing, and also a receipt for taking off freckles without injury to the skin. Thanking you in advance.

AN OLD SUBSCRIBER.

Perth, Ont.

It is impossible to take an ink stain out of the collar without washing it, but if washed carefully it should look almost as good as new. Soak the collar in buttermilk for two or three days, renewing the buttermilk as necessary, then wash carefully in soft water, and dry the collar by pinning it on a clean cloth with all the points in place.

If the stain does not disappear by this method, apply a solution of oxalic acid, then wash and rinse very thoroughly or the acid will "eat" the thread.

The Knitting Question.

Dear Ingle Nook.—Knitting on the Sabbath! God made one day for the body to rest. I think the Sabbath day would not be kept holy, as others would soon prepare other work, or perhaps visiting and knitting would soon be the hobby of the day. Places of church services would likely be neglected altogether. While thinking we are doing good it might have the appearance of evil. True, our soldiers are obliged to fight our battles on Sunday, but we have six days to knit, then let us rest on the seventh, and begin on Monday with vigor to knit, and by Saturday evening our fingers will be tired enough to rest.

I think our boys would rather we would spend the Sabbath day in prayer (some are tired of war) for their souls' need—the robe of righteousness. Socks will cover their feet, but prayer may cover a multitude of sins. M. E. Prince Edward Co., Ont.

Another Opinion.

Dear Readers of Ingle Nook.—I am much interested in the question "Would it be wrong to knit on Sunday for the soldiers?"

It seems to me, too many people are wandering away from one of the best and noblest commandments which God gave for us to follow, viz.—"Remember the Sabbath day to keep it holy," also, "Six days shalt thou labor."

We hear so much of this question of settling matters with our conscience, and if our conscience condemns us not, we are right. Others call it narrow mindedness if you say it is wrong to work on Sunday.

What is conscience? As I understand it, it is God's voice directing us in the way he wants us to walk. Do you readers think God would make a law for His children and then dictate to them, through their conscience to break it? I think the direct command is sufficient, or ought to be, if we are listening for the "still small voice."

Yes, the lads are fighting our battles on Sunday, but need we knit on Sunday when we have it so emphatic, "six days shalt thou labor?" It's not a matter of conscience or it would not be "shalt." If we work the six days hard so as to have the Sabbath kept Holy, we will not want to work on Sunday.

I know a woman with a large family, who has more than her share of chores, both winter and summer. She "Made" time to knit and made shirts for the soldiers, but not on Sundays. Instead, she walked over a mile to church in the a. m., the same distance in the afternoon to Sunday School and taught a class. Let us not do evil that good may come.

It's just like a sermon I heard on the prodigal son and his elder brother. The point was brought out very clearly that the elder brother did not have the love of God in his heart. So dear "Interested Reader," if we all have our hearts full of God's love, there will be no room for thinking of knitting on Sunday, but we will be looking after His lost sheep.

Am glad "Interested Reader" has not picked up her knitting and trust she will not be tempted to do so.

MUSKOKA.

The Scrap Bag.

Don't Use Tin.

Never use tin vessels when canning or preserving, as it has a tendency to give an unpleasant flavor. Use granite or porcelain-lined vessels.

Raw Pineapple.

"Uncooked pineapple contains a principle that digests protein. For this reason a slice of it is often recommended after eating Welsh rabbit or any other proteid dish that is difficult to digest.

Removing Tan.

There is nothing better than lemon juice or cucumber juice for removing tan. Apply at nights after washing the face well. If the lemon juice alone is too severe mix it with a little glycerine and rosewater.

"Stickphast" Paste.

"Stickphast" paste is made by beating ½ teacupful of flour in cold water to the consistency of pudding batter. Add 1 teaspoonful of powdered alum, 1 teaspoonful of size and 1 of sugar. Put on fire and stir until it boils. Boil for 5 minutes, when cool add 10 drops of oil of cloves.

This quantity makes a pint of paste, and will last for a year if well corked.

Mark Poison Bottles.

One of the incomprehensible things in life is why any sane person should ever take medicine in the dark or without looking at it to see whether it is the right liquid or some deadly drug, and yet every little while one reads in the papers that someone has been poisoned by just this carelessness. In every house there should be two separate chests, kept apart from each other, in different apartments if possible, one for medicines, the other for liniments, lotions, etc., that cannot be used internally. An additional precaution is to twist a wire or stout cord about the neck of each bottle containing poison; but, if this is a rule in the house, it must always be done.

Dishes for Hot Weather.

Egg and Peas Salad.—Arrange lettuce leaves on individual salad plates, then put on some cooked green peas nicely seasoned. Put a spoonful of the chopped whites of hard-boiled eggs in the center, and put a little salad dressing over. Crumble the yolks of the eggs and mix with a little melted butter, seasoning to taste. Roll into small balls and lay a ball on each salad. Serve very cold.

Savory Butter Sandwiches.—Take 1 cup butter, 1 teaspoon made mustard, yolks of 2 eggs, 1 teaspoon of anchovy paste or any other sharp flavoring liked, pepper or paprika to taste. Beat butter to a cream, add yolks of eggs, hard-boiled, and other ingredients. Beat well.

Soft-cooked Custard.—Two cups scalded milk, yolks of 2 eggs, ¼ cup sugar, pinch salt, ½ teaspoon vanilla. Beat the eggs slightly, then add the hot milk gradually, stirring constantly. Cook in a double boiler, stirring until the mixture thickens. Cool and flavor.

Baked Custard.—Use same ingredients as above. Flavor and grate nutmeg over top. Place the dish in a pan of hot water and bake in a very moderate oven 30 to 40 minutes. Serve cold.

Lemonade to last a week.—Boil together 2 quarts water and 4 cups sugar for 10 minutes. Remove syrup from fire and add 4½ cups lemon juice. Let cool, then put in glass jars and keep in a cool place. Dilute when serving.

Blackberry Sponge.—Soak ½ box gelatine in ½ cup water for ½ hour. Pour on it a boiling syrup made of 1 cup sugar and 1 cup water stirred until dissolved. Add 2 cups blackberry juice and strain all into a bowl. Put the bowl in a pan of cold water and let the mixture become thick, stirring it now and again as it cools. Beat to a stiff froth; add the beaten whites of 4 eggs and beat all together till smooth. Put into moulds and chill. Serve with a thin custard made with the yolks of the eggs.

Red Currant Fool.—Strip ripe red currants from the stalks, and stew gently for ½ hour with 3 tablespoons

ceive such a perfect position—but that's its trouble," he remarked.

"What's that?" I asked, sensing the big difficulty without grasping it.

"How's he going to get out with his gold?"

"He's a right smart man," I said weakly.

"It's a right smart fortress," Huntoon answered.

And all this time I was staring down into Tropicania. A strange pastoral—such was the view to my eyes in the long afternoon shadows. The stamp of centuries was upon it,—save for the mining machinery, the dredge and the glistening tin roofs which were new as Nome. The rest had the look of eternal enduring—the whitish face of the far canyon wall, and the gray ruins of an ancient city, which lay like a stony incrustation upon the green slope of the seaward mountain-sides. The stillness of rock and ruin, the darkening river, the temperature which seemed almost as hot as the human blood—all had an unearthly appeal to me, so that for the moment, Mary Romany's father and his gold endeavor had a little and laughable look.

Where was the old race that cut the ledge and played with mighty rocks in his valley? Was there any consciousness left of it—a thought, or an eye somewhere, in the shade of the ruins—to laugh, from some viewpoint beyond the reach of time, at these modern galvanisms? . . . In this queer moment, it seemed to me that there was nothing worth while in the world but loving a woman well, loving the children she might bring to the world, and from a long habit of loving—to learn at the last to love all men.

And thus we entered the valley, Huntoon speaking no word and I out of the present, world-straying, among thoughts too big for me. . . I heard the voices of my own countrymen, saw the few natives moving to and fro bare-legged and hungry-looking, a strange ashen texture to the brown of their faces—the same weathered look that lay upon the fallen city. . . At last we were among the ruins. A lean giant of years came forth. His was an emperor's nose, and cheeks that were sunken and transparent. His dark eyes pierced my mind—and flitted to Huntoon. He spoke to our escort, which dissolved. So intensely was I watching the father of Mary Romany, that I did not comprehend his words, until he said a second time: "Come in, gentlemen."

4

The old Master was not as I had pictured him. . . The profile which had passed the door of the International music-room at Hong Kong; and the gigantic rifleman in the prow of the junk before Liu chuan had made a different image. The lion was gentle; the eagle, low-voiced. All the hints of character from his daughter had not given me a remote suggestion of this gentleness and forbearance; this eager listening of an elder, to a young man's restless story.

I had looked for a man with the hard taint of gold upon him—a man who had hungered and thirsted, fought and contrived for gold, with such passion that he had desolated the hearts of a woman and child. It is true, some inner devil had kept him abroad in the ruck of new gold lands, but the finer spirit of the man was not dead. I tried to hold the thought that there must be something of truth in the old picture as well as the new.

He was glad to find me well again. That was the nearest approach to Liu chuan at first, and I was grateful. He was older and whiter than I had believed. . . He was glad we had come. There was much to do. His was an extraordinary but lonely service. He remembered seeing Huntoon in China, and smiled at mention of the mines up the River.

"I did well, not to go back," he added. "There was a fortune in Hsi tin lin—but a greater one here. It won't be safe for whites so deep in China for a long time. White men have given China the worst of it too many times. When the war popped up, I felt greatly in luck that my big machinery investment hadn't been installed up the river. I have known of this valley for years. I was fortunate to land here all in one ship-load. We were more or less es-



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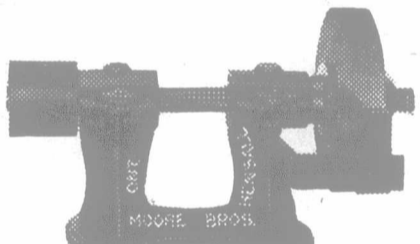
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FOR CALENDAR WRITE REV. F. L. FAREWELL, B. A., PRINCIPAL

established before Ecuador or Peru knew what was on. The steel draw-bridge was over the canyon before we really stopped to cook coffee—"

Thus he talked, lightly—apparently withholding no fact that would build a picture, and seeming to have not the slightest suspicion of our fidelity to his cause. And this was a man who throughout a long life had had every chance to observe the devilry and chicanery of human dealings. Moreover, he had pumped four rifle-balls into my body, and had known Huntoon for a remittance man in China. The latter was shattered at this moment, his ego whipped in the direct and finished fashion that alcohol manages in reaction.

Food was brought of the best. Her father poured wine for us. As the moments drew on, his trust and a certain warming culture was more and more evidenced—a culture rarely encountered out on the far chances. . . Huntoon was as deeply appealed to as I. If in a drunken moment, he had promised Orion to commit depredations upon the mining outfit, I could see plainly that there was a moral obstacle in the way of a host who graciously served him. It would have been much simpler for Huntoon,—had he been treated like a stowaway.

The settlement was a stretch of canvas, new boards and tin roofs along the Calderon; its main street, the golden river; its center and hall, the smoking dredge. The quarters in which we now sat were high on the slopes, and well apart among the ruins. Only one of these structures of the far past remained in a state of entire preservation; and this was the largest and farthest from the river. The miners had dubbed it the "Vatican." The old Master pointed it out in the early dusk, as supper was being brought.

"It's backed up against the mountain, as you see," he explained. "In fact, the back-wall is the mountain itself. The walls are three feet thick, and could withstand any mountain gun Orion could get over the Pass. It's our arsenal and store-house. If we lost the Pass, we could still make a stand in the Vatican—the whole command. I built a new iron door. That was the task—after the draw-bridge."

I rather resented the idea of being penned, even in that eminent ruin, protruding from the base of the mountain.

Headquarters was the length of four or five freight-cars from the Vatican, and twice the distance from the river. Only the walls remained of this latter ruin. Canvas and tin replaced the roof, and the interior was divided into two large compartments. A sizable squad of calvary might have halted for shelter in the outer of the two rooms which we now occupied. The opening faced the East—like the main orifices of every ruin in the valley. The floor was of stone; the inner surface of the walls had been worn by rains and winds of ages to the rock itself. In the rear section were canvas partitions and cots for the leader and others; and in the front was the office and dining-table. At the door, we sat down for more talk after supper. I recall the red-lit forges, far to the right, working overtime; and how the voices of the women finally reached me—after the deep darkness.

"They're at Dole's place—that row of lights in the center," Romany remarked. "You never hear, and seldom see them in the day time. A man named Wesley runs the faro lay-out in Dole's. Seems like a good gambler. Dole himself is a rascal. He operates the bar, general store, tables for ladies and all that. I took him on for a sutler, and will have to squash him before long. Dole is a New Yorker—calls his place the Riverside Drive Inn. . . Strange how the girls came. Wherever you start a gold camp—faro and the girls turn up. This party came down from Guayaquil and over the Pass before the bridge was finished—before Orion organized to cut us off from Libertad."

Romany reflected a moment. A long slender oval of golden tobacco, loosely rolled into a cheroot, was usually in his hand or mouth, mostly unlit. I found these cheroots superlative—aged, yet so moist that they would bend double without breaking. Romany frequently chose a fresh one, lighting it but once. "The flavor is Vuelta," he said, "but the yellow leaf, I suspect, is Chinese. I have obtained them for years from

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an Amsterdam dealer, who does not tell me. They are not so carelessly rolled as you would think. The leaves are precisely graded, every vein running straight. That's why they burn. There must be a dozen thousand in the Vatican—so try to like them, please."

When I spoke of being eager to strike a vein of personal usefulness in the valley, the old Master smiled and said I must be a guest first. . . Huntoon now reported himself:

"I don't know much about anything except soldiering,—and I haven't any papers as to that. I've been a fool in garrison, but a bit of a success afield. I've been drunk in a good many places, but I know how to get a fight out of a bunch of men, up to a battalion,—or squadron, as we call it in the cavalry."

I began to see how Huntoon had caught on with Orion. A trained soldier was the ranking need of the land. His entirely uncalled-for confession was the result of a troubled spirit, and the increasing fascination of the old Master.

"If it were absolutely known whether Tropicania lay in Ecuador or Peru there wouldn't be a fight on," Romany explained presently. "Peru says the Calderon marks the boundary; Ecuador denies this, and rather aggressively. It's a remarkable state of affairs. The two republics have been grumbling over the borderline since the beginning. Years ago, I brought knowledge, labor and ingenuity to bear—first to believe, and then to prove, that there was gold in the Calderon. Up to the moment of discovery, both republics treated with me, through their agents; and all our dealings were garnished with an exquisite Spanish courtesy. When I planned to operate, however, this proved the existence of gold in the river, and I met with obstacles, that finally sent me to China in despair. This time I've just slipped in and taken possession, ordering shooting irons pound for pound with mining machinery, to protect the investment. Of course, I knew the position."

Romany laughed a little. "I never get tired observing how gold-news travels," he went on. "This is a golden age, but in a different way than is usually meant. First Libertad jerked up when the word passed of big gold in the Calderon. Then Guayaquil sent down prospectors and gamblers and girls. Up the Magdalena from town to town to Barranquilla, from isle to isle, quickening sleepy Mexico and even New York money interests cabled. Some ugly force was turned upon these mountains. The men who came took on a haggard, glaring look. Then I heard first from Orion. The fact is, Orion is a free-lance, just as I am, but he didn't discover an eldorado. He didn't spend a fortune for mining machinery."

Had I come to him, a stranger, this quiet master of the gold game, I think, would have driven straight to my heart that night. The years had taken him over the rough places. He had no hate burning, no time nor energy to spend in execrating his enemies. He placed the situation, which seemed to me most dramatic and absorbing, with the calmness of a man in any office work. Here was a republic on either flank, and while he temporized with each in turn, he kept the dredge at work.

My concentration increased as he continued:

"If I could treat finally with Orion, with Ecuador, or with Peru, no complication could set in, to render this gold-fever fatal. I could even pay any one of these powers, what would seem to the world a prohibitive rate of tribute. The Calderon is rich enough for that, but not for three tributes. Again, if I badly whipped Orion, it would only hasten the organization of other forces. Tropicania is placed admirably to develop into a buffer between two republics. You see, we have a careful game to play, though I am well pleased with the way it is unfolding. There'll be another fight at the Headland presently."

Romany tossed a cheroot through the open doorway. From one of the nearer huts below, a rousing good baritone set the night to thrilling with Posti's Good-bye: ". . . Lines of white on a sullen sea."

"That's Maconachie—one of our civil engineers—a fine young Scotchman"—the old Master whispered.

The whole environment, the song, the torrid night, the glowing stars, the thick walls of stone, the slow soft pressure

of a breeze upon the candles, the thought of two animated republics and their ancient exchange of hatred, the river flowing silently below,—all blended into a mysterious enticement about the figure of this gaunt elder, with the kindly voice and tolerant mind. The picture challenged me in a way I can hardly express. I seemed to be admitted to the borders of the wonder-world from which Mary Romany had come.

Did I imagine a queer smile, lingering about her father's mouth, as he spoke of the other headquarters at the Headland? Guns and ammunition pound for pound with mining machinery—why, therefore was he watching for a ship-load of ammunition? Was he not holding Orion at the Headland?

I thought I saw it clearly now—the old fighter dividing his force, one part to watch the sea and to keep the main force of the enemy there; another swiftly probing for gold nuggets in the stony tissue of the Calderon, and a secret third keeping communications open with Libertad—possibly getting the gold out. A big playful, masterful game, this, while another would have been at blood-letting with his own and the hostile force. And now every day was a fine winning for Romany.

His daughter's lustre was upon the old Master for my eyes. I saw where she had drawn her splendid capacity to wait. I was glad I had come, glad to serve. Huntoon was stupefied, not with wine but with the quality of the gamester to whom he had come—from a common little disturber like Orion.

Romany added: "There's some real men down below on the river. I picked a boat-load up in the States. The others came in with the gold craze, and of course don't mean so much to me. But these of the original party are white men, who have staked all they own on this venture and on my chance to win against big odds. There are other golden rivers. I have lost many times before. I won't cut my throat if we lose the Calderon and the dredge—but these few white men don't live by ventures as I do. I can't bear to see them lose. They're out on the main venture of their lives—to make a stake once and for all."

"I told them there'd be a big fight, that there always is with raw gold. But they wouldn't turn back. You'll see them, a clean-jawed lot of boys. They've stood pat so far, sick with work and gold-fever; wounds, some of them have, and all are worn down with the tension and the pull of home. . . . Why, many a woman back in the States is planning lace-curtains and carpets and cottages against the return of these fellows—"

Huntoon gulped a glass of wine. "Looks a trifle complicated at times," Romany added softly, "but I don't think it's in the cards for us to lose this trip. . . I'll give you bunks in here to-night, and we'll get together on the main trend in a day or two."

Presently, he called his factotum, Leek, who took Huntoon off to bed in the adjoining quarters. . . We stood together. I'm a bit over-size, yet the old Master looked down at me:

"And so you're all new again?"

"Yes."
"That's lucky for me. Little Mary thinks well of you, sir. I have reason to respect her judgment. It's even a bit better than her mother's, I think. . . I'm glad you've turned up. I've talked a lot of congestion out of my head. The boys leave everything to me—so there isn't much talking here in the valley. . . Good-night, Ryerson."

He led me to a cot apart from Huntoon's and I lay for hours under the mosquito canopy, thinking in the darkness of the daughter, the father and the Year.

To be continued.

It is said that eighty-three and one-half per cent. of the transportation of the United States is still done by horses. The statement is true that but for horses we should soon starve to death. Yet in road-building it is the automobile and not the horse that is considered. No doubt the percentage in Canada is still greater.

"I've often seen a cord of wood,"
Remarked the tramp, a raw one;
"I've often seen a cord of wood,
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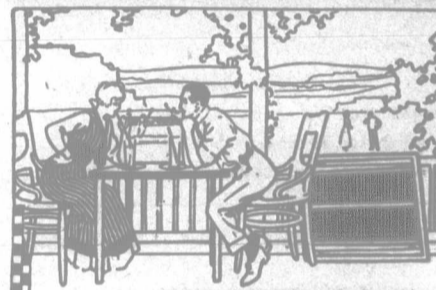
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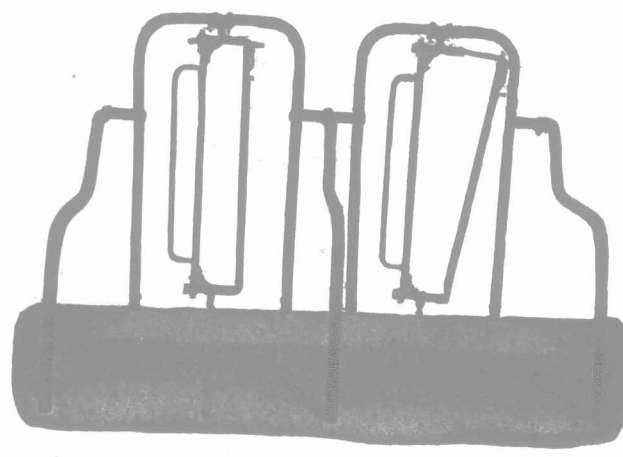


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1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

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

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

4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Landlord, Tenant and Purchaser.

A has rented a farm from B for a term of years. The lease is written that all hay, grain, roots are to be fed on the farm that were growing on the said farm.

1. If A is unable to feed all hay, grains and roots on the farm, has A to leave the balance or has B to sue A for damage?
2. B has sold the farm to C. Would B have any right to sell the said grain, hay or roots to C?
3. Or has B any right to move the hay or grain off the farm and sell it?
4. Or has C a right to feed the balance after A leaves the farm?
5. Has A a right to move as much grain off the farm as he took on?
6. The lease was to be written that A was to do thirty acres of fall ploughing on the last year, and the lease reads that A has to do 30 acres of fall ploughing in each and every year for a term of 3 years. The mistake was made by the man who wrote the lease, A not knowing it until he had signed it. Would A have to go by the lease?

Ontario. O. A. C.

Ans.—1. A must leave it.
2. Not while A lawfully remains in possession of the farm.
3. Yes, after A has gone out of possession, and provided hay and grain were not included in sale to C.
4. Yes, if it is still there after possession of farm has been taken by him, as in such case there might be taken to have been an abandonment of same by B to C.
5. No.
6. Yes.

A Question in Farm Management.

1. I own one hundred and fifty acres first-class farming land good for grain, hay, roots, corn, etc. Have all necessary buildings for cattle, horses, hogs and poultry, also two silos 14 by 30. What system of farming would you advise me to go into? Raising beef or dairying and raising hogs?
2. How many beef cattle should this feed, using it all to grow feed? I can get a large ranch very cheap.
3. How many dairy cows should this farm be able to keep?
4. If dairy cows are kept, would you advise stable feeding or pasturing?
5. Would you advise using a milking machine?
6. What revenue should this farm give out of beef cattle or dairying, that is gross revenue, not figuring expenses? Everything produced could be sold on the farm; it is right adjoining the town and railway.

SUBSCRIBER.

Ans.—1. Both lines are proving very profitable at the present time. Obviously, not knowing all the circumstances, we hesitate to state definitely which would be the better system. Placed in our subscriber's position we would cater considerably to personal preference. A man's likes and dislikes very often are big factors toward success or failure. It is probable that there might be a little higher returns made from the dairy cows and hogs. However, we are not in a position to decide this question. We would keep poultry too. The available supply of labor would, of course, enter into the question.

2. We take it that the question means feed for winter, while the ranch is used for summer feed. The place might winter 75 to 80 head, possibly a few more or a few less. We mean the cattle to be well fed. About one to two acres would be a fair estimate. We would start on a smaller scale, and increase the numbers as experience indicated. You might, with plenty of silage, hay and roots be able to run more in time.

3. If plenty of pasture and summer feed were supplied off the farm 60 or 65. If the farm is to supply winter

feed as well as summer, somewhere between 25 and 50. This would allow for hogs too. But again we would advise starting on a smaller scale and growing up with the business.

4. This depends on conditions. Our own preference is for a certain amount of stable feeding the year round, the feed to be used as a supplement to good pasture during summer.

5. This depends upon the price and available supply of labor. As a general thing, with a big herd, if you are assured the machine will do the work well it is better to use it. For a big herd we would be inclined to give it a trial.

6. No one can tell till he tries. There are those who hold that the gross returns from a farm and stock should be each year 25 per cent. of the original investment, and one-third of this should be profit. This would probably mean a gross return of \$25 or \$30 per acre, which would be \$8 or \$10 per acre profit, or \$1,200 to \$1,500 a year on the 150 acres. Whether or not you do this well or better depends upon your skill as a farmer and a businessman.

Encroaching Fence.

A and B had trouble over their line-fence. They had line surveyed last July, part going on A's and part on B's land. B at once took possession of the land that was given him, but has not yet removed fence to give A the land allowed him. A has given B land allowed him and built his fence.

1. Can A compel B to remove his fence off A's land at once?
2. What steps should A take to get his land?
3. Has A to notify B to remove his fence?
4. How long before A could take action?

Ontario. H. A. C.

Ans.—1. Yes.
2 and 3. He should, without delay, notify B, in writing, to remove the fence, and that unless he does so by a reasonable date (to be stated in the notice) he would remove it himself, charge B with the expense of the removal, and bring action against him for damages for trespass, including the amount of such expense.

4. He ought not to do so until after he has removed the fence.

Cement for Tank.

1. How much gravel and cement is required to build a supply tank 7 feet by 5 feet, 45 inches high, 6 inches thick, and how high would the bottom of tank have to be to supply water to buckets in front of cows?
2. Also, how many barrels would tank hold?

Ans.—1. 1 to 2 good big loads of gravel and seven to ten bags of cement would do the work, provided none of the material was required for a base. The supply tank itself, provided no pressure of any account is required, would only need to be a few inches higher than the top of the water in the bowls and the small tank or trough with float.

2. About 20½ barrels.

There Was No Summer in the Year of 1816.

A New York paper recalls the remarkable weather experienced in northern parts of the United States in 1816—just a century ago. The year was for a long time referred to as "the year without a summer." Snows, heavy rains and cold winds prevailed almost constantly, the ground remained frozen until the last of May, and during June young birds are said to have been frozen in their nests. Sun spots were of unusual size, and could be seen with the naked eye. Frosts prevailed in every month of the year—in some places almost daily—and crops were practically ruined. In 1886 an old resident of northwestern Pennsylvania, who lived in Vermont and was 13 years old in 1816, recalled the fact that a Vermont farmer in June of that year, having left his home to provide shelter for a flock of sheep, was overcome by a blizzard and found dead from cold and exposure.

Nell—"You say you saw her wedding gifts. How was her silver marked?"
Belle—"From the looks of it, I should say it was marked down."

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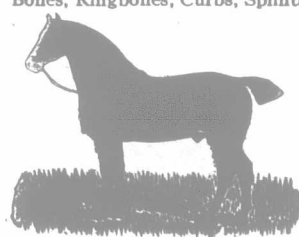
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The Glengore Angus. We have still left a couple of nice yearling males, sired by Middle Brock Prince 3rd, for sale at reasonable prices.

Beaver Hill Aberdeen-Angus—Males and females, all ages. Also one Ayshire bull, 2 months old, for sale. Prices reasonable. ALEX. MCKINNEY, R.R. No. 1, Erin, Ont.

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Young sow pigs recently weaned for sale. WELWOOD FARM Farmer's Advocate London, Ont.

Tile made from stone and cement, from 4 inches up to 18 inches; assorted car lots. Prices on application. Building Blocks for houses or barns. These make an ideal garage. Window sills, lintels for prompt shipment. For prices, write or phone 31A.

A. DEVINEY, St. Mary's, Ont.

A Chatty Letter About Farming, Crops, and the Boys.

EDITOR "THE FARMER'S ADVOCATE":

"The Farmer's Advocate" has been a constant visitor in our home for many years. I have been watching with interest the many letters printed in its columns, as they have appeared from time to time. I was much interested in the real farmer, with the real farm, the automobile and the sick cow, and I sometimes wonder if the cow got better and if he still has to pay the license for running his machine.

I am a real farmer's wife with a real farm, but no sick cow and no automobile, consequently no license to pay. But we have a hired man, which, I suppose, in these times is almost as much of a luxury, and one which, according to some of our writers, should not be tolerated.

I was very much amused at a conversation between a soldier and his sister. They were both right from old Erin. He was telling her how they were going to get a month's leave to help the famers and her answer was: "Sure and you must think the farmers are soft to have the likes of you around."

I laughed heartily at her answer, and although in a joke, I thought she was pretty nearly right. The soldier was of fine appearance and a soldier every inch. He had seen active service in South Africa and had travelled a great deal, but had scarcely spent a day in his life on a farm.

It is a mistaken idea that any one can farm. No calling in life requires the science and brain work as well as muscle and energy that farming does. Lack of these is what causes the miserable failures we see in every locality. How often we see the man come in from another country where conditions are very different and try to work out the methods he knows in a place he does not know.

Take a ride through the country now in your automobile, and watch carefully the farmers as you pass them. You will soon see which farm the scientific man lives on. He was pretty well prepared last fall for this year's spring crop.

A Book About Money. How to get it. How to hold on to it, and how to make it work for you, will be sent free to everyone who writes for a copy and mentions this paper. It's a book that has started many a man and woman on the road to owning sound, interest-paying investments. Just write and say, "Send me your book about Profits from Savings." Address Dept.: 9. STANDARD RELIANCE MORTGAGE CORPORATION. Head Office 82 88 King St E Toronto. Branches: Ayr, Brockville, Chatham, Elmira, New Hamburg.

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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

Bulls to Head the Best Shorthorn Herds. His Majesty - 106890 - Royal Favorite - 106891 - Campaigner - 106892 - Royal Triumph - 106893 - Commander's Heir - 106131 - Ambassador - 16894 - etc. The best lot we ever bred, our bulls have made good—bulls bred identically to these. Keep these good—bulls in Canada. See them in the leading exhibitions. In themselves they are desirable, big, sappy, and characteristic of the breed. Their breeding is faultless. They are attractive reds and roans, and will keep on improving. We have Princess Royals, Wimples, Rosebuds, Scouts, Kiblean Beauties, Mysies, Cecillas, Victorias and Orange Blossoms. "Puslinch Plains" at Arkell, C.P.R. Station, 3 miles from Guelph. The New Home of the Auld Herd The Land of the Big Beeves. A. F. & G. Auld, R. No. 2, Guelph, Ont.

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One young bull, Weldwood Red Victor, out of Lena of Northlynd, with an official record of 7,501 lbs. milk and 328 lbs. butter-fat. This bull is sired by College Duke - 85912 - Also a few cows and heifers.

WELWOOD FARM, The Farmer's Advocate, London, Ontario

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, some younger still; heifers ready to breed and younger, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years, and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ontario

Shorthorns and Shropshires—T. L. MERCER, MARKDALE, ONTARIO—With 125 head to select from, we can supply young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st-prize ram; high-class lot.

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.

BOG Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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MEMORIAL BELLS A SPECIALTY
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Chicago Office: Room 61, 154 W. Randolph St.
Established 1846

crop. He was ready at that time and got a fair crop in. The any-one-can-farm farmer was not ready, missed that time and so got little or none in.

Now just a few words before closing in connection with our boys in the trenches, who are fighting our battles for us. I am a woman and the mother of a brown-eyed boy of ten, whose only regret at present is that he is not eighteen, but who fully intends to go some time if the war lasts long enough. I am an Institute worker and "Home and Country" is our motto, and I believe in moral reform where needed and all things that are good. But I don't see why in the name of common sense the women can't leave the boys in the trenches alone. If they want tobacco and cigarettes why can't they have them? About substituting candies for those things, why not give them the candy too? I am sure the boys deserve every good thing we can give them. And I feel sure the men who have used tobacco and cigarettes for years will not be satisfied with candy in their place.

And if they want them, why have they not as much right to have them and enjoy them over there in those awful trenches, where there are little or no comforts and very little except hardships and suffering, as have the husbands of the women who are advocating candy to sit comfortably in Morris chairs, in electric-lighted, steam-heated, comfortable homes enjoying their cigars and newspapers? Give the boys everything we can to make them comfortable. They are fighting our battles for us. I feel we are going just a little too far when we dictate to them about what they shall have and what they shall not. Let us be women and lay the little, petty prejudices aside and go in hand to hand and shoulder to shoulder, and not be stopping along the way, picking at the little things. The boys in the trenches are not children, they are men with just as clear ideas of right and wrong as we have. Show them that we trust them and spare nothing that we can do or give in any way that will add to their comfort or lighten in any way the terrible burden they are bearing for us.

Welland Co., Ont. M. A. K.

Questions and Answers. Miscellaneous.

Concentrates for Cows at Pasture—Limestone in Stables.

1. Will it pay to feed oil-cake meal to milch cows while on pasture?
2. What makes the best available feed to buy at present prices; brewers' grains, wheat bran, shorts and oil meal being offered? Would you suggest a combination?
3. Will limestone ground and sold, as suitable to sow on land, be of any use in keeping stables sweet?

P. J. G.

Ans.—1. This will depend largely on the character of the pasture, but if any concentrate is necessary we believe oil-cake meal, as quoted at time of writing, could be fed profitably.

2. Pasture feeding is not like winter rations, for it varies with the quantity and quality. In the stable one can recommend certain proportions and know what the animals are getting. Basing our opinion, re this matter, on pastures as they have been this season and on present quotations for feedstuffs, it appears that oil cake and shorts would make a suitable combination to be fed as required. One can increase the flow of milk quite easily with concentrates while cows are on grass, but the feeder must have some record to tell him whether it is a profitable increase. In the majority of cases it pays to feed a little extra meal, but how much depends on what else the cows are getting and what they will give in return for it.

3. The air-slaked lime will have more effect in sweetening a stable than will the ground limestone dust or agricultural lime.

London Householder.—Not many people away holiday-making in war time, I suppose, milkman?

Milkman.—Well, mum, you'd be surprised; at least five gallons of my customers were away last week-end.—Punch.

Barrett Money Savers for Farmers

MADE IN CANADA

The Next Best Thing to Making More is Saving More

WE WANT you to read about the articles mentioned in this advertisement and then see if you are not losing money by failing to use all or some of them. Every one of these is a leader, a specialty for farm and home and we'll be glad to tell you more about them.



AMATITE ROOFING—Here is a ready roofing that needs no painting or other attention to keep it watertight. Amatite Roofing has a mineral surface that laughs at wind and weather. Very attractive because of its bright, sparkling appearance. Wherever you have steep roofs, you need Amatite. Amatite is made in rolls of 110 square feet with galvanized nails and cement in center. Try it.

EVERLASTIC ROOFING—Here is a ready roofing of wonderful value. No better "rubber roofing" has ever been made at the price. Everlastic Roofing is ready, easy to lay and sure to wear. You don't need skilled labor to lay it. Durable and inexpensive. The solution to your roof troubles.



EVERJET—On every surface exposed to the weather, you need Everjet Elastic Paint. It is the best carbon paint ever made and carbon paint is a sworn enemy of the weather. There isn't a felt or metal roof in the country that could not be improved by a coat of Everjet. It clings, penetrates and protects. Everjet is wonderful on iron work and farm implements. Its sparkling black surface is tough and elastic. Never cracks or peels. You ought to keep this paint on hand always.

CARBONOL—The most necessary thing you could have around the house is a bottle of Carbonol. It is the best disinfectant, healer and cleanser ever made. Removes grease, germs and odors. Therefore, put some in the water with which you clean house. Heals cuts and wounds; prevents blood poisoning. Wonderful in the sick room because it prevents contagion. It will keep your stable or hen house clean and drive flies away from garbage pails or cattle pens. The best thing you could have for a hundred different uses. Get a bottle today.



CREONOID—When it's so easy to have healthy, profitable live stock, why not try this idea. Put some Creonoid in the barn and poultry house and spray the cattle. Creonoid insures clean, healthy cows, horses and chickens. Creonoid is the most effective lice destroyer and cow spray ever made. You need it, perhaps right now. Wonderful in the piggery, too. Makes better porkers. Sold in 1, 5 and 10 gallon cans, half barrels and barrels. Follow directions carefully.



WOOD PRESERVATIVE—Do you want to add many year's wear to your fence posts and exposed woodwork? You can do it by treating them with Grade-One Creosote Oil. Its use is the safe, practical and inexpensive way to make fence posts, clothes posts, or porch steps immune to the attacks of weather, earth or moisture. You know the preservative values of creosote. Being a liquid oil it can be applied by simply dipping, spraying or brushing. No expensive method. That's why Grade-One Creosote Oil is practical for the farmer. And it actually penetrates deeper into the wood than any other preservative. Protect your timber with Grade-One Creosote Oil and begin now.

ELASTIGUM—Don't tinker, delay and experiment with the little everyday repairs. We have a product that makes such repairs not only cheap and easy, but permanent. It's called "Elastigum" because it's a tough, elastic, adhesive, waterproof cement. Has no equal for joining or relining gutters, sealing joints or stuffing cornices. Invest in some Elastigum now and have an ever-ready handy man in the future. A trial will prove that it's indispensable. Make that trial now.



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Females-SHORTHORNS-Females

I can supply females of the most popular Scotch families, Crimson Flowers, Minas, Lady Fannys, Nonpareil, Butterflys, Amines, Athas, Miss Ramsdens, Marr Emmas, Marr Missies and Clarets. A few bulls. A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C. P. R. and G. T. R.; Oshawa, C. N. R.

Spruce Glen Shorthorns

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

Canada's Grand Champion Shorthorns of 1914-1915

are headed by the great "Gainford Marquis" Imp. Write your wants. J. A. WATT, ELORA, ONT. G.T.R. & C.P.R.

Maple Shade Farm Shorthorns

The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale, but can show a few which should interest you. Brooklyn, G.T.R., C.N.R.; Myrtle, C.P.R. W. A. DRYDEN, Maple Shade Farm, Brooklyn, Ont.

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Our "B" machine, built especially for the farmer. A combination machine—it will cut and deliver green corn into the highest silo or dry straw or hay into the mow. 12-inch throat, rolls raise 6 inches and set close to knives—solid, compact cutting surface. Can change cut without stopping. Can be reversed instantly. Direct pneumatic delivery. Knife wheel carries fans. No lodging, everything cut, wheel always in balance. Steel fan case.

Made in two styles—mounted or unmounted. We also make larger type machine for custom work. Ask your dealer about this well-known machine and write us for new catalog showing all styles.

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Made in Canada

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**WHITEWASH
SPRAYER For \$5.50**
Delivered anywhere in Ontario. Holds 4 gals. Will spray fine or coarse. Absolutely guaranteed. Write for catalogue.
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Glenfoyle Shorthorns

Large selection in females all ages, bred from the best dual-purpose families. One extra choice fifteen-months bull, some younger ones coming on. Priced well worth the money.
Stewart M. Graham, Lindsay, Ont.

Fletcher's SHORTHORNS—3 choice bulls of serviceable age; also females, all of good Scotch breeding for sale. Write before buying.
Geo. D. Fletcher, R. R. 1, Erin, Ont.
L.-D. Phone Erin Sta., C.P.R.

Shorthorns Bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. Prices easy. Write:
THOMAS GRAHAM, R.R. 3, Port Perry, Ont.

Shorthorns—"Pail Fillers"—Our Shorthorns are bred and developed for big milk production. If you want a stock bull bred that way, we have several; also Clyde, stallion rising 3, won 2nd at Guelph the other day in a big class. **P. Christie & Son, Manchester, Ont.**

Northlynd R.O.P. Shorthorns and Jerseys. Present offering: One Shorthorn bull old enough for service, whose dam, his dam's full sister and his grandam in six yearly tests made an average of over 8,500 lbs. milk, testing over 4% in an average of 329 days. **G. A. Jackson, Downsview, Ont.**

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows.
ANDREW GROFF, R.R. No. 1, Elora, 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

Questions and Answers.
Miscellaneous.

A Poisonous Weed.

What is the enclosed weed? I found it growing in some swampy land. Is it poisonous?
J. T.

Ans.—The weed enclosed is Spotted Cowbane or Water Hemlock (*Cicuta maculata*). This is a weed of marshy places. Cattle are very frequently poisoned by eating roots of this plant, especially early in the spring when pasture is scarce. Nearly every year we receive complaints of cattle being poisoned by eating the roots of this plant. It is, therefore, advisable to watch marshes and low places for this weed and hand-pull any plants that are found. This is easily done if the roots are first loosened with a spud or other implement. It is necessary also to dry and burn the roots after pulling them; if they are thrown down in a damp place they will grow again.
J. E. H.

Improper Line Fencing.

A line between A and B was run by a surveyor a number of years ago and the stakes are still at each end. The line fence between said two end stakes is curved, so as to be from a rod to a rod and a half off the true line, and upon B's land part of said line fence has been standing in its present position for over 20 years, and part in resetting the same a few (5 or 6) years ago was moved from its old bed and set 4 or 5 feet more onto B's land, and the rear end is a bush fence.

1. Can A hold the old fence line by possession since he changed the position of part of it only about 6 years ago? 2. Is the position of the line inclosed by a brush fence a lawful line, and could it also be held by possession?
Ontario N. M.

Ans.—1. To the extent of the original encroachment it is probable that he can. 2. Yes.

For Difficult Churning—Hard Soap.

I have been a constant reader of your paper for some time and frequently see in your columns the question of "Difficulty in Churning," and as yet have seen no satisfactory answer. It surprises me to think we have dairy schools and men who have studied the dairy business for years and cannot give a remedy for this. Now I will give you a remedy that I tried and had good results. Try feeding the cow a level teaspoonful of saltpetre in her mash or chop, twice a week or every other morning at first. I tried this and the result was nice solid butter in fifteen minutes, after losing two churnings.

2. I see another question on how to make hard soap out of Gillett's Lye. I use Sal. soda with better results than Gillett's Lye, the same recipe may answer for Gillett's Lye. Take 3 lbs. Lye or soda and 9 lbs. tallow to 4 twelve qt. pails water. One pail water is put on tallow and boiled 5 minutes. Then add soda gradually. Boil 2 hours and add rest of water and boil 1/2 to 1 hour. Oil of Lavender 15c.
O. J. C.

It is generally the man who doesn't know any better, who does the things that can't be done. You see the blamed fool doesn't know that it can't be done, so he goes ahead and does it.

Commander.—What's his character apart from this leave breaking?

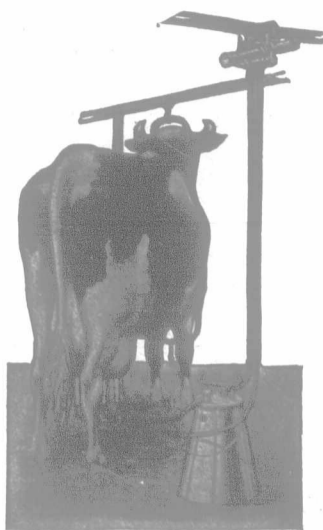
Petty Officer.—Well, sir, this man 'e goes ashore when 'e likes; 'e comes off when 'e likes; 'e uses 'orrible langwidge when 'e's spoken to—in fact, from 'is general be'avior, 'e might be an officer.
—Punch.

"What do you suppose has come over my husband this morning, Sophia," exclaimed an Irvington lady to the new servant. "Never saw him start downtown so happy. He's whistling like a bird!"

"I'm afraid I'm to blame, mum. I got the packages mixed this morning and gave him birdseed instead of his regular breakfast food, mum."

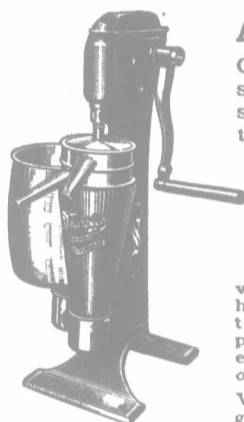
"Production and Thrift"

You Dairymen of Canada! The Department of Agriculture, in its War Book, "Production and Thrift," asks you to "do your bit" in the great struggle by increasing production. The shortage of labor has made this hard to accomplish. Yet the problem can be solved by labor-saving devices. Take milking: One man can milk and strip 30 cows per hour with a Sharples Milker. If you have 15 cows or more, it will pay you to get a



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The patented "Upward Squeeze" keeps the teats perfectly healthy—Nature's own way. Valuable cows can be safely milked—hardest milkers respond readily. Breed makes no difference. Over 300,000 cows milked twice daily by the Sharples is abundant proof of satisfactory service. Milk flows through rubber tubes to sealed silver buckets, so no pollution is possible from stable air, stable dust or hands. That makes cleaner milk and higher prices. Anybody can operate it. Practically every part is non-corrosive—built to last. Send for free booklet: "Dairying for Dollars Without Drudgery"—full of hard-headed facts.



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Cream production can be increased by the use of a separator that will get ALL the cream at ANY speed. There's only one machine that will meet this requirement, the

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will save on the average about \$47 a year—sometimes as high as \$100—over any other separator. Remember, too, the cream's perfectly even every time—that means higher prices. Sharples tubular bowl contains no discs—by far the easiest to wash. Low supply tank—easy to fill. Send for our free book "Velvet" for Dairymen. Write Dept. 75. We make a splendid line of Double Ignition Gasoline Engines 2 1/2 to 9 horse power. Fully guaranteed.

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Maple Grange Shorthorns Pure Scotch and Scotch-topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
R. J. DOYLE, Owen Sound, Ontario

Walnut-Grove Shorthorns Sired by the great sire Trout Creek Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants.
DUNCAN BROWN & SONS, R.M.D. Sheddon, Ont., P.M., & M.C.R.

SHORTHORNS SHROPSHIRE CLYDESDALES
Have still on hand one bull fit for service by Newton Sort—93019—Some good young things coming along. A few young cows and heifers. Come and see them. **R. R. No. 3, OSHAWA, ONTARIO**
2 1/2 miles from Brooklin, G.T.R. 4 miles from Myrtle, C.P.R. 4 miles from Brooklin, C.N.R.

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 prize-winning bull, Brown Dale—80112—, a Mina. 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.

Meadow Lawn Shorthorns We are offering a choice lot of bulls at very reasonable prices. An exceptionally good one sired by Clan Alpine 2nd, No. 88387, G. D. Donside Alexandra (imp.) No. 59513, and any one wanting a right good herd header would do well to secure this bull, as he is a smooth, well proportioned fellow that attracts attention at first sight.
F. W. EWING, G. T. R. and C. P. R. R. R. No. 1 Elora, Ontario

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, Ontario

GLENGOW SHORTHORNS AND COTSWOLDS Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.
Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

Four Imported Bulls The above bulls are choicely bred, of good quality, and should make valuable sires. We have five Canadian bred bulls from 10 to 18 months old. We invite inspection of our stock and will give correspondence our most careful attention.
J.A. & H. M. Pettit, Phone Burlington, Freeman, Ont. Burlington Jct., G.T.R., half mile from farm

Oakland--48 Shorthorns Present offering is one choice red bull, 20 months old, price \$175; also three about seven months old. A few cows with calves at foot and bred again, and some fine heifers bred. All registered and priced to live and let live.
JNO. ELDER & SONS, HENSALL, ONT.

Pleasant Valley Shorthorns Special Offering, Sittyton Favorite one of the best individuals and stock bulls we know of. Also young bulls and females bred to (imp.) Loyal Scot and Sittyton Favorite. Write your wants. We can suit you in merit, breeding and price.
GEO. AMOS & SONS, Moffat, Ont. Moffat, 11 miles east of Guelph, C.P.R.

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 The Improved Veteran Endless Canvas Drive Belts will give you better service than any other. You want the best. Order now. Sold only by

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American CREAM SEPARATOR

A SOLID PROPOSITION to send a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream.

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 Don't see a picture of a picture which illustrates our large capacity machines. Shipments made promptly from Windsor, Man., Toronto, Ont., and St. John, N.B. Whether dairy is large or small, write for handsome free catalogue. Address: AMERICAN SEPARATOR CO., Box 3200 Bainbridge, N. Y.

Holstein Females For Sale

Two-year-old registered heifers, in calf, at \$75 and up. Two heifers due next month, \$80 each. Also six good cows, bred to high-class sire, \$100 up. One extra choice bull calf, born July 6, 1916, from great sire and heavy-producing dam, only \$35. Certificates and transfers furnished.

Glenoro Stock Farm, Rodney, Ont.

3 Holstein Bulls

ready for service. 1 black dam 16.3 lbs. butter 7 days, 63 lbs. milk 1 day. At 2 years her dam 1,007 lbs. butter, and 25,000 lbs. milk in 1 year: 3 bull calves 4 to 6 mos.

R. M. Holtby, Port Perry, Ont.

Walnut Grove Holsteins

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C.R. JAMES, Langstaff P. O., Ontario
 Phone Thornhill

Bulls, Bulls—We have several young ready for service. Sired by the great bull, King Segis Pontiac Duplicate, and our junior herd bull, Pontiac Heigerveld Pieterje, and from high-testing dams. Prices low for the quality. Write and get them. Manchester, G.T.R., and Myrtle, C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R.4, Port Perry, Ont.

Questions and Answers.
Veterinary.

Umbilical Hernia.

At 3 weeks of age my colt's navel got big. I have used carbolic acid without results. There is no discharge. He is smart and is doing well. H. H.

Ans.—This is a rupture. If it is not getting any larger, leave it alone and it will probably disappear by the time he is weaned. If it has not disappeared by that time it will be wise to get your veterinarian to operate. If the tumor is becoming larger now have him operated on at once. A truss so arranged that it will force the intestine up into the cavity and keep it there for about 3 weeks, often effects a cure, but the truss is very hard to keep in position, and when a spontaneous cure does not take place it is better to operate. V.

Stifle Lameness—Weak Foal.

1. My 5-year-old gelding sprained his stifle more than a year ago, and is still lame.

2. Pregnant mare had a bloody discharge for 2 or 3 months before parturition. Her foal was weak when born, took diarrhoea within 12 hours and died within 36 hours. W. P. S.

Ans.—1. Clip the hair off the joint. Get a blister made of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ozs. vaseline. Tie his head so that he cannot bite the parts. Rub the blister well in. In 24 hours rub well again, and in 24 hours longer apply sweet oil, and turn him loose in a box stall. Oil every day until the scale comes off. Then tie up and blister again. After this, blister every month until better. Lameness of such long standing, especially stifle lameness, is very hard to treat successfully, and recovery is often very slow.

2. The bloody discharge was probably due to an injury, but occurs without appreciable cause, and in most cases is followed by the production of a weak foal. All that you can do to prevent such conditions is to keep your pregnant mares in only moderate condition. Avoid excitement, slipping, etc., and give regular exercise or light work, during the whole period of pregnancy. V.

Capped Hock—Leaks Milk.

1. Horse kicks in stall, and as a result a soft lump has appeared on the point of the hock.

2. Cow leaks milk. A. D.

Ans.—1. This is called "capped hock." It is a serous abscess. If the quantity of serum be great it will be necessary to get your veterinarian to operate, but if it be small you will be able to reduce the enlargement by rubbing a little of the following liniment well in with smart friction once daily, viz. One made of 4 drams each of iodine and iodide of potassium and 4 oz. each of glycerine and alcohol. Have patience, as quick results will not be noticed. Of course the cause of the trouble must be checked. By keeping him in a box stall the danger of a repetition of the cause can be greatly reduced. Padding the stall posts to prevent injury also tends to prevent severe bruising. Buckling about 12 to 18 inches of chain to the leg, by attaching it to a strap buckled around the pastern will often check the habit. There have been several suggestions on the better way to cure a horse of kicking in the stable, in recent numbers of this journal.

2. Immersing the points of the teats in a warm solution of alum, 1 oz. to a pint of warm water, for a few minutes 2 or 3 times daily has a tendency to check this, or putting rubber bands around the teat near the point is also claimed to be successful. Probably the better plan is to milk 3 times daily. V.

"This is one of the peculiarly dangerous months to speculate in stocks. The others are June, January, September, April, November, March, May, December, August, October, and February."—Mark Twain.

"That's a smart thing I've done," said the doctor to his assistant.
 "What's that, doctor?"
 "I have put my signature in the column 'cause of death' in this death certificate."

SYDNEY BASIC SLAG

Try It This Season On Your Fall Wheat

THE Ontario farmer can get no other fertilizer for \$20 per ton that will make him as much money on his Fall wheat as Sydney Basic Slag. If we have no agent in your district, we will supply ton lots direct from the factory at this price, cash with order. Better still, perhaps you could get a few of the neighbors to join with you and take a 20-ton car. If you think you can manage this, drop us a line right away, and we will get our general salesman to call and talk the matter over. If necessary he could drive a day with you and see the neighbors. You would be reasonably remunerated for your trouble, and what is of more importance, you will confer a great benefit on your district in introducing Sydney Basic Slag.

Interesting descriptive literature will be sent on application.

The Cross Fertilizer Co., Limited
 Sydney, Nova Scotia

HOLSTEIN CATTLE

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. always welcome. Long-distance Phone. Visitors

D. C. FLATT & SON, R. R. 2, Hamilton, Ont.

King Segis Pontiac Paul 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large, heavy-producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

Also Berkshire and Yorkshire Swine

Larkin Farms Queenston, Ontario

Lakeview Farm, Bronte, Ont.

Offer for sale sons and grandsons of 100-lb. cows; one is out of a 24.56 lb., 3-year-old daughter of Lakeview Rattler's 28.20 lbs., heavy-producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

Artis, 34.66 lb. Canadian champion senior 3-year-old. Terms to suit purchaser.

Major E. F. Osler, Prop. T. A. Dawson, Mgr.

Clover Bar Holsteins

A splendid 14-mos. old son of Minnie Paladin Wayne, who has just completed a record of 26.87 lbs. butter, 545 lbs. milk in 7 days. Her 2-year-old record was 22.33 lbs. For type and color he is second to none. Also her 3-weeks-old bull calf and a few others from good R.O.M. dams.

PETER SMITH R. R. No. 3, Stratford, Ont.

Dumfries Farm Holsteins—Think this over—we have 175 head of Holsteins, 50 cows from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.

S. G. & ERLE KITCHEN, St. George, Ont.

FAIRVIEW HOLSTEINS

Anything in herd for sale, which consists of 22 cows, 6 two-year-old heifers bred to freshen next fall and early winter, nine yearling heifers not bred and nine heifer calves. All bred in the purple and priced right.

FRED ABBOTT, R. R. 1, Mossley, Ont.

Evergreen Stock Farm Registered Holsteins—The kind that tests 4% and wins in the choice young bull 8 months old, we have one that is strictly a gilt edge individual, almost as much white as black. The records of his dam, sire's dam, and grand-sire's dam average over 30 lbs. butter in 7 days and nearly 100 lbs. of milk per day. For quick sale we have priced him within your reach—\$150

A. E. HULET BELL PHONE NORWICH, ONTARIO

For Sale---Sons of King Segis Walker

From high-testing daughters of Pontiac Korndyke. Photo and pedigree sent on application.

A. A. FAREWELL, OSHAWA, ONT.

Hospital for Insane, Hamilton, Ontario—Holstein bulls only for sale, four fit for service, one being a son of Lakeview Dutchland Lestrage, and the others from one of the best grandsons of Pontiac Korndyke, and large producing, high testing R. of P. cows.

APPLY TO SUPERINTENDENT

Pioneer Farm Holstein Herd Has only one ready-for-service son of Canary Hartog, whose three near dams, one of these at ten years old, averaged 30 lbs. butter in 7 days and 108 lbs. milk in one day. This fellow, 3/4 white, is a handsome son of Calamity Snow Mechthilde 2nd, a 22.86 lb. jr. 3-yr-old daughter of Prince Aaggie Mechthilde, who has 7 jr. 2-year-old daughters averaging 14,800 lbs. milk in R.O.P.

Walburn Rivers, R. R. No. 5, Ingersoll, Ontario. Phone 343 L, Ingersoll Independent.

Gophers and Some Other Things.

EDITOR "THE FARMER'S ADVOCATE":

The gopher, I take to be a fairly perfect embodiment of the spirit of the West. Aggressive, confident, self-assertive, even to the point of impudence, he is the type of individual who makes his way under difficulties, who attains results, as a pioneer, in a new land. Of course, it is not a new land to the gopher, though the great, stalking biped who has come and turns the surface of the earth upside down and piles up grass and grain in heaps and builds strange constructions to live in, and does many other ridiculous things, has created new conditions for the gopher, so that for all practical purposes it is a new land from the gopher's standpoint. With a supremely confident assurance, though, he has accepted the new situation and appears to thrive upon it and enjoy it. But there are times when he can't understand the attitude of this creature called man. Sometimes he points a stick at him and there follows a flash of fire and a sharp report, and a gopher falls over dead or sorely wounded, pierced by something. At other times he catches him in a trap or a snare and kills him, or treacherously sets poison for him and kills him by scores. By right of pre-emption the gopher considers himself entitled to possession, but he would be perfectly willing to share the land with man, but man will conclude no treaties with him. Rumors have even declared that man has at times, and in certain sections of the country, systematically attempted to exterminate the gopher tribe. The gopher can't understand these things. Yet, in spite of man's strange conduct, he seems to thrive and may be counted by hundreds in any ten-mile drive through the country. The bachelor, in his shack, hears him scuffling around from early morning to late at night, and as he journeys around the country, Mr. Gopher dodges into his hole just in time to escape the wheel or horse's hoof, then straightway pokes his head out and whistles at him.

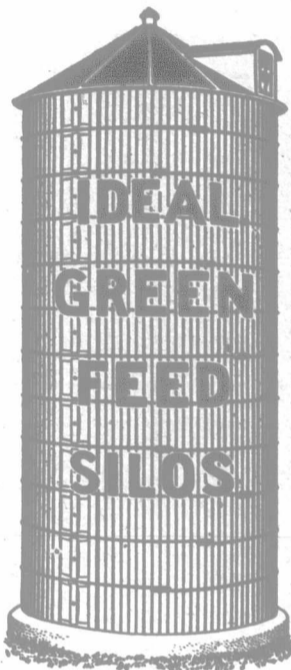
Without discussing the economic loss or gain resulting from the gopher's residence in the country, I should like to suggest that man, with all his reputed wisdom may learn from the gopher. The theme of my homily would be "Adaptability." When the buffalo and the coyote held undisputed sway on the prairie, the gopher, I presume, prospered in whatever unaided nature had to give him. I look out of my window and see a field that has been cultivated and sown by man that is being nicely covered with greenness, and I see the gophers, by the dozen, hastening to take advantage of the good living so generously provided. I go outside and find him taking shelter under my doorstep. He is adapting himself to new environment.

I spent a summer, not long ago, in the Sudbury district, and found what I thought to be one of the finest possible opportunities for agricultural prosperity being almost entirely neglected. The district around Sudbury, a sufficient distance away from the sulphur fumes of the smelters, can produce vegetables to perfection, and the local market is immense. Sudbury is shipping in and paying big prices for vegetables, by the carload, that might just as well be produced locally, while those French-Canadian farmers are finding about half a decent living by growing hay, (grain is not dependable). I presume their grandfathers grew hay, and the present generation must needs do the same. Some farmers in Ontario last year found their wheat unusually profitable because it was sprouted and unsalable, and they had stock or procured stock to which to feed it. Others found their sprouted wheat a rather serious loss. In Alberta, where mixed farming has been generally adopted, the farmers are prosperous as a rule, and early frosts have no great terrors for them. In other districts where farmers insist on depending on grain growing alone, they are in a continual ferment between hope and fear till the crop is harvested. A few years ago, in a district where I was living, a young man had a good crop of grain that he was depending on to help him out of several difficulties. He was in a store in town one day

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Now is the time to plan for your silo. In selecting it, remember that it is GOOD silage that is most profitable to feed, and that GOOD silage can be produced only in a GOOD silo. Something that is claimed to be "just as good" at a lower price is never as good. A "cheap" silo is bound to be an inferior silo, and it can not produce GOOD silage. A "cheap" silo, or a silo that you can erect from "cheap" material, will prove the most costly you can buy.

The few dollars you might save on the first cost by buying such a silo will be lost many times over in the poor quality of the silage, the trouble and expense you will be put to in keeping the silo in repair, and in its short life.

An Ideal Green Feed Silo will pay for itself in one year, and will last from fifteen to twenty years. It will preserve your silage perfectly. It is the most profitable silo to own because it returns the biggest profit on the money you invest in it.

Don't take a chance. Don't buy any silo until you get all the facts that prove that you get more for your money in an Ideal than in any other. Write today for our large, illustrated catalogue—or, better still, place your order with a De Laval agent for an Ideal Green Feed Silo. You take no chances in ordering an Ideal, because it is used and endorsed by thousands of the most experienced farmers and the best authorities in Canada.

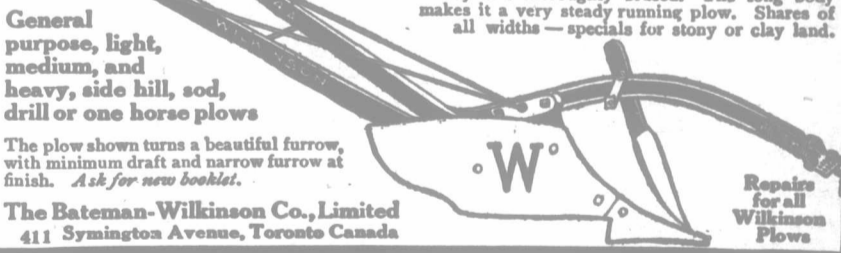
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Glenhurst Ayrshires For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 60-lb. cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me. **James Benning, Williamstown, Ont.**

Stonehouse Ayrshires Are a combination of show-yard and utility types seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere. **Hector Gordon, Howick, Que.**

GLADDEN HILL AYRSHIRES Herd headed by Fairview Milkman. Some choice bull calves for sale, from dams with good records and a few females. **LAURIE BROS. Agincourt, Ontario**

THE WOODVIEW FARM JERSEYS Canada's Most Beautiful Jersey Herd—Half the herd imported from the Island of Jersey. Several cows in the Record of Merit, and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire, or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows. **LONDON, ONTARIO John Pringle, Proprietor**

YOUNG Brampton Jerseys BULLS For the next fortnight we are making a special offering on young bulls, bred from the highest producing families ever introduced into Canada. Brampton Jerseys and their descendants hold all Jersey R.O.P. records save one. Females all ages, also for sale. **B. H. BULL & SON, Brampton, Ont.**

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The Public is Fast Demanding MILK that is MILK Buy Ayrshires and meet this demand Let us assist you in starting—write

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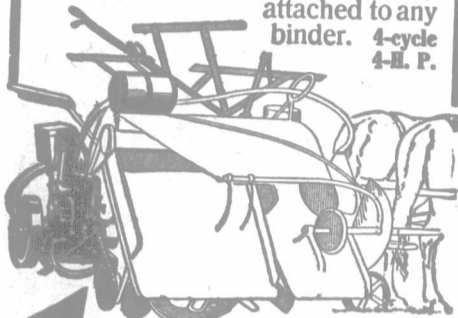
W.F. Stephen., Sec., Huntingdon, Que.

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Two yearling bulls sired by Lakeside Day Star (Morton Mains Planet). Write for description. **J. R. Kennedy Knowlton, Que.** Pedigreed Jersey Cattle for immediate sale. Eight cows, one bull; also three pedigreed Holstein bulls. **DONALD STRATHDEE, Strathrobin Farm York Mills P.O., Ontario**

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Better than 4 horses without the engine. Team simply draws machine. Engine does all operating. Sickle never stops when bull wheel skids. Easily attached to any binder. 4-cycle 4-H. P.



Weights Only 167 pounds

Quickly detached for any other farm power work. Delivers full 4 H. P. Speed changed while running. Has patented clutch pulley with sprocket for chain drive to double sprocket on binder. Schebler Carburetor. Also 2-cylinder 6-H. P. up to 20-H. P. heavy duty, light weight specialty farm engines. State size wanted.

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Good Luck

COTTON SEED MEAL
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HIDES, SKINS, HORSEHAIR,
WRITE FOR OUR PRICES BEFORE SELLING
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Young sows bred for September farrow and some nice young boars. Write—
John W. Todd, R. R. No. 1, Corinth, Ont.

Morrison Tamworths and Shorthorns—Bred from the prize-winning herds of England. Tamworths, both sexes. 12 young boars fit for service. 12 young sows to farrow in July and August. Choice Shorthorns of the deep-milking strain.
CHAS. CURRIE, Morrison, Ont.

ELMFIELD YORKSHIRES Choice ones—ranging from 2½ to 5 months. Will be ready for fall service. Prices right.
G. B. Muma, R.R. 3, Ayr, Ont. Paris, G.T.R.
Ayr, C.P.R., Telephone 55 R. 2, Ayr Rural.

Swine for Sale—Am offering choice stock in Poland-China and Chester White swine of either sex; most any age. First-prize Poland-China herd London and Toronto, 1915. Prices easy.
GEO. G. GOULD R.R. 4, Essex, Ont.

Lakeview Yorkshires—If you want a stock boar of the greatest strain of the breed (Cinderella), bred from prizewinners for generations back, write me. Young pigs of all ages.
JOHN DUCK, Port Credit, Ontario

CLEARVIEW CHESTER WHITES For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions.
D. DeCoursey, R. R. No. 5, Mitchell, Ont.

Pine Grove Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.
Joseph Featherston & Son, Streetsville, Ont.

Townline Tamworths We can supply young Tamworths of both sexes and any desired age of superior quality. Also Leicester ram and ewe lambs, Pekin ducks, Langshan cockerels and pullets. Write us your wants. T. Readman & Son, Streetsville, Ont. R.M.D.

trying on a pair of shoes when a hail storm passed over. As the hail began to bombard the roofs and the street he said to the clerk, "I guess I'll not buy those shoes now." The hail storm did not do so much as it threatened, though, so he was ultimately able to buy a new pair of shoes after all.

I would not like to be accounted harsh in judgment on farmers who are struggling to make a start and are really not able to take full advantage of opportunities, but I would like to plead for legitimate and sane audacity in making adaptation to changing circumstances. A little more of the pushfulness and ingenuity of the ordinary business man, applied to agriculture, might work wonders, in some cases, in increasing production and bringing comfortable prosperity. I doubt, though, if my homily will really count for anything, save a few minutes' entertainment to a few people, as I have an idea that about ninety-nine per cent. of the readers of "The Farmer's Advocate" might be fairly compared to the gopher in adaptability, while those that such a plea should reach, never spend a dollar on an agricultural paper.

Alberta.

J. D. TAYLOR.

Questions and Answers. Miscellaneous.

Boundary Dispute.

A buys a lot from B and pays for it. Lot joins C, both are timber lots. A and C have a dispute as to line. Can A remove timber from his lot till line dispute is settled?

Ontario. A SUBSCRIBER.

Ans.—Yes, unless and until enjoined from doing so by some court of competent jurisdiction.

Roup.

Could you tell me what causes my hen's heads to swell up, starting first on one side, causing the eye to become closed, and gradually both sides become swelled so that the hen cannot see to eat? She soon dies.

MRS. T. L.

Ans.—The disease is roup. It comes in all probability from a cold in the beginning, but will spread among a flock if not checked. It is sometimes due to the fowls roosting in a draft. If the cause is not removed birds very often go blind as yours have and die. Feed Epsom salts in the mash or give in drinking water. Use about one dessertspoonful to a gallon of drinking water. Give each affected bird one teaspoonful of dry salts. Bathe the head with a weak solution of any of the commercial roup cures or 5 per cent. solution of potassium permanganate, or a Seiler's tablet dissolved in a cupful of water. Where only a few birds are affected it is safer to kill and burn or bury with lime. Clean out the house and disinfect it by white-washing with a carbolic whitewash. Make it a 5 per cent. carbolic whitewash solution. Use air-slaked lime under the the dropping boards.

Mother and Son.

A man dies and wills his wife everything, farm stock and everything in doors and out. The son gets married. The mother goes away off the farm and lets him have everything to work the farm with. There is no settlement nor any writings about anything. He gives his mother a little every year. He works the farm and has all he makes, but the little he gives his mother. He has the use of all the stock and everything.

1. Can he claim that stock and sell it just as he likes? 2. If he backs notes or goes security for anyone can they sell the stock to pay the notes he has backed? 3. Does the stock belong to him? 4. How long before he can claim it?

Ontario. A SUBSCRIBER.

Ans.—1. No. 2. No;—that is, they cannot do so provided she takes prompt and proper legal steps to prevent it, in the event of his being sued as such endorser or surety. 3. No. 4. Not at all, if she takes suitable precautions. She ought to have the arrangement subsisting between them reduced to writing and signed by both. And the document should include an acknowledgment on the son's part of his mother's ownership of the property real and personal with particulars of same.

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Does all you could wish of a poultry fence and more. Built close enough to keep chickens in and strong enough to keep cattle out. Even small chicks cannot get between the close mesh of lateral and vertical wires. The heavy, hard steel top and bottom wires, together with intermediate laterals, will take care of a carelessly backed wagon, or an unruly animal and spring back into shape immediately. The wires are securely held together at every intersection by the PEERLESS Lock.

The Fence That Saves Expense
It never needs repairs. It is the cheapest fence to erect because, owing to its exceptionally heavy top and bottom wires, but half the usual amount of lumber and posts are required.

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and address of nearest agent. We also make a complete line of farm and ornamental fencing. Agents nearly everywhere. Agents wanted in unassigned territory.

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PETER ARKELL & SONS, Proprietors, Teeswater, Ont.
Customers, beware of imitations of this advertisement.

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THE HOME OF THE FAMOUS OXFORD

We breed and import Registered Oxfords. Rams and ewes in any quantity for sale. All recorded. Positively no grades registered as pure-breds. Also no grades handled except by order.

PETER ARKELL & CO., Props.

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Oxford and Hampshire Down Sheep

Farnham Farm The oldest established flock in America

Having quit the show ring we hold nothing back. Our present offering is a number of superior yearling and two-shear rams for flock headers, a carload of yearling range rams, a hundred first-class yearling ewes; also a fine lot of ram and ewe lambs of 1916.

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PRESENT OFFERING:
100 Imported Shearling Ewes 75 Canadian-bred Shearling Rams JOHN MILLER
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75 Canadian-bred Shearling Ewes 5 Bulls of serviceable age Myrtle Sta., C.P.R. & G.T.R.

Choice Yorkshires

We have at present several Yorkshires both sexes, all ages, for sale. Prices on application. Correspondence solicited.

Bell Phone Brantford 1102
Oak Park Stock Farm,

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R. R. No. 4, Paris, Ontario

Duroc Jersey Swine, Jersey Cattle —In Duroc Jerseys we have either sex of any desired age, bred from winners and champions high in producing blood. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

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We are in a position to supply boars and sows of different ages. We have an established type of Yorkshires that has been produced through many years of careful breeding and selection.

J. E. Brethour & Nephews,

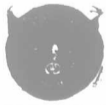
Burford, Brant County, Ont.

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Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years showing, still at the head. Boars and sows, all ages, same breeding as winners of export bacon in keen competition at Toronto in 1915.

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From our recent importation of sows, together with the stock boar, Suddon Torredor we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.

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Breeder and Importer,

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CLOVERDALE LARGE ENGLISH BERKSHIRES

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.

C. J. Lang, Burketon, Ont. R. R. 3

Newcastle Herd of Tamworths and Shorthorns—Stock boar and 2 aged sows for sale; fit for any show ring; also boars ready for service, and a number of sows bred for Aug. and Sept. farrow; others ready to breed, both sexes ready to wean; all descendants of imported and championship stock. A few choice bull calves, from 2 weeks up to a year old, from great dual-purpose cows; several extra good cows, with or without their calves; also heifers in calf to Broadlands, my present stock bull. Show stock a specialty. Prices reasonable. Long-distance 'phone.

A. A. GOLWILL, R.M.D. No. 1, Newcastle, Ont.

Cherry Lane Berkshires and Tamworths In 1915 we made a clean sweep at all the western shows in Berkshires and Tamworths; we have for sale both breeds of any desired age, winners in the West. First and third prize Berkshire boars at Guelph, first and champion Tamworth boar at Guelph.

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for sale; fit red for Aug. mported and dual-pur- Broadlands, e, Ont.

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DOUGLAS' EGYPTIAN LINIMENT



Stops Bleeding at Once
Removes all Inflammation
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And what are you getting for your cream?
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Write for our proposition.

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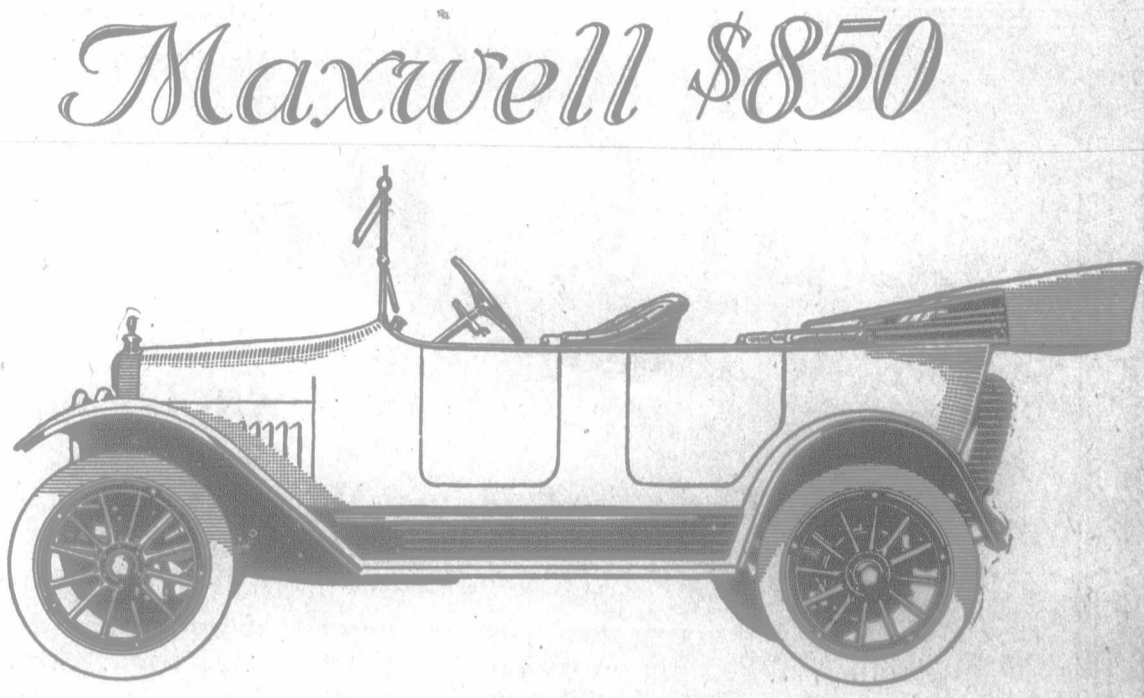
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Maxwell \$850

An Engineer's Opinion

This letter from an eminent engineer is typical of the experience of thousands of Maxwell owners. It covers the vital points of the Maxwell car—the points in which you, as an automobile buyer, should be interested.

"When I heard about the wonderful value in the 1916 Maxwell car I commenced to investigate, with the result that I sold the roadster I used to own to buy what I consider a more efficient car, the Maxwell.

"I placed my order and was fortunate in receiving through your live wire agent, Mr. Lustbaum, of this city, the first 1916 runabout in this section of the country. I was favorably impressed and pleased with my car from the start, and now after several months of service I am entirely convinced that my judgment was right in replacing my other car with a Maxwell for a business car.

"As industrial engineer for the Consolidated Gas Company of New Jersey, I must have a car that will give me service throughout the entire year, winter as well as summer. My operation is hard on a car, as I drive it every month of the year, through storm as well as clear weather, and through muddy as well as smooth dry roads. My mileage per gallon is necessarily low proportionally because I have a great many calls to make which of course necessitates many starts and stops, which tend to make poor efficiency records; this is also accompanied by considerable idling of the engine. However, for four months of operation I have averaged twenty-three miles to one gallon of gasoline, which is considerably higher than I was able to obtain with my other car.

"The self-starter equipment throughout on my Maxwell is apparently well-constructed and to date has given me no trouble at all, and yet I see every day other cars laid up with starting and ignition trouble.

"The points that appeal to me more strongly as I continue to drive my Maxwell are: The ease of operation; low maintenance cost; the advantage of demountable rims and one man top; the cool effect derived on warm days in the driving compartment due to the double ventilating windshield; the high tension magneto entirely separate from the lighting and starting system; the truly irreversible steering wheel, a great asset in sandy and muddy roads, and most important, the high efficiency in the consumption of gasoline and oil.

"In my opinion the 1916 Maxwell car is by far the best buy and greatest value for the money, of any make of automobile made in the United States this year, when the matter is carefully considered from every standpoint. I remain

"Yours very truly,
"HAROLD W. DANSER.

"Long Branch, N. J."

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AUTOMOBILES, FARM MACHINERY, FARM MOTORS

Power is becoming an important factor on the farm and on the road, and this new department will convey the very information that rural people will need.

Breakages and adjustments take place constantly, and often can be overcome very easily. This department deals with this, and a lot of very useful information can be obtained from it.

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This department has been inaugurated to meet the demands of an awakening spirit among the rural youth. They are ceasing to accept tradition as the guiding star in farm life. They are beginning to realize that sooner or later the obligations of the old homestead will fall upon their shoulders. Others will institute a home of their own, and with their brothers on the home-farm will become citizens of the community and Canada. Boys of to-day will be the farmers, law-makers and leaders of to-morrow.

The **HOME DEPARTMENT** fills a place in the home which no other paper can. Mother, and the smaller boys and girls each have their own favorite and special columns.

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