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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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Vol. XLIX.

LONDON, ONTARIO, OCTOBER 1, 1914.

No. 1149



Why Not a Modern Roof?

The old wooden shingle has to go the way of all other unsatisfactory building material and is being rapidly replaced by the twentieth century **Brantford Asphalt Shingle**.

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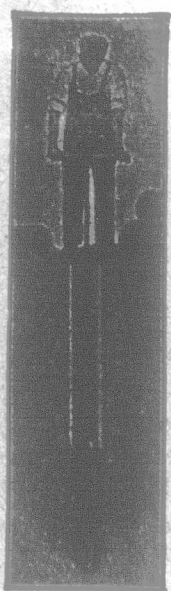
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Mention this Paper

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New Prices Taking Effect October 1st

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No. of bars.	Height.	Stays inches apart.	Spacings of horizontals.	Price in Old Ontario.
6	40	22	6-7-8-9-9	22c.
7	40	22	5-5-7-7-7-8	24
7	48	22	5-6-7-7-9-10-10	25
8	42	22	6-6-6-6-6-6-6	27
8	42	16 1/2	6-6-6-6-6-6-6	29
8	47	22	4-5-5-7-8-9-9	28
8	47	16 1/2	4-5-5-7-8-9-9	30
9	48	22	6-6-6-6-6-6-6	31
9	48	16 1/2	6-6-6-6-6-6-6	33
9	52	22	4-4-5-5-7-8-9-9	31
9	52	16 1/2	4-4-5-5-7-8-9-9	33
10	48	22	3-3-3-4-5-7-7-7-8	33
10	48	16 1/2	3-3-3-4-5-7-7-7-8	35
10	52	22	3-3-3-4-5-7-8-9-9	35
11	55	16 1/2	3-3-3-4-5-7-8-9-9	38

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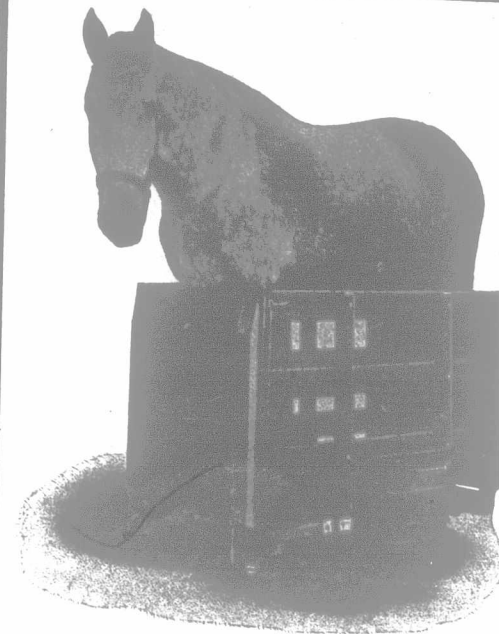
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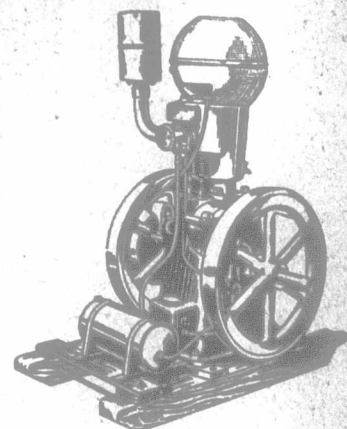
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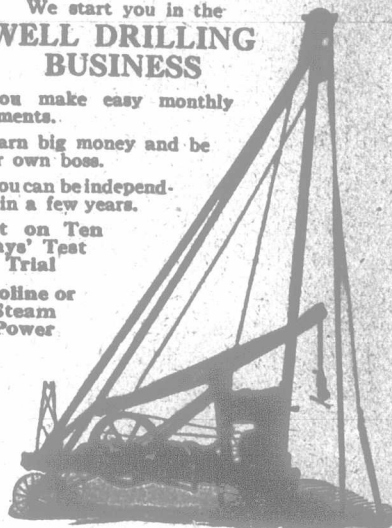
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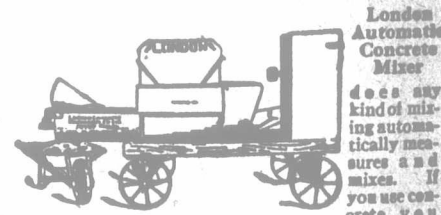


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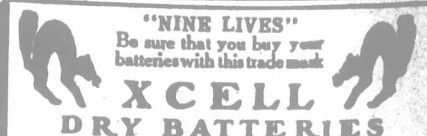
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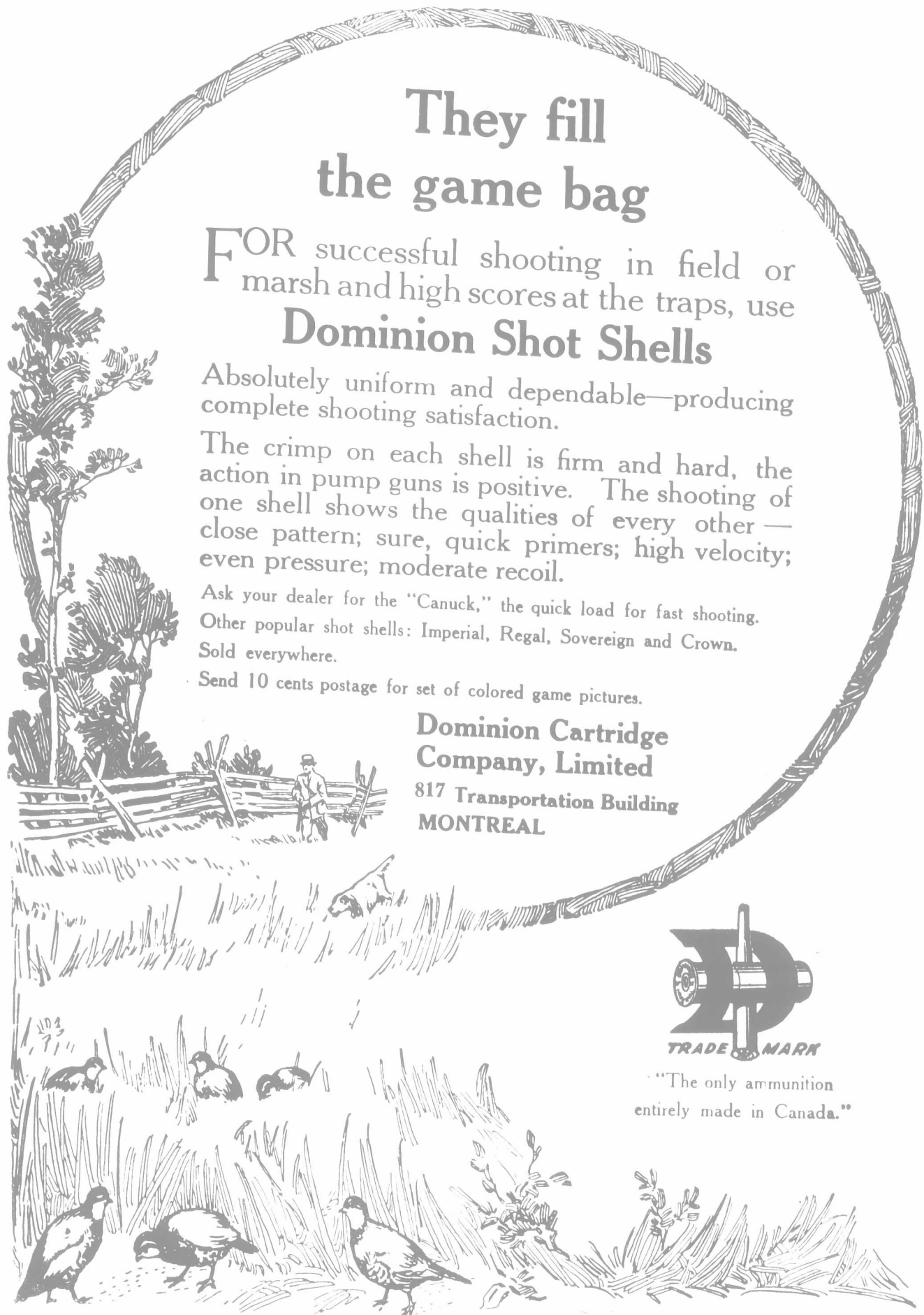
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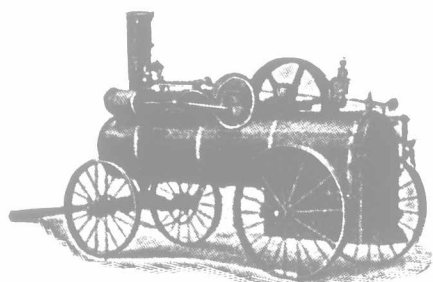
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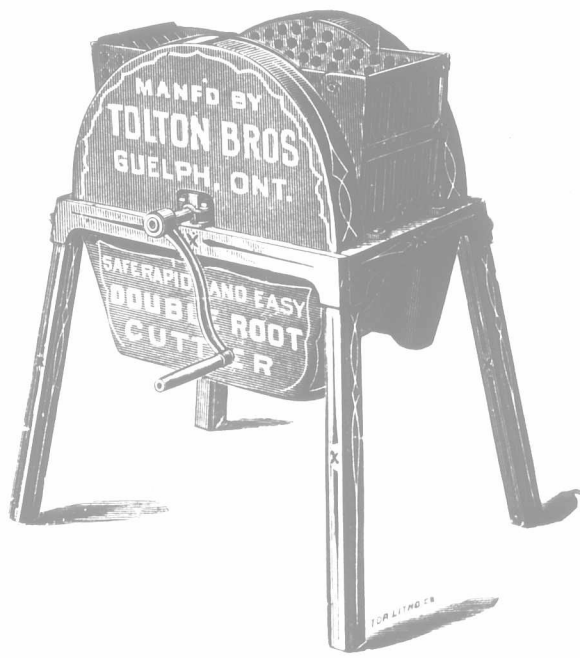
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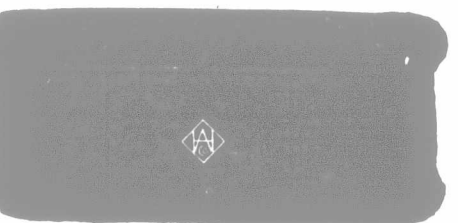
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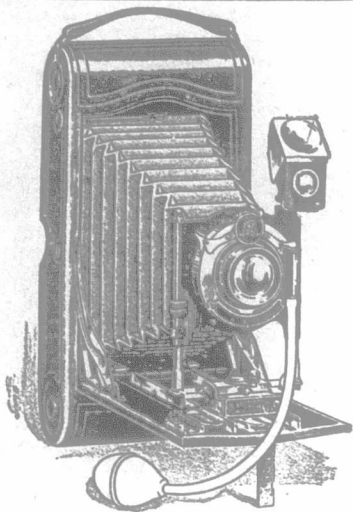
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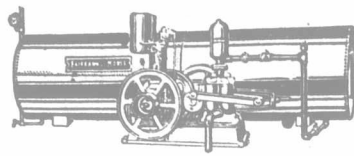
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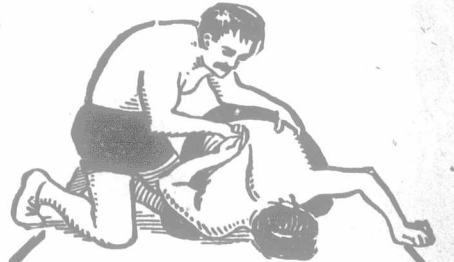
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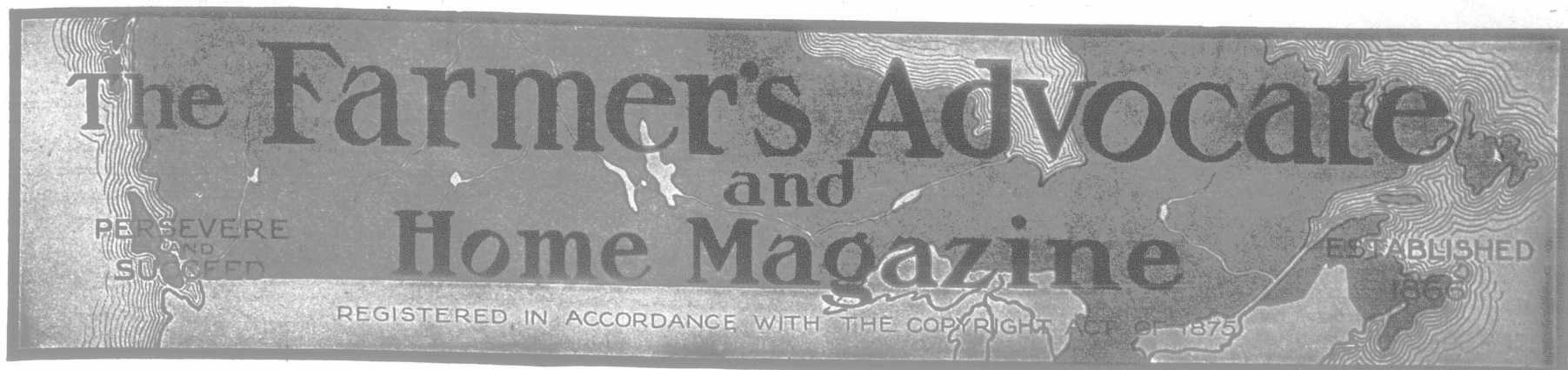
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DED 1866



VOL. XLIX.

LONDON, ONTARIO, OCTOBER 1, 1914.

No. 1149

EDITORIAL.

Britain's soldiers are doing their part, are you doing yours?

The Kaiser's banquet in Paris has been indefinitely postponed.

Ninety degrees in the shade was rather a warm welcome to autumn.

A German Count foresees a democratic Germany. The people must win.

Help make the remaining county fairs successful by your exhibits and your presence.

Autumn is no time for loafing. Next year's crop depends upon this fall's effort.

Mangels should be left in the field as long as possible, but they are injured by hard frosts.

Rush the fall work. It is early yet, but winter generally comes before all things are ready.

We should hold no animosity against the German race; it is a war upon the militarist system which has dominated that country.

After watching the judging at the big exhibitions, more than ever are we convinced that feet and legs are about half the horse.

If we cannot import good stock we at least can breed some if the right matings are made of the good sires and dams already in the country.

It is not so much the acreage under crop in Ontario which should be enlarged as it is the yields. Better farming is what is needed.

Canada is in need of high-class breeding stock, and stockmen are looking forward to good business in the right class of animals of all the leading breeds.

Considerable corn has been ensiled too early this season. It is difficult to make the best quality of silage out of corn stalks which contain too much sap.

Many city men would like to be farmers. If they would be good farmers they must have ability, capacity for managing operations, and must be willing to work after knowing how.

Every district should organize to prevent the waste of apples which is sure to come this fall unless something is done to handle the crop together. Our country cannot afford to lose this big crop.

A feeder recently made this remark to us, "In looking over 3,000 cattle on the market only three or four are really fit to be fed on for the show-ring." How many have you of these top-pers in your fields?

The New York Independent, which sums up very accurately the best judgment of the United States in regard to the war, is unable to reach any other conclusion than that Germany is in the wrong, and has brought upon herself the condemnation of the world.

A Word With You, Young Man.

The career of the late Dr. Wm. Saunders presents lessons that ought to grip the attention of every young man in Canada. Lacking a birth-spoon of gold or a college education, multitudes seem blind to any pathway of advancement and sink into a rut of stolid indifference or senseless frivolity. Their physical or sedentary tasks become dull, unthinking routine. Though perhaps no less richly endowed with gifts by nature than Wm. Saunders, their interests seldom range beyond the prattle of the street or neighborhood or the daily sensations of the newspapers, and they grow into older years dawdling away precious time, non-productive and unimproved. Wm. Saunders had no more time than any one else, but he did not waste it. He used the hours to good purpose, and this was undoubtedly the chief secret of his succeeding in so many ways. Never carried away with the craze for mere "fun" or racing after recreation he still enjoyed life to the full. Every spear of grass and every clod was to him replete with meaning and with interest. If worn with the tasks of the drug store or office he turned for real recreation to the culture of fruits and flowers, or some undertaking for the benefit of others like assembling an exhibit of Canadian fruits for the New Orleans Exposition, re-generating West London, Ont., after a disastrous flood, or opening his home to young men for the cultivation of music. His work in connection with various public associations in Canada and other countries, and on the Royal Commission of enquiry into the conditions of Ontario agriculture disclosed his range of view, his remarkable thoroughness in accumulating facts and his capacity to make and apply conclusions, all of which in 1885 distinguished the preparation of his report on experimental station work in agriculture in Europe and America. Out of this undertaking grew the splendid experimental farm system of Canada which he organized and directed for a quarter of a century, and which next to a family of distinguished worth remains his most enduring monument. For many years he was the head and moving spirit of many organizations for the progress of science and of agriculture in particular, his accomplishments meriting the high honor of commendation by the British Association for the advancement of Science, a body of world-wide authority and prestige.

Most men are well content to be specialists in some one or two directions, but by his own individual research and study Dr. Saunders became eminent as a chemist, botanist, entomologist, plant breeder and man of many business affairs, public and private. In administrative duties, and as an experimentalist and demonstrator he left no loose ends. Rectitude and exactitude constituted his passion. Unobtrusive in his religious convictions and church relations they were none the less real, and it is to his imperishable honor more than the King's "Knight Companion of the Order of St. Michael and St. George" (C. M.G.) that he has left us a record of almost unparalleled activity absolutely unsullied. In his home or office or at public gatherings his courtesies were as unflinching as his information was encyclopaedic. Both will ever be held in grateful remembrance by the Canadian journalists of the past three decades who revere him as an exemplar to all public men.

It is worthy of note that though entirely self-educated, several great universities conferred upon him their degrees. Apprenticed to the drug trade at about twelve years old with less than

two years public school education, he became one of the foremost scientists of his time, and in important respects the country's most exemplary and highly honored citizen. With such a record before him need any young man on this continent whose beginnings may be lowly, his means and education limited, or his opportunities apparently few, despair of a future of usefulness and honor? No! Everything is within his reach if he possess the character and the purpose to learn and to serve as William Saunders did.

Permanent Institutions.

Canada should feel proud of the success which her leading and smaller exhibitions have attained in this year of trial. A few of the shows were called off, but most of them have been or are being pushed to a successful climax in some of the best exhibits ever forward in the Dominion. The first panic of war caused some wild talk, and many were they who in haste advised that all the big exhibitions be cancelled. A better judgment soon saw the folly of such a move, and the managements quickly realized the wrong that would be done the exhibitions and the country if they did not go on. Nothing spreads fear and rumor of disaster more quickly than the abandoning of a permanent institution. Our fairs have proven themselves permanent, and managements are to be commended upon the manner in which they have pushed things to success in 1914.

There are, however, some other things agricultural in which the farming public is greatly interested, and which have a marked influence upon the various branches of the calling. We refer to winter exhibitions, and winter conventions of farmers, fruit growers and dairymen. We are told that we must increase production. We know that we should. Then let us all plan to have the most successful series of winter fairs and conventions ever held in Canada. Not one should be omitted. They all inspire confidence, and all do their part in increasing production. Farmers' Clubs and local organizations should cooperate with each other, and with the larger central organizations to make the coming winter the most profitable possible to producers. Above all let the winter fairs and big conventions go on and help them to do more good.

Why "Temporary"?

On all sides do we hear the remark that the present great war is going to give a marked "temporary" impetus to agriculture in Canada as well as in other countries. Note the word "temporary." Is it not a fact that Canada as well as the United States has during very recent years been over-urbanized? We are becoming faster than many realize a nation of city dwellers with population cooped up into narrow streets, narrower houses and cluttered, stuffy rooms, while broad, fertile fields go uncultivated and uninhabited. The belief has been expressed since the outbreak of the war that the colossal conflict would so revolutionize the world's business that it would be the end of great cities, or, at least, would put a stop to the heretofore ceaseless and increasing flow of population cityward, and would be the cause of many people making a return journey to the land; in fact many city born may seek to get on the land in the near future. Certain it is if the war is long-drawn-out and city business suffers as it may, many must of necessity get to the land where work is available if they are made of the right kind of stuff. A man to be a suc-

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The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

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THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA

Successful farmer must be a stayer. He must be a manager and a worker, a thinker, planner and laborer all in one. Those who fit will succeed. Now, the question is, why should any change, if change is necessary, be temporary? There is a great future for agriculture in Canada, war or no war, and it remains with those already on the land and those who may now adopt farming as a calling to give agriculture a permanent impetus not a temporary advance, to end in a hapless and hopeless recoil when the time comes for the farmer to pay his heavy share of the burdens following in the wake of war. Every farmer now on the land should cultivate more thoroughly than ever before, should plan his rotations, and should handle his live stock, fruit or special crops to the best advantage, and every new farmer should learn from his older-established successful neighbor and do the thing right at first and better each year thereafter. Now is a good time to read your farm paper carefully. Advanced practical ideas are contained in every issue. Through it the reader gets the experience of thousands of practical and successful farmers. Let us join hands to make a rapid and permanent advancement in agriculture.

Supply and demand regulates prices, and also regulates to a marked extent the live-stock of our autumn exhibitions. Just a few years ago exhibitions were all "horse." Horses were dear, and cattle were cheap. This year horses made a smaller showing, and beef topped the live-stock section with sheep and pigs strong. The latter three classes of stock are in demand.

"The 'censor' must get tired of reading war news, but if he had to read some of the wild-cat reports which have been published since the outbreak, he surely would become extremely bored. He may be thankful his is not the 'war extra' stuff.

Nature's Diary

A. B. Klugh, M.A.

Speaking recently of the preservation of birds I enumerated the following species as birds which should not be preserved—the House Sparrow, the Crow, the Cowbird, the Bronzed Grackle, the Yellow-bellied Sapsucker, the Cooper's Hawk and the Sharp-shinned Hawk.

The House Sparrow should be systematically destroyed, because it drives away from the vicinity of our dwellings many birds which are most beneficial in their food habits, and which delight our ears with their melody and our eyes with their attractive plumage, because it eats grain, both in the field and in the barn, and because it makes a mess round our buildings. The introduction of this bird from Europe was one of the greatest mistakes ever made—a mistake for which we and our descendants will apparently have to pay for all time. I say "apparently," because the House Sparrow could be eliminated from the American continent. If a general, continent-wide, crusade with guns, poison, and nest destruction were carried on for a long period this pest could be exterminated. Such a campaign may come some time, though realizing how hard such co-operation as would be needed for a successful issue is to attain I hardly hope to see it. So the best we can do is to keep our own premises free from this nuisance.

The Crow has some points in its favor, such as its fondness for carrion, and the fact that it destroys some insects and field mice. But the harm which it does by destroying the eggs and young of other birds, and by eating sprouting corn outweighs the good. It is quite safe for us to kill all the Crows we can, for the Crow is a wary bird, and there is no danger of its extermination, the only result of our efforts being a much-needed reduction in their numbers.

The House Sparrow and the Crow are well-known species, but the Cowbird is not so generally recognized. It is about eight inches in length. The male is iridescent black, with a chocolate-colored head and neck, while the female is a nearly uniform dusky brown, rather paler beneath. As far as the food habits of the Cowbird go it is a beneficial species, for though it eats some grain, it destroys enough noxious insects and weed-seeds to more than pay for this. But in spite of its food habits the Cowbird should be killed whenever opportunity offers, because of its parasitic breeding habits. This species builds no nest of its own, but deposits its eggs singly in the nests of smaller species. The young Cowbird on hatching is larger than the rightful heirs, and gets most of the food brought to the nest by the parents, and not even content with this it hoists the other young out of the nest to perish miserably on the ground beneath. Not only does the young Cowbird destroy from three to five nestlings of the brood with which it is hatched, but it follows its foster parents about for such a length of time and demands so much food that species which would normally have a second brood are prevented from doing so. Thus we see that every young Cowbird raised means the loss of from three to ten young birds, each as beneficial, in its food habits as the Cowbird or more so. And the more limited the breeding places of our birds become, the greater is the damage wrought by the Cowbird, since more nests in proportion are parasitized.

The Bronzed Grackle is a species which should not be encouraged, because it drives away birds of greater economic value and whose voices are far more melodious than its own "wheel-barrow-need-of-oiling squeek." This species eats grain to the extent of 46.5% of its diet, though a large part of this is probably waste grain left on the ground after harvest. Cultivated fruit makes up only 2.9% of its food, mast, such as acorns and beechnuts constitutes 14%, and weed-seed 4.2%. Of the animal foods taken over nine-tenths are insects and of these two-thirds are noxious species. It also shares the habit with its big cousin, the Crow, of eating the eggs of other birds. So looked at all the way round we see that while its evil deeds are not pronounced enough for us to advocate a war of extermination it is a species which may be kept off our premises without any injustice.

The Yellow-bellied Sapsucker cannot be placed on the preserved list, because of the fact that in its search for sap and for the cambium layer of trees it leaves wounds which seriously depreciate the value of the timber. It is the only one of the woodpeckers which is injurious, the rest being among the most valuable birds which we possess, because of the splendid work which they do in extracting the borers which would if left alone kill the tree. The Yellow-bellied Sapsucker may readily be told from any of the other Woodpeckers by the white stripe down the wing, by the crown being wholly red, not merely having a red patch on the nape as in the males of other species, and by the black crescent on the upper breast, taken in conjunction with the other marks.

The Cooper's and Sharp-shinned Hawks are the only injurious hawks which are common

enough to do much damage. How they can be distinguished from other Hawks will be dealt with later.

THE HORSE.

We would not hesitate to breed mares for fall colts.

The horse business may be a little slow just now, but it is safe.

Feed the colt well, especially just after weaning him and during the first winter.

A carrot, once a day, will give the colt something to nibble at, and be beneficial at the same time.

Action still counts for much in the drafter. Avoid the animal which goes wide at the hocks or rolls or paddles in front. Such are not winners.

Be careful with the weaning foal. Keep it in a stall or paddock that is high and strong; many good ones have been injured in their attempts to escape to their dams.

If the colt's dam is required to work and he has reached the age of four and one-half to five months of age, he would do better weaned, and the mare would have a better chance.

High-class stallions will be scarce next year. If you have a good breeding horse keep him, and if you need one buy him now. It is not a question of price; it is a question of supply.

When bringing the horses and colts from the pasture there is nothing that will take the place of succulent grass better than bran. Feed some each day, and the change will not be so noticeable to the horses.

If you have returned from the exhibition after not having shown your horse or colt and still believe he is better than anything you have seen there, would it not be wise to prove the truth of your contentions by entering him at the winter fairs, or at next year's fall exhibitions and get in the game to stay?

When the demand for horses for war purposes was made known in the neighboring republic some commission houses bought indiscriminately, thinking to unload them onto British buyers. In the majority of cases they still have them, or have disposed of them at unprofitable prices. Englishmen prefer to ride good horses, and Britain sends her men to the front with horses suitable for the purpose.

With so many horses being bred and so many imported, it is surprising how few are the real topnotchers. The best is what every breeder should have in view, but few of the matings made result in anything approaching what the breeder would like. Some come near to the ideal but these are few indeed, and there need be little fear of over-stocking the market with clean-limbed, short-coupled, nicely-turned, 1,800-lb. draft geldings.

Fall Care of Hard-Worked Horses.

It is very often the case that very little extra care is given the horses during the rush of fall work. Men who take especially good care of their working animals in the spring of the year are often inclined to overlook the fact that fall work is strenuous work, and requires horses in good fettle and ready six days out of seven. Fall, on a well-organized farm, is one of the busiest of the seasons, and every available horse is brought into use to get the work done before winter sets in and stops the plow. Every foot of land needed for next year's crop must be plowed once or twice and cultivated; there are roots to draw, silos to fill, and much heavy teaming to be done, and the horse must do the heavy work, and hustling on hot days and cool, in hard and soft ground. His coat is thickening up for winter, and he sweats easily and profusely, and altogether fall is a trying time.

In keeping with the practice which has gained a place in most large teaming barns, in livery stables, and on some farms, we believe that it is advisable during times of heavy work to feed little or no hay at noon and give more oats. Good feeders give very little hay in the morning also, and make the night meal the only big hay feed of the day, filling the mangers to keep the horses busy during the night. It is a fact

that horses are light sleepers and awaken several times during the night, when it is better that they have in the mangers a plentiful supply of good hay to keep them quiet, for a horse, unless sleeping, resting or eating, gets restless. We would say then feed most of the hay at night.

Regarding oats, there is a difference of opinion as to what quantity a good, big, (say 1,500 or 1,600-lb.) work horse should get. Some hold that four quarts at a feed three times a day is sufficient. For some horses it may be, but we are inclined to believe that where horses are at continuous hard work, as they are at this season of the year, and where they get a smaller ration of hay morning and noon, that from five to six quarts at a feed three times daily is none too heavy feeding. We believe with an increase of oats and a decrease of hay the horses will do the work more easily and will hold their own better than where very heavy feeding of hay is resorted to and a lighter ration of oats given. The concentrate is the most easily digested, and the horse hard at work requires easily-digested food. This is why it is not good practice to work a horse when gorged with feed, or to feed an overtired horse as soon as brought into the stable. By the increased grain method of feeding with little hay morning and noon, the horse is not too full on going to the field and has an opportunity to rest at noon, instead of taking his entire hour to gorge his stomach and unfit him for his afternoon task. Does the system not seem reasonable?

One caution we would give, however, is to be careful of the quality of the oats fed. New oats are often dangerous. Old oats are always preferable, but not always obtainable. The change from old to new should be made very gradually, and even for a time after the horses are on a full feed of new oats the ration should not be too heavy. A little old corn might be used to help out in such circumstances. Farmers should make it a point, where at all possible, to save enough old oats to tide them over the fall work, and never should the horses be expected to do the heavy work upon rough feed alone.

Some give no dry feed whatever, compelling their horses to pick their living through cold nights, and then wonder why their horses fail in flesh, get sore shoulders, and sometimes become unequal to the tasks set before them. Such treatment is folly. If a horse works he must eat good food, else he will fail in flesh.

Sometimes the cool weather leads the driver to the belief that his team does not require water more than two or three times daily. This is erroneous. For best results it is good practice to lead the horses to the trough before they are fed in the morning, when they should be allowed to drink all they require. After feeding, and upon going to the field, the horses should be tried with water again. It is not good practice to allow them to drink greedily after a heavy feed of grain, but if they have been watered before breakfast a few swallows will do them afterwards, and they go to the field fresh and ready to do a forenoon's work. Coming in at noon, whether they are warm or not, they should have a little water which has been left pumped in the trough so that the chill will be off it. If they are very warm little should be given; if not too warm give all they will drink. Then after dinner, as after breakfast, water again. The same proceeding should be followed at night. With six waterings a day the horses do not drink to excess at any one time, become accustomed to smaller drinks and often, and do much better than if watered only two or three times daily.

Another important item in fall care is bedding. Very often straw is scarce before threshing, and the horses are obliged to make the floor of their stalls their bed. It would often pay to thresh earlier if for no other reason than to have plenty of bedding for tired horses. Bedding should be carefully shook down each night—the last thing in leaving the stable.

At no other season of the year are the curry-comb and brush of more value than in the fall. The thickening coat of the horse causes him to sweat easily and freely, and soon becomes hardly matted over his body. This should be carefully combed out each night, even though the coat is still moist with the day's perspiration. Comb it out well at night, and clean all mud and clods from the hair on the legs to prevent scratches and more troublesome complications. The following morning when the horse's coat becomes dry and just before harnessing it should be given a thorough cleaning with comb and brush, and a final wipe off with a dry cloth. Thorough cleaning means much in keeping horses in condition at any season, and is doubly needed fall and spring.

Where horses are accustomed to it and where they receive a plentiful supply of hay and grain in addition, it is all right to let them out nights up until such time as the weather becomes raw and bleak, and cold rains become frequent. No work horse should be exposed to bad weather, but when the weather is warm and grass plentiful there is little objection to letting the workers out nights. They must, however, be fed in addition,

as grass is not enough for hard-worked horses. Take care of the horse in the fall, and he will do better on a smaller quantity of feed this winter.

Feeding Horses Heaves.

Feeding horses ill-cured or musty hay is only inviting trouble in the form of heaves. Hay of this kind should not be given to horses of any value, for if heaves are not the immediate outcome the trouble may arise in the form of colic or other symptoms of indigestion. Clean, bright straw with a little more grain is better than musty or dusty hay, and any step possible should be taken rather than feed the ill-cured product. However, in cases where it is necessary to feed ill-conditioned hay the dust should be shaken from it, and it should then be sprinkled with lime water made by slacking burnt lime in water. Salt sprinkled on the impaired hay would be of little value, but the lime water has a beneficial effect upon the hay and the digestive apparatus of the animal.



Two Show-ring Veterans.

These two gentlemen on the right have been seen in the show-ring at the Canadian National for half a century, and are familiar to all stockmen.

LIVE STOCK.

Clean the Stables for Winter.

It is no uncommon sight in going through the country to find cattle stables, sheep pens, pig pens, and even horse stables in very bad condition during the late summer and early fall months. The busy summer season on the farm, with the stables not in constant use causes the owner to neglect very often to keep them clean and neat. In fact many do not pay the attention they should to the stables, even in winter when the stock is all housed. Now is the time to make preparations for the winter of 1914-15. Get through all the stables and give them a thorough sweeping down. Cob-webs over windows obstruct light; clean them off, and wash the windows clean to let in all the sunlight possible. Few, indeed, are the stables with so much glass that half of their effectiveness can be profitably lost through cob-webs or dirt obstructing their usefulness. Go over the joists or sleepers and get into all the corners and crevices and clean up. After a careful sweeping or brushing most stables would be the more sanitary for a thorough white-washing. This makes them lighter and more cheery, and by making the whitewash a 5 per cent. carbolic acid solution vermin, if any, may be destroyed.

While straightening up it is well to see that all ties and mangers are in good order, and ready to receive the stock. Winter generally comes with a rush, or at least the bulk of the stock is not stabled until a sudden dip of the mercury accompanied by a fall of snow makes it imperative that the stock be kept under cover away from the biting blast. Much loss is often sustained by animals being forced to remain out exposed to inclement weather when they really should be inside, the delay being due to stables not ready for occupation. Cattle or other stock so exposed require more feed to bring them up to their former condition, and the whole means a loss to their owner. Rainy days now or spare time should be utilized to place the stable on its winter footing. Be ready when the storms come.

Grade Herds.

There are two sources of revenue derived from live stock. One is the sale of pure-bred animals to maintain or build up the milk-producing or beef-making propensities of the herd into which they may be introduced, and the other is the actual production of the get of this stock. One might purchase a prize winner abroad for a sum requiring four figures to represent it. He in turn would sire champions in the Canadian show-ring from which other winners of a less calibre might come. These less famous bulls would probably get a line of stock that would be used throughout the country in a general way to maintain the herd, and produce males and females for beef or milking purposes. Here is where the earnestness of the case appears, and here is where the head of the herd must prove himself. Up to this stage there has been no value upon which all breeders would agree. The venture is speculative to a certain extent, and one buyer will take greater chances than another. King Segis

Pontiac, Chicago, which sold for \$20,000 as a calf, might be worth only \$200, or he may be worth double what was actually paid for him. That will be determined when his daughters begin to produce or when his sons become sires of heavy-producing stock. The cow in the dairy must prove the worth or worthlessness of her high-priced progenitor.

So it is in the beef world. A bull brought from England a few years ago and now in the West is the sire of some show-ring winners this year, and they are valuable because they won, but to mean most they must produce bullocks that will mature early and fatten easily, or give rise to females that will throw this kind of a bullock. Right down in the

steer pen or in the dairy stable is where values are determined, and there a cow is valued according to the pounds of milk and fat she will give, or the steer by the pounds of beef he will put on at a nominal cost.

The value placed upon pure-bred stock is one detriment to the furtherance of better breeding, but the good ones are worth all that is being asked for them. It is not necessary for the mass of people to strive for pure-breds, but we must have some breeders to import, improve and build up the blood. Then if stockmen generally will pay a fair price get the good bulls, and improve the grade herd, they are going a long way towards better live stock husbandry. We do not imply that grades are as good as pure-breds for they haven't the intensity of blood, yet in many cases they are equal to the pedigreed animal.

One of the most outstanding features and lessons of this season's showing was the exhibit of grade dairy cattle at the Ottawa Exhibition. True to dairy type, and displaying every mark of being workers, they gave evidence of the wisdom of the system of improving through pure-bred sires. There they were without name or pedigree yet good enough, many of them, to put some pure-breds to shame. Later on when brought out as a herd with a pure-bred sire at their head they demonstrated what more of our general stock should be like, and how it should be mated to improve rather than retrograde. What we require most is an extension and growth of the pure-bred stock industry, and a keener appreciation of the value of a sire by the average stockman. Herds of the beef breed came into the ring this year that showed plainly the great necessity of a smooth, well-fleshed bull at their head. Many defects in these herds could be bred out in one generation through proper mating, and the same possibilities lie within the reach of the grade herd stockman. Let a man consider whether he wants cows that will give 7,000 or 10,000 pounds of milk per year. This means a difference of approximately \$30.00 on each animal in a season or a difference of \$300 on a herd of ten for the same length of time. It would be economy and a good investment to add that \$300 to the purchase price of the bull to

head the herd. Grade herds are a sound productive institution on any farm, but they must have the pure-bred bull with character at their head.

FARM.

Some Considerations on the Weed Problem of Canada.

It is unnecessary here to define the term "weed" or to point out in detail the damage done by weeds as this is obvious to all who have ever engaged in cultivation of the soil. Pammel in a very comprehensive work on "The Weed Flora of Iowa" recently published estimates the loss in that State alone as amounting to \$25,000,000 yearly. Hence it is apparent that the control of weeds is a subject not only of urgent but of vast importance.

Nevertheless the question is not altogether one to be undertaken in a hurry. Panic stricken methods seldom produce permanent results. The case is rather one that calls for calm consideration and patient investigation, and the following suggestions are put forth as a preliminary step in solving the problem of weeds and devising means for holding them in check. For this is all that we can ever hope to do, as anyone who has ever kept even a small garden plot knows perfectly well. You may reduce weeds to a minimum, but you can never get absolutely rid of them as long as seedtime and harvest remain. With resolution you may succeed in extirpating some of the most troublesome species, but other species will as quickly take their place.

Long ages ago when the herds of Buffalo roamed over the prairie and the forests grew up amid primeval stillness there was very little change in the species of plants occupying any particular area from year to year. The struggle for existence among the various species had been prolonged, but each had at length found its settled place in nature, and any change that took place in their distribution was necessarily slow. But when man, especially the white man, came upon the scene all this was changed. He ploughed the prairie and cleared the forest thereby disturbing the balance of nature which it had taken centuries to establish. Thereupon a fierce struggle for existence ensued among the species of plants disturbed which was intensified by the introduction of new species. Not only had the native plants to fight for room among themselves but they had also to hold their ground against the foreign species introduced. In this struggle some of them disappeared while others found the new conditions more favourable to their increase. But not only did civilized man bring with him the useful plants which he desired to propagate—he also, unintentionally, no doubt, brought with him the seeds of noxious plants. These also endeavored to find a place for themselves, and the combat became a triple warfare between the native vegetation, the useful plants, and the introduced but useless species. If left to themselves most of the useful plants would in a few years have succumbed, some of the foreigners would have established a place for themselves, and eventually a balance would have been once more restored between the surviving species. But man took the part of the useful species he had planted, and consequently the struggle between the plants he desired to grow and the plants he did not want—the "weeds"—went constantly on. Every time he ploughed a field he disturbed the balance which nature was as constantly trying to establish, for it is as true that nature abhors a piece of bare soil as it is that nature abhors a vacuum. And precisely the same thing is going on at present. Obviously, therefore, the war between the farmer and the weeds is a never-ending one.

But "knowledge is power," and if a farmer has a clear understanding of the life history of a weed and attacks it at its weakest point the contest will soon be decided in his favor. It should be borne in mind that almost any herbaceous plant may become a weed. The farmer should, therefore, not only know how to deal with the weeds he has already on his farm, but should keep a sharp lookout for the possible arrival of new species. The geographical distribution of many plants is rapidly changing at the present day owing to modern facilities for trade and commerce. As an example the Common Ragweed (*Senecio Jacobaea L.*) was first noticed in New Brunswick shortly before the year 1880, while in 1909 it was found in Nova Scotia, Prince Edward Island, Newfoundland, Quebec, Ontario, and as far south as New Jersey.

In order to be in a position to deal with the question of weeds in a proper and scientific manner, it is obvious that the more one knows about the weed its manner of growth the better fitted will one be to combat it. Good work has been done in Germany along these lines as is attested by the series of monographs on various weeds published in Berlin by the German Agricultural Society. But this is a study that each country

must work out for itself as the mode of life of any particular weed is by no means the same in all countries. For example, Darwin mentions that the English Thistles when introduced, on the Pampas of South America grew so tall that a man on horseback had difficulty in forcing his way through them. In other cases a species that is injurious in one country may be harmless in another. South American Dodder seeds, for example, if sown along with clover in Ireland rarely germinate as the temperature is not sufficiently high. It is further evident that in a country so extensive as Canada where there is great diversity of climatic conditions, investigations to be of much value would require to be carried out in several provinces of the Dominion.

The further consideration of the weed question may conveniently be arranged under three heads: I, Scientific Research; II, Educational Methods; III, Legislative Action.

I. Scientific Research.

I. Geographical Distribution.

Obviously one of the first things to be done will be to ascertain the present distribution of weeds in the various Provinces of the Dominion. As almost any herb growing wild may, after the



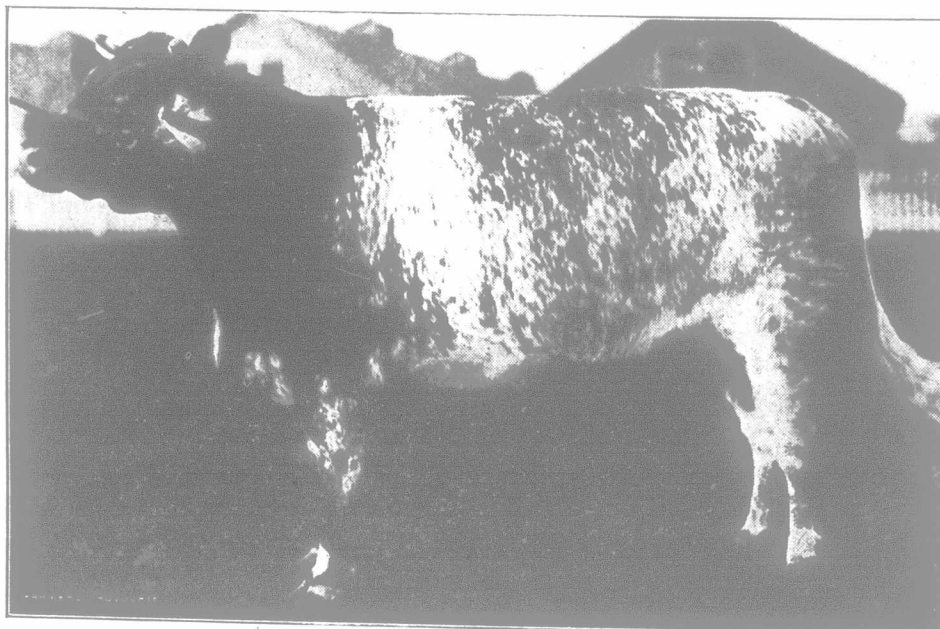
First Prize Berkshire Boar.

This hog won at Toronto for S. Dolson & Son, Norval, Ont.

ground is cleared or broken up become a weed, this will mean a somewhat comprehensive botanical survey of each province, or at any rate of the more settled parts. A list of the weeds of each province should be compiled and tabulated in the order of their importance, the most troublesome being placed first.

2. Whether a native species or introduced.

It would be desirable to know whether each particular species of weed is a native of Canada or has been introduced from some other country. If introduced, the date of its first appearance and the manner of introduction should be known as far as possible and whether it is still being introduced at the present time. Formerly many weeds found their way into this country in the form of impurities in farm seeds. Of the 71



Duchess 50th.

Shorthorn heifer; champion at Toronto and London for J. A. Watt, Elora, Ont.

species of weeds illustrated in Clark & Fletcher's "Farm Weeds of Canada" no less than 50 have been introduced from other countries. Notwithstanding a stringent Seed Control Act, Geo. II, Clark, Seed Commissioner for Canada, recently informed me that from 10 to 12 new species of weeds are being imported into Canada every year. A somewhat similar state of things prevails in the United States. In the list of 200 weeds of the United States published in the Year Book for 1895, 108 species are of foreign origin, while 92 are native. Other possible methods of introduction of weed seeds are in the form of

feeding stuffs, in manure, by threshing machines, or in imported wool.

3. Relation to the chemical composition of the soil.

Some weeds such as Blue Weed (*Echium vulgare L.*) favor a limy soil, while others such as Sheep's Sorrel are characteristic of soils deficient in lime. Many species will thrive equally well on all kinds of soil.

4. Relation to the various crops grown on the farm.

Some weeds, especially annuals, grow best on soil that is cultivated while they disappear or are held in check if a hay crop be grown. Others such as Canada Thistle will grow readily on both pasture land and cultivated ground.

5. Natural means of spreading.

Some weeds spread over the surface of the ground by runners, others by underground creeping stems, while others—the "root-bound" species—such as Dock remain more or less confined to one spot.

6. Dispersal of fruits.

If spread by seeds or fruits the manner of dispersal should be known, whether by wind, or drifting snow, or water, either in the form of flooded streams or by heavy rains running off sloping ground; in other cases the fruits are carried on the wool or hairs of animals, while in a large percentage of weeds there is no special mechanism for dispersal.

7. Time of flowering and time of ripening of the seed.

In some cases the latter will coincide with the harvesting of the crops among which it is growing, while in others it may be earlier or later.

8. Number of seeds produced by a plant of average size each season.

It has been found that weeds which spring up from seeds every year produce seeds in enormous numbers. Weeds such as Great Bindweed and Creeping Thistle which spread so freely by underground organs, produce seeds annually in comparatively small numbers, as there is not the same necessity for the production of seeds to perpetuate the life of the species. At any rate, this is so in other countries and probably the same thing holds good here. In other cases, such as Perennial Sow Thistle, not only is there an abundant production of seeds above ground, but the plant spreads rapidly below ground at the same time.

9. Time of germination of the seeds when self-sown in the ground.

In the majority of cases the seeds lie dormant in the ground during winter and germinate in spring, whereas in a few species such as Pepper-grass the seed germinates shortly after ripening and produces a small plant which survives the winter and continues its further growth in spring.

10. Quality of the seeds when buried in the soil.

Opinions seem to differ as to the length of time during which seeds retain their vitality. Ewart in his first series of experiments gives about 15 years while in a later series he says that some germinated after keeping for half a century. In both cases he appears to have worked with seeds stored in a dry place. But it is well-known that many seeds lose their vitality in a short time after ripening unless they are planted in the soil. Duvel's experiments with seeds in pots buried at different depths, though interesting, probably do not represent the exact condition prevailing in the soil. My own observations have shown that a number of different species of weeds obtained by washing the soil underneath a pasture field which had not been cultivated for at least twenty years germinated readily. Beal, in an important bulletin on Michigan weeds, states that some weed seeds when buried in the soil will retain their vitality for thirty years at least, while Peter of Gottingen states that the seeds of wild Mustard (*Brassica*) can retain their vitality for forty years.

11. Relation to moisture.

Certain weeds like Silver Weed grow best in a soil that is fairly damp. Others such as Orange Hawkweed are more partial to dry situations. Others again are more or less indifferent. There is still considerable room for inquiry as to the moisture requirements of a good many species of weeds.

In the Prairie Provinces the rainfall after harvest is frequently so slight that the weed seeds cannot be induced to germinate when plowed under. This considerably increases the difficulty of eradicating them.

12. Relation to temperature.

While seeds when buried in the soil can undergo very rigorous temperatures in winter, the young plants produced by them after germination are much more sensitive to frost. As regards the exact temperature, however, at which weeds and their seeds are killed by frost we have very little information at present.

In this connection it might be of some use to have several years' observations in various districts of the average date of occurrence of the first frost in autumn.

Susceptibility to chemical sprays.

The effect of various chemical substances such as copper sulphate, iron sulphate, sodium arsenite, etc., on various weeds has furnished useful results in some cases. While the method is not, under ordinary circumstances, one to be adopted as a substitute for the older well-established methods of controlling weeds, still it is as well to know what can be done in this way. The effect on various species of weeds at various stages of their development up to the flower period would be worth trying. Even if it did not kill the weed, if it injured it sufficiently to prevent the formation of seeds it would be something gained. Recently tests were made at Purdue University Agricultural Experiment Station, Indiana, to determine the effect of spraying Wild Garlic with orchard heating oil, and the results, it is claimed were very satisfactory.

The spraying method appears to be specially suited to cereal crops where ordinary methods of cultivation are not applicable.

14. Relation to the live stock of the farm, birds, etc.

Various plants which are usually considered weeds may yet be very useful when growing on a pasture field, for example, Ribgrass. Clark & Fletcher in "Farm Weeds" enumerate quite a number of weeds which are frequently eaten by sheep. Pigs and poultry also eat a considerable number of weeds, and doubtless there are some which are relished by horses and cattle. But it would be poor policy to spare a weed because it is eaten by some of the domestic animals if a more useful plant can be grown in its place. Nevertheless, experiments to determine what wild plants are eaten by live stock by preference rather than by accident would be worth trying and could be easily carried out. There are large areas of marshy, stony or scrubby land which cannot be cultivated and are only adapted for grazing, and the term "weed" is much harder to define in relation to land of this nature. But in such places many plants of poisonous nature must certainly be considered as weeds and should therefore claim attention.

There still remains the question of birds in their relation to weeds. Some fruits, especially those which are juicy when ripe, are dispersed by birds, but these form only a small percentage of weeds. On the other hand it has been proved beyond a doubt that certain birds eat and destroy every season a large number of weed seeds. They are thus indirectly of service to agriculture. A prudent farmer will naturally take every means to prevent weeds from seeding rather than depend on birds to help him out of his difficulties. Nevertheless, in spite of constant vigilance weed seeds will be ripened in varying quantities and the services of birds are not by any means to be dispised. The important question is—"What seeds are eaten by what birds?"

Investigations along these lines would pave the way to a better understanding of the life and growth and spread of weeds, and the best methods of eradicating them would suggest themselves as a natural consequence.

Work of this nature might be undertaken by the Experimental Farms, the various agricultural colleges, and the Departments of Agriculture of the several provinces.

II. Educational Methods.

Some very useful works on weeds have already appeared in different countries. Foremost among these is Pammel's "Weed Flora of Iowa" published last year with more than 900 pages and 570 illustrations. Other useful bulletins published in the United States are Bollev's "North Dakota Weeds," Blatchley's "Indiana Weed Book" and Beal's "Weeds of Michigan." In England, the best-known is Long's "Common Weeds of the Farm and Garden," and more recently Praeger's "Weeds, Simple Lessons for Children," while in Canada we have Clark & Fletcher's "Farm Weeds of Canada," and Howitt's "Weeds of Ontario." An educational campaign on weeds accompanied

by the dissemination of suitable literature would doubtless be productive of good results.

A small handbook on weeds for teachers (along somewhat similar lines to that of Praeger in Ireland) in which only general principles, the methods of spreading, types of fruits, classification, etc., of weeds are dealt with would fill a useful place.

A short bulletin on methods of eradicating weeds specially intended for farmers would probably be largely availed of. Specimens of weeds and queries as to their names, method of propagation and mode of destroying them are constantly being received at the Central Experimental Farm from all parts of the Dominion, show-



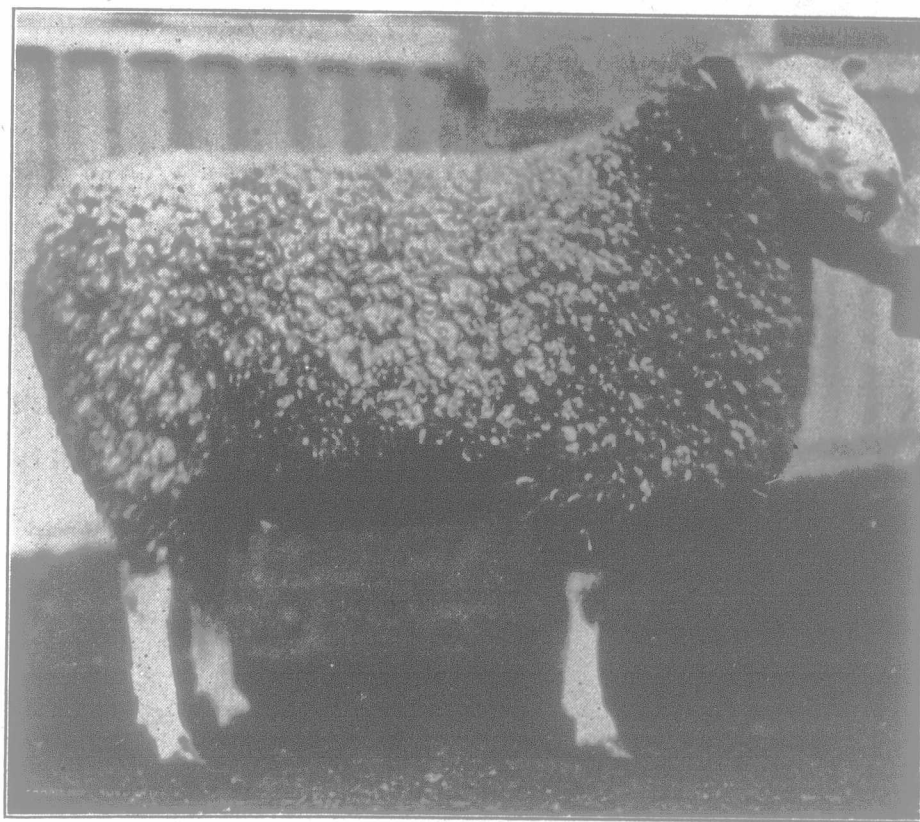
Southdown Ram.

Champion at Toronto and London. Exhibited by R. McEwen, Byron, Ont.

ing that farmers are on the alert and take a widespread interest in the problems confronting them.

Howitt's "Weeds of Ontario" might well serve as a model for the other provinces to copy. Each has some particular species of weeds that are rare in or absent from the other provinces, and the publication of a bulletin of moderate size dealing with the Weed Flora might well be undertaken by the provincial governments concerned.

Then something might be done in the schools to familiarize children in rural districts with the



Jas. Snell & Sons' Champion Leicester.

correct names, habits, etc., of about 50 of the most troublesome weeds of their own province. Such knowledge would be extremely useful to them in after years. They might even be induced to make a collection of the weeds of their district, prizes being offered to those who make the largest and best-named collection.

Dried and carefully mounted specimens of weeds and poisonous plants might with advantage be exhibited at the various provincial and local shows. If at the same time a brief explanation of the most important feature of the weeds concerned were given by the officer in charge and suitable literature distributed, there is every reason to believe that farmers would

readily avail themselves of all the information obtainable. In cases where a special touring railroad car is employed for demonstration a small section might well be devoted to mounted weeds.

In addition a plot of ground might be set apart at each of the branch farms on which about 100 of the commonest weeds and poisonous plants of the province concerned could be grown and properly labelled. Visitors to the farms could thus familiarize themselves with the names and general appearance of the plants. An acre of ground or less should be quite ample for the purpose, and the person in charge of the plot would require to see that creeping specimens were kept within bounds, and that none of the weeds were allowed to develop seeds.

III. Legislative Action.

The keeping of weeds under control is a matter that calls for constant vigilance on the part of the farmer. Even if he is content simply to hold his own in the battle against weeds there are two things which he must do—he must prevent the weeds on his farm from seeding, and he must at all costs prevent the introduction of weed seeds from outside sources. In the latter case legislation has been of undoubted benefit to the farmer already, and may be even more beneficial in future. There are at least four ways in which a farm may become contaminated by weed seeds from outside sources: 1, impurities in the seeds sown; 2, weed seeds in feeding stuffs; 3, threshing machines; 4, wind-borne seeds from waste ground or neighboring farms.

1. The stringent application of the Seed Control Act has undoubtedly made the weed question much easier for farmers to deal with. But even under its operation a certain percentage of weed seeds are still sown with every crop. The improvements in seed-cleaning machinery have done much to separate a large number of weed impurities, but in every species of farm seeds there will often occur a few weed seeds about the same size and diameter as the seeds of the crop to be sown which no device yet invented will remove. It would not be difficult to make a list of these. The next step in securing clean seed would be to make a rigorous inspection of the growing crop, and carefully remove all these species by hand-pulling or other means. In this way the ideal might be reached, namely, where a sample of seed consists only of the species mentioned on the label and no others. As Dr. Pammel says: "The only way to enforce any seed law is to have fields in which commercial seed is grown inspected by some competent botanist. The seed should not be sold unless the weed seeds can be removed."

Two questions arise in this connection, namely, "Is the establishment of an 'Extra No. 1' grade for all kinds of seed sown desirable?" and "should the definition of this grade be taken as 'a sample of seed which consists of one species only, and is absolutely free from all weed impurities?'" This idea should be possible of attainment in the case of cereals, and has already been attained in samples of alfalfa and timothy tested at Guelph. The second question is, "Should seed inspectors be empowered to visit the crops intended for seed, and if these are not considered sufficiently free from weeds should the grower be allowed to sell the crop for seed purposes? For example, if Purple

Cockle is found growing in a wheat field should the produce of that field be allowed to be sold for seed? Even if the standing crop were not inspected, it would probably pay the grower to produce a perfectly clean sample and charge a higher price for it.

2. It appears from an article by Prof. Howitt that owing to the evasion of the law weed seeds are being spread in the form of feeding stuffs. Probably further legislation will be required to make this matter right. There is a temptation to use the cleanings of threshing machines as feed, provided that grinding was thoroughly done there would be little objection to the practice. But the smaller seeds are liable to escape being

crushed, and may find their way back on to the farm again. The laws in the Prairie Provinces require such seeds to be so treated that their germinative capacity is destroyed. The most summary method of accomplishing this would be to burn them. But doubtless boiling them for an hour would serve the purpose just as well, and they could then be used for feeding purposes or consigned to the manure heap.

3. Threshing machines are required by law in the Prairie Provinces to be thoroughly cleaned before proceeding from one farm to another, and this practice might with advantage be made compulsory in other provinces.

4. If there is one thing more calculated than another to dishearten a farmer in his struggle with weeds it must be to find his efforts nullified by the carelessness or laziness of his neighbor who supplies him every year gratuitously with a fresh stock of air-borne weed seeds. For a hardship of this kind legislation would appear to be the only remedy. But legislation is useless unless it is enforced, and it appears that in provinces that have a Noxious Weeds' Act the law is to a large extent being evaded. Probably the best way to remedy this would be to have a Provincial Noxious Weed Inspector appointed as a permanent officer under the Department of Agriculture in each province. As the work would be largely undertaken during the summer months a number of temporary inspectors would be required, and it is very likely that the students attending the various agricultural colleges would be available for service. No great amount of training would be necessary to identify the weeds concerned, the students would gain experience, and at the same time would benefit themselves financially, which in some cases where they have to rely on their own resources for their education would certainly be a boon. This plan of employing the students in summer has been adopted for some years by the Irish Department of Agriculture and has worked well.

If farmers are subject to law in this matter the owners of waste ground, railway banks, etc., should also be made equally amenable. Unless the work is done thoroughly and completely little benefit will result.

To begin with, too large a number of species should not be included as noxious weeds, and these should be cut before they come into flower. If allowed to flower certain species can perfect their seeds even after being cut. All plants whose seeds are carried by wind or by becoming attached to the hair of animals should be mentioned as noxious weeds. Then poisonous plants should also be scheduled in the list, and probably also weeds which spread rapidly by underground stems and roots. But other weeds which have no special mechanism for spreading from one farm to the next should not be included, as the farmer is already protected against the introduction of such by the terms of the Seed Control Act.

J. ADAMS,

Division of Botany, C. E. F., Ottawa.

A Hint to Manufacturers.

Editor "The Farmer's Advocate":

In your issue of September 3rd is a question about filling silos with carriers, the answer is rather misleading. Carriers set only ten feet from the silo would be so straight that they would elevate a very small quantity at a time, and the top would not reach far enough into the silo to prevent waste, especially if there was a wind. Our silos round here are about 24 feet high, and we have been handling a carrier for the last seven years. We use a platform about 15 inches high, and the carriers work from a jack placed on the platform 17 feet from silo. We have found that 32 feet of carrier is the shortest that will do good work. For a 30-foot silo 40 feet of carrier will be required. A six h. p. gasoline engine will run it easily, but would it not also run a 10-inch blower which will do better work? If W. H. D. gets a carrier machine I would advise him to get a single chain carrier.

Now that I am on the subject of silo fillers I want to use it to ease my mind with regard to the plea of the manufacturers that Canadians should support home industries. I wanted to get a "medium-sized" blower, one that would cut 6 to 10 tons per hour, and could be run by a 10 h. p. gasoline engine. As I couldn't see the machines to compare them I wanted to get catalogues, and so I looked in "The Farmer's Advocate" and I found there two American and only two Canadian made machines advertised; later another Canadian joined them. Now, Mr. Editor, is that the way to keep, or rather regain, the home market? Where are the other large manufacturers? Don't they want a share of the home market? There used to be others but I have lost track of most of them. I had been writing a certain plow company that it had been bought by an American company, and later I found that company had thrown it in the scrap heap, probably to get it out of the way of the American machine they are selling. However, I got a number of catalogues and tried to compare the machines, and right here is a great dif-

ference. The Americans seem to try to tell us as much as they possibly can about the article they have to sell. The Canadians seem to tell no more than they can help. Some are content with a bare picture of the machine with the width of throat and the capacity they claim. The Americans based their capacity on their shortest cut; only one Canadian mentioned the matter. Two of the American catalogues specified gasoline power and the third gave both steam and gasoline, while the Canadian catalogues all use steam as the unit of power. What is the sense of that? How many farmers have or want to buy a steam engine to-day? Gasoline or electricity are the up-to-date powers. On many of the machines the travelling table is too short; corn 10 to 12 feet long does not lie well on a 5-foot table. There are other points of equipment in which we are behind, but I have said enough. If Canadian manufacturers want to regain the home market they must advertise and revise their catalogues, as well as bring their machines up to date.

Grenville Co., Ont.

C. W. BEAVEN.

Saving Sorghum for Seed.

Editor "The Farmer's Advocate":

In regard to saving Sorghum or sugar cane seed I would advise for one's own use, or for small quantities to go through the patch just before cutting and gather the largest and darkest-colored heads. Tie these up in small bunches and hang in a ventilated room, preferably with a little artificial heat, and leave without threshing off of heads until ready to sow. As for large quantities for the seed trade I have not as yet arrived at a satisfactory method, although I have been trying for many years. Heating and moulding when in any considerable bulks, either in head or threshed, seems to be its worst trouble. It will often remain out all winter, if heating is prevented, and a variable percentage grow in spring, but there is too much uncer-



Cutting the Corn.

Thousands of tons of this great crop have been cut this year.

taintly about this method. My practice is to gather the heads off as I use it in early winter, spread on the floor in a ventilated room, stir frequently, and just before required thresh with horses tramping it, as our fathers used to thresh peas. Sorghum should be cut just before frost comes.

Middlesex Co., Ont.

EDGAR M. ZAVITZ.

Ontario's Agriculture Will be Fostered.

Editor "The Farmer's Advocate":

Permit me to correct an erroneous impression conveyed by your leading editorial in a recent issue of "The Farmer's Advocate" under the heading "Curtailed Agricultural Expenditure." It is quite true that this Department like everyone else has had to consider the financial situation forced upon us by the war, but any changes made on this account only refer to a very small percentage of the entire work of the Department. I am glad, therefore, to be able to assure you that there is no intention on the part of the Department to "curtail expenses at the expense of production and the country at large" as you fear. While it is probable that the usual series of Institute meetings may not be held this winter, you may rest assured that there will be plenty of meetings and educational agencies of various kinds to bring to the attention of the farmers the demands created by the present situation for an increased production. I quite agree with your statement in an adjoining column that "there is not a fall fair which should suffer" by the changes in reference to the expert judges or the grant, which later does not affect this year's fairs in any way. I would also like to endorse the suggestion that the present is a time when everyone should unite in the work, as the present

is a time which calls for some sacrifices on the part of all. The Department, as in the past, will be prepared to assist all those who will help themselves, and I think it will be found before the winter is over that the Department will have done its part in leading this movement.

Toronto, Ont.

JAS. S. DUFF,
Minister of Agriculture.

THE DAIRY.

Creamery vs. Independent Tests.

Editor "The Farmer's Advocate":

Some of the creamerymen are raising strong objections to the tests made by independent parties, and claim that these tests place them in a very unfair position. The chief ground on which they base their objection is that the samples sent by patrons are not representative of the quality of cream delivered to the cream hauler or to the creamery direct. One man says that in a case at his creamery, ordinarily the wife or children turn the separator, but when a sample was taken of the cream to be sent to the College for testing the farmer turned the separator himself at an increased speed, consequently the cream tested much above normal and this was the cause of considerable trouble between the creameryman and the patron. There is a good deal of truth in this contention, hence it may be well to clear the ground of misunderstanding on this point, so far as possible.

In the first place it may as well be understood that the cream-seller, who is not satisfied with his tests, has a perfect right to appeal to an independent, competent party. Nearly every creameryman will concede this point, although some, appear to not like it very well when patrons send samples to other parties to be tested, as they seem to think it a reflection on their honesty and square business dealing. This

is a mistaken idea, as farmers, generally speaking, have no way of testing their cream, and rightly or wrongly are inclined to be suspicious of the cream-purchaser's tests. There ought to be some way provided whereby this testing business could be placed on a better and more satisfactory basis.

In the second place, the patron who sends a sample of his cream to an independent party should be sure that it is representative of the quality of cream which is being sold. Otherwise the independent

test is of little or no value. Generally speaking, a sample taken from one run of the separator is not representative—it may be above or below average as much as five, or more per cent. fat. The reason for this is that "speed" and "feed" of the separator are very important factors in deciding the percentage of fat in the cream, and in ordinary practice on the farm, these are seldom or never constant.

The best way to get a representative sample of the cream is to take a sample from each delivery, or have the hauler or creameryman do this, keep the sample under lock and key, so that there can be no tampering with it, and at the end of the test period, whether daily, weekly, bi-monthly or monthly, send or take the sample to a competent, independent person, and where this is done, we venture to say there will not be over one per cent. difference between the creamery test and that of the arbitrator, where the creamery is doing an honest, straightforward business. If the creamery is not giving a "square deal" then the sooner the patrons know it the better.

Where the test period is for one week or longer, the sample should be preserved with a tablet or with a three-ounce, potassium bichromate-corrosive sublimate preservative, which is cheap and can be got at any drug store. Five or ten cents will buy all the preservative a cream patron would need for a year.

Where a composite sample cannot be conveniently taken, then the next best plan is to take a sample from the can of cream as delivered to the driver, railway, or creamery, after thorough stirring of the contents of the can, because if taken from the top of the can it will not be representative—the test will be too high, as the richer cream will be found on top of the can, the same as in milk. If a two-ounce bottle is filled, corked tightly, packed securely and mailed

at once, it will not, as a rule, need any preservative.

In order that patrons may understand the effects of increased or decreased feed and speed, and the effects of allowing too much of the bowl flushings to go into the cream at the end of the run, a word on each of these may be in order, although they have been frequently referred to in dairy writings during recent years.

All cream separators are made to run at a certain speed in order to do efficient work. While a slight variation below normal speed will not cause any serious loss of fat in the skim-milk, it is always well to run the machine at, or slightly above, the speed advised by the manufacturer. Whenever the speed drops below normal, the skim-milk is not so completely separated from the cream which results in cream with a lower percentage of fat—or it lowers the test. Generally speaking, a drop of one revolution of the handle per minute means one per cent less fat in the cream.

On the other hand an increased speed above normal causes more complete separation of cream and skim-milk, which means cream that tests higher—as a rule, an increase of one revolution per minute of the handle above normal, adds one per cent fat to the test of the cream. (The foregoing rules are not absolute as the results vary with different types of separators and with various conditions.)

On account of speed being such an important factor in the separation of cream from milk with a centrifuge, or what is commonly called a separator, there should be some simple arrangement on a separator so that the operator may know at any time by a glance, whether or not speed is normal, or above, or below. We understand that such an attachment can be now purchased, but they are rather expensive, and there is some doubt as to their reliability.

All separators have some feeding device whereby it is impossible to overfeed the machine, so long as the feeder is working properly, but the height of milk in the supply-can seems to have some effect on the volume of milk which flows into the separator. If the supply tank be kept filled all the time during the run, more milk will pass out and into the bowl, and if speed be constant, this causes more skim-milk to go with the cream, causing a lower test. On the other hand, if the tank have only a small quantity of milk in it at any one time, less milk tends to run out in a given time, and if speed be constant, the separation is more complete and the cream tests higher.

Some use warm water for flushing the separator bowl, and others use skim-milk. In either case, if too much be used to flush out the cream at the end of the run and the excess is allowed to go in the cream pail, it results in lower testing cream. The cream spout should be closely watched, and as soon as the cream is all out of the bowl and spout, the cream pail should be removed and another vessel be put under; or the spout should be turned to the skim-milk vessel. There is always some danger of turning the spout against the bowl and injuring it, hence it is better to use another vessel to catch the last of the flushing, and not run the risk of denting the covers by turning them while the bowl is running.

When these points are considered, we see how easily there may be considerable difference in the test of the cream from one run as compared with another, and also why there may easily be quite a difference between the tests of cream as given at the creamery, and that made by a disinterested party.

The farmer or cream-producer is practically at the mercy of the cream-buyer, and there seems to be no practicable plan of overcoming this system. On account of this, the man who sells cream is inclined to question the accuracy of his tests—sometimes with good reason. He then appeals to some disinterested party, and when there is a difference between the tests of the two parties, there is likely to be trouble. It certainly is a complicated problem, and the solution does not appear to be in sight at the present time.

O. A. C., Guelph, Ont. H. H. DEAN.

On Milking Machines.

Editor "The Farmer's Advocate":

In reading over the article in your paper of September 10th, on "Milking Cows," by Prof. Dean, of the O. A. C., one cannot help but be struck with the fact that the Professor is not in favor of the mechanical milker, and I think this article may have much weight in inducing many who might otherwise view it favorably to think the machine is a dream of the future.

Now, let me say, personally speaking, that as we have used our machine only five months we are not eligible to speak definitely; but could you Mr. Editor not ask, through the medium of your valuable paper, for users of a year or more to give their opinion on this machine that is as yet in an experimental stage.

We have in our neighborhood a dairyman who keeps only pure-bred Jerseys, he has used the mechanical milker for some ten or twelve years,

and is at present (I believe) milking some fifty cows, a man should learn a lot about any machine in that time. One great objection to these machines was in the cost; being prohibitive to the average dairyman. Last December a machine quite reasonable in cost was introduced into Canada, and since then about four hundred have been sold to Ontario farmers. This machine by having a small pump for each unit does away with the large vacuum pump and piping, and takes only about 25 per cent. of the power required for some other machines; and, as far as the writer can see, does fully the equal of the other machines known.

Ontario Co. F. H. WESTNEY.

Dairy Products at Ottawa Fair.

Dairy products this year sprang into the lead over previous years by three times as much butter and a quarter more cheese. The quality was good in most products, and, considering the month of August, makers should be complimented on the quality of cheese they put out. Following are the awards in butter and cheese, and where two names are joined together the scores for their product are equal, and the prize money is divided equally between them.

Cheese.—August colored: 1, Geo. Empey, Atwood, Ont.; 2 and 3, Benjamin Howes, Atwood, and C. G. Wiltsie, Vankleek Hill; 4, Frank Lewis, Kempville; 5, Benson Avery, Kinburn, Ont., and Roy Hastings, Atwood, Ont. August white: 1, Henry Youn, Listowell, Ont.; 2, Roy Hastings; 3, Geo. Empey; 4, Donald McFee, Vankleek Hill, Ont.; 5, Wm. Morse, Trowbridge, Ont. June colored and white: 1 and 2, John C. Donnelly, Scottsville, Ont., and Jos. D. Henderson, Smithfield, Ont.; 3 and 4, Jas. A. Ferguson, Mallorytown, Ont., and Henry Youn; 5, Donald Menzies, Listowell, Ont.

BUTTER.—Dairy prints: 1, Owen A. McLaughlin, Knowlton; 2, Mrs. Alex. Meldrum, Wyman; 3, Mrs. J. O. Connell, Manotick Station; 4, Alf. Wallace, Northflower. Dairy tubs: 1, Mrs. Alex. Meldrum; 2, Owen A. McLaughlin; 3, Mrs. J. O. Connell; 4, Mrs. J. H. Pillar, Winchester. Special tubs: 1, Mrs. Alex. Meldrum. Creamery butter, 56-lb. box: 1, Adjutor Servais, St. Hyacinthe, Que.; 2, Jos. E. Pelletier, St. Morton, Que.; 3 and 4, Albert Bourbonnais, St. Polycarpe, Que., and Alf. Loisselle, St. Jean de Matha, Que.; 5, Oliver Brault, St. Sabine, Que., and Ovide Nathier, St. Clet, Que. Creamery prints: 1 and 2, Edward Frechette, St. Felix de Valois, Que., and P. Palleson, Calgary, Alta.; 3, Alf. Loisselle, and W. Jackson, Marketville, Alta. Special salt prize: 1, Edward Carter, Corbyville; 2, Benjamin Howes. Syndicate prize: 1, Robt. Thomson; 2, Thos. Whattham.

BUTTER-MAKING CONTEST.

Following is the list of the prize winners in the butter-making competition:

Free for all class: 1, Miss R. Patton, Richmond Hill, Ont.; 2, Mrs. A. Wallace, North Gower, Ont.; 3, Mr. A. Lapalme, St. Hugues, Ont.; 4, Mr. Jno. Anderson, Renfrew, Ont.

Amateur class: 1, Miss Flora Sylvestre, St. Simon, Ont.; 2, Miss Blanche Sylvestre, St. Simon, Ont.

HORTICULTURE.

Propagating Currants.

Many gardeners at this season of the year become interested in the propagation of much of their berry stock. Enquiries of late concerning currants have been numerous and the season is rather late at present for fall cuttings, yet winter cuttings may be made and placed in the cellar for transplantation in the spring. The old-time custom has been to take the cuttings during the latter part of August and the first of September, and plant them at once in the nursery row. Usually they are placed about six to eight inches apart in rows three feet apart, and so deep that only the top bud or two will be above ground. This depth insures a strong root system and a vigorous plant. The cuttings should be made about eight inches long, and cut off squarely at the base. The lower cutting should be made quite close to the bud, as this assists in the callousing of the injured part and facilitates rooting. The cut should be made at the upper end at least half an inch above the top bud, so there is no danger of the wood drying out past that point of growth.

The season designated as being suitable for taking cuttings is past, of course, but some growers in the Niagara District use the slacker winter months for this work. Under this system the cuttings are taken in the late winter, and placed in moist sawdust in the cellar. Here the cut ends will become calloused and rootlets started. When the season opens in the spring and the land is fit to receive them, the cuttings are placed out in the rows and growth continues as under the former method, only under very favorable circumstances the fall-set cuttings may be a little further ahead.

Prospects for Fruit Marketing.

Fruit prospects are rather discouraging, as a result of the troubled state of foreign markets and conditions. Added to this we hear that Great Britain has a very heavy fruit crop. Old Country commission merchants are of the opinion that there will be a market for about half of a normal crop, mostly No. 1 grade on present outlook, as No. 2 and No. 3 grades are usually the apples of the working classes who are now only partially employed. It is stated also by English manufacturers that unless export orders are forthcoming for their products, they may have to close down altogether for a time. A London report of market conditions states that Canadian apples will meet with but a fair demand and low prices for the first half of the season—better prices are then looked for. Early shipments of Ontario apples stand a much better chance in Liverpool, Glasgow, and the north of England.

A considerable factor in the shipment of apples to Great Britain will be the increased freight rates, coupled, as it is, with prospective lower prices than ordinarily. There is also extra cost of refrigeration varies of from 10-6 down to 5 per ton weight or measurement, according to the temperature required by the shippers. For winter apples, cars consisting of one-third Spys, balance other varieties, two-thirds No. 1, \$2.00 to \$2.25 per bbl. f. o. b. shipping point, should be a very fair price to make sales at present.

The recent cold, wet spell has had its effect on the apple and pear crops by inducing Ink Spot or Sooty Fungous, especially in the lower and more shaded parts of the trees where the fruit did not dry out so readily during the day. In some orchards the Ink Spot is so bad as to considerably lower the grade of the fruit.

A late attack of Apple Scab has also been induced by the unfavorable weather. It shows itself in the form of small, red spots scattered over the apple, giving at first sight the appearance of San Jose Scale.

Showing Fruit at Fall Fairs.

When showing fruit at fall fairs exhibitors should pay attention to the little details in order to win coveted prizes. There are many things which meet favor in the eyes of the judge, and although the quality and appearance of the fruit may be presentable yet the variety goes a long way in winning the preference of the one making comparisons. Fall varieties do not show up as well as the later kinds at fall fairs. They may have better color, but preference is given to the hard winter variety, especially if it is arrived at any degree of maturity. There seems to be an ephemeral or passing appearance about the early fruit, and exhibitors should bear in mind that to make their exhibit of varieties, especially those classes calling for several varieties, the very best they should include as many as possible of the winter or late fall varieties.

Since the science of fruit growing has become so well known and so widely practiced, the idea of exhibiting faulty specimens is an insult to the fair, and indicates an outcropping of antiquated methods of culture. The quality of the fruit crop of 1914 is good indeed, but a commercial and an exhibition specimen are two different objects. The former should be good, but the latter must be faultless to be really classed in the category of show stuff. Growers know how hard it is to secure a cob of corn or specimen of fruit that is near perfect, but it is easier in the latter class to attain perfection, and scabs and worm holes should debar an entry from winning any prize, even if it is the only one in the class.

POULTRY.

Poultry at the Ottawa Fair.

If numbers are any criterion by which to judge the poultry exhibit at the Ottawa Fair was superior by far to that of any previous year. The entries were approximately double those of last year, and the quality was equal to anything that has been shown, so we are safe in saying that the exhibit of 1914 was the best ever put on at the Central Canada Exhibition. A parrot, distinguished by being the only one present, was sponsor for the whole tribe and certainly did his duty. A fair proportion of this increase in numbers appeared in the utility classes, making the Barred Rocks, Wyandottes, Orpingtons and Dorkings a very good display indeed. Leghorns were strong too, and the Bantam classes and water fowls were well filled. The turkey exhibit was good in all classes, and there was some strong competition in Pekin ducks and Indian Runner ducks. On the whole the coops containing two, and some times three birds, where they were mostly entertained singly last year, was conclusive proof that a large increase had taken place.

Chief among the principal winners were—Barred Rocks: G. H. Taylor, Osgoode; A. H. Switzer, St. Marys, and Hintonburg Poultry Yards, Ottawa. Wyandottes, white and golden: G. Hignan, Sr., Ottawa. Buff Wyandottes: J.

Mason & Sons, Ottawa. Partridge Wyandottes: G. Hignan, Jr., Ottawa. Leghorns, white: T. S. Crouch, Billing's Bridge and Fred White, Calment, Que. Brown Leghorns: R. Blakely, Ottawa, and G. H. A. Collins, Ottawa. Black Leghorns: A. H. Switzer. Silver Grey Dorkings: Mason & Sons, Ottawa.

Five pairs of little fancy fowls called Silkies were in the pens, and attracted considerable attention. J. H. Warrington, and Point Fortune Poultry Yards, Point Fortune, Que., were two of the largest exhibitors, having entries in many different breeds.

FARM BULLETIN.

War Time Topics from Britain.

Germany always makes war when she has gathered in her harvest, or, when her natural enemy, France, is in the throes of her harvest. The call "to arms" rang through Belgium, France and England at a time when farmers were collecting their harvests, and while the whole of agricultural Belgium was devastated by the Germ-Huns, the north of France, too, felt the shock and usage of the tramp of millions of feet and hoofs. But the harvest of Southern France has been a good one. That of England, however has been a wonderfully fine one. The vintage of middle France must also pay a toll to war, and there will be no 1914 champagne on the wine lists when you good Canadians visit Europe and Britain, a little time hence.

English wheat will yield about four per cent. above average. Barley, however, will be one per cent. below normal. Oats are the poorest of the three cereals, being about five per cent. below the mean, though there are some good crops in parts. Beans will be a trifle over average, but peas are a poor yield, yet potatoes show a yield well over average. The root crop will be about four per cent. below average. Hops will be a heavy yield, which is good considering that continental supplies are sure to be restricted in 1914.

This has been a wonderfully good year for sheep, and prices for breeding stock have been "up" all round. At the Border Union Agricultural Society's ram sale, £300 were paid for a shearing Blackfaced ram, which was champion at the Hawick Highland Show. It was bred at Glenearn. A. J. Baifour, the politician, paid £205 for a ram from Deuchrie. Half-bred rams realized up to £39, and Oxford Downs realized £34. At Perth ram sale another black face realized £100, and a Bogside shearing at Lanark fetched £110. At Minton's Shropshire sale, Craig Turner gave 50 guineas for a ram. For "ordinary" Lincoln rams £5 apiece are being paid at most sales.

For my own publications, I have been securing actual facts to prove what help Hunter breeding has been to England during the war mobilization, and I find that in the Oakley hunt area (Oxfordshire) no fewer than 400 hunters were bought by the Government; in Surrey 500 hunters; in Somersetshire, 300; in Devonshire, 500; in Hampshire, 289 in North Warwickshire, 300; in the Grafton country, 250; in Berwickshire, 200; in Southwest Wiltshire, 200; in South Staffordshire, 200; in Ludlow, 200; in Old Berkshire, 325; in Lord Rothschild's area, 200; in Sussex, 200; and from all over the country batches of 100 to 150 hunters have been collected. What the nation has been saved in keep alone, by being able to swoop down upon ready-made four and five-year-olds, or over, deponent knoweth not. We must breed more hunters. It's so easily done—a Thoroughbred stallion used on a light-legged farmer's mare, and there you are!

The fog of war is lifting. We have had a glorious week's success driving back the enemy. Yet old England—that is speaking agriculturally—is still herself. As soon as the harvest was safely gathered in, our country lads enlisted in their thousands. We shall have one and a half million men ready for the fight soon. Agriculture has again played its valiant part in time of stress. More acreage will be devoted to wheat growing than ever—let the "bulls" of Chicago's Pit note that!

London, England.

G. T. BURROWS.

W. E. J. Edwards, B. S. A., Representative of the Department of Agriculture in Essex County, and Secretary of the Ontario Corn Growers' Association, has resigned and has accepted the position of Associate Professor of Animal Husbandry in the Michigan Agricultural College at Lansing. He will commence his new duties about October first.

The Veterinary Director General, Dr. F. Torrance, informs "The Farmer's Advocate" that a Ministerial Order has been passed prohibiting, for a further period of six months from September twenty-fourth, the importation into Canada of any hay, straw, fodder, feedstuffs or litter accompanying horses from the United Kingdom.

A Good Shorthorn Sale.

The dispersion sale held by A. G. Smillie, of Kippen, Ont., on September 18th was a big success; the twenty-nine head of choice Shorthorn cattle making a total of \$4,958, an average of \$171 each. This is a very satisfactory showing, considering that no small percentage of stock were young animals, including calves. Capt. T. E. Robson, of London, wielded the hammer. The following is a list of the buyers with prices:

Carrie C. 2nd, W. R. Smillie, Brucefield.	\$135.00
Wimple's Signet, J. F. Mitchell, Burlington.	205.00
Morning Dewdrop, J. J. Graham, Ailsa Craig.	195.00
Helen's Rose, Bert Ross, St. Marys.	185.00
Vesey's Brand, Robt. McAllister, Blyth.	237.50
Fair Brand, J. J. Graham.	260.00
Vesey's Choice Signet, J. J. Merner, Zurich.	215.00
Scottish Sample, Frank Fitzgerald, Hensall.	242.50
Choice Signet, Wm. Pepper, Hensall.	265.00
Carrie of Treasure Valley 2nd, John Radcliffe, Exeter.	166.00
Royal Choice, Thos. Brock, Winchelsea.	180.00
Choice Gift, James Morris, Munro.	175.00
Scottish Brand, Wm. Ritchie, Teeswater.	135.00
Sample Carrie, Beattie Bros., Varna.	135.00
Golden Dewdrop, Wm. Ritchie, Teeswater.	100.00
Carrie 8th, John Chambers, Cromarty.	100.00
Favorite Brand, J. J. Graham.	130.00
Carrie 10th, Duncanson & Laidlaw Hagersville.	110.00
Choice Gem, J. A. Watt, Elora.	200.00
Carrie 11th, Isaac Salkeld, Goderich.	125.00
Helen's Model, Duncanson & Laidlaw.	122.00
Vesey's Model, Murrell Bros., Belton.	100.00
Vesey's Choice Brand, J. J. Merner.	145.00
Carrie 6th, H. Oestreicher & Sons, Crediton.	125.00
Golden Edward, Peck & Keys, Varna.	305.00
Royal George, Chas. Stewart, Gadshill.	172.00
Bandmaster, Frank Bean, Hensall.	146.00
Ringleader, Wm. Nethercott & Son, St. Marys.	217.00
Rare Treasure, J.H. Mulholland, Mitchell.	130.00

Our Scottish Letter.

Events have moved rapidly since I last wrote. Europe has become, not an armed camp, but a bloody battle field. For the first time in a century Great Britain has sent an army across the channel, and while I write tidings are being borne of a mighty conflict in which these arms are again proving victorious, and doing something to prevent the nations of Western Europe being placed under the heel of a military despotism. The losses incurred by Great Britain during the month's operations have been returned at 18,000 men—in itself an enormous price to pay for liberty, and no one is blinding himself to the fact that this is but the beginning. Army after army is being enrolled, and a demand for another half million of men has been endorsed by Parliament. It becomes clearer and clearer that the great soldier who is directing affairs means to take nothing for granted, that he does not calculate on any short and easy method of ending this war, and that ere all is over and peace again assured to the troubled nations, many moons shall wane, and many a home will be bereft of husband, brother, father and son.

The readiness of the response to the call for recruits is the most striking tribute to the solidarity of the British Dominion. Perhaps the most amazing and awe-inspiring spectacle is the army of 80,000 men which is on the way or has arrived from India. That Great Britain has always had clean hands in her dealings with subject races will not be recklessly maintained by anyone, but her methods of Government have always made for liberty, and not one of the races which owns her sway has indicated the slightest disposition to take advantage of the present emergency, and make it the occasion for rebellion. Next to India's splendid demonstration of loyalty comes news from South Africa that Boer and British are one—that the Boer has found himself in possession of greater civil freedom than he ever enjoyed under a Dutch Republic, and his attitude is such as to constitute South Africa no jumping-off place for a German attack on the British Dominions beyond the seas. All around so far the war has evoked a storm of approval of the attitude of Great Britain. She has unsheathed the sword in her traditional role of defender of the weak, the vindicator of treaty obligation, and the emancipator of men from despotism. In this crusade she finds herself in novel alliances. Her ancient enemy, France, is her closest ally; Russia, her dreaded opponent in the east; is working hand in hand to overthrow the military despotism of Prussia, and, most marvellous of all, away in the far east, the island Empire of Japan is seconding the efforts of these ancient European powers. What all this in the final round-up may portend he would indeed be a bold man who would prophesy. Students of history and the evolution of nationalities will recognize possibilities in the situation not devoid

of future danger. But "sufficient unto the day is the evil thereof," and it is not a new thing on the earth that the Most High should shatter one despotism by hurling against it the forces of another. Meantime in quietness and confidence lies Great Britain's strength, and in the end there shall be abundance of Peace.

The advance of science has this year received striking illustration in the meetings of the British Association in Australia. The most significant feature of the meeting is its existence. Not many years have elapsed since it would have been impossible to hold such a meeting, it would have been impossible to suggest that it should be held. But the advance of Science, the bridging of the oceans, and the increase in the speed of steam vessels have all contributed to make such a meeting possible. It scarcely admits of doubt that had other international conditions prevailed the opening address of the President, Professor William Bateson, F. R. S., would have occasioned widespread controversy. It was a candid and outspoken analysis of theories of Heredity, based on Darwin's doctrine of Selection and the Survival of the Fittest from the point of view of Mendelian facts. The indictment of Darwinism was not the less thorough because it was not in itself the main purpose of the address. But the subjection of Darwinian theory to Mendelian facts issued in the abandonment of the main positions taken up by the apostles of Evolution. Some of the Professor's statements were destructive to a degree, and had they proceeded from some old school theologian, they would doubtless have been viewed with scant courtesy. But their utterance by the President of the British Association is not to be passed over, and their issue is an abandonment of the Darwinian hypothesis as at all an adequate account of the origin of species. In taking this line Professor Bateson means no disparagement to Darwin. That painstaking investigator places the world under obligations which can never be repaid. His keen observations opened up a vista in the facts of existence previously unexplored, and he must not be held responsible for theories based on his accumulation of facts which were not necessarily involved in his theories. Nevertheless, if the President of the British Association is anywhere near being right in his Mendelian facts, Darwinism as an adequate science of life has passed away. With its passing there must also go a great volume of theory and prepossession to which stock breeders have blindly subscribed for more than forty years. There are more things in stock breeding than can be solved by any system, and so far we have not got much beyond the elementary proposition that you are more likely to produce a good animal by mating two good animals than by mating a good animal and one that is indifferent. Mendelism accounts for many things within its own realm, but before pinning one's faith to it absolutely it is well to remember that even its rules do not always apply. Professor Bateson mentions a notable case in which it breaks down—that of color in the cross between the negro and the white man. If the descent of color in this cross followed the simplest Mendelian rule, the offspring of two first-cross mulattos would be on an average one black, two mulattos, one white; but it is notorious that it is not so. We have an idea that the out and out apostle of Mendel would get over this difficulty by boldly asserting that one of the two original crosses was not wholly black or wholly white. He would argue that in some part of the body there would be found evidence that the white parent was not absolutely white, or that the black parent was not absolutely black. And if he was a thorough Mendelian apostle he would maintain this position against the world. We know of a case in which a white Shorthorn cow produced a red bull calf. The said bull calf became one of the best known sires in Scotland. He was a red bull. You could not make him anything else—but seeing he was the offspring of a white cow, on Mendelian principles it was an utter impossibility that he could be red. There was bound to be some white about him somewhere, and in spite of your eyes, he was not a red but a roan. Well, a diligent search was made, and lo, inside of his ears, a few white hairs were found. Mendel was vindicated. The white cow did not produce a red calf. She could not; Mendel said so! In like manner it may possibly be argued that Professor Bateson's mulatto did not breed untrue in the matter of color. Observation leads one to conclude that so-called scientific men are capable of talking a deal of nonsense, and sometimes they are better to be held in check. What fun we might have had out of this Bateson address, if only the Kaiser had behaved himself, and not had the newspapers filled with details of this absurd war! However, the address will keep, and more may be heard of it.

Sanitary Inspectors have held their annual Congress this year in the ancient city of St. Andrews. Subjects of vital interest to the community were discussed by them with much detail. In particular they have advanced admirable theories regarding the selling of Milk and the Inspection of Meat. The position regarding the former cow is that the sanitary authorities are

demanding a fixed and not a presumptive standard. Hitherto we have had a presumptive standard, that is to say—if whole milk, as sold to the public, was found to contain less than 3 per cent. butter fat, and 8.5 per cent. solids not fat, it was presumed, until the contrary was proved, that the milk had been tampered with. This threw the onus of proof that the milk had not been adulterated on the accused, and if he could establish that he sold the milk as the cow gave it, even although it fell below the above standard, the accusation failed. For a time administration went merrily forward, many of the county judges taking up the position that the standard was an absolute one, and that the man who sold milk below it was guilty of a statutory offence. This was the short and simple method of dealing with offenders, but it was not the law. The law is that there is no offence if the public get the milk as the cow gives it. But how is innocence on the part of a milk salesman to be established; what evidence will be sufficient to establish a negative? The prosecuting authorities boldly took up the attitude that the evidence of members of a farmer's household could not be taken, and a case that was fought out in the supreme court was fought out on this issue. The finding was that evidence which would be accepted in an ordinary police case could not be refused in a case involving a statutory offence like milk adulteration. The members of a man's own household would be competent witnesses in an ordinary case why not in this? The decision of the court was favorable to this argument, and the end of the presumptive standard was in sight. The next case was a very bad one in which admittedly very poor milk had been sold. The accused maintained that he sold milk as the cows gave it. He proved this by evidence from members of his own household, and his conviction in the lower court was quashed by a bench of seven judges in the Supreme Court. The authorities now maintain that the presumptive standard having been made of none effect, the best thing is to have a fixed standard. This has all along appeared to us to be the wise course, but it has certain obvious disadvantages. Unless the standard is fixed high there will be plenty of "toning down," because it does not admit of doubt that a well-managed dairy of Ayrshire cows in good keep and condition will yield milk of a higher quality than that fixed by the existing presumptive standard. However, there is little reason to expect any legislation or questions of this kind for many a long day. Parliament will have more serious problems to solve, and we will require to make the best of the milk standard as it is until brighter days have dawned.

The condition of Meat Inspection in this country is chaotic to a degree. There is no fixed or uniformity standard, and every inspector is very much a law to himself. The Sanitary Congress passed resolutions in favor of a uniform standard, and therein they were wise. The first step towards such uniformity is a common system of training for the inspectors. Unless they are trained alike they can hardly be expected to act alike. Whether such uniform training may be responsible cannot at once be determined, but a beginning should be made. The best inspector should be a fully-equipped veterinary surgeon, with some training in medicine. He need not be a fully-equipped physician, but he should know something about the human body and the action of poisons thereon. Much good food has been destroyed through ignorance, and much unwholesome food has been consumed, especially by the lower orders. A uniform method of inspection by a uniformly trained body of inspectors would do much to remove existing anomalies.

Flockmasters are having a successful season. Top breeders are making money, high prices being quite the order of the day. One great breeder of Blackfaced rams last week sold 130 shearlings at an average of £13 1s. each. This was a remarkable performance, especially in view of the fact that the total rent of his farm is little more than £400. These 130 shearlings are by no means the whole that this flockmaster has to sell, but his results are phenomenal for so great a number. The total worked out at almost £1,700. The particular flock is that of Obershiels in the Lammermoors, and the sheep bred on this farm have for long held a unique place in the good opinion of flockmasters throughout Scotland. They are fine healthy, strong sheep, and brought out in natural condition. The farm has long been in the possession of the brothers Archibald, only one of whom now survives.

SCOTLAND YET.

Dairy Cattle at Vancouver Exhibition.

After judging the dairy cattle and swine at Vancouver's Fifth Exhibition, D. C. Flatt, of Hamilton, Ont., has written "The Farmer's Advocate" thus: "Taking all classes and breeds into consideration it was the best exhibit of dairy cattle that I have ever had the privilege of judging. The grand champion female over all breeds

was a Holstein junior heifer calf, bred and owned by J. M. Steves, Steveston, B. C. The champion Holstein bull was a two-year-old, owned by F. J. Bishop, Duncan, B. C., and the same bull was made grand champion male over all the dairy breeds. My advice to our Eastern Holstein breeders, who may intend at any time to exhibit in British Columbia, is not to start out thinking that all the good Holstein cattle in the Dominion are owned in Ontario." Logan & Dickie, Edmonton, Alta., also came in for a large share of the prizes, winning many firsts and seconds.

The Ayrshires were not so numerous as the other breeds, but the herd exhibited by Joseph Thompson, Sardis, B. C., made up in quality what was lacking in numbers. His exhibit was a credit to the breed.

The display of Jerseys was possibly the best that has ever been brought out in British Columbia. Messrs. B. H. Bull & Sons were on hand as usual with a strong bunch, but they did not have everything their own way. A. H. Menzies & Sons were strong competitors, and considerable competition came from across the line.

The Guernseys also made a great showing, and judging from the number of exhibitors and the quality of the stock on exhibition the breed is becoming quite popular in British Columbia.

The award for best exhibit of cattle on exhibition went to Yule & Bowes, Calgary, Alta., on their Shorthorn herd.



The Late Sir James Whitney.

Ontario's Premier Passes.

All Canada mourns the loss of Sir James P. Whitney, Premier of Ontario, who passed away very suddenly at noon Friday last at his home in Toronto. By his demise Ontario loses her leading statesman, and a most ardent worker for the good of her people. The late Sir James Whitney was born at Williamsburg, Dundas County, October 2nd, 1843. He was educated at Cornwall Grammar School, and was called to the bar in 1876. In 1890 he was appointed a Queen's Counsel. For ten years he was engaged in the practice of law in Morrisburg, after which he entered public life as a candidate for the Provincial Legislature in 1886. He was defeated but not beaten, and at the bye-election in 1888 he was elected and took his seat in the House. He never was beaten afterward, and his satisfied and admiring constituents increased his majority at each appeal to the country. During the late days of the Mowat Ministry Sir James Whitney was made leader of the Conservative Party, and fought a good fight during the time of the Hardy Ministry and the stormy times of the Ross Ministry, and was rewarded with the Premiership at the landslide of 1905. Since that time up to his death he was in supreme command of the situation, and at each appeal to the Province was returned with a very strong following. Early last January he suffered a very serious illness in New York, and even after his return to Toronto his life was almost despaired of but he rallied, and contrary to expectations appeared before a great public meeting on June 24th, giving them the final address of the campaign and what proved to be his final public appearance.

His indomitable energy caused him to take up his work, and until early in August he worked longer days than any of his colleagues. The

strain was too much and his health broke again, but though expected, his death was very sudden, those in attention believing that he was gaining rapidly. A fair fighter, a real leader, outspoken in manner and sometimes blunt, but always honest and straightforward, generous and large hearted, he held a place in the hearts of all his people. He was honored by the people and by the King, being made a Knight Commander of the order of St. Michael and St. George a little over a year ago. Ontario and Canada mourns.

The Apples and the Poor.

By Peter McArthur.

Last week I did considerable gossiping about my apples, but since writing that article I have been to Toronto and I have changed my mind. Conditions being what they are I shall be glad of a chance to give away what is left of my apple crop. It is quite evident that unless something is done quickly a large part of our Ontario apples will rot under the trees. A few paragraphs that I wrote for the Toronto papers brought out a number of suggestions of which the two following are the most interesting. The News comments that the situation is one "that demands urgent action—attention is too poor a word at this juncture—on the part of the Canadian Government. It may be said with perfect safety that the Kaiser's Government under similar conditions would very quickly save the apples, but in our love of British freedom we have got it into our heads that government should have nothing to do with apples. The country should be given no rest until the gigantic, sinful waste of Nature's provision in this time of stress is stopped. The poor ye have always with you the Good Book says, and God alone knows how the poor are to live through this time of war. Let the Government throw aside its usual policy of non-interference and adapt unusual methods to an unusual situation and save the apples—and the poor."

This strong plea on the part of the News, an organ of the Government is endorsed by an editorial in the Star. Noting the fact that possibly a couple of million dollars worth of apples may go to waste this season, the Star says editorially:

"At the same time we are told that Belgium is sadly in need of food, and that representatives of Belgium are now asking if we can help them. Why not send some of those apples to Belgium. Of course, we should like to eat those luscious apples ourselves, but might we not help a sorely-pressed people who have done so much and sacrificed so much for our cause—the cause of humanity. Many Belgians have laid down their lives. Might we not help to give the survivors something to eat to sustain life?"

"There is the food going to waste. There are the people who need the food. To bring the two together needs only a little initiative, a little originality, a little courage, a little disregard of precedent. Are our Governments, our business men, our railway corporations lacking in these qualities?"

"The farmers are doubtless willing to sell their fruit at a very moderate price. The Governments of Canada and Ontario might make grants, not necessarily large, the railway companies might reduce their rates, all the middlemen who understand the handling of fruit might do it either freely or for a small reward. Nobody would lose a great deal, and the heroic Belgians would be greatly benefited."

In the hope of starting the ball rolling and getting someone in authority in action I hereby offer a contribution of fifty barrels of No. 1 apples, mostly Baldwins. If other farmers will part with their apples either by making contributions or selling at a fair rate it should be possible to assemble many carloads to send to Belgium within the next few weeks. If the Government would pay for the necessary labor involved, the scandalous waste of apples that seems almost inevitable could be avoided. Also, it should be possible to organize the people who are out of work in our cities, and send them to the fruit districts to pick and help to pack the apples. There is always a difficulty in getting the necessary pickers and packers to handle the apples in the fall, but if we could have the unemployed of the city to help it would be an advantage all around. Many of those who could be brought out to the country to do this work might get an understanding of country conditions that would enable them to move back to the land successfully.

Something must be done and done quickly. The waste of good apples that takes place in Canada every year is a scandal at the best, but on a year like this when food is scarce it is nothing short of a crime. I feel sure that many of the farmers and fruit growers will agree with me that at the present time the question of saving the fruit at all is more important than getting high prices. I should like to see it arranged that everyone would get a fair price for his apples, a price that would pay for the labor and

cost of production; but if business conditions are such that we cannot get that let us at least save as much of the fruit as we can. The matter is entirely up to the Government. I can see no way by which any individual or organization can attack the problem successfully. The case of apples is different from that of any other food product. Our grain products and live stock are handled through local dealers and there is always a market, so that there is no question about all food of that kind being properly conserved, but the apple trade is entirely different, and the Government is justified in taking action.

A Lightning-Rod Warning.

Editor "The Farmer's Advocate":

I wish to warn the farmers of Ontario against inferior lightning rods. In our investigations we have found that an iron-centred rod, that is, one composed of a strip of copper twisted around an iron or steel centre, whether the centre is a strip of wires or both, is a very short-lived rod. In many cases the iron is nearly all rusted away in from five to ten years, leaving only the copper, which is too light either to wear well, or to carry off a flash of lightning without melting. The copper sheath of these rods weighs less than half what the standard copper rods weigh. Any farmer who puts these iron-centred rods on his buildings is actually getting less present value for his money than if using an all-copper rod, to say nothing of the lack of durability. A plain galvanized iron cable is more durable than the iron-centred rod.

In bulletin 220 on Lightning Rods, page 26, appears a photograph of a piece of iron-centred rod taken from the peak of a building after eight years of use. The iron strip and wires were in several pieces, and more than half rusted away.

It is to the credit of all lightning rod companies in Ontario, except two, that they are following the teaching of Bulletin 220, and do not supply iron-centred rods. Several months ago I personally informed one of the two companies that its iron-centred rod was not fit to put on a building, and the other, even before Bulletin 220 was published, was notified what its teachings would be regarding the iron-centred rod, and they were advised not to stock up with that kind of

rod. Yet these companies are using other portions of the bulletin to induce farmers to buy these inferior rods which it condemns.

Under these circumstances I think it only fair to the farmers of the province to put them in possession of the facts. And it is not unfair to the companies, for they were notified publicly through the bulletin and privately by letter, thus giving them ample time to provide a good rod. Indeed it has been a matter of surprise to me to learn through recent correspondence and personal reports that these rods were still being sold.

These companies can just as well supply good rods, as specified and described in the bulletin.

Perhaps it may not be amiss before concluding to say that our investigations have shown that properly installed rods will prevent \$999 of loss out of every \$1,000 that would occur if the same buildings were not rodded.

WM. H. DAY,

Professor of Physics, Ont. Agr. College, Guelph, Ont.

Eggs by Weight?

Editor "The Farmer's Advocate":

It would seem more fair to sell eggs by weight than by count, since eggs vary a great deal in size, and, up to the present, there is practically no premium paid for good eggs. The practice of selling eggs by weight should also be comparatively easy. If a housewife steps into the meat shop and asks for two pounds of beef the clerk slices off approximately two pounds. It may be one pound and ten ounces or two pounds and four ounces, and the housekeeper pays for the actual weight, and not for two pounds for which she asked. Now the same housekeeper may ask the clerk for one dozen eggs, for which she may pay thirty-five cents. Now, she may get a dozen eggs which weigh one pound, or they may weigh one pound and fourteen ounces. It is seen that there is considerable difference in the actual value of these two dozens of eggs, as far as the food value of the eggs is concerned. The standard weight for eggs is one pound and eight ounces to the dozen, and it really makes no difference to the storekeeper whether he sells large or small eggs, because he has bought them at so much a dozen regardless of the size.

Just compare the amount of work involved in weighing and counting. It does not seem that there is much difference. Possibly the average storekeeper could weigh the eggs almost as quickly as he could count them. Certainly there are some housekeepers who could weigh eggs more quickly than they could count them. When a storekeeper is skilful in handling three eggs in each hand, using both hands at once, the counting of eggs is both rapid and easy. However, the average storekeeper could certainly weigh eggs as rapidly as almost any other produce, and moreover, it would seem that the storekeeper should buy his eggs at so much per pound, because it would be very difficult for him to buy by the dozen and sell by the pound. A case of eggs should weigh 45 pounds exclusive of the case. The consumer's practice in purchasing food products is to buy at so much per pound weighed in. This is not done with eggs. If a country producer ships ten cases of eggs to the commission house in the city he is paid so much per dozen. In the meantime, the eggs probably have evaporated 15 per cent. of their weight, consequently the commission house is losing approximately 15 per cent. of the price per dozen. The loss in weight, of course, may be due to the way in which the producer handles his eggs or it may be due to the methods of transportation. At any rate there is a loss which is not now accounted for.

Although it seems only right that eggs should be sold by weight, and it also seems simple and practicable, still there are difficulties to overcome. The first of all is prejudice. Producers, dealers, and consumers are very conservative in changing the old for the new. Also there would be the second difficulty of establishing some basis which would control the loss in weight due to evaporation during shipment. This is a big factor. As far as the producer is concerned it would be cheaper to produce large eggs. Large eggs weigh heavier, command a higher price, and for a given weight of eggs at so much per pound fewer hens would be required on the farms than where small eggs are produced.

Selling eggs by weight would tend to produce large eggs, as it would give the hen laying a large egg a decided advantage over the hen laying a small egg.

Macdonald College, Que.

M. A. JULL.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, September 28, numbered 268 carloads, comprising 4,616 cattle, 1,426 hogs, 2,579 sheep and lambs, 227 calves, and 1,172 horses. Trade was inclined to be slow, with cattle 25c. lower. There were no loads, but a few odd cattle sold up to \$9; choice steers, \$8.60 to \$9; good, \$8.25 to \$8.50; common to medium, \$7 to \$8; heifers, \$8 to \$8.25; cows, \$3 to \$7; bulls, \$5 to \$7.25. Feeders and stockers were easier. Choice steers, \$7 to \$7.25; good feeders, \$6 to \$6.75; stockers, \$5 to \$6.25; milkers, \$70 to \$90, and scarce. Calves, firm, at \$6 to \$11. Sheep, \$5.75 to \$6.25; yearlings, \$6.50 to \$7; lambs, easy, at \$7.25 to \$7.85. Hogs, 25c. lower. Selects, fed and watered, \$9; \$9.25, weighed off cars, and \$8.65 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS

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

	City.	Union.	Total.
Cars	67	536	603
Cattle	1,131	7,385	8,516
Hogs	284	8,257	8,541
Sheep	1,713	6,682	8,395
Calves	338	752	1,090
Horses	204	1,523	1,727

The total receipts of live stock at the two markets for the corresponding week of 1913 were:

	City.	Union.	Total.
Cars	44	606	650
Cattle	821	10,094	10,915
Hogs	58	6,867	6,925
Sheep	1,484	9,683	11,167
Calves	115	1,819	1,934
Horses	—	45	45

The combined receipts of live stock at the City and Union Stock-yards for the past week show a decrease of 47 carloads, 2,399 cattle, 2,772 sheep and lambs, and 844 calves; but an increase of 1616 hogs, and 1,682 horses, compared with the corresponding week of 1913.

Live-stock receipts for the past week

were large in nearly all of the different classes, but not greater than the demand. All kinds, no matter how poor the quality, found a fairly good market. The quality of fat cattle, taken as a whole, was the poorest of any week during the year thus far; that is, there were few good to choice butchers' steers and heifers offered. On the other hand, there was a large number of half-fat cattle that ought to have been kept on the farm six months, and some of them a year, before being marketed for killing purposes. There was, however, a good market at high prices, when quality is considered. In fact, one Chicago buyer who took several thousand cattle last year, informed us that Toronto cattle prices were the highest of any market on the continent. And although he came to buy, left without buying a single hoof, as he said he could do better on the Chicago and other American markets. Several other buyers of feeders for the distilleries told us the same, saying that they were going to wait for some time longer before taking on their supplies. Three times the number of choice cattle could have been sold had they been offered on the market. Values were firm, at about the same prices quoted in our last report. Stockers and feeders also were in demand, at about the same prices, which many of the buyers who were farmers refused to pay, as they thought there would be no money in the game. The supply of milkers and springers was moderate, and sold at steady values. Veal calves were scarce, not enough to supply the local butchers and abattoirs, consequently they sold at the stereotyped prices of the last seven or eight months. Sheep prices varied very little, but lamb values fluctuated according to the receipts, the bulk selling between \$7.25 and \$7.75, few reaching the eight-cent mark. Hogs were about 25c. lower on the average than in our last letter.

Butchers' Cattle.—Choice, heavy steers, sold at \$8.60 to \$9, and one extra fine lot of seven steers brought \$9.35; loads of good, \$8.25 to \$8.50; medium, \$7.75 to \$8.10; common, \$6.50 to \$7.25; choice cows, \$6.75 to \$7.25; common to medium, \$5 to \$6.25; canners and cutters, \$3 to \$5; good to choice bulls, \$6.50 to

\$7.25; common and bologna bulls, \$5 to \$6.25.

Stockers and Feeders.—Choice feeders sold at \$7 to \$7.50; good, \$6.25 to \$6.75; good stockers, \$5.50 to \$6; inferior, \$5 to \$5.25.

Milkers and Springers.—A moderate supply met a ready market, at prices ranging from \$50 to \$95, and one extra cow brought \$110. The bulk sold at \$70 to \$80.

Veal Calves.—Choice veal calves sold at \$10 to \$11.25; good, \$9 to \$9.75; medium, \$8 to \$8.50; common, \$7 to \$7.75; inferior, \$5 to \$6.50.

Sheep and Lambs.—Sheep, light ewes, \$5.75 to \$6.25; heavy ewes and rams, \$4 to \$5; yearlings, \$6.50 to \$7; lambs, \$7.25 to \$7.75; the bulk at \$7.50; culls, \$6 to \$7.

Hogs.—There was a fair supply during the week. The packers set the prices at 25c. lower than for the previous week, and with a few exceptions they were sustained. Selects, fed and watered, sold at \$9.15 to \$9.25; \$8.90 f. o. b. cars at country points, and \$9.50 to \$9.55 weighed off cars.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, \$1.12 to \$1.15; Manitoba, No. 1 northern, \$1.19½, track, bay points; No. 2 northern, \$1.17½.

Oats.—Ontario, No. 2 white, new, 50c., outside. Manitoba oats, No. 2, 60c.; No. 3, 59c., lake ports.

Barley.—For malting, 63c. to 65c., outside.

Buckwheat.—No. 2, 75c., outside.

Rolled Oats.—Per bag of 90 lbs., \$3.25.

Rye.—Outside, 75c.

Peas.—No. 2, \$1.10 to \$1.15, outside.

Corn.—American, No. 2 yellow, 81½c., track, Toronto.

Flour.—Manitoba flour—Prices at Toronto were: First patents, \$6.60; second patents, \$6.10; in cotton, 10c. more.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$15 to \$16; No. 2, \$13 to \$14 per ton.

Straw.—Baled, car lots, track, Toronto, \$8.50 to \$9.

Bran.—Manitoba, \$24.50, in bags, track,

Toronto; shorts, \$27; Ontario bran, \$23, in bags; shorts, \$27; middlings, \$29.

COUNTRY PRODUCE.

Butter.—Prices were firm. Creamery pound rolls, 31c. to 32c.; creamery solids, 27c. to 28c.; separator dairy, 27c. to 28c.

Eggs.—New-laid eggs sold at 27c. to 28c., by the case.

Cheese.—New, large, 15c.; twins, 16c. Honey.—Extracted, 11c. to 12c.; comb, \$2.50 to \$3 per dozen sections.

Beans.—Hand-picked, bushel, \$2.75 to \$3; primes, \$2.40.

Potatoes.—New, per bag, 85c., for car lots of Canadians, track, Toronto.

Poultry.—Turkeys per lb., 16c. to 22c.; spring ducks, 11c. to 13c.; hens, 10c. to 12c.; spring chickens, live weight, 12c. to 13c.; squabs, per dozen, \$4.

HIDES AND SKINS.

City hides, No. 1 inspected steers and cows, 14c.; No. 2, 13c.; city butcher hides, 14c. to 14½c.; country hides, cured, 15c. to 16½c.; green, 13c. to 14c.; lamb skins and pelts, 60c. to 80c.; calf skins, 16c.; horse hair, per lb., 40c. to 42c.; horse hides, No. 1, \$3.50 to \$5; tallow, No. 1, per lb., 5½c. to 7c. Wool, unwashed, coarse, 17½c.; wool, unwashed, fine, 20c.; wool, washed, coarse, 26c.; wool, washed, fine, 27½c.

FRUITS AND VEGETABLES.

With few exceptions, fruits of all kinds sold at lower values than at any time this season, and as the weather has been favorable, all kinds of vegetables are offered in abundance, at reasonable prices. Apples, 10c. to 20c. per basket; cantaloupes, 20c. to 50c. per basket; crab apples, 20c. to 25c. per basket; cranberries, \$6.50 to \$7 per barrel; grapes, 25c. per basket; peaches, 40c. to 75c. per basket; pears, Bartlett's, 50c. to 75c. per basket; plums, 75c. to \$1 per basket; watermelons, 25c. to 40c. each. Vegetables.—Beets, 75c. per bag; beans, 20c. per basket; cabbages, 35c. to 40c. per dozen; carrots, 20c. per basket, and 75c. per bag; celery, 20c. to 30c. per dozen; cauliflower, \$1.50 per dozen; cucumbers, 20c. to 25c. per basket; corn, 6c. to 7c. per dozen, and evergreen, 10c. to 12c. per dozen; eggplant, 25c. to 35c. per

THE ROYAL BANK OF CANADA

Capital Authorized - - \$ 25,000,000
Capital Paid Up - - - 11,500,000
Reserve Funds - - - 13,000,000
Total Assets - - - 180,000,000

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

Accounts of Farmers Invited
Sale Notes Collected

Savings Department at All Branches

basket; gherkins, 50c. to \$1 per basket; onions, Spanish, \$3.25 per crate; Canadian, \$1 per 75-lb. bag; onions, pickling, 60c. to 90c. per basket; peppers, green, 30c. to 40c. per basket; peppers, red, 60c. to 75c. per basket; tomatoes, 10c. to 20c. per basket; tomatoes, 10c. to 20c. per basket; turnips, 50c. per bag; vegetable marrow, 10c. to 20c. per basket.

Montreal.

Live Stock.—Whatever may be the reason, the price of cattle has of late been showing a disposition towards easiness. Many are offering the opinion that the tone of the market is due to the growing inability of the public to purchase meat. Prices of live stock of all kinds have been advancing for some years, and are now practically twice what they were some years ago. This was all right so long as the people were earning considerably higher wages than they were some years ago. Throughout the present year, however, unemployment has been increasing, and now that the war has broken out, thousands of people are unable to purchase meat any longer. Other conditions, however, have probably more to do with the decline in the price. Choicest steers sold at 8c. per lb.; fine at 7 1/2c.; good at 7c. to 7 1/2c.; medium at 6 1/2c. to 7c., and common down to about 5c. per lb. There was quite a little demand for canning stock, cows ranging down to 3 1/2c. per lb. Better quality of cows sold up as high as 7c. per lb. Sheep sold at 4 1/2c., and lambs at 7c. to 7 1/2c., while calves sold at from \$5 to \$8 each, according to quality. Select hogs sold at 9 1/2c. per lb., while good stock ranged down to 8 1/2c. Sows sold at about 1c. less than this price, and stags were sold at 5c. per lb., weighed off cars.

Horses.—The market was unchanged, as follows: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$275 to \$325 each; light draft, weighing from 1,400 to 1,500 lbs., \$225 to \$250 each. Lighter horses ranged from \$125 to \$175. Broken-down horses ranged from \$75 to \$100, and choicest saddle and carriage animals sold at \$350 to \$500 each.

Dressed Hogs.—Prices continued steady last week, being 12 1/2c. to 13c. per lb. for abattoir-dressed, fresh-killed hogs.

Potatoes.—New Brunswick potatoes were quoted at 70c. to 72 1/2c. per bag, carloads, on track, single bags being 85c. to 90c. Local potatoes sold at about 1c. per lb.

Honey and Syrup.—Maple syrup in tins was 55c. in small tins, and up to 80c. in 11-lb. tins. Sugar was 8c. to 9c. per lb. White-clover comb honey was firm at 14c. to 15c. per lb.; extracted, 11c. to 12c.; dark comb, 13c. to 13 1/2c., and strained, 6c. to 8c. per lb.

Eggs.—There was an active demand for eggs, and prices held firm and steady. Straight receipts were quoted at 23 1/2c. to 24c. per dozen, in a wholesale way, while selected stock in single cases sold at 28c. to 29c. No. 1 stock in the same way at 24c. to 25c., and No. 2 at 21c. to 23c.

Butter.—The market was rather easier last week. Choicest stock was quoted at 28c. per lb. here, while fine was 27 1/2c., and seconds, 27c. Western dairy was 25c. to 25 1/2c., and Manitoba dairy, 24c. to 25c. per lb.

Cheese.—The tone of the market for

cheese was easier, and prices lower. Finest Western sold here at 14 1/2c. to 15c. per lb., and finest Eastern at 14 1/2c. to 14 1/4c. for colored, and 1/4c. less for white. Under grades were quoted around 13 1/2c. to 13 1/4c.

Grain.—Prices were steady. Old crop, No. 2 Western oats were quoted at 61c. to 62c., in carloads, ex store; No. 3 Canadian Western, 60c. to 61 1/2c., while new crop was 4c. below these prices.

Flour.—Flour was unchanged. Patents sold around \$6.50 per barrel in bags, and straight rollers at \$6 to \$6.25 in wood. Manitoba first patents was \$6.70; seconds, \$6.20, and strong bakers', \$6 in jute.

Millfeed.—Prices of millfeed were steady. Bran sold at \$25 per ton, and shorts at \$27 in bags, while middlings were \$30 including bags. Mouille was \$32 to \$34 for pure, and \$30 to \$31 for mixed.

Hay.—The hay market was rather easier. No. 1 pressed hay, Montreal, ex track, was \$20 per ton; extra good No. 2 hay, \$19, and No. 2, \$18.

Hides.—The market was steady. Beef hides were 15c., 16c. and 17c. for Nos. 3, 2 and 1, respectively; calf skins were 16c. and 18c., for Nos. 2 and 1; lamb skins were 75c. each, with horse hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1 1/2c. to 3c. for rough, and 5c. to 6 1/2c. for rendered.

Buffalo.

Cattle.—Cattle trade, with excessive runs at all leading markets the past week, was a full 25c. to 40c. lower at Buffalo, and these lower values prevailed at practically all markets on anything in the steer line except choice and fancy kinds of heaves. The supply of shipping steers at Buffalo came mainly from Canada, there being around twenty loads, excepting a few cars, running mainly to medium weight, and only fair-fleshed kinds. These proved very slow sale. These medium fleshy and finished steers are coming in competition with Dakota and Montana rangers on the Western markets, and Eastern killers maintain that for cheap beef these are killing to better advantage than the Canadians. Montanas are running from \$8.50 to \$9 for a few toppy, heavy kinds, but a very few are reaching above \$8.25, and the tail-ends are running on a range of from \$7.25 to \$7.75. As against \$8.60 to \$8.75 for only medium-finished Canadians, Eastern killers have been inclined to go West for these medium class of steers. Last week's run of grassers at Chicago was the largest of the year, and ahead of last year. Money matters have been tightening up some, and a heavy liquidation of rangers has followed. A lot of warmed-up, half-finished natives have also been run to market of late, by reason of the fact that corn is selling high, and some feeders are rather skeptical about getting back the corn money, via the steer route. The result has been that with too many light-flesh-d native steers, and the West shooting in heavy supplies, that a large lot of steers are under the sheds and will produce a rather stagnant condition next week, unless perhaps runs are light all round. In the handy, butchering-steer line, very few of the choice grades were offered the past week, about the best offered being yearlings on the fair order, which made \$9.10. Best shipping steers were out of Indiana, and sold at \$9.75, averaging only 1,160 lbs., but being pretty well finished up. Best handys showed a spread of from \$8.40 to \$8.75. Thin and plain steers, either in the shipping or handy butchering line, proved very slow and bad sale. Very few choice, fat heifers and cows, and these ruled about a quarter lower. On stockers and feeders it was about a quarter lower level, best here ranging up to \$7.65 to \$7.75, little, common, Montreal stuff selling down to \$5.40 to \$5.50, with common stock bulls down to \$5.25 to \$5.50; some few up to \$6. Dairy cows ruled mostly \$5 to \$10 per head lower, very fancy, heavy Holstein fresh cows and springers selling up to \$100. There were forty cars held over during the close of the week's trade. Receipts at Chicago Monday were 22,000; at Kansas City, 32,000, the largest supply of the year. Lancaster, Pa., had 5,500, mostly stockers and feeders, and down at Jersey City there were more cattle than

were needed. Canadians have been coming plentifully of late, but not the right kinds. The steers that sell to the best advantage now are those on the handy order, averaging 1,150 to 1,200 lbs., shapely, and of hard flesh. Between fifty and sixty cars from the Dominion were marketed here the past week. Total receipts at Buffalo the past week figured 7,025 head, as against 6,075 the previous week, and 7,350 for the corresponding period a year ago. Sellers generally figure it out that it is hard to have one bad market following another, and think that unless receipts are away above expectations, that Monday, October 5th, may prove a satisfactory market, but that is figuring quite a period ahead and is merely a guess. Quite a few shippers in the States invariably follow bad markets, relying on reactions. Quotations: Choice to prime, native shipping steers, 1,250 to 1,500 lbs., \$9.50 to \$10.10; fair to good shipping steers, \$8.75 to \$9.15; plain and coarse, \$8.25 to \$8.50; Canadian steers, 1,300 to 1,400 lbs., \$9 to \$9.25; Canadian steers, 1,100 to 1,200 lbs., \$8.40 to \$8.60; prime, fat, heavy heifers, \$8 to \$8.25; good butchering heifers, \$7.50 to \$8; best heavy, fat cows, \$6.50 to \$7; canners and cutters, \$3.50 to \$4.50; best feeders, \$7.75 to \$8; good feeders, \$6.75 to \$7; best stockers, \$6.50 to \$6.75; common to good, \$5.50 to \$6; best bulls, \$6.75 to \$7.50; good killing bulls, \$6.25 to \$6.75; best milkers and springers, \$75 to \$90.

Hogs.—Values, under increased receipts, were lower every day the past week. Monday, which was the high day, the general price for all grades was \$9.60; few decks of light hogs \$9.65, and before the week was over buyers got desirable mixed grades at \$9.25 and \$9.30, mediums and heavies sold down to \$9.15, and pigs went as low as \$8.75. Roughs the fore part of the week sold up to \$8.75, and the range on these the last half of the week was from \$8.10 to \$8.25, with stags bringing mostly from \$7 to \$7.50. Receipts the past week totaled 32,800 head, as against 24,640 head the previous week, and 34,240 head for the same week a year ago.

Sheep and Lambs.—Dressed-mutton trade was in bad shape the past week, and this, together with the heaviest supply of the season, caused a demoralized trade on lambs. Monday, with around 19,000 head, buyers got what top lambs they wanted at \$8.25 and \$8.40, but over thirty loads went over unsold. Tuesday only a few were sold, no full loads bringing above \$8, and the next two days buyers paid from \$8 to \$8.10 for top, fresh lambs, while stale ones could be bought at \$7.75. Friday's market on fresh lambs was a little stronger, top being \$8.15, while stale stock was weak, some hold-overs on the toppy order selling down to \$7.65. Cull lambs the past week went from \$7.25 down. Sheep, supply of which was light, were about steady, wethers ranging from \$6 to \$6.25, while ewes sold from \$5 to \$5.75, as to weight, heavy ewes landing mostly at \$5.25. Receipts the past week totaled 25,400 head, being against 16,600 head for the week before, and 28,400 head a year ago.

Calves.—Top veals the first half of the past week brought up to \$12.50, and Friday no sales were made above \$12. Culls, \$10 down, and grassers \$5, to \$6.50. Receipts the past week, which included 550 head of Canadians, numbered 2,175 head, being against 1,700 head the previous week, and 2,625 head a year ago.

Chicago.

Cattle.—Beeves, \$6.85 to \$11.05; Texas steers, \$6.25 to \$9.15; stockers and feeders, \$5.40 to \$8.35; cows and heifers, \$3.60 to \$9.15; calves, \$8 to \$11.05.

Hogs.—Light, \$8.50 to \$8.60; bulk of sales, \$7.90 to \$8.50.

Sheep and Lambs.—Sheep, native, \$4.80 to \$5.80; yearlings, \$5.75 to \$9; mixed, \$8 to \$9; heavy, \$7.70 to \$8.70; rough, \$7.70 to \$7.85; pigs, \$4.75 to \$6.40; lambs, native, \$6.25 to \$7.80.

Cheese Markets.

Montreal, Que., finest Westerns, 14 1/2c. to 15c.; Campbellford, 14 1/2c. and 14 1/4c.; Peterboro, 14c. and 14 1/2c.; Vankleek Hill, 14 1/2c.; Kingston, colored, 14 1/2c.; Brockville bid 14 1/2c.; Sterling, 14 1/2c.

Questions and Answers.

Veterinary. Rheumatism.

Some years ago the cattle of this section were affected with a disease resembling rheumatism. This was the case during a dry summer, such as we had this year. This year the same trouble is present, and in some cases have died. Those affected appear stiff and sore all around, and we cannot tell whether the trouble is in the feet or joint. Cases that are treated in time, by the administration of Epsom salts, followed by salicylic acid, recover. What causes the trouble? P. T. S.

Ans.—The symptoms and result of treatment indicates rheumatism. The disease must be due to local causes. If any more fatalities occur, it would be well to notify the Dominion Veterinary Department, Ottawa, and an inspector will be sent to investigate, and ascertain whether it be a contagious disease or one due to local causes. V.

Miscellaneous.

1. Yearling colt was castrated in June. Shortly after the operation he commenced to breathe heavily, as though he had a cold in his head; otherwise he seemed all right. He is fat, strong and healthy, but still breathes heavily.

2. Colt born in July, when walking, knuckled over on fore pasterns, and wore the front of the joints until they became raw. These sores healed, but an enlargement remains on one joint, and he goes lame.

3. Colt has scrotal hernia.

4. Colt three weeks old had navel hernia. At a year old a clam was put on. This reduced it, but it is still as large as a hen's egg. He is now three years old.

5. Give treatment for cattle that bloat after eating milk and grain. W. P. S.

Ans.—1. This is a peculiar case. It will be wise to have him examined by your veterinarian, as the cause of the difficult breathing may be something that can be removed by an operation. All that I can suggest without an examination is to blister his throat.

2. Rub well once daily with a liniment made of 4 drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine.

3. Leave alone unless the hernia is increasing in size. It is probable it will disappear during his first or second year. The only means of treatment is an operation by a veterinarian.

4. The only reasonably safe and successful mode of treatment is the proper application of another clam.

5. Feed often, and a little at a time, and add to the milk 1/2 of its bulk of lime water. V.

Gossip.

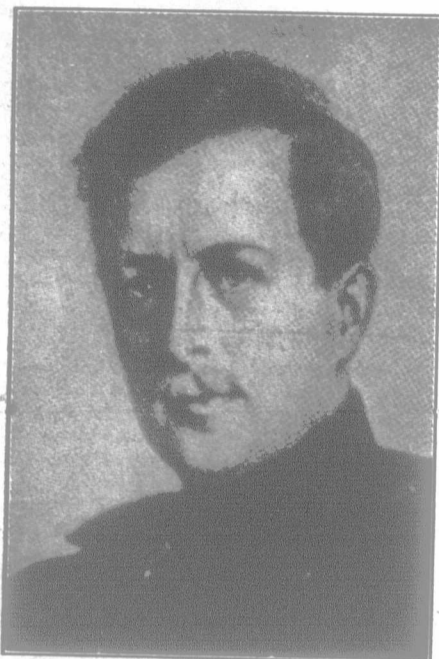
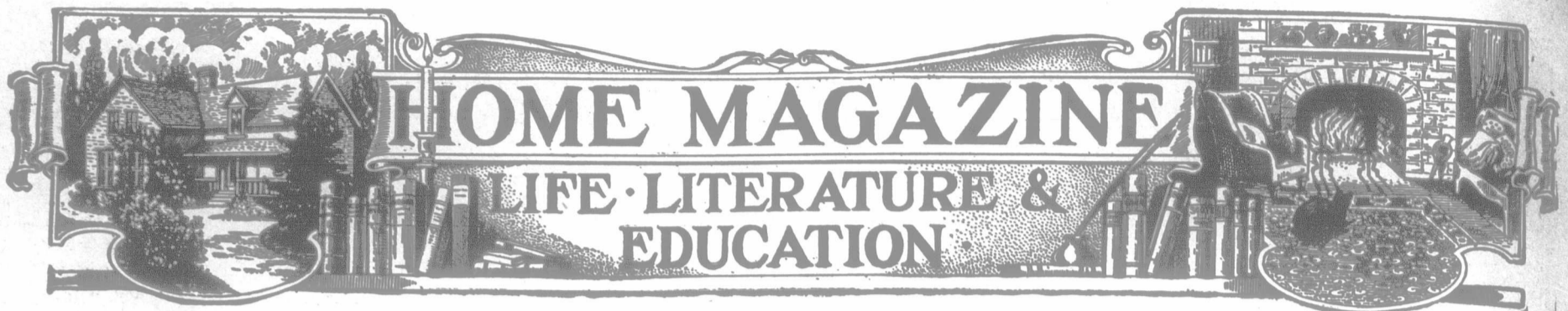
In our Western Fair report, Jas. Snell was credited with winning first, second and third prizes in yearling Leicester rams, whereas it should have read 1 and 2, John Kelly; 3, Snell.

W. E. Wright & Son, of Gleanworth, in their new advertisement, are offering Chester White swine of all ages, and some fancy Dorset Horn sheep, rams and ewes, among which are some two-year-old rams. This herd of Chesters were the champion herd at Toronto and London this year.

TO HORSEMEN.

Attention is directed to an advertisement in this issue giving instructions re the next stallion inspection. See this advertisement and write R. W. Wade, Parliament Buildings, Toronto.

Jno. Elder, of the firm of Jno. Elder & Sons, well-known breeders of Shorthorn cattle, Hensall, Ont., informs us that he has just returned from an extensive Western trip, and found their stock looking well. Their herd-header has made a grand impression on the herd, and is as good as a two-year-old yet. There are forty-five females in the herd, most of which are in calf. It has been a good year on the farm, and in the herd.



Men at the Helm.

Albert I, King of the Belgians, whose armies have distinguished themselves for remarkable efficiency and courage. King Albert has remained constantly at the front with his troops.

Browsings Among the Books.

JAPANESE COURAGE.

[From "Human Bullets," a story of Port Arthur, by Lieut. Tadayoshi Sakurai. In commenting on this book, T. P.'s Weekly says: "The Japanese idea of courage is very different from that of the British. A Briton can master fear. The Japanese probably does not know what it is to be afraid." "Human Bullets" is published by Constable & Co., London. Price, 5s. net.]

We were determined to deal a heavy blow on some vital part of the enemy, however often and however badly we might be repulsed or routed. We were ready to sacrifice not only a brigade, but even a whole division, for this important object. Accordingly another great assault was planned for 3 a. m. of the 24th. For several days our company had been bivouacking in the ravine of Yangchia-kou, but now on the night of the 23rd we were to leave this place and proceed to the rendezvous of Wuchia-fang. Our own captain gathered together his lieutenants and said:

"Farewell! I have no other words to say to you! I have decided to leave my body on to-morrow's battle-field. Please take this water-cup of long separation."

Before these words from our captain we, too, had made up our minds to die this time. We exchanged the farewell cup of water from our water-bottle, saying:

"This evening our water tastes like golden nectar!"

Our detachment reached the river at the other side of a mountain that looks like the back of an elephant. It was so dark that we could not see anything at all. We groped our way towards Wuchia-fang, when in front of us we heard a sound of human voices. I threw myself on the ground and, looking up, saw through the dark that a long line of our wounded were laid down on the river beach. We marched on, sick at heart, over such a tremendous number of the wounded, it took us some time to reach the end of this long line. Their groaning, hard breathing, suffering, pain, their exposure to the night dew without anything to cover them up, was pitiful.

In the meantime we were losing our way, we could not find Wuchia-fang, but suddenly came into the headquarters of the Ninth Division. General Oshima, the commander, was seen clad in his dark, winter uniform, in spite of the season, a silk crepe obi tied tightly about his waist, from which a long, Japanese sword was hanging. At the sight of the gallant general we felt as if we were in a region of romance. When his division occupied Panlung, General Oshima is reported to have stood at the head of his army in his dark uniform, making himself the only dark target for the enemy's shot, thus trying to inspire his men with courage and confidence. I asked the way of a staff-officer, and our company turned back in the proper direction. We could not, however, find the right place; we asked again, and were told to go to the right; when we went to the right, we were told to go back to where we started; we were utterly at a loss where to go. The time for our rendezvous was fixed at one o'clock—it was now only a little before that time. If we should fail to appear on the spot in time, it would disgrace us, and we had to think not only of our personal disgrace, but that the prospective attack needed as many fighters as possible.

The delay in our arrival might become a cause of defeat. The captain and all of us were extremely anxious and worried. Fortunately, however, at this juncture we came across a man belonging to the engineer corps, who minutely explained to us how to find Wuchia-fang, telling us to go through the opening a little further on, where our engineers were then engaged in sapping. We went on as instructed, and soon found our siege trenches; we went along these until we came to an opening, beyond which we had to go through the fields exposed to the enemy's view. We ran on, but presently a flash of search-light came!



The Militarist Idea.

The Kaiser and his six sons. It is reported that four of these princes are in hospitals suffering from wounds.

"Lie down!" was ordered, and we waited, holding our breath for that terrible light to disappear. But the search-light would not disappear. Meanwhile communication with our rear was cut off. At last we came to the place which we imagined to be the rendezvous. We found none of our army there, but dark corpses were strewn on the ground. Probably our army had already gathered themselves at the foot of the East Panlung Fort, which was supposed to be the center of our attack. Looking at our watches, we found that it was a few minutes past one o'clock. We tried hard to find our main body, but in vain. Were we too late? The anxiety of our

captain was intense. Our disappointment was agonizing. Were we to miss our opportunity to join in the general assault? The captain said, "I cannot expiate my fault even with suicide!" Not only he, but all of us, felt that if we failed to join this battle, the company itself would be disgraced for ever; and that compared with that disgrace our unanimous suicide was a mere trifle!

What a scene of horrors! No stretcher or medicine-chest could be brought there. The dead and wounded were piled one upon another in nooks and corners, some groaning with pain, some crying for help, and some perfectly quiet, breathing no longer. We hardly found space to walk without stepping on them. It was an infernal tunnel of the dead and dying. We groped to the right not to step on a dead comrade, only to kick a wounded one on the left. Where we stepped, thinking it was on mother earth, we found ourselves walking over the khaki-colored dead. "Don't step on the corpses!" I shouted to my men; but at that moment I was treading on the chest of one. "Pardon" was the only apology I could offer the dead thus unintentionally insulted. Along this long, narrow path, full of corpses, it was impossible not to step on our poor, silent comrades.

We were almost at the end of the ravine—a few steps more would have brought us face to face with wire-entanglements—when we stopped short for a while. All at once the enemy's machine-guns began at our left, shooting out flames of fire through the dark. Presently we heard the noise of a gun detachment; six of our guns were trying to climb Panlung through the same ravine. In this narrow pass the infantry and artillerymen were jumbled together to escape the fire of the Russian machine-guns.

We were now at the foot of the ob-

more miserable than before, because the artillery men had been through the same place after us, and many dead and dying had been run over by the gun-carriages. Those who had been breathing faintly had breathed their last under the iron wheels those who had already died were cut to pieces. Shattered bones, torn flesh, flowing blood, were mingled with broken swords and split rifles. What could be more shocking than this scene!

NATIONAL PREJUDICES.

[From "Essays," by Oliver Goldsmith, essayist, humorist, novelist, poet.]

In one of these, my late rambles, I accidentally fell into a company of half a dozen gentlemen, who were engaged in a warm dispute about some political affair, the decision of which, as they were equally divided in their sentiments, they thought proper to refer to me, which naturally drew me in for a share of the conversation.

Amongst a multiplicity of other topics, we took occasion to talk of the different characters of the several nations of Europe; when one of the gentlemen, cocking his hat, and assuming such an air of importance as if he had possessed all the merit of the English nation in his own person, declared, that the Dutch were a parcel of avaricious wretches; the French a set of flattering sycophants; that the Germans were drunken sots, and beastly gluttons; and the Spaniards proud, haughty, and surly tyrants; but that in bravery, generosity, clemency, and in every other virtue, the English excelled all the world.

This very learned and judicious remark was received with a general smile of approbation by all the company—all, I mean, but your humble servant, who, endeavoring to keep his gravity as well as he could, and reclining his head upon his arm, continued for some time in a posture of affected thoughtfulness, as if he had been musing on something else, and did not seem to attend to the subject of conversation; hoping by this means to avoid the disagreeable necessity of explaining himself, and thereby depriving the gentleman of his imaginary happiness.

But my pseudo-patriot had no mind to let me escape so easily. Not satisfied that his opinion should pass without consideration, he was determined to have it ratified by the suffrage of every one in the company; for which purpose, addressing himself to me with an air of inexpressible confidence, he asked me if I was not of the same way of thinking. As I am never forward in giving my opinion, especially when I have reason to believe that it will not be agreeable, so, when I am obliged to give it, I always hold it for a maxim to speak my real sentiments. I therefore told him that, for my own part, I should not have ventured to talk in such a peremptory strain unless I had made the tour of Europe, and examined the manners of these several nations with great care and accuracy: that perhaps a more impartial judge would not scruple to affirm, that the Dutch were more frugal and industrious, the French more temperate and polite, the Germans more hardy and patient of labor and fatigue, and the Spaniards more staid and sedate than the English; who, though undoubtedly brave and generous, were at the same time rash, headstrong, and impetuous; too apt to be elated with prosperity, and to despond in adversity.

I could easily perceive that all the company began to regard me with a jealous eye before I had finished my answer, which I had no sooner done than the patriotic gentleman observed, with a contemptuous sneer, that he was greatly surprised how some people could have the conscience to live in a country which they

did not love, and to enjoy the protection of a Government to which in their hearts they were inveterate enemies. Finding that by this modest declaration of my sentiments I had forfeited the good opinion of my companions, and given them occasion to call my political principles in question, and well knowing that it was in vain to argue with men who were so very full of themselves, I threw down my reckoning and retired to my own lodgings, reflecting on the absurd and ridiculous nature of national prejudice and prepossession.

Among all the famous sayings of antiquity, there is none that does greater honor to the author, or affords greater pleasure to the reader (at least if he be a person of a generous and benevolent heart), than that of the philosopher who, being asked what countryman he was, replied that he was a "citizen of the world." How few are there to be found in modern times who can say the same, or whose conduct is consistent with such a profession! We are now become so much Englishmen, Frenchmen, Dutchmen, Spaniards, or Germans, that we are no longer citizens of the world; so much the natives of one particular spot, or members of one petty society, that we no longer consider ourselves as the general inhabitants of the globe, or members of that grand society which comprehends the whole human kind.

Did these prejudices prevail only among the meanest and lowest of the people, perhaps they might be excused, as they have few, if any, opportunities of correcting themselves by reading, travelling, or conversing with foreigners: but the misfortune is, that they infect the minds, and influence the conduct, even of our

gentlemen; of those, I mean, who have every title to this appellation but an exemption from prejudice, which, however, in my opinion, ought to be regarded as the characteristic mark of a gentleman; for, let a man's birth be ever so high, his station ever so exalted, or his fortune ever so large, yet if he is not free from national and other prejudices, I should make bold to tell him that he had a low and vulgar mind, and had no just claim to the character of a gentleman. And, in fact, you will always find that those are most apt to boast of national merit who have little or no merit of their own to depend on; than which, to be sure, nothing is more natural; the slender vine twists around the sturdy oak for no other reason in the world but because it has not strength sufficient to support itself.

Should it be alleged in defence of national prejudice, that it is the natural and necessary growth of love to our country, and that therefore the former cannot be destroyed without hurting the latter, I answer that this is a gross fallacy and delusion. That it is the growth of love to our country I will allow; but that it is the natural and necessary growth of it, I absolutely deny. Superstition and enthusiasm, too, are the growth of religion; but who ever took it in his head to affirm that they are the necessary growth of this noble principle?

... Is it not very possible that I may love my own country without hating the natives of other countries? That I may exert the most heroic bravery, the most undaunted resolution, in defending its laws and liberty, without despising all the rest of the world as cowards and poltroons? Most certainly it is; and if

it were not—But why need I suppose what is absolutely impossible?—But if it were not, I must own I should prefer the title of the ancient philosopher, viz., a citizen of the world, to that of an Englishman, a Frenchman, a European, or to any other appellation whatever.

School Children and Horticulture.

[Without doubt the fall is the time to begin gardening, whether for children or adults. Unless the soil is prepared so that the winter frosts can help to pulverize it, and winter snows help to mellow the manure that might otherwise be too new and raw, it cannot give the very best results during the next spring. It is very necessary that the farm folk of Canada shall be good farmers, good gardeners, and the best way to make them so is to start them early. For that reason the following, from a paper read at the last convention of the Ontario Horticultural Association by Mrs. Potts, of Hamilton, should be of especial interest at this time of the year.]

Many educators think our schools run too much to purely academic instruction, and so manual training and school gardening are being steadily advanced to more prominent places.

In regard to the latter, besides its advantages as a means of deepening interest in scientific lines of study, it is a much more beneficial form of exercise than calisthenics in a schoolroom.

While the Swedish system of manual training and gymnastics have been deemed worthy of study and adoption on this

continent, for some reason gardening seems to have been too much overlooked. People of all nations are recognizing as a truth that knowledge is for man,—knowledge is a means to an end; true education is based on sympathy for fellow-men and a wide-spread appreciation of Nature, best gained through observation and continued self-activity. One who has for years been connected with work among children, when writing of the advantages to be derived by children from their gardens, says: "The knowledge of nature which a child gets is another thing—nothing can take its place. The more interests a child is brought into touch with, the better able is he to choose a career suited to his ability and inclination. The city would be less crowded if more of its children knew what cultivating the soil really means."

It is not the children alone who need to be taught what "cultivating the soil really means," since many parents need instructions, and need it badly. It is not easy work to teach grown-ups, but children learn readily, and in turn they may become the instructors of their parents.

Someone has aptly said: "We can only teach people what they want to know." However, children, if normal, usually seem to want to know something about almost everything, and this being true, it would be wise to consider the result on the next generation if gardens were available for the children. It is not to be supposed for a moment that all children will gravitate to gardening; the instant gardens are ready for them, but, leaving out of the question the percentage of those who have no personal



The Haymakers.

From a painting by Leon Augustin L'Hermitte, Paris, France, now in possession of the Albright Art Gallery, Buffalo, N. Y.

bent, and also those who must be coaxed to try what they can do, there still remains a goodly army, which, if trained with an eye to the future, would justify even the most pessimistic in stating that the results would more than amply repay the efforts made to give the necessary training.

While many of Rousseau's theories were radical, few men have exercised greater influence on modern education, and the two principles which characterized his ideas of education are (a) that nature is to be studied and followed, and (b) that education is an unbroken unity extending from early childhood to maturity. One result to be derived from the lessons taught in the garden would be a new interest taken in the study of science to the lasting benefit of the student, because of the possible practical application of the ascertained facts to the work in hand, thus creating a desire to follow the subjects even after school-days are ended. One mother, whose children are so fortunate as to reside where school gardens flourish, remarked, "I can't understand why the children are so fascinated with the gardens. For years an Encyclopædia has been in the house and rarely opened, but now it's in daily use; the children are constantly consulting it to see what it says about vegetables, and insects and birds." This story obviously carries its own moral.

It is but a short step from gardening to another important department of education, viz.: Domestic Science, for what girl, or boy either, is not all alive as to the fate of his garden stuff which has been laid on the home altar. To increase an interest in the right preparation of food is to help to introduce a better class of living, and this leads to the improved health of the community.

There are parents who, when approached regarding granting their children some space for gardening, declare that if this becomes general, professional gardeners must suffer, though economists and investigation committees agree that "a greater production of foodstuffs is imperative," and the high cost of living is being bemoaned on every side. Home gardening—intensive home gardening—rightly understood and conducted, may be an important factor in helping to solve this problem.

John Locke believed that the right instruction in youth does not consist in cramming, but unfolding; that the child's mind should develop like the young tree, from the impulses of its own roots, and he said that a sound mind in a sound body was a short but full description of a happy state in this world. The attainment of this happy condition is the end of education. "A sound mind in a sound body" is then the desired end to be striven after when considering the child problem, and one of the most important questions to be solved to-day is that of dealing with the children who are more or less affected by the white plague.

The question of out-door work for all persons predisposed to tuberculosis—even those patients who have received their discharge from the Sanitarium as having been cured, or having the disease arrested—can be met by the development of gardening. In relation to this matter, a leading English writer says: "No one who has given the least attention to the advances made in the modern treatment of pulmonary tuberculosis can fail to recognize that the open-air treatment has proved of immense value to sufferers of consumption. Mr. Parsons, of Brampton Sanitarium, proves that even the success of the continental patterns of Sanitaria can be greatly enhanced by allowing the sufferers to work in the gardens. By giving them this healthy employment they harden themselves, and instead of being confirmed idlers, they leave the institution vigorous in muscle as well as healed of their lung trouble. All minor ailments, such as common colds, bronchitis, sore throats, headaches, etc., are remediable by means of a life regulated in accordance with the principle of the open window. It can hardly be doubted, therefore, that if those exercises which take the form of out-door games, are in part replaced by the more primitive and infinitely more profitable one of gardening, the same excellent effects will result."

Mr. Parsons in his book, "Children's Garden for Pleasure and Health," says: "In the garden is found work in the open air various enough to fit any degree of strength and activity, and producing

food for the body and delight for the soul of mankind. . . Those whose minds demand problems, nature quietly surrounds with her marvels and mysteries, and with general steps leads their intelligence from understanding to understanding, to bow at last with humble reverence before the Creator; and they find that in return for knowledge and obedience they are given a measure of control over wonderful forces, and go forth among their fellow-men thrice armed for success. The child comes naturally and gladly to this work, but the adult who has never known it is surrounded with walls of habit and misconception that shut out beauties and delights that strive to reach him on every hand. To-day the child plays in the garden. To-morrow it works as an adult. The direction given to its play to-day will decide how it will act with its work to-morrow. The garden teaches the child to think what he is doing, and the manner of doing it. It teaches him observation of how others work, and leads to application of better methods to his own work; it teaches him the value of orderliness and system for general economy and effectiveness, and the value of planning a series of actions to obtain a desired result. The garden is an excellent place to learn the differ-

ence between true and false economy. By taking advantage of the child's desire for muscular activity in the open air in the age when the five senses are seeking expression and development, it can be led to acquire valuable and useful knowledge in this garden work, which appeals to it as play."

neurologist says that exercise of the muscles is absolutely necessary to develop a healthy brain, "for all thought has a motor side or element."

Pestalozzi believed that "self-development begins with sensations received through the senses; sensations lead to perceptions, which registered in the mind as conceptions or ideas, constitute the basis of self-knowledge. Spontaneity and self-activity are the necessary conditions under which the mind educates itself and gains power and independence."

This thought permeates all the best education to-day, and the best education is that which strives for an harmonious development of head, heart and hand. In this new education, doing is the means employed, and character-building, rather than knowledge, is the goal desired.

Ruskin said, "What we like determines what we are; and to teach taste is inevitably to form character." It is an important fact, and apt to be overlooked frequently, that "much of life's course of study is furnished by environment, and that its enrichment makes possible nobler tastes and more refined ideals." The right application of nature study—and all that it embraces—to the education of children, is one of the most important developments of our day. We are learn-

growth because it can understand the lessons taught there. Then, too, not only does the garden serve to educate and train, but it supplies a kind of knowledge that is useful in the highest degree, and a taste is cultivated here for an honorable and remunerative vocation.

Thoughtful people see danger in the rush to the cities, and try, if possible, to counteract the disadvantages and undesirable results which inevitably follow. Work in the garden, if it does nothing else, at least acts as a corrective to the all too prevalent contempt for work on the land. In this age there is most undoubtedly a tendency to set up false standards of value, and all because of very erroneous notions as to the superior dignity and value of city occupations and ways.

Phillips Brooks' wise words are not enough heeded to-day.—"Every occupation lifts itself with the enlarging life of him who practices it. The occupation that will not do this, no man has a right to occupy himself about."

Abram Cowley, who wrote "God the first garden made, and the first city Cain," said, "Behold the original and primitive nobility of all those great persons who are too proud now, not only to till the ground, but almost to tread upon it. We may talk what we please of lilies and lion's rampant, and spread eagles in fields d'or and d'argent, but, if heraldry were guided by reason, a plough in a field arable would be the most noble and ancient arms."

Miss Williams, in her admirable little book, "Gardens and Their Meanings," says, "There is indeed need for small beginnings, for it is these that convince a public. Even a tiny plot, hearth-rug size, can be made to do duty as a garden, inasmuch as in these days of intensive farming the size of the farm is the very least of its assets. Says an expert farmer, who heartily encourages the pocket edition gardens, 'No man knows yet the capacity for plant growth of one square yard of earth.' Large fields, then, may be dispensed with, but this cannot be said of large enthusiasms." Parents must be taught all these things—and more,—they must be shown that gardens are established because it is expected that these will in turn develop into "laboratories for the production of health, pleasure, and education," and all this means brighter homes and considerably reduced home expenses.

It is frankly stated that city life for children has come to be sadly empty of the real wholesome experiences such as trained the powers and developed the children of earlier generations. "School life deplorably reflects this barrenness of experience. Children cannot be made to grow into resourceful dynamic men and women by the study of books. If they are to do anything as adults, they must do something as children. One authority declares that "Children are by nature good and spontaneous, possessed of self-activity. Their play must be directed, and their work made attractive. Their education should come to them through close contact with nature, the using of the hands and directed play."

The child's garden, then, is really the training-ground helping to prepare that child to better play his part in the larger life of the world. Miss Williams writes (in Gardens and Their Meanings), "The sum total of experience shows that it is the trained man, whether working on a gigantic scale or on a small one, who, all other things being equal from an economic standpoint, wins out."

Mr. J. H. Smith, Inspector of Schools for Wentworth, in an address when urging the establishment of school gardens throughout the county, stated that while much had been said about the teaching of the three R's, he had been thinking of the three H's, and as he considered the school garden in relation to the child's education, there were three salient features, viz.: "It taught the Hand to work; the Head to plan and devise; the Heart to govern and control."

Some parents hesitate, fearing that gardening may prove to be such a fascination that other studies will suffer, but so far it can be shown that such fears are groundless, and experience proved that instead of impeding the progress of study, the garden has been the means of creating fresh and unexpected desires for the pursuit of knowledge before unknown.

Prof. Benedict, of the University of Cincinnati, in a recent address, spoke of



Child with Sea Gulls.

From a painting by Laura Muntz, A. R. C. A., exhibited at the Canadian National Exhibition, Toronto.

ence between true and false economy. By taking advantage of the child's desire for muscular activity in the open air in the age when the five senses are seeking expression and development, it can be led to acquire valuable and useful knowledge in this garden work, which appeals to it as play."

Froebel said, "I can convert children's activities, energies, amusements, occupations, all that goes by the name of play, into instruments for my purpose, and therefore transform play into work."

Gardens then stand for stronger bodies. This is the day of rush and hurry, and tuberculosis is not the only disease to be considered when studying the different problems connected with children's education and development, as nervous troubles are rapidly increasing. Those in a position to know, state that the most nervous children in the schoolroom show considerably more poise and balance in the gardens, and gain self-reliance there in a marked manner.

A celebrated English physician and

ing more and more that the first endeavor of a school is "to teach people to live. The two chief aims of education are to draw out individuality and personality. Although children are not conscious of the silent influences of the green plants and beautiful surroundings, this will be felt later in life, and manifest itself in various ways.

Those who work among the slums in the vacant-lot gardens, say that the very association with plants and flowers has a decided and remarkable influence on the children's language.

It cannot, then, be too frequently repeated or impressed upon those interested in child development that "the brain should be trained in childhood, not only by intellectual processes, but by the development of the smaller muscles, especially those of the hands, by the constant requisition upon sensory and motor nerves, and by constant quickening of the sense perception. The result is intellectual power."

In the garden the child's mind gets

visiting a certain region of country which possessed all the qualifications required for human habitation and prosperity, but, at the time of his visit, for hundreds of miles, only desolation and decay could be seen, though there were millions of acres of fertile soil, warmed by the sun and watered by the rains. This place had once been the chosen home of an army of families, but one by one they had become bankrupt, though some remained until actual starvation drove them to abandon their farms and homes, and in this penniless condition to drift to other regions to begin life anew. The cause of this was not the fault of the land, neither was it due to any lack of energy, enthusiasm or effort on the part of the owners, but lack of knowledge—the specific knowledge of what kind of crops should be planted, and how to cultivate them when planted.

The necessity for more general and more intelligent use of the land is being insistently urged. Investigations show that where abandoned farms were supposed to prove the worthlessness of the soil, in reality what was needed was a different or more intensive cultivation,—to quote Miss Williams again,—“Space to let, with power.” This sign advertises the resources of a large machine shop—space with power. What words could better describe a garden? The space is self-evident. The power no man has ever fully measured. All it needs is men who are skillful enough to guide it. Thus looked upon a garden is a great fact. We realize that its importance does not depend upon its size. Small plots may have large meanings. They not only vitally affect the economics of a nation, but rightly understood, they give insight into the great movement of agriculture.

Mr. Laintis, Instructor in School Gardening, Cincinnati, in a paper read before the School Garden Association of America, recently, claimed that home gardens must be established if the best results from school gardens are to be secured. His opinion is that the home garden is necessary to allow the child to exercise its individual taste, since the school garden is operated by set plans. The home garden, by giving greater freedom, creates a deeper interest, and is less likely to lose its attraction. Inspector Smith, after this year's trial of school gardens in Wentworth County, states as his opinion that the home gardens must be encouraged. A prominent European educationalist writes: “A proper school garden may, must, and is destined to be the place where children are the happiest. The eye and heart of the child shall open here to the beauty of nature from the lowest steps of learning, and at the tenderest age; the attention will at first be powerfully excited and fastened here, the sense of poetical harmony, the institution of beauty, must here fall upon the young, soft soul. Will not the life-long effects of the pleasures enjoyed in the beauty of creation and in the improvement gained in the school garden express themselves in the character? Surely a new race will thus issue from the schools, a race which will not look upon the earth as a vale of tears, but of a beloved, habitable home, in which a man of clear mind and joyous heart shall strive for his own and his neighbor's happiness.”

Carlyle said, “Habit is the deepest law of human nature. Habit is our primal fundamental law—habit an imitation; there is nothing more perennial than these two. They are the source of all working, all apprenticeship, of all practice, and all the learning in the world.”

It is the privilege of Horticultural Societies to embrace the opportunity given to-day to encourage in children the growth of such habits, which, when imitated, lead to the betterment of life for themselves and others.

Wordsworth, the high priest of nature, wrote:

“Come forth into the light of things,
Let Nature be your teacher.
She has a world of ready wealth,
Our minds and hearts to bless—
Spontaneous wisdom breathed by health,
Truth breathed by cheerfulness.”

For
“Nature never did betray
The heart that loved her: 'tis her privilege,
Through all the years of this our life
To lead
From joy to joy: for she can so inform

The mind that is within us so impress
With quietness and beauty, and so feed
With lofty thoughts that neither evil
tongues,
Rash judgments, nor the sneers of selfish
men,
Nor greetings where no kindness is, nor
all
The dreary intercourse of daily life,
Shall e'er prevail against us, or disturb
our
Cheerful faith that which we behold is
full of blessings.”

Hope's Quiet Hour.

I stand aside to-day, giving place to one who is still pouring out his thoughts in print, week after week, although he celebrated his eighty-ninth birthday last March. He says that his health is simply perfect, and that he is the oldest Sailor's Missionary alive. He often sends me articles which he has written, and I am amazed at the amount of literary work he accomplishes.

HOPE.

The Grindstone.

Under the sheds of the large graving docks in Liverpool you will find large grindstones set up for the use of men employed constantly in scraping the crop of marine vegetation from the bottom of ships, which are in constant need of this service.

Thousands of men are employed in this calling. Periodically these ships must come into dock, because the life in the sea is so persistent, and that life—whether it be barnacles or grass—fastens upon any substance within reach and holds on, not for nourishment, but for anchorage. Oh the wonder of the sea! Shall I be believed when I say that I once saw a large patch of green grass in the middle of the ocean, on the deck of a derelict? Yes, the ocean grows green grass. The deck of this deserted ship was regularly washed by the waves, and we saw grass as green as a meadow. A fortune awaits the man who can invent a paint which will resist the growth of sea life, grass or shell-fish. In the meantime, men must scrape and clean and paint with the best mixture they know.

Why do we need a grindstone? Because our tools lose their edge and must be sharpened afresh.

If you could have looked into the workshop of Creation when things were being fashioned you could not have seen a grindstone, for all God's tools are self-sharpening. This is wonderful—and it is true, yet. A rat can bore a hole through an inch board in a short time; if you could examine the teeth of that rat after the operation you would find them a little sharper than when he began. All God's tools are self-sharpening, but the working man needs a grindstone all the days of his life.

You will find by searching more than one kind of grindstone. In the moral workshop you will find several varieties. I know a man—we call him Tom—he has made a pretty extensive survey in the way of mental furniture. He has divided and sorted things up and put them in several compartments. He said one day: “Things pleasant I accept with a thankful heart, things adverse I accept as discipline—for instance, there's Billy (a crabbed, morose, ill-assorted man) it is my lot to work with that man longer than I like, but I have to do it, till there is a change of wind. I look upon that man as hard as a grindstone, but I bring my tools to that man and get them sharpened, and by way of trial and discipline that man has been an ultimate blessing to me.”

A man once said to me: “I have an enemy and I have to do with him. He is a severe trial at times, a sort of moral barometer by which I ascertain the current of my own feelings, and though painful the discipline has not been without profit.” This is another variety of the grindstone doctrine.

Job had a hard taste of his grindstone, it ground him down to the bone. His spirit had to march in light marching order, but there came a turn in the tide, and he was glad.

“Come, labor on!
The toil is pleasant, the reward is sure,
Blessed are those who to the end endure;
How full their joy, how deep their rest
shall be,
O, LORD, with Thee.”

H. T. MILLER, Beamsville, Ont.

THAT LAND.

In the fifteenth of Luke we read of the young man who went into a far country and soon spent his money, and began to be in want. We read that there was a mighty famine in that land. That land and that young man came into conjunction.

That land is still waiting to welcome young men after that sort. A mysterious providence caused them to meet, and the meeting-place is still to be found. Men learn in suffering what they teach in song: “Before I was afflicted I went astray.”

There is always a famine in “that land.” Go to the Seven Dials in London, go to the East River in New York, and you will find the famine-stricken down and out, and the chances of recovery are as one to a thousand. University men, professors, lawyers, artists, preachers, drabs and drug-fiends, walking lepers, vermin-eaten, muddy brains, mouldy breath.

“Lurching bravos from the ditches dank.”

Who shall measure the acres of that land, who shall appraise the values, and tell of the seed sown in Sunday Schools? Who shall count the broken hearts of parents and relatives? Will this dead sea dry up and give us a chance to divide and sort the contents?

All this human drift-wood started from homes. Ah, me! How about the training, the shaping when the wax was soft. Many of these were more sinned against than sinning. A man once said to the writer, “I was brought up in the fear of God and the broomstick, and the stick knocked one devil out and ten in.”

A poor girl, driven to desperate ways, dropped her shawl and bonnet out of the window, then she left the house uncovered, picked up her bonnet and shawl and went away to “that land,” where famine and a living death awaited her. Who shall apportion the blame?

How soon should we begin the training? Fifty years ago the writer preached to a congregation in Scotland, and went to dine with the elder, a plain man with a large family. The beautiful order of this family came as a delightful shock. I said to the man, “How do you manage this?” He said: “I begin in the cradle. Before the youngster can walk he is already under authority. The battle is won before the end of the first year.”

The prayer of many a bleeding heart is: “Save our children from coming to that land.” But hark to the good news. The world is under repairs. The Mighty One is called “The Repairer of the breach, the Restorer of paths to dwell in.” Jerusalem is being rebuilt with small bricks—nay, the stones are invisible, intangible, spiritual, immortal.

This is the Temple that is rising, the stones are taken out of the mountain-side without hands. Broken-hearted mothers, God is in that land and hunting up your boy. The mightiest forces are the unseen ones. We live on all life-levels by faith, by assent to realities which are not there for our eyes. We are permitted to see the larger Spirit which our own human spirits call for, that we see the eternal significance revealed in the life of Christ, and in the conquest of His Spirit through the ages.

“So upward still, from hope to hope,
From faith to faith, the soul ascends;
And who hath scaled the eternal cope,
Where that sublime succession ends?”

H. T. MILLER, Beamsville, Ont.

The Ingle Nook.

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

Dear Ingle Nook Friends,—If you were in journalistic work you would know how necessary to it the constant taking of notes is. Memories are fickle, and while ideas may form themselves stably enough, details are very likely to slip. Every journalist knows this, hence his pockets, his notebooks, his desk, are likely to become crammed with all sorts of jottings, heterogeneous enough, yet presenting some sort of order to his accustomed mind.

For the last half-hour, then, I have been wading through the conglomeration of scribbles on my own desk in search of a suggestion for something about which to write you, but for the first time I find but little choice; every item is about the war. And so I do not hesitate about bringing up the subject again, even in this peaceful column, for, I take it, the burden of my desk, with its innocent brown cover, is but indicative of the minds of the people everywhere in Canada. No matter where one goes one hears only war, war. For once the whole country seems to be stirred to its inmost depths, and, if one observes as one listens, one need not be slow in coming to the conclusion that never before, perhaps, in the history of the world, was there war-talk such as this. Exultation, perhaps, over victory, one hears, but everywhere expressions of horror, horror, horror!—Pity for the suffering entailed!—Aghastness at the awful waste of money that might be put to so much better use!—Hatred of the Cause—as one sees it, or another—that has hurled this charnel-house into the midst of enlightened, progressive Europe!—Fury that brilliant lives must go on being snuffed out because of the inherence in a few minds of an Idea that should long since have been relegated to the cobwebs of the Medieval Ages!

What has become of the “glory” of war? Dead as the cold clay now numbing with ghastly horror, the grassy swards of Europe's fair fields!—Hurled first into the pit into which, it is to be hoped, will soon follow in one inextricable, crumbling mass, the cannons and bombs, the repeating rifles, and the shrapnel, the great Dreadnoughts, and the submarines,—all the threatening and hateful contrivances by which man commits murder upon the body of his brother!

Yes, in spite of the terrible on-goings in Europe—even as I write is in progress, so they say, the worst and fiercest battle of the war so far—in spite of all that, the fact remains that mankind in the mass, in this day, has neither love nor admiration for war. So far has the world moved on, and it cannot go back. And when the story of the Great Conflict shall have been written, in the calm light of the future, the great credit will be given to him who, could he have managed it, would have held the peace; the great disgrace will be put upon him who, when he could have held it, would have none of it. Sir Edward Grey will be remembered, most of all, for his strivings to mediate; and the statesmen who shall succeed in putting the affairs of the world on a basis that will tolerate no more war, will count for more than the generals—however brave and high-minded—who will have gained the signal victories on the field.

For the Universal Idea of things is changing,—that is clear; and although to-day the world-mind is, it must be admitted, all too much obsessed by commercialism, there is reason to hope that to-morrow there may be a new vision that will put all life on a sweeter, better, saner basis. It is not dreaming a mad dream to imagine that the day may come when to be good will be greater honor than to be rich, and to have great powers of thought of more esteem than to rule over many men; a day when to live in a huge and fine house will mean nothing at all, because other things will have mounted to so much greater moment; a day when it will be a shame to be ignorant because opportunity will be

open to everyone, and when the greatest disgrace of all will be to exist and wax fat at the expense of others' toil.

It is not far-fetched to conclude that even this war may hasten such a new conception of the Things That Are Worth While. Through the very horror of it people have been shaken out of their own selfishness and smugness. A universal conscience has been aroused, and people ask "Why? Why?" and "Who is to blame?" Red Cross work in every part of the civilized world makes still warmer the warm hearts engaged in it, and teaches the joy of doing for others.—Red Cross work, all the more glorious because through it, an enemy may be benefited as well as a friend.—And yet not an enemy, for when a man is wounded he is no enemy,—only a poor, suffering mortal, a brother in need of kindly touch and kindly word. Indeed, even before he received that wound, was he not brother to us,—a brother separated from us because of somebody's mistake?

Just here will you be glad if I quote to you a paragraph or two from the words of Rev. Dr. Frederick Lynch, recently returned from the very scene of war? After describing a few of the horrors that he saw, the transformation of men into beasts in the fury of conflict, he says: "Perhaps there has got to be a wholly new presentation of Christianity before these things can be stopped. Perhaps we have got really to teach what Christ Himself taught, namely, that love of all Christians for each other, all men of good will for one another, must transcend race, nationality, every other bond. We have never dared preach this, although it was continually on Christ's lips. He even went further, and said it must transcend family ties. It would be as impossible for one Christian to kill another, did we really believe in Christ and accept His Gospel, as it would be for a man to kill his mother."

And again:

"One thing even the blind can see lies at the root of all this calamity of the nations, and that is our neglect to preach the one truth on which any lasting order of justice or peace can be reared, namely, that nations must be amenable to the same Christian ethics that govern the relationships of men. There can be no double standard of ethics in the kingdom of God. Right must be right and wrong be wrong throughout the whole universe of men. If it is wrong for men to steal, it is just as criminal for big nations to seize little ones. If it is wrong for men to murder, it is wrong for nations to kill and destroy weaker nations, or men in any nation. If it is un-Christian for men to settle their disputes with their fists, it is wrong for nations to adjust their quarrels by iron fists on sea or land. If it is Christian for a man to negotiate all questions with his brother in the sweet Christian spirit of forbearance, charity, even forgiveness, what else can be Christian for nations? We have not believed this, we have not preached it in our pulpits, or taught it in our schools. We are going to learn it now in this year of agony. Every pulpit should reiterate it every week."

JUNIA.

Preparing for Next Year's Garden.

Are you realizing, these autumn days, that if you are to have a flower-garden of beauty and a vegetable-garden of profit next year, you must begin your gardening NOW? Just think for a moment:

Point Number One.—There is your plot, filled, as soon as frost has come, with brown stalks and blackened trailing vines. Among those pitifully-drooping leaves you might find, had you time to make thorough examination, scores of cocoons, tiny grayish bundles—very inconspicuous, as old Nature intended they should be. Open one very carefully, and you will find inside a yet smaller bundle, a sort of mummified thing to all appearance, yet from the care with which it is encased, you may be rather sure that it contains some germ of life; Nature seldom takes such pains for nothing. You have, indeed, uncovered a "pupa," and had you not interrupted its course of development by your prying, wonderful things would have occurred to it before spring,—wings would have taken shape, eyes appeared, legs, all gradually—so that finally, upon the resurrection day for the creature, a

full-grown moth or butterfly of some sort would be all ready to emerge. Now, butterflies and moths are very interesting, and some of them are very beautiful, but as a good gardener you are bound to remember three things—that the main object of the life of one of these insects, in Nature's great scheme of reproducing, is to try to produce eggs; that eggs of insects invariably hatch out first of all into maggots or caterpillars; and that caterpillars, with their voracious appetites, are the foremost enemies of your plants.

Now, what does all this suggest to you? Is it not that the part of good common sense is to cut down all those sheltering stalks and vines, rake them up and burn them, so that no cocoons may be left, in your garden at all events, to hatch out misfortune for you next year? "I love those little white butterflies!" a woman exclaimed earlier in the summer. She was much surprised to learn that those very same innocent-looking little butterflies hovering over her cabbage plants would be responsible for the green worms soon to give her trouble enough by their ravages on the forming cabbage-heads.

Point Number Two.—If at all possible, have your garden thoroughly worked up and fertilized this fall. In the spring the men will have less time, and the work is likely to be done hurriedly and inefficiently. Besides, the soil will produce much better next year if thus exposed to the mellowing influences of winter. Make it your aim to have the greatest possible production, whether in vegetables or flowers, from every square yard of land. Your own garden may surprise you—if you give it a chance.

Point Number Three.—Remember that you can save time and have a fine start next spring by planting out a number of things this fall. Although tender shrubs and vines are the better of spring plant-

people"; you associate flowers with refinement and kind hearts, and, ninety-nine times out of one hundred you will be right. Flowers are not only an index of fine character in those who grow them; they also help to promote fineness of character, and furnish a new interest in life. . . . Have you been too busy to try them, so far? Then make a point of making ever so little a start this fall. Their own sweet selves will repay you many times over.

JUNIA.

WEDDING QUERIES.

Dear Ingle Nook,—As I intend having a wedding for about thirty-five guests in October, I should be much pleased if you will kindly write me information as to the following:

1. The setting and decorating of table (simple).
2. The menu, very simple, but nice and inexpensive.

INQUIRER.

Middlesex Co., Ont.

The beauty of the golden-rod will be past in October, but don't you think you could make good use of autumn leaves for decorating? Or if you have flowers in your garden, or can make a raid upon your friends' gardens, what about late asters, verbenas, garden hydrangea, or fall anemones,—all of which will be "out."

No great elaboration is necessary in the setting of the tables (I infer that you intend to have a good old-fashioned, "sit-down" wedding breakfast); perhaps the accompanying picture will give you some suggestions. It does not, it is true, illustrate especially a wedding-service, but was the only cut on hand, and serves well enough to show the broad principles guiding the setting of all tables,—avoidance of crowding, arrangements of knives, etc. Three courses will be quite enough for a pretty, inexpensive, wedding breakfast, e. g. (1) A fruit



How to Set a Table.

ing, all the hardier varieties may be safely set during October. And just here,—farm folk who wish to have beautiful homes with as little labor as possible, will do well to pin their faith to shrubs, and perennial plants, rather than to annuals. First make your plan of the completed picture, as it is to be when your dream has been all realized,—have it all drawn out on paper, and keep it in a safe place,—then set out the roots as you can afford them; a few varieties of lilac this year, and, perhaps, a root of the lovely wild clematis, or clematis paniculata, to trail its lace-like blossoms over your veranda; a forsythia and smoke tree next year; with a besprinkling of perennial herbaceous plants all the way along:—perennial larkspur with its tall spikes of brilliant blue; perennial phlox in all shades; some of the new sunflowers; fall anemones in pink and pearly-white, peonies in pink and white and crimson; hundreds more for choice.

Have you ever noticed how flowers about a home seem to label the folk within it? Driving along a country road which you have never seen before, you come to a little house over whose walls vines run riot, and before whose door flowers grow as though tended by loving hands. Involuntarily you think of the people who live there as "nice

cocktail. (2) Sliced fowl, potatoes, and a vegetable. (3) Cake and ice cream; coffee.

Pickles, olives, a salad, nuts and bonbons, may be added at discretion.

LIME IN KETTLES.

Dear Junia,—You may certainly count me among the strangers in your corner, as this is just the second letter I have written to "The Farmer's Advocate." I live on a farm, and everybody knows what that means. I should like to know how to make mushroom catsup, and not having a good recipe, have resorted to "The Farmer's Advocate," which seldom fails. I have received a great many helps from the Ingle Nook, but, sorry to say, have been a very poor helper, so will try and help "Vanity" out with her kettle with small potatoes and boil them in soft water until they begin to break. Let them stand for a while in the kettle, then when you turn them out you will find it no trouble to scrape the rock clean off to the tin, unless it is very thickly coated, when it might need a second dose. Wishing all your readers and "The Farmer's Advocate" the best of success, I remain as ever,

WILL'S WIFE.

Simcoe Co., Ont.

Mushroom Catsup.—To 2 gallons of mushrooms allow $\frac{1}{2}$ lb. salt; to every quart of the juice a small saltspoon of cayenne, a teaspoonful allspice, 1 of ginger, 2 blades powdered mace. Lay the mushrooms in an earthen or granite pan in layers, with the salt between. Let stand six hours, then break to pieces with the hand. Keep in a cold place for three days, mashing occasionally. Press out the juice, add spices as above, put in a covered jar and boil three hours in a saucepan of boiling water. When this is done, pour the juice into a stewpan and let simmer gently for half an hour. Let stand in a cold place over night to settle, then pour off and strain. Bring to boil and seal.

CLEANING LIME FROM KETTLES.

Dear Junia,—In your issue of August 27th, "Vanity" asked regarding the cleaning of lime from kettles. A simple and good plan is to boil soft water in the kettle at regular intervals. We use our kettle to help warm the soft water from the cistern on wash days, and find the week's accumulation of lime chips off of its own accord, and can be shaken out. Since "Vanity's" kettle is a "hard case," she may require to give the treatment several times in succession for a beginning, and then continue regularly.

Peterboro Co., Ont.

M.

ANOTHER HINT FOR "VANITY"—CHEESE BALLS.

Dear Junia,—If "Vanity" would only drop a small marble into her tea-kettle, I do not think she would have any more trouble with lime forming. I always keep one in mine, and while little flakes sometimes form, the marble, rolling around, keeps them from adhering to the kettle, and they are very easily rinsed out.

Now, I am going to ask if someone will please tell me how to make the small cheese balls served with salad? I do not think I have ever seen the recipe printed in "The Farmer's Advocate." I wonder what we would do without "The Advocate"? I think everyone will admit it is a pretty constant friend coming to visit us every week, rain or shine, and with such a variety of news. I often think it is more reliable than some of our human friends, for in this age of telephones, they frequently think that a few minutes' chat over the "phone" is a sufficient visit. With best wishes for the Ingle Nook.

BUSYBODY.

Oxford Co., Ont.

I am delighted to be able to give you a recipe or two for cheese balls.

1. Mix together $1\frac{1}{2}$ cups grated cheese, 1 tablespoonful flour, $\frac{1}{4}$ teaspoon salt, dash of cayenne, and moisten with the yolks of 3 eggs beaten thoroughly. Shape into small balls, roll in dry cracker dust, fry in deep fat, drain, and serve with dressed lettuce.
2. Rub cream cheese to a paste with a little salad-dressing, add a dash of red pepper, if liked, and form into balls.

ABOUT THE ROUNDABOUT CLUB.

Dear Junia,—I am very interested in the Ingle Nook, and I, too, like others, have come for help. Can I obtain information from you about the Roundabout Literary Club, which I have read so much about in "The Farmer's Advocate"? Is it a "free-for-all club," or are there charges for membership, and what is the aim of the Club? Would I like very much to know, as I would like to join, if there is room for a newcomer. We have taken "The Farmer's Advocate" for three years, and we all like it; it's all interesting, especially the Home Department, with its literary selections, "Hope's Quiet Hour," "Children's Page," "Fashions," etc., etc. Thanking you in advance.

NOVA SCOTIAN.

Colchester Co., N. S.

The Roundabout Club is a "free-for-all club," conducted during the winter. The aim is merely to give those who wish to study, write essays, etc., at home, something definite to work for. The prizes—souvenirs, rather, to those who obtain highest marks—are books, but we are glad to find out, each year, that study for the study's sake counts for much more to those who take part, than the winning of prizes. The age limit begins at sixteen. There is no limit the other way.

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Things to Eat.

Devilled Tomatoes.—Wipe and peel three medium-sized tomatoes, and cut in slices. Sprinkle with salt and pepper, dredge with flour, and fry in a hot pan in a little butter. Cook until brown. Arrange on a hot serving-dish, pour over the following sauce, and garnish with sprigs of parsley. Sauce: Work 4 tablespoons butter until creamy, then add 2 teaspoons powdered sugar, 1 teaspoon mustard, ½ teaspoon salt, and a dash of cayenne. When well mixed, add the yolk of a hard-boiled egg rubbed to a paste, 1 egg slightly beaten, and 2 tablespoons vinegar. Cook over hot water, stirring constantly.

Jellied Apples.—Pare, quarter and core six small, tart apples, and boil until soft but not falling to pieces. Have about a cupful of water left when done. Soak one envelope pink granulated gelatine in one cup cold water for five minutes. Add the hot water from the apples, also add juice of two lemons and one cup sugar. Pour over the apples and set on ice to harden. Serve with one cup cream whipped stiff.

Pickled Onions.—These are very easy to make, and very good. They keep perfectly. Sterilize the bottles, fill with

small, raw onions ("silverskins" are best) nicely peeled, then fill up with cold "white-wine" vinegar.

Tomato Soy.—Take 2 lbs. green tomatoes and slice down with ½ lb. onions and ½ lb. cucumber. Put them in a colander, sprinkling them with 4 ounces warmed salt. Next day drain well, and put in a preserving pan with a teaspoonful of pepper-corns, 4 cloves, a small blade of mace, pinch of ginger, 6 small red peppers, and enough malt vinegar to cover. Boil slowly until it is all reduced to a pulp, then put through a colander. Put in sterilized bottles and seal.

Fish and Tomato Pie.—Take any remains of fish, remove all skin and bone, and flake it. Mix with a little white sauce. Butter a pudding-dish, place a layer of fish in it, next a layer of breadcrumbs, then a layer of sliced tomatoes with a scanty sprinkling of chopped onion, then more breadcrumbs, fish, etc., until the dish is full. The top layer should be breadcrumbs. Dot with bits of butter and bake in a moderate oven.

Beet and Cabbage Salad.—Shred half a raw cabbage very fine, and soak it for half an hour in cold water, then drain

thoroughly. Mix with 6 boiled beets cut in cubes. Sprinkle with salt, pepper, and minced onion, then mix with salad-dressing.

Russian Salad.—Cut cold beets and potatoes into fine cubes to make a cupful of each. Slice two onions fine, and make ready one cup celery cut into inch pieces. Add six olives, cut in slices, if you have them, also one teaspoonful pickled nasturtium seeds. Lay on lettuce leaves, and put salad-dressing on top. Garnish with rings of hard-boiled egg, and sprinkle over the top a tablespoonful of yolk of egg put through a potato-ricer.

Onion Souffle.—Chop 1 cup cold, boiled onions fine. Make a white sauce by mixing together 1 tablespoon butter and 1 tablespoon flour, cooking until frothy, and adding 1 cup milk. Season the sauce, and when it boils add to it ½ cup breadcrumbs, 1 teaspoon chopped parsley, the chopped onion and the beaten yolk of an egg. Beat the whites of 2 eggs to a froth and fold them into the onion mixture by turning them through and through it gently. Pour into a buttered dish and bake 15 minutes in a moderate oven. Serve with a cream sauce.

Scalloped Tomatoes and Onions.—Cut 6

tomatoes into thin slices, and chop 1½ cups cold, boiled onions fine. Butter a baking-dish. Put in a layer of sliced tomatoes, season with pepper and salt. Cover with a sprinkling of buttered crumbs, cover with the onions, then a layer of tomatoes. Make the last layer onion slices, covered liberally with crumbs. Bake in a moderate oven for three-quarters of an hour.

Ripe Tomato Pickle.—Peel and chop 3 pints ripe tomatoes. Add 1 cup chopped celery, 4 tablespoons chopped red peppers, 4 tablespoons onion, peeled and chopped, 4 tablespoons salt, 6 tablespoons sugar, 6 tablespoons mustard seed, ½ teaspoon ground cloves, ½ teaspoon ground cinnamon, 1 teaspoon grated nutmeg, and 2 cups vinegar. Mix all together, and seal. No cooking is necessary, as it will keep well in a cool place during the winter. Let stand a week before using.

The Scrap Bag.

A HANDY SEWING TABLE.

Use a cheese-box and lid, lining each with figured cretonne or chintz. Take three slats three feet long for legs, and nail to the box so that it forms the

If You Want to Economize Use "Diamond Dyes"

You can economize on your fall clothes without depriving yourself of anything. Give a last season's suit or gown a new color—make a few alterations in the cut and the trimming—the result will be a garment just as satisfying as a new one.

Miss Margaret Sampson writes:



Rose color dyed brown.

"I wanted a new dress for school, as the fall term was beginning and all the rest of the girls had new clothes, but father said he could not afford one just then. I didn't want to wait, so I looked over the closet and trunks to see if there was anything I could possibly use by making some changes in it. I found a rose-colored silk dress which I had stopped wearing because it was soiled.

"Some hints on economy which I had cut out of a magazine mentioned the dyeing of old clothes. Our druggist recommended DIAMOND DYES, and said that he knew they gave splendid results. I bought some dark brown dye, and as a result I have a dandy dress to start school with. With a cream lace collar and ruffle at the wrist, I look as well as any girl in school."

Diamond Dyes

"A child can use them." Simply dissolve the dye and boil the material in the colored water.

Mrs. J. A. Roper writes:

"Recently my husband suffered severe business reverses, and it was necessary for me to economize in every way possible.

"I have always been very fond of nice clothes and bought the very best for myself and the children.

"We have never lived extravagantly, and it seemed to me the best way to make immediate saving was on my own clothes. I happened to read an article in a magazine which said that any woman could save money by dyeing their old clothes. I must confess that I bought some DIAMOND DYE, feeling that I was making a great sacrifice, and that my last year's clothes re-dyed would look far from pretty. With a feeling of misgiving I undertook the work of re-coloring several last year's gowns, but now that they are re-modeled and re-trimmed, and dyed in bright solid new colors, they are just as stylish and fashionable as any new clothes I could have bought.

"I send you my photograph, showing one of my costumes (green dyed black), which was particularly successful. I earnestly advise all women to use DIAMOND DYES, whether they must economize or not."

Truth about Dyes for Home Use

There are two classes of fabrics—Animal Fiber Fabrics and Vegetable Fiber Fabrics. Wool and Silk are Animal Fiber Fabrics. Cotton and Linen are Vegetable Fiber Fabrics. "Union" or "Mixed" goods are usually 60 to 80 per cent. Cotton—so must be treated as vegetable fiber fabrics.

It is a chemical impossibility to get perfect color results on all classes of fabrics with any dye that claims to color animal fiber fabrics and vegetable fiber fabrics equally well in one bath.

We manufacture two classes of Diamond Dyes, namely—Diamond Dyes for Wool or Silk to color animal fiber fabrics, and Diamond Dyes for Cotton, Linen or Mixed Goods to color vegetable fiber fabrics so that you may obtain the very best results on EVERY fabric.

Diamond Dyes sell at 10 cents per package. Valuable Book and Samples Free. Send us your dealer's name and address—tell us whether or not he sells Diamond Dyes. We will then send you that famous book of helps, the Diamond Dye Annual and Direction Book, also 36 samples of Dyed Cloth—Free. THE WELLS & RICHARDSON CO. LIMITED 200 Mountain St., Montreal, Canada



Green suit dyed black.

upper part of the table, the lid being nailed in lower down to form a second shell to hold spools, scissors, etc.

CLOTHESPIN HOLDER.

Use a grape-basket instead of a bag, fix a wire hook to the handle, and slip the basket along the line ahead of you as you put on the clothes. This will save stooping.

LEAKING STOVEPIPES.

If the wood were perfectly dry and the pipe-damper always open, there would be no trouble with leaking pipes. It is the steam condensing as it reaches the colder part of the pipes above that causes the trouble. The following is said to be a remedy. Get the tinsmith to cut a hole in a length of pipe, with a sliding piece to close it when wished, and put this pipe above the damper-length. When the damper is closed, open the slide, and the current of air from the room will prevent the steam from settling.

FINISH FOR POOR FLOORS.

The following is recommended by a writer in Woman's Home Companion. Use odorless roofing as a border to cover old, rough floors, which so often spoil the effect of the center rug. Tack it down well, then put on a coat of shellac, and finally a coat of floor paint. Let dry, then put on a second coat of paint.

A Garden Scrap Bag.

RHUBARB IN FALL.

Mulch rhubarb with strawy manure before winter sets in. The stalks will grow much more quickly next spring, and will be much more tender in consequence.

DRYING POTATOES.

Be sure to dry potatoes well for a few hours before putting them in the cellar. This may help to prevent rot.

PROTECTING TENDER VINES.

Cut tender grapes and other vines from their supports, lay them down and cover them with soil to protect them during winter. When it is impossible to do this, cover them with rough sacking or bind them with straw.

CANDYTUFT AND POPPIES.

Candytuft and poppies, indeed any seeds that "self-sow," may be sown late in fall, just before winter sets in, and so will have an early start in the spring.

THE PEONY.

The fact that the peony is one of the few flowers that have had associations formed for their propaganda, is surely proof enough of the general popularity of this truly splendid ornament of the garden. Indeed, the American Peony Society is one of the strongest of its kind on the continent. Broadly speaking, peonies may be classed as single, semi-double, and double, all very handsome, and the single varieties in the opinion of many people, not the least so. They come in all colors, from white to deep red, and some of the species, e. g., the "rose" varieties, are sweetly perfumed. Moreover, the plants are beautiful all summer through, even after the flowers have gone.

Fall planting is generally recommended for peonies, and they may be set out, about three feet apart, at any time from the last week in August until fairly late in October. They will do very well in a partial shade, and look best when massed against a background of shrubbery. The soil should be a deep, mellow, clay loam, very well drained, as the crowns are likely to spoil in standing water. The plants are gross feeders, and will respond very gratefully to a good supply of fertilizer. Rich, yet strawy barnyard manure, is best, and a good way to apply it is to place it about the plants just before the ground freezes finally for the winter. It thus acts as a protection to plants during the cold weather, and in the meantime is becoming so mellowed that it can safely be dug into the soil about the roots in spring.

Peonies, as a rule, need two or three years to establish themselves in fine

clumps, but after that need little attention save to add fertilizer for ten or twelve years, when the roots may be divided. If very large blossoms are desired, all the buds should be pinched off save those on the main stems.

FOR WINTER CHEER.

Geraniums, impatiens, and begonias, are common enough window-plants during winter, but, for a pleasing variety, did you ever think of trying a wild-flower window-box? A writer in Suburban Life says that she always makes a trip or two to the woods in October, bringing home all sorts of green things—ferns, hepaticas, violets, Jack-in-the-pulpit, and even ox-eye daisies from the roadside. A quantity of native soil is also brought home. The next step is to plant the roots out in boxes, which are then placed in a shaded corner of the yard, watered from time to time, and left until the ground has frozen. After being frozen for about two weeks the boxes are removed to the cellar to thaw out slowly in a dark place, then the dead leaves are cut off and the plants brought gradually into greater light and warmth. Before long they will begin to put forth new shoots, and will present a pretty appearance all through the winter. In spring, the roots are planted under trees in the yard. . . The same woman also keeps parsley growing in pots during the cold weather, finding it useful as well as beautiful; and she has found that tiny hemlock and pine trees, transplanted in fall, make a fine substitute for the ever-present ferns and palms found growing in jardinières.

BULBS FOR FALL PLANTING.

Flower-lovers who have never tried planting bulbs for flowering in early spring, and in the house during winter, have no idea what a pleasure is in store for them. Lilies, narcissus, hyacinths, tulips, jonquils, scillas, crocuses, snowdrops, anemones—the choice is large, and the harvest of delicate, beautiful flowers, perfumed for the most part, is well worth while.

For garden planting, set the bulbs out at any time from the middle of October till the middle of November, depending on the weather. Give the beds a sunny position, if possible, selecting a well-drained situation. Any good garden soil, well pulverized to a depth of 18 inches will do, but it is advisable to put a handful of sand under each bulb to prevent possible rot. Raw manure should never be used in a bulb-bed, although a protective covering of well-rotted manure during winter is recommended. The distance apart at which bulbs should be set depends, of course, on habit of growth, lilies requiring a space of 12 inches each way; narcissus, 12 inches; tulips, 5 inches; jonquils, 6 inches; scillas, 3; snowdrops, 3; crocuses, 2; and anemones, 6. The majority of bulbs need a depth of soil from the surface to the top of bulb, of about 4 inches, although hardy anemones need only 1 inch of soil; crocuses, 2; snowdrops and scillas, 3. Lilies may be given a depth of 5 inches of soil above.

Many of the bulbs will bloom nicely for several years if undisturbed, and so, for this reason are usually planted in long borders; many people, however, take up the bulbs as soon as the leaves have yellowed, dry them, and store them for re-planting in the fall. In this way the borders can be better utilized for other plants during the summer.

For winter bloom in pots, bulbs may be planted at any time now, watered, and set away in a cold, dark spot in the cellar to promote root growth. An even better plan is to bury the pots in deep trenches in the garden, covering them well with soil. Leave six or seven weeks, then remove gradually to a lighter and warmer place. By leaving some of the pots until later, a succession of bloom may be kept up. This plan will be found best for tulips, daffodils, crocuses, and hyacinths. Paper-white narcissus and freesias, need only a few days for such rooting, while the Chinese sacred lily does not need to be set away at all. Its bulbs will grow either in soil or in water. In the latter case, use a rather broad dish, and brace the bulbs with pebbles. Many people start bulbs in this way in the fall, and give them away for Christmas gifts.

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Savory Minced Meat.—Put a tablespoonful of beef or bacon dripping in a frying-pan and in it fry one onion, thinly sliced. Put into this some beef, lamb or veal, which has been put through the meat-chopper. Turn with a fork until cooked, season, and serve very hot. A cupful of stewed tomatoes may be added if liked.

Tomato Preserve.—Wipe one pound small tomatoes (yellow pear tomatoes are best), cover with boiling water, then take off the skins. Sprinkle with one pound granulated sugar, cover, and let stand over night. In the morning drain off the syrup, bring to a boil, and let boil until thick. Add tomatoes, two ounces preserved ginger, and two lemons sliced thin. Cook slowly. If preferred instead of the lemons, two oranges put through the meat-grinder may be used.

Grape Snow Pudding.—Soak 2 table-spoons gelatine in enough water to cover it. Let soak for an hour, then add to it a quart of heated grape juice. Stir over the fire until the gelatine is dissolved, add juice of one lemon, and sugar to taste. Take from the fire, and as it cools beat into it gradually the stiffened whites of 4 eggs. Beat until it begins to stiffen, then turn into a wet mould and set in a cold place. When firm, serve with whipped cream.

Stuffed Apples.—Core the apples and steam them until tender, then boil them for a few minutes in a syrup made of white sugar. Fill with preserved cherries and nuts, chopped fine; boil the syrup a little more, pour it over the apples, and serve cold with whipped cream.

Celery Cheese Balls.—Rub cream cheese to a paste with a little cream, mix with minced celery, make into balls, and chill before serving.

The Windrow.

Prof. H. L. Hutt, of the Ontario Agricultural College at Guelph, was the judge in an interesting back-yard garden competition held this year, by generosity of the Dovern Court Land, Building and Savings Company, in the city of Toronto, the prizes running from \$10 to \$250. A suggestion is that prizes for back-yard gardens be given in connection with Agricultural Fairs, names of prize-winners to be announced, and photos of prize gardens to be shown at the Fairs.

While Red Cross work has been going on in almost every civilized country, a Women's Emergency Corps for the assistance of girls and women thrown out of employment, and therefore out of a living, has been formed in England. Headquarters were established in London, machines and materials provided, and the unemployed given a chance to come and work on Red Cross articles for pay. The pay, —10s. a week for each, or just enough to keep her head above water—is provided by public subscription. Miss Beatrice Harraden, author of "Ships That Pass in the Night," and other volumes, is one of the promoters of the scheme.

Sun-bathing has been found beneficial in curing many diseases, as Dr. Rollier, of Leysin, Switzerland, has been successful in demonstrating for some years past in cases of hip disease and Potts' disease of the spine, as well as tuberculosis. The treatment is also popular in parts of California. More direct sunlight in all the rooms of dwelling-houses is recommended.

An electric oscillator, to be attached to vessels, which will send out a tone that can be heard by other vessels from five to thirty miles away, has been invented recently by Prof. R. A. Fessenden. By timing the echo, it is also possible to compute the depth of soundings and proximity of icebergs. The use of this device, it is claimed, would have averted all of the most terrible marine disasters of the past few years.

James Davenport Whelpley, in an article in The Independent, points out that remarkable development has taken place in Russia during the past few years. "There is a rapid awakening of the mentality of the mass of the people," he says, a fact which the Government seems

to be recognizing and encouraging. The Universities have been thrown open to women, and during the past year nearly \$100,000,000 have been spent in the promotion of education. Over 5,000 agricultural specialists were employed last year to assist the farmers, and the work of settling Siberia—that vast country once given over to convicts—has been going rapidly on. "Siberia, to the Russian of Europe," says Mr. Whelpley, "now stands for what America did to the alien land-seekers of the eighties and nineties." Notwithstanding all this, there are still vast multitudes in the hinterland of Russia who are still "in bondage to medieval things."

News of the Week

The Canadian Government has arranged to present all available artillery to Great Britain for immediate use. It has also arranged to appropriate \$50,000 of the \$50,000,000 voted by Parliament, for the relief of the people of Belgium.

A German aeroplane, on Sept. 27, dropped four bombs in Paris. A man was killed, but otherwise little damage was done.

It has been officially announced that the German portion of New Guinea has been added to the British Empire.

The Japanese troops have been victorious in a stubborn battle fought near Tsingtau.

The Belgian army has resumed the offensive against the Germans, and fighting has again occurred about Lermonde.

Lieut.-Col. Hon. J. S. Hendrie, of Hamilton, minister without portfolio in the Cabinet of Ontario, has been appointed Lieutenant-Governor of Ontario to succeed Sir John Gibson.

During the past week news from the battle front has been, on the whole, reassuring. Beginning with a blow to Britain in the sinking of the cruisers Aboukir, Hague and Cressy, by German submarines, with a loss of over 1,000 men, the end of the week brought word that the Allies were still valiantly holding their own along the Aisne, where, with 2,000,000 men engaged, the severest fighting of the campaign, so far, has been taking place. Night and day the conflict has raged, and at no point does it appear that the Allies have been driven back. On the contrary, they have succeeded in capturing Peronne, 94 miles north-east of Paris, and, at time of going to press, it is reported that the French have almost surrounded the German right wing. On Sept. 24, heavy fighting took place south of Antwerp, where 2,000 Germans were routed. The brunt of the fighting has, however, occurred in the neighborhood of St. Quentin, where the Germans have been trying to drive a wedge through the French lines on the eastern frontier, to enable them to open a road by which provisions may be poured in directly from the Rhine Valley. . . . In the East it is reported that the Russians have occupied Jaroslav and practically taken Przemysl in Galicia. It is also reported that the Germans are massing 800,000 men in East Prussia to try to offset the repeated defeats of the Austrians.

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had known from babyhood—Peter was always ready with his "Of course I'll come—" or "Nothing would delight me more—" or the formal "Mr. Grayson accepts with great pleasure," etc., unless the event should fall upon a Saturday night; then there was certain to be a prompt refusal.

Even Miss Felicia recognized this unbreakable engagement and made her plans accordingly. So did good Mrs. McGuffey, who selected this night for her own social outings; and so did most of his intimate friends who were familiar with his habits.

On any other night you might, or you might not, find Peter at home, dependent upon his various engagements, but if you really wanted to get hold of his

hand, or his ear, or the whole or any other part of his delightful body, and if by any mischance you happened to select a Saturday night for your purpose, you must search for him at the Century. To spend this one evening at his favorite club had been his custom for years—ever since he had been elected to full membership—a date so far back in the dim past that the oldest habitue had to search the records to make sure of the year, and this custom he still regularly kept up.

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younger and more progressive element among the members picked the institution up bodily and moved it that far—as later on they did.

Not that he favored any such innovation: "Move up-town! Why, my dear sir!" he protested, when the subject was first mentioned, "is there nothing in the polish of these old tables and chairs rubbed bright by the elbows of countless good fellows, that appeals to you? Do you think any modern varnish can replace it? Here I have sat for thirty years or more, and—please God!—here I want to continue to sit."

He was at his own small table in the front room overlooking the street when he spoke—his by right of long use, as it was also of Morris, MacFarlane, Wright, old Partridge the painter, and Knight the sculptor. For years this group of Centurions, after circling the rooms on meeting nights, criticising the pictures and helping themselves to the punch, had dropped into these same seats by the side of Peter.

And these were not the only chairs tacitly recognized as carrying special privileges by reason of long usage. Over in the corner between the two rooms could be found Bayard Taylor's chair—his for years, from which he dispensed wisdom, adventure and raillery to a listening coterie—King, MacDonough and Collins among them, while near the stairs, his great shaggy head glistening in the overhead light, Parke Godwin held court, with Sterling, Martin and Porter, to say nothing of still older habitués who in the years of their membership were as much a part of the fittings of the club as the smoke-begrimed portraits which lined its walls.

On this Saturday night he had stepped into the club-house with more than his usual briskness. Sweeping a comprehensive glance around as he entered, as if looking for some one in the hall, he slipped off his overcoat and hat and handed both to the negro servant in charge of the cloak-room.

"George."

"Yes, Mr. Grayson."

"If anybody inquires for me you will find me either on this floor or in the library above. Don't forget, and don't make any mistake."

"No, suh—ain't goin' to be no mistake."

This done, the old gentleman moved to the mirror, and gave a sidelong glance at his perfectly appointed person—he had been dining at the Portmans', had left the table early, and was in full evening dress.

The inspection proved that the points of his collar wanted straightening the thousandth part of an inch, and that his sparse gray locks needed combing a wee bit further toward his cheek bones. These, with a certain rebellious fold in his necktie, having been brought into place, the guardian of the Exeter entered the crowded room, picked a magazine from the shelves and dropped into his accustomed seat.

Holker Morris and Lagarge now strolled in, and drawing up to a small table adjoining Peter's touched a tiny bell. This answered, and the order given, the two renewed a conversation which had evidently been begun outside, and which was of so absorbing a character that for a moment Peter's face, half hidden by his book, was unnoticed.

"Oh!—that's you, Methusalem, is it!" cried Morris at last. "Move over—have something?"

Peter looked up smiling: "Not now, Holker. I will later."

Morris kept on talking. Lagarge, his companion—a thin, cadaverous-looking man with a big head and the general air of having been carved out of an old root—a great expert in ceramics—listening intently, bobbing his head in toy-mandarin fashion whenever one of Holker's iconoclasm cleared the air.

"Suppose they did pay thirty thousand dollars for it," Holker insisted, slapping his knee with his outspread palm. "That makes the picture no better and no worse. If it was mine, and I could afford it, I would sell it to anybody who loved it for thirty cents rather than sell it to a man who didn't, for thirty millions. When Troyon painted it he put his soul into it, and you can no more tack a price to that than you can stick an auction card on a summer cloud, or appraise the perfume from a rose garden. It has no

money value, Lagarge, and never will have. You might as well list sunsets on the Stock Exchange.

"But Troyon had to live, Holker," chimed in Harrington, who, with the freedom accorded every member of the club—one of its greatest charms—had just joined the group and sat listening.

"Yes," rejoined Morris, a quizzical expression crossing his face—"that was the curse of it. He was born a man and had a stomach instead of being born a god without one. As to living—he didn't really live—no great painter really lives until he is dead. And that's the way it should be—they would never have become immortal with a box full of bonds among their assets. They would have stopped work. Now they can rest in their graves with the consciousness that they have done their level best."

"There is one thing would lift him out of it, or ought to," remarked Harrington, with a glance around the circle. "I am, of course, speaking of Troyon."

"What?" asked Morris.

"The news that Roberts paid thirty thousand dollars for a picture for which the painter was glad to get three thousand francs," a reply which brought a roar from the group, Morris joining in heartily.

The circle had now widened to the filling of a dozen chairs. Morris's way of putting things being one of the features of the club nights, he, as usual, dominating the talk, calling out "Period"—his way of notifying some speaker to come to a full stop, whenever he broke away from the facts and began soaring into hyperbolics—Morgan, Harrington and the others laughing in unison at his sallies.

The clouds of tobacco smoke grew thicker. The hum of conversation louder; especially at an adjoining table where one lean, old Academician in a velvet skull cap was discussing the new impressionistic craze which had just begun to show itself in the work of the younger men. This had gone on for some minutes when the old man turned upon them savagely and began ridiculing the new departure as a cloak to hide poor drawing, an outspoken young painter asserting in their defence, that any technique was helpful if it would kill off the snuff-box school in which the man under the skull cap held first place.

Morris had lent an ear to the discussion and again took up the cudgels.

"You young fellows are right," he cried, twisting his body toward their table. "The realists have had their day; they work a picture to death; all of them. If you did but know it, it really takes two men to paint a great picture—one to do the work and the other to kill him when he has done enough."

"Pity some of your murderers, Holker, didn't start before they stretched their canvases," laughed Harrington.

And so the hours sped on.

All this time Peter had been listening with one ear wide open—the one nearest the door—for any sound in that direction. French masterpieces, Impressionism and the rest of it, did not interest him to-night. Something else was stirring him—something he had been hugging to his heart all day.

Only the big and little coals in his own fireplace in Fifteenth Street, and perhaps the great back-log, beside himself, knew the cause. He had not taken Miss Felicia into his confidence—that would never have done—mist, indeed, have spoilt everything. Even when he had risen from Morris's coterie to greet Henry MacFarlane—Ruth's father—his intimate friend for years, and who answered his hand-shake with—"Well, you old rascal—what makes you look so happy?—anybody left you a million?"—even then he gave no inkling of the amount of bottled sunshine he was at the precise moment carrying inside his well-groomed body, except to remark with all his twinkles and wrinkles scampering loose:

"Seeing you, Henry—" an answer which, while it only excited derision and a sly thrust of his thumb into Peter's ribs, was nevertheless literally true if the distinguished engineer did but know it.

It was only when the fairs dragged on and his oft-consulted watch marked ten o'clock that the merry wrinkles be-

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Mention this Paper.

gan to straighten and the eyes to wander.

When an additional ten minutes had ticked themselves out, and then a five and then a ten more, the old fellow became so nervous that he began to make a tour of the club-house, even ascending the stairs, searching the library and dining-room, scanning each group and solitary individual he passed, until, thoroughly discouraged, he regained his seat only to press a bell lying among some half-empty glasses. The summoned waiter listened attentively, his head bent low to catch the whispered order, and then disappeared noiselessly in the direction of the front door, Peter's fingers meanwhile beating an impatient staccato on the arm of his chair.

Nothing resulting from this experiment he at last gave up all hope and again sought MacFarlane who was trying to pound into the head of a brother engineer some new theory of spontaneous explosion.

Hardly had he drawn up a chair to listen—he was a better listener to-night, somehow, than a talker, when a hand was laid on his shoulder, and looking up, he saw Jack bending over him.

With a little cry of joy Peter sprang to his feet, both palms outstretched: "Oh!—you're here at last! Didn't I say nine o'clock, my dear boy, or am I wrong? Well, so you are here it's all right." Then with face aglow he turned to MacFarlane: "Henry, here's a young fellow you ought to know; his name's John Breen, and he's from your State."

The engineer stopped short in his talk and absorbed Jack from his neatly-brushed hair, worn long at the back of his neck, to his well-shod feet, and held out his hand.

"From Maryland? So am I; I was raised down in Prince George County. Glad to know you. Are you any connection of the Breens of Ann Arundle?"

"Yes, sir—all my people came from Ann Arundle. My father was Judge Breen." answered Jack with embarrassment. He had not yet become accustomed to the novelty of the scene around him.

"Now I know just where you belong. My father and yours were friends. I have often heard him speak of Judge Breen. And did you not meet my daughter at Miss Grayson's the other day? She told me she met a Mr. Breen from our part of the country."

Jack's eyes danced. Was this what Peter had invited him to the club for? Now it was all clear. And then again he had not said a word about his being in the Street, or connected with it in any way. Was there ever such a good Peter?

"Oh, yes, sir!—and I hope she is very well."

The engineer said she was extremely well, never better in her life, and that he was delighted to meet a son of his old friend—then, turning to the others, immediately forgot Jack's existence, and for the time being his daughter, in the discussion still going on around him.

The young fellow settled himself in his seat and looked about him—at the smoke-stained ceiling, the old portraits and quaint fittings and furniture—more particularly at the men. He would have liked to talk to Ruth's father a little longer, but he felt dazed and ill at ease—out of his element, somehow—although he remembered the same kind of people at his father's house, except that they wore different clothes.

But Peter did not leave him long in meditation. There were other surprises for him upstairs, in the small dining-room opening out of the library, where a long table was spread with eatables and drinkables—salads, baby sausages, escalloped oysters, devilled crabs and other dishes dear to old and new members. Here men were met standing in groups, their plates in their hands, or seated at the smaller tables, when a siphon and a beer bottle, or a mug of Bass would be added to their comfort.

It was there the Scribe met him for the second time, my first being the Morris dinner, when he sat within speaking distance. I had heard of him, of course, as Peter's new protegee—indeed, the old fellow had talked of nothing else, and so I was glad to renew the acquaintance. I found him to be like all other young fellows of his class—I had lived among his people, and knew—rather shy, with a certain deferential air toward older people—but with the com-

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Premiums: Don't forget to select your premium or premiums when sending your flour orders. On orders of 3 bags of flour we will give free "Ye Old Miller's Household Book" (formerly "Dominion Cook Book"). This useful book contains 1,000 carefully-selected recipes and a large medical department. If you already possess this book, you may select from the following books: Ralph Connor's "Black Rock," "Sky Pilot," "Man from Glengarry," "Glengarry School Days," "The Foreigner," "The Prospector," Marion Keith's "Duncan Polite," "Treasure Valley," "Lisbeth of the Dale," J. J. Bell's "Whither Thou Goest." If you buy six bags of flour you get two books, and so on. Enclose 10 cents for each book to pay for postage. Premiums are given on flour orders only.

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Inspection of Stallions

The inspection of stallions, under the Ontario Stallion Act, will commence

Wednesday, October 14th, 1914

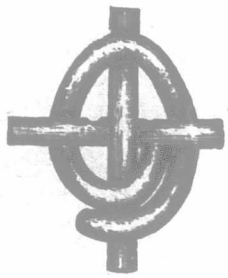
A list of inspection points and the dates of inspection will be mailed to all stallion owners who are on the mailing list in the Secretary's Office, or to any one who sends to

R. W. WADE, Secretary of the Stallion Enrolment Board
Parliament Buildings, TORONTO

a written request for same.

When writing advertisers, kindly mention "The Farmer's Advocate."

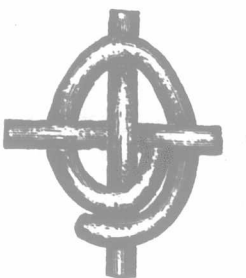
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No. of bars	Height inches	Stays inches apart	Spacings of Horizontals	Prices Old Ontario	New Ont. Que. and Mar. Prov.	No. of bars	Height inches	Stays inches apart	Spacings of Horizontals	Prices Old Ontario	New Ont. Que. and Mar. Prov.
5	40	22	10-10-10-10	18	20	9	48	22	3-4-5-5-6-8-8-9	29	32
6	40	22	7-7-8-9-9	21	24	9	48	16½	3-4-5-5-6-8-8-9	31	35
7	40	22	5-6-6-7-7½-8½	23	26	9	48	22	Even 6-inch spacing	28	32
7	48	22	5-6-7-9-10-11	23	26	9	52	22	4-5-5½-7-8½-9-9	30	33
8	40	16½	3-4-5-6-7-7-8	28	31	10	50	16½	3-3½-3½-4½-5½-6-8-8-8	33	37
8	48	16½	4-5-6-7-8-7-9	29	32	*15	50	8	1½-1½-1½-1½-2-2-2½-3-4-5-5-6-6-7-37	37	40

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The SARNIA FENCE COMPANY, Limited, Sarnia, Canada

posure belonging to unconscious youth—no fidgeting or fussing—modest, unassertive—his big brown eyes under their heavy lashes studying everything about him, his face brightening when you addressed him. I discovered, too, a certain indefinable charm which won me to him at once. Perhaps it was his youth; perhaps it was a certain honest directness, together with a total lack of all affectation that appeared to me, but certain it is that not many minutes had passed before I saw why Peter liked him, and I saw, too, why he liked Peter.

When I asked him—we had found three empty seats at a table—what impressed him most in the club, it being his first visit, he answered in his simple, direct way, that he thought it was the note of good-fellowship everywhere apparent, the men greeting each other as if they really meant it. Another feature was the dress and faces of the members—especially the authors, to whom Peter had introduced him, whose books he had read, and whose personalities he had heard discussed, and who, to his astonishment, had turned out to be shabby-looking old fellows who smoked and drank or played chess, like other ordinary mortals, and without pretence of any kind so far as he could detect.

"Just like one big family, isn't it, Mr. Grayson?" the boy said. "Don't you two gentlemen love to come here?"

"Yes."
"They don't look like very rich men."
"They're not. Now and then a camel crawls through but it is a tight squeeze," remarked Peter arching his gray, bushy eyebrows, a smile hovering about his lips.

The boy laughed: "Well, then, how did they get here?"

"Primarily because they lead decent lives, are not puffed up with conceit, have creative brains and put them to some honest use," answered Peter.

The boy looked away for a moment and remarked quietly that about everybody he knew would fail in one or more of these qualifications. Then he added: "And now tell me, Mr. Grayson, what most of them do—that gentleman, for

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EPHRAIM BARBOUR, Erin, Ont.

instance, who is talking to the old man in the velvet cap."

"That is General Norton, one of our most distinguished engineers. He is Consulting Engineer in the Croton Aqueduct Department, and his opinion is sought all over the country. He started life as a tow-boy on the Erie Canal, and when he was your age he was keeping tally of dump-cars from a cut on the Pennsylvania Railroad.

Jack looked at the General in wonderment, but he was too much interested in the other persons about him to pursue the inquiry any further.

"And the man next to him—the one with his hand to his head?"

"I don't recall him, but the Major may."

"That is Professor Hastings of Yale," I replied—"perhaps the most eminent chemist in this or any other country."

"And what did he do when he was a boy?" asked young Breen.

"Made pills, I expect, and washed out test tubes and retorts," interrupted Peter, with a look on his face as if the poor professor were more to be pitied than commended.

"Did any of them dig?" asked the boy.

"What kind of digging?" inquired Peter.

"Well, the kind you spoke of the night you came to see me."

"Oh, with their hands?" cried Peter with a laugh. "Well, now, let me see—" and his glance roved about the room. "There is Mr. Schlessinger, the Egyptologist, but of course he was after mummies, not dirt; and then there is—yes—that sun-burned young fellow of forty, talking to Mr. Eastman Johnson; he has been at work in Yucatan looking for Toltec ruins, because he told me his experience only a few nights ago; but then, of course, that can hardly be said to be—Oh!—now I have it. You see that tall man with sidewhiskers, looking like a young bank president—my kind—my boy—well, he started life with a pick and shovel. The steel point of the pick if I remember rightly, turned up a nugget of gold that made him rich, but he dug all the same, and

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much.

And I didn't know the man very well either. So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer. And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

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Richard's QUICK NAPHTHA THE WOMAN'S SOAP,

Please mention "The Farmer's Advocate."

he may again some day—you can't tell."

It had been a delightful experience for Jack and his face showed it, but it was not until after I left that the story of why he had come late was told. He had started several times to explain but the constant interruption of members anxious to shake Peter's hand, had always prevented.

"I haven't apologized for being late, sir," Jack had said at last. "It was long after ten, I am afraid, but I could not help it."

"No: what was the matter?"

"I didn't get the letter until half an hour before I reached here."

"Why, I sent it to your uncle's house, and mailed it myself, just after you had gone out with Miss MacFarlane."

"Yes, sir; but I am not at my uncle's house any more. I am staying with Garry Minott in his rooms; I have the sofa."

Peter gave a low whistle.

"And you have given up your desk at the office as well?"

"Yes, sir."

"Bless my soul, my boy! And what are you going to do now?"

"I don't know: but I will not go on as I have been doing. I can't, Mr. Gravson, and you must not ask it. I would rather sweep the streets. I have just seen poor Charley Gilbert and Mrs. Gilbert. He has not a dollar in the world, and is going West, he tells me."

Peter reflected for a moment. It was all he could do to hide his delight.

"And what do your people say?"

"My aunt says I am an idiot, and Corinne won't speak to me?"

"And your uncle?"

"Nothing to me. He told Garry that if I didn't come back in three days I should never enter his house or his office again."

"But you are going back? Are you not?"

"No,—never. Not if I starve!"

Peter's eyes were twinkling when he related the conversation to me the next day.

"I could have hugged him, Major," he said, when he finished, "and I would if we had not been at the club."
(To be continued.)

Gossip.

In a recent letter from J. A. Watt, Elora, Ont., their show-ring successes were set forth in the following words: "The winnings of our show herd in the past three months have never been surpassed. All but two were home bred, including the two grand champions, which were sired by the famous champion, Gainford Marquis. We showed every champion at the late Canadian National, and won every herd, with the exception of one, in which we had no entry. We won thirty-three championships, ten reserve champion prizes, and over one hundred first and second prizes. We are now in a position to supply the demand for show and breeding cattle. Included in these are fifteen heifers, which are being bred to the champion bulls. We also have the same number of young bulls for sale. Prices are consistent with quality, and are no higher than any other breeder's prices. A visit from intending purchasers would be appreciated."

PINEGROVE YORKSHIRES.

In the Yorkshire classes at the Toronto and Ottawa Exhibitions, with the exception of the aged-boar class, the noted Pinegrove herd of J. Featherston & Son, of Streetsville, Ont., made a remarkable showing by winning away the largest number of awards of any other exhibitor in the breeding classes, as well as getting first money at both shows in the class for export bacon hogs. Among the earliest pioneers in the importing and breeding of Yorkshire hogs in Canada, the Messrs. Featherston have for very many years been in the front rank. Their herd has had their best endeavor to reach and remain at the highest standard, and their record for over a quarter of a century at the big shows is one to be proud of by breeders of any line of stock. The herd is a large one, and the annual increase runs well up in the hundreds. This annual increase is for sale, a fact that should not be lost sight of by breeders of Yorkshires who are satisfied with nothing short of the best obtainable.

"Do you wear Penmans too?"

102

"Why, yes! It's the only underwear I buy, since I found it made my clothes fit better. That isn't all, either. This underwear is knit in some special way so it keeps its shape. It's smooth and comfortable, too, and, My! how it stands washing. You couldn't hire me to wear any other." Penmans Underwear is made in all styles and weights for men, women and children.

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Here's Why

PRESIDENT SUSPENDER

NONE-SO-EASY

Crops Injured by Drouth.

A bulletin recently issued by the Census and Statistics Office, give the usual preliminary estimate of the yield of the principal cereal crops in Canada, according to reports of correspondents made at the end of August. Continued drouth, especially in the Northwest Provinces, has seriously affected the yield per acre, which is lower than that of any year since the season of 1910, and lower than the average of the six years ended 1913. From the areas sown to wheat, oats, barley and flax in the Northwest Provinces, it has been necessary, in estimating the yields, to deduct a considerable acreage which, owing to drouth, is reported as failing to produce any grain. For the three Provinces of Manitoba, Saskatchewan and Alberta, the areas thus deducted amount to 728,100 acres of wheat, 753,000 acres of oats, 102,000 acres of barley, and 79,000 acres of flax, these areas representing percentages of the areas sown of from 3 to 7½ in Manitoba, 7 to 13 in Saskatchewan, and 7 to 15½ in Alberta.

For all Canada, the yield per acre for spring wheat is just under 15 bushels, as compared with 20.81 bushels last year, and with 19.2 bushels, the average of the four years, 1910-13; for oats, the yield is 32.5 bushels, against 38.7 last year, and 36.3 the four-year average; for barley, 24.7 in 1914, compared with 29.9 and 28.5; for rye, 18, against 19.3 and 17.8, and for flax, 8.3, against 11.3 and 11.5.

Upon the harvested area of wheat in Canada of 10,293,900 acres, including fall wheat, the aggregate yield is estimated at 159,660,000 bushels, as compared with last year's excellent out-turn of 231,717,000 bushels, and with 204,712,000 bushels, the annual average for the four years, 1910-13. Of oats, the estimate is for 327,732,000 bushels, against 404,669,000 bushels last year, and 351,246,000 bushels the four-year average. Barley is estimated to yield 37,014,000 bushels, compared with 48,819,000 bushels in 1913, and 42,745,000 bushels the annual average; rye, 2,019,000 bushels, against 2,300,000 bushels, and 2,189,000 bushels, and flaxseed 9,042,000 bushels, compared with 17,539,000 bushels last year, and 14,197,000 bushels, the annual average for the years 1910-13.

For the three Northwest Provinces alone, the total estimated yields are as follows: Wheat, including fall wheat, 139,672,000 bushels; rye, 515,000 bushels; oats, 160,796,000 bushels; barley, 20,320,000 bushels, and flaxseed, 8,962,000 bushels.

Describing generally the conditions of the month of August, correspondents state that owing to the dryness of the season the grain ripened much earlier than usual, with the straw short and the yield much shrunken. In Northern Saskatchewan the grain was practically all cut and threshing well under way. In Northern Alberta the yield promised to equal the average, but in Southern Alberta the excessive heat and drouth had a bad effect upon what, in the early part of the season, was a promising crop. Whilst in Quebec and Ontario the grain crops suffered from a dry season, the conditions were not so unfavorable as in the West. In Ontario the grain yield is not greatly below that of 1913, and in Quebec the yield of oats is even superior. In the Maritime Provinces the season is favorable, and the preliminary estimates give yields superior to those of last year.

It is a false belief that life necessarily wears itself out as the years go by. Life means living, and so long as we live with our eyes open toward the future, with our ears attuned to catch the melody of the present day, with our hands eager for the unexpected path before us, we shall not grow old, but we shall remain young in heart and mind and spirit, which after all are our real selves.—Selected.

A Sad Thought.—“What could be more sad than a man without a country?” feelingly asked the high-school literature teacher of her class.

“A country without a man,” responded a pretty girl just as feelingly.—Topeka Journal.

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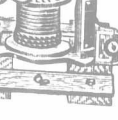
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By Weight	By Measure
26 lbs. Corn Meal	22 qts. Corn Meal
26 lbs. Wheat Middlings	27 qts. Wheat Middlings
13 lbs. Wheat Bran	22 qts. Wheat Bran
5 lbs. Alfalfa	8 qts. Alfalfa
5 lbs. Linseed Oil Cake Meal	3 qts. Oil Cake Meal
24½ lbs. Gunns Shur-Gain Beef Scrap	17 qts. Beef Scrap
½ lb. Salt	¾ pt. Salt

Feed whole grain in a litter night and morning; 2 parts wheat, 2 parts corn, 1 part oats and 1 part buckwheat makes an ideal ration. Cut down night and morning feeding in case of pullets or fowls in heavy laying to induce heavy eating of the dry mash.

This ration should be supplemented with beets, cabbage, sprouted oats, green clover or other succulent food, Gunns Shur-Gain Grit, Shell and Medicated Charcoal should always be available to the birds.

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Questions and Answers

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

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

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

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

Miscellaneous.

Propagating Black Currants.

Would you please tell me, through your paper, when the proper time is to take cuttings of black currant bushes, and when to plant them? R. M.

Ans.—A query very similar to this was answered in our issue of Sept. 3, 1914, on page 1600. Refer to that issue.

Dressing Poultry.

Tell me how to dress fowls? Should head and feet be removed or not, and the difference in price from live weight to dressed? N. E. J.

Ans.—In dressing fowls for market, leave the head and feet on. The difference in price between dressed poultry and live poultry usually ranges from two to four cents per pound. This is comparing the live with undrawn dressed poultry.

Bloody Milk.

Have a fine Holstein cow. About a month ago she started to give bloody milk. We thought she had her udder hurt. She does not get better. J. H.

Ans.—Purge with two pounds of Epsom salts, and follow up with three drams of nitrate of potash three times daily for a few days. Rub well the part that gives bloody milk after each milking, with camphorated oil.

On Patents.

Editor 'The Farmer's Advocate':

Patents and trade-marks granted to a subject of any state with which Great Britain is at war are not declared to be void, but may be voided or suspended in whole or in part on application to the Board of Trade. The applicant must put up a fee of two pounds with the application, and a fee of half a crown for depositing foreign documents or other papers for purposes of record. The Board of Trade may then suspend or void the patent in whole or in part, if it appears that the person applying intends to manufacture the invention, and if it appears to be in the general interest of the country, or a section of the community, or of a trade, that such article should be manufactured or any process carried on. The Board of Trade may at any time, in their discretion, order the voidance or suspension in whole or in part, of any patent, as they may see fit, without special application being made to them. It remains to be seen to what extent these provisions are taken advantage of. RIDOUT & MAYBEE.

Gossip.

While the linen weavers of Ireland and Scotland are still manufacturing these fabrics, and it is possible to import them from Ireland and Scotland, unfortunately most of the flax used by our Irish and Scotch friends is purchased by them in Russia. If the war lasts any length of time, it may become impossible for them to get their raw supply of raw materials, and under such conditions a scarcity of linens will force the prices up, but that will come, if it comes at all, in the spring of 1915. Taking advantage of this situation, many importers, jobbers, and retail dealers are already advancing their prices, though they have not had to pay a penny more for the goods they have on hand at present. We have enormous stocks of linens, we have an enormous supply in reserve, and we feel sure we can take care of every demand between now and the first of January at least. Not a penny in advance do we ask for any of these goods we now own, and offer at our present catalogue price.—From an English paper.

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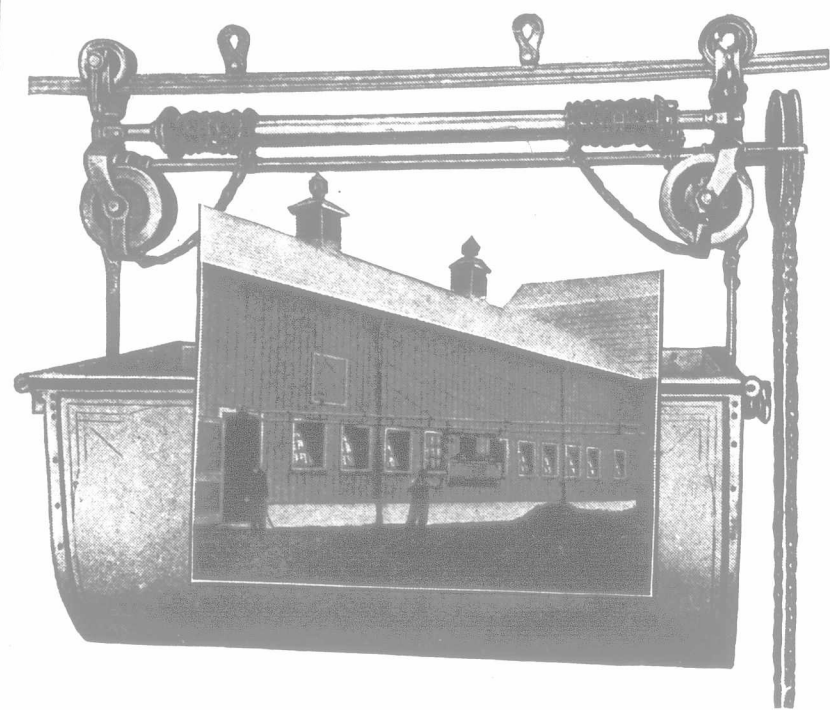
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Questions and Answers. Miscellaneous.

Roosters.

1. Is it advisable to keep the roosters after they are two years old?
 2. I keep a good breed of White Wyandottes, and would like to know if one would get best results by having young male birds?
- W. B.
- Ans.—1 and 2. As a general thing, it is not advisable to keep birds to too great an age. However, where the birds are valuable and good breeders, they often do well after two years and older. Most people prefer young male birds, preferably one-year and two-year birds.

Silo Queries.

1. Is it necessary to have a drain to come from the bottom of silo, any more than the foundation?
2. My silo is to be cement block. Is it necessary to plaster the inside with cement?
3. Have you, or any of your readers, any experience of tarring a silo inside? I am advised to tar instead of plaster.
4. Would you advise a roof or not?
5. How many tons of well-eared corn will a silo hold, 12 x 30 feet?
6. How many cattle would it feed, so as to give them what would be good for them?
7. Is properly-cured silage good for horses, especially mares in foal, and of what amount, mixed with cut straw?
8. Is it necessary to put a strand of wire with every layer of blocks?

SUBSCRIBER.

- Ans.—1. It is better to have a drain open in the center of the silo.
2. Yes.
 3. Have any of our readers had any experience in tarring a silo?
 4. Most certainly.
 5. From 65 to 70 tons.
 6. About 20 head for six months, at 35 lbs. each per day. Of course, this feeding would necessitate the giving of considerable other rough feed.
 7. If the horses are started very carefully on it, it should do no harm. Would advise care in feeding to in-foal mares. Unless the silage is extra choice it should not be fed to horses at all, and then only in small quantities.
 8. Not necessarily so, but the better it is reinforced the stronger the silo.

Ration for Hens.

Would you publish a ration for egg-production? I am not satisfied with the results I am getting. I keep a dry mash in front of laying hens all the time, composed of 200 lbs. bran, 100 lbs. middlings, 100 lbs. corn meal, 100 lbs. beef scrap, 100 lbs. linseed, 35 lbs. alfalfa meal. Their grain ration is composed of 200 lbs. cracked corn, 100 lbs. wheat, 100 lbs. barley, 75 lbs. oats, 35 lbs. buckwheat, 15 lbs. sunflower seed. I allow 1 quart of grain in the morning for each 12 hens, and 1 quart in the evening. They have a green feed at noon composed of rape, plenty of fresh water, grit, and charcoal in front of them at all times. There is no grass in the chicken runs; the hens just get what we feed to them. They have plenty of shade. They are in good condition and look splendid. They are Wyandottes and White Rocks; ages 1 1/2 to 2 1/2 years old. Places are all thoroughly cleaned every day. I shall be very thankful to you if you can improve on this ration, as my hens are not doing well. SCOTIA.

Ans.—About all we see radically wrong with your ration is the omission of green feed. This should be supplied in the form of grass, green oats, roots, cabbage, or some such material. For a summer ration, you cannot do better than scatter whole grain in the litter at night and in the morning. Use wheat, barley, oats, and a little buckwheat and corn. This is not much different from your ration, give, if possible, sour milk to drink, and plenty of green feed and grit. For winter, use the whole grain, feeding the morning feed the previous evening in the litter, and after the hens have gone to roost, stir the litter over, the feed to make the hens scratch and take exercise. Feed green feed at noon, such as mangels, cabbage, or clover hay. Feed whole grain at night in the troughs, and be sure to empty out any that may be left over. Keep rolled oats as a dry mash in hoppers before the hens at all times. Give buttermilk or sour milk to drink.

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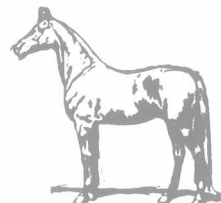
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Questions and Answers. Miscellaneous.

Law Regarding Large Drainage Systems.

Several of the farmers in this locality, with myself, took steps this summer to procure an outlet for the drains which we purposed digging on our farms. The Township Council employed an engineer to take the levels and make an assessment, at a cost of \$200. On the 24th of August a meeting of the persons directly interested was held, when a vote was taken and the scheme was rejected by a vote of 13 to 9. The cost of the whole system of drains was upwards of \$3,000, my share being \$453, or fully one-eighth; against this I made no protest, for I considered that the outlay would pay me. Now what am I to do? I cannot afford to shoulder the cost of the whole drain. My farm is rated at \$12,000. Would it pay to leave a large part of it unproductive for the want of drainage? Every acre made more productive is a distinct asset in the wealth of the country. Governments sometimes undertake the reclamation of tracts with a view to adding to the wealth of the state, then why should private individuals be suffered to keep their neighbors' lands in a state of unproductiveness? Must I remain without an outlet for the excess of water in my land until my neighbors become generous enough to begin draining and thus relieve the situation? At the south-eastern corner of my place where the side-road and the concession allowance intersect, there is a pond cut into four parts by the crossing of the roads. Here the water coming from the high lands, rising towards the east, submerges the land about the corners during a large part of the year. This bog, in my opinion, is a menace to the health of people living in the vicinity, besides breeding millions of mosquitoes during the summer months. In the spring season, although the road-grade is high, it overflows, making the highway well-nigh impassable.

SUBSCRIBER.

Ans.—The construction of this drain in question must come under the Municipal Drainage Act, as the cost for same is in excess of \$1,500. Section 3 of this Act, specifies the requirements necessary to the commencement of the work, and says: "Upon the petition of the majority in number of the resident and non-resident persons (exclusive of farmers' sons not actual owners), etc., etc." Section 18 of the same Act, allows for the withdrawing or receiving signatures of any parties, unfavorable or favorable, to the execution of the work. Understanding these two sections herein given in brief, Section 20 of the Act explains your case.

"Should the petition at the close of said meeting of council contain the names of the majority of the persons shown as aforesaid to be owners benefited within the area described in such petition, the Council may proceed to adopt the report and pass a by-law authorizing the work, and no person having signed the petition shall, after the adoption of the report, be permitted to withdraw; but if after striking out the names of the persons withdrawing, the names remaining, including the names, if any, added as provided by Section 18, do not represent a sufficient number of owners within the area described to comply with the provisions of Section 3, then the persons who have withdrawn from the petition shall, on their respective assessments in the report, with one hundred per centum added thereto, together with the other original petitioners on their respective assessments in the report, be, pro rata, chargeable with and liable to the municipality for the expenses incurred by said municipality in connection with such petition and report, etc., etc."

The majority going against the report, that object is effectually quashed, and you must now bring before the Councils and your Representative, the menace to health and roads that exists in the undrained lands or ponds. Outside of this recourse you have none, so far as we can see, and it will probably be a long time before contiguous land-owners will drain for any philanthropic purpose.

Will Water-Bowls Pay For Themselves?

This was the question asked of the manager of one of the B. C. Experimental Farms.

"Yes," he replied, "mine have. My water-bowls paid for themselves long ago."

"The milk-yield of my 60 cows has increased an average of one quart per cow per day since I put in those bowls," he went on to say. "I keep a record for every cow, so I know what I'm talking about, and if you gentlemen will come in I'll show you. I figure that my water-bowls paid for themselves IN ONE MONTH."

"A farmer should never buy stable equipment without the water-bowls, because the bowls pay for the whole job in a short time. My records prove it."

Water-bowls keep fresh water, at an even temperature, before the cattle all the time, so they never go thirsty on bitter-cold winter days when they can't be driven out to the spring or trough. They can take a little sup every now and then, and get all they require for a maximum milk yield. All the troubles coming from gulping down cold water right after feeding are avoided, and none of the animals lose flesh because of constant fighting and bullying at the watering-place.

Write to Beatty Bros., of Fergus, Ont., for their interesting booklet, "Your Money Back in 90 days," which proves in dollars and cents that the big BT Bowl will pay its cost in less than three months. Also shows how water-bowls must be made deep and heavy, with simple, rust-proof aluminum valves, and simple regulating tank, if they are to give 25 years of faithful service. Sent free for a post card giving your name and address and number of cows you keep. Address, **BEATTY BROS., LIMITED, 149 Hill St., Fergus, Ont.** Beatty Bros.' local agent in any town will be glad to show you the big BT Bowl, and to quote you prices.



KEEP THEM WORKING

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

KENDALL'S SPAVIN CURE

at any druggists at \$1 a bottle, 6 for \$5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. 64

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It stops bleeding and prevents Blood Poisoning. For Sale by all Dealers. Free Sample of request.

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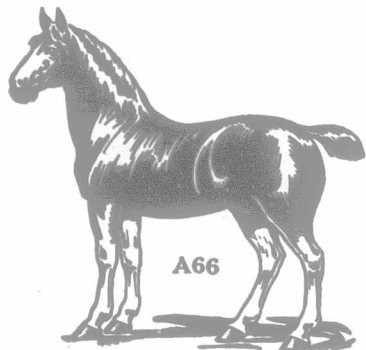
STRONG SLEEK HORSES ready and willing to work—good health, higher prices when selling, if fed on "MAPLE LEAF" Oil Cake Meal
Write to-day for free sample and prices.
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Clydesdales and Shorthorns—Young stallions of superior quality; certain winners at the big shows. Young bulls and some heifers bred from cows milking up to 52 lbs. a day. Come and see them. **PETER CHRISTIE & SON, Manchester P. O., Ont.** Port Perry Station

Make Your Lame Horse Sound, Like This

You Can Do It While He Works.

We want to show you that there isn't any affection that causes lameness in horses that can't be cured, no matter of how long standing. We want to send you our instructive book, "Horse Sense" No. 3.



It describes all. And with the book we want to send you an expert's diagnosis of your horse's lameness. All this is absolutely free. Simply mark the spot where swelling or lameness occurs on picture of horse, clip out and send to us telling how it affects the gait, how long animal has been lame and its age.

We absolutely guarantee Mack's \$1,000 Spavin Remedy to cure Spavin, Bone or Bog Spavin, Curb, Splint, Ringbone, Thoroughpin, Sprung Knee, Shoe Boll, Wind Puff, Weak, Sprained and Ruptured Tendons, Sweeny, Shoulder or Hip Lameness and every form of lameness affecting the horse. We have deposited One Thousand Dollars in the bank to back up our guarantee. Cures while he works. No scars, no blemish, no loss of hair.

Your druggist will furnish you with Mack's \$1,000 Spavin Remedy. If he hasn't it in stock, write us. Price \$2.50 per bottle, and worth it. Address McKallor Drug Co., Binghamton, N. Y.

Lyman Bros. Co., Ltd., Toronto, Ont. Distributors to Drug Trade

Don't Sell the Young Calf

BLATCHFORD'S CALF MEAL Will Raise It Without Milk

There's big money and little trouble for you in raising your calf the Blatchford way. You save all the milk of the cow for market. As soon as the mother cow's milk is ready to sell, the calf is ready for market. **BLATCHFORD'S CALF MEAL**—For over a century the recognized Milk Food for Calves, at One-Fourth the Cost of Milk. Composed of eleven different ingredients carefully apportioned and thoroughly cooked, producing a scientifically balanced ration for the young calf. Successfully used on thousands of American farms for over 30 years. **The Only Milk Equal Made in an Exclusive Calf Meal Factory. Unlike any of the So-Called Calf Meals Made of Raw Cereal By-Products.** Write for Free Illustrated Book on "How to Raise Calves Cheaply and Successfully Without Milk." **BLATCHFORD'S CALF MEAL FACTORY** Steele Briggs & Co., Waukegan, Ill.

Shorthorns and Lincoln Sheep—Three bulls, 11 months, a number of younger cows with their calves, cows in calf and yearling heifers for sale. Good individuals. Good pedigree. Inspection solicited. Nine Lincoln ewes, 13 lambs, one imported ram. The following in show condition: Two-year-old and yearling ram, also four yearling ewes. J. T. GIBSON, Denfield, Ont.

Spring Valley Shorthorns Herd headed by the two great breeding bulls, Newton Ringleader (Imp.) 73783, and Nonpareil Ramden 83422. Can supply a few of either sex. **KYLE BROS.** Drumbo, Ont. Phone and Telegraph via Avr.

Shorthorns For Sale 3 bulls from 9 to 12 months, 2 young cows soon to freshen 3 two-year-old heifers choicely bred and from heavy milking strain. Prices easy. **Stewart M. Graham, Lindsay, Ont.**

Oakland 53 Shorthorns Parties wishing to purchase good dual purpose Shorthorns should inspect our herd of breeders, feeders and milkers. One right good bull for sale, a sure calf-getter; good cattle and no big prices. **JNO. ELDER & SONS, HENSALL, ONTARIO**

Shorthorns Young bulls and heifers of the best type and quality; reds and roans; growthy; good stock from good milking dams. **THOMAS GRAHAM** R. R. No. 3 Port Perry, 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.**

Questions and Answers. Miscellaneous.

Napoleon's Statement.

Which statement, credited to Napoleon after his downfall, is right?

1. If he had English Generals to lead his French troops he could whip the world; or,
2. If he had French Generals to lead English troops he could whip the world.

J. M.

Ans.—We believe the latter is correct.

Musty Hay.

My new hay is unaccountably musty, and has given one of our horses a touch of heaves. Can you advise me anything to do to obviate this? Would sprinkling salt over it do any good?

A. E. H.

Ans.—As the hay is already dusty, about all you can do is dampen all of it with lime water to prevent injury to horses eating it. The salt, to be of value, should have been put in with the hay.

Water Supply.

As I have seen many questions relating to water-tanks and windmills in "The Farmer's Advocate," of which I am a constant reader, I would like to ask a few questions. I am bringing the water to my barns with a windmill. To start, it has to climb a hill, I should say, 20 feet high; then down-hill to stable. Would you advise putting mill over spring, or putting mill about half-way from spring to tank? I am putting a tank in the ground on hill, about 225 feet from spring, then use taps in stable. What kind of a tank would you advise using? Also what size pipes to use? What size tank would it take to hold water enough for three days' supply for 35 head?

W. A. F.

Ans.—A good tank could be built of cement, with the walls five inches thick at the bottom and four inches thick at the top. Wash the inside with cement plaster. A round tank six feet in diameter and six feet high, should hold enough for the stock, but it might be advisable to make it a little larger to be sure of never running short of water. We have inch-and-a-quarter pipe at Weldwood, and it works satisfactorily. The windmill should work all right placed at the spring or on the raise. Some prefer placing it at the spring.

Pumping Water.

An desirous of putting water into my stables, obtaining the supply from a spring one hundred yards distant from and about twenty feet below the level of the stables, in ravine or gully, the bottom of which is marshy land. I have a one-horse power gasoline engine in the stable, and would like to draw the water up with it if such is practical, as it would save expense in buying a windmill. Could I do so successfully, or would it be more advisable to put a windmill on the edge of the ravine, thus drawing the water part way and forcing it the balance of the way? What height can water be successfully raised by means of a suction-pump such as I would have to use? Do different distances horizontally make any difference to the power required?

G. O.

Ans.—The same principles apply in this case as in pumping water from a well straight below the pump, only having such a long pipe to the spring you must be very sure that the joints are screwed together tightly enough to make the pipe air-tight. Theoretically, suction will lift water 32 feet, but since it is not possible to make a pump which will produce a perfect vacuum, it is found by practical experience that the sucker of the pump ought to be not more than 25 feet vertically from the level of the water.

As your stables are within 20 feet of the water level, the plan you suggest should work all right. The horizontal distance of the pump from the spring makes no difference in the working of the pump, provided the pipes are air-tight, except that it is slower to start because of the amount of air to be pumped out of the pipe before the water can come. It will require a shade more power to pump through 100 yards of pipe than to pump from a well straight below the pump. However, your one-horse power engine will be plenty strong enough to do the work.

W. H. D.

\$1

O. K. CANADIAN COW STANCHIONS

Improved manufacturing facilities and a fortunate purchase of a quantity of steel at a very low figure enable us to offer these Stanchions at \$1.00, instead of \$1.50, as formerly, until this supply of steel is exhausted.

The Stanchions are made in *exactly* the same way and of *exactly* the same material as before. They have *not* been cheapened in quality in order to lower the price.

These Stanchions are made of high quality U-Bar steel, they have the high hinge and clevis that prevent the bar's falling to the ground and make a stronger Stanchion. They have the simple, secure, O. K. Canadian lock that no cow can open.

The price of \$1.00 can only be maintained while this supply of steel lasts. Your order should reach us soon. We will quote prices on complete metal stalls if you will write us how many cows you keep.

CANADIAN POTATO MACHINERY CO., LIMITED

DEPT. C

GALT, ONT.

We have a full line of BULLS AND FEMALES

on hand. We have nothing but the best Scotch families to chose from. Our cows are good milkers.

A. F. & G. Auld, Eden Mills, P.O.

GUELPH 5 MILES. ROCKWOOD, 3 MILES

100 Escana Farm Shorthorns 100

For sale, 25 Scotch bull calves from 6 to 12 months; 25 Scotch heifers and young cows bred to Right Sort, imp., and Raphael, imp., both prizewinners at Toronto.

MITCHELL BROS., Props., Burlington P.O., Ont. Jos. McCrudden, Mgr. Farm 1/4 mile from Burlington Junction.

SHORTHORNS I have ten young Shorthorn bulls, some fit for service now. Part of them are bred and made so that they are fit to head the best herds in any country: some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have SHROPSHIRE and COTSWOLD rams and ewes of all valuable ages. Write for what you want. I can suit you in quality and price.

Robert Miller, Stouffville, Ontario

Willow Bank Stock Farm Shorthorns and Leicester Sheep. Herd established 1855; flock 1848. The imported Cruickshank Butterfly Roan Chief=60865= heads the herd. Young stock of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imported sires and dams.

James Douglas, Caledonia, Ontario

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, Ont.

SHORTHORNS Scotch Bates and Booth, yes, we have them pure Scotch, pure Booth and Scotch-topped Bates. Young bulls of either strain. Heifers from calves up. One particularly good two-year-old Booth bull, ideal dairy type.

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Oakville, Ontario

IRVINE DALE SHORTHORNS Herd is headed by Gainford Select (a son of the great Gainford Marquis). A number young bulls of choice breeding and out of good milking strains. Also a few heifers.

J. WATT & SON, SALEM, ONTARIO

ELORA STATION

BELMONT FARM SHORTHORNS We are offering 20 heifers from 1 to 3 years, daughters of the 1913 Toronto Grand Champion, Missie Marquis 77713. Scotch and Scotch Topped, several of them show heifers.

FRANK W. SMITH & SON, Scotland Station, T. H. & B. L. D. Phone.

Springhurst Shorthorns Shorthorn cattle have come to their own; the demand and prices are rapidly increasing, now is the time to strengthen your herd. I have over a dozen them very choice. Bred in my great prize-winning Harry Smith, EXETER STN. Only one bull left—a Red, 18 months old.

SHORTHORNS and CLYDESDALES We have a nice bunch of bull Sept. and are offering females of all ages; have a choice lot of heifers bred to Clansman =87809=, One stallion 3-years-old, a big good quality horse and some choice fillies all from imported stock.

A. B. & T. W. Douglas,

Long-distance Phone

Strathroy, Ont.

10 Shorthorn Bulls, 9 Imported Clydesdale Mares Our bulls are all good colours and well bred. We also have Shorthorn females of all ages. In addition to our imported mares, we have 7 foals and yearlings. Write for prices on what you require.

Bell Phone Burlington Jct., G.T.R., 1/4 mile.

W. G. PETTIT & SONS, Freeman, Ontario

Blaigowrie Shorthorn, Shropshire and Cotswold Sheep—This stock is all Bulls ready for service. Cows with calves by side. Cows and heifers ready to calve. In sheep there are shearing and ram lambs ready to head good flocks, also a number of good ewes.

JNO. MILLER, Jr., Ashburn, Ontario

Scotch—SHORTHORNS—English—If you want a thick, even fleshed heifer for cows with calves at foot, or a thick, mellow, beautifully-fleshed young bull, or a right good milker bred to produce milk, remember I can surely supply your wants. Come and see.

Myrtle, C. P. R.; Brooklin, G. T. R.

A. J. HOWDEN, Colomus P. O.

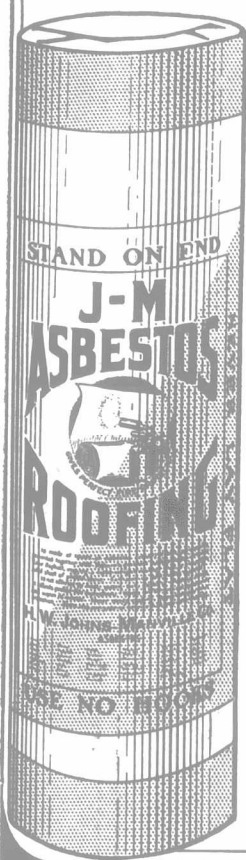
SALEM SHORTHORNS Herd headed by the undebated champions, Gainford Perfection and Lavendar Scot. Will sell fifteen heifers, and fifteen young bulls, at prices you can afford to pay.

J. A. WATT

ELORA, ONT.

Buy Roofing as You Buy Seed

YOU wouldn't think of buying seed from a company you knew little about or because of low price—



You have too much at stake to take a chance—you must be sure of results!

Roofing—like seed—is only safe to buy when offered by a company in which you can place absolute confidence.

J-M ASBESTOS ROOFING "The Roll of Honor"

is manufactured by a concern that has been in existence for over half a century—that has a reputation for honest dealing that is country-wide and has never been known to willingly permit a single customer to be dissatisfied.

J-M Asbestos Roofing is made of the best materials that money can buy—fire-resisting and practically imperishable pure Asbestos fibre and Trinidad Lake Asphalt—the world-famous water-proofing. It never needs coating.

J-M Regal Roofing has proved its merit through years of dependable service.

J-M Transite Asbestos Shingles give you a fireproof stone roof that is artistic and permanent.

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Manufacturers of Asbestos Stucco; Pipe Coverings; Cold Storage Insulation; Water-proofing; Sanitary Specialties; Acoustical Correction; Cork Tiling, etc.

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WINNIPEG VANCOUVER



Riverside Holsteins

Herd headed by KING JOHANNA PONTIAC KORNDYKE, a grandson of PONTIAC KORNDYKE, and a brother of PONTIAC LADY KORNDYKE, 38.02 lbs. butter in 7 days, 156.92 lbs. in 30 days—World's records when made.

J. W. Richardson : R.R. No. 2 : Caledonia, Ont.

FAIRVIEW FARMS

Can furnish you a splendid young bull ready for immediate service, and sired by such bulls as PONTIAC KORNDYKE, the greatest producing sire of the breed, and also the sire of the greatest producing young sires of the breed; one of his sons already has six daughters with records above 30 pounds, RAG APPLE KORNDYKE 8TH, now heading our herd, and a few by a good son of PONTIAC KORNDYKE, and out of officially tested cows. Come and look them, and the greatest herd of Holsteins you ever saw, over, or write just what you want.

E. H. DOLLAR, Heuvelton, New York (Near Prescott, Ont.)

LAKEVIEW HOLSTEINS

Senior Herd bull—Count Hengerveld Fayne De Kol, a son of Pieterje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segis, whose sire is a son of King Segis Pontiac, and whose dam is 27-lb. three-year-old daughter of a 30-lb. cow. Write for further information to

E. F. OSLER, BRONTE, ONT.

Holstein Cattle (Prince Hengerveld of the Pontiacs, herd sire)

Stock for sale. Large herd to select from.
HAMILTON FARMS - ST. CATHARINES, ONT.

SUNNY HILL HOLSTEINS

Herd sires, Pontiac Segis Avondale, grandson of King of the Pontiacs; 8 of his mature dams average over 30 lbs. butter in seven days. Pontiac Wayne Korndyke whose dam, sire's dam and ten sisters of sire average over 31 lbs. in seven days. Bull calves for sale.
WM. A. RIFE HESPELER ONT.

Glenhurst Ayrshires ESTABLISHED OVER 50 YEARS AGE and ever since kept up to a high standard We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants.
James Benning, Williamstown, Ont
Summerstown Stn., Glengarry

STONEHOUSE AYRSHIRES

Are a combination of show yard and utility type 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.

Brampton Jerseys We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show ring. B. H. BULL & SON, BRAMPTON, ONTARIO.

Gossip.

HEREFORDS AT THE MAPLES.

W. H. & J. S. Hunter, sons of the late W. H. Hunter, so long and favorably known as one of Canada's leading breeders of Hereford cattle, are carrying on the work of breeding the great white-faced heifers. That their early training is standing them in good stead is very evident by the splendid success they have had at the Toronto, London and Ottawa shows of late years, and the careful fitting their entries have shown. That the herd is a strictly high-class one, may be gleaned by the mention of a few of the many good ones that go to make up the large herd as it is constituted at the present time. Chief stock bull in service is Bonnie Brae 49th, junior champion at Toronto for two years, and first-prize senior yearling all through the West this year. Assisting him in service is Roxie's Laddie, winner of first prize at Ottawa in 1913, and first-prize senior yearling at Toronto this year. The majority of the younger things in the herd are the get of the Toronto first prize, Beau Magister. The female breeding end of the herd is up to an equally high standard. All of the breeding cows are past winners, and all have bred winners. Among the younger ones are such toppers as Sweetheart, second at Toronto, first and champion at Ottawa, and first at Guelph, 1913; Nancy Canoe, winner at both Toronto and Ottawa; Miss Grey, first-prize junior calf last year all through the West; Ann Donald, an international winner, and many others of equal fame and quality. The highest-priced Hereford cow ever sold in Canada, Nora Fairfax (\$1,800), went from this herd last year. High-class young bulls and heifers for sale.

HALEY BROS.' HOLSTEINS.

Too well known to need any comment, the high-class character of the Springfield herd of R. O. M. Holsteins owned by Haley Bros., of Springfield, Ont., is appreciated wherever Holsteins are known and admired in Canada. A word or two regarding the sires in use on the herd in recent years may not be amiss. Until recently the chief sire was the intensely-bred Grace Fayne 2nd's Sir Colantha. The records of his dam and sire's dam were: Seven days—Butter, 30.76 lbs.; milk, 664.35 lbs. Thirty days—Butter, 122.93; milk, 2,698.80. The daughters of this bull are proving a repetition of their illustrious grandams. Then was used for some time the grandly-bred sire of high-class show stock, Sir Homewood Aaggie De Kol. This fall, at Toronto, his get won for Haley Bros., second, third, and fourth, on junior heifer calves; and junior championship bull, and at Ottawa, first on junior and senior heifer calves, and first on junior bull calf. Principal in service now is Butter Baron, a son of Queen Butter Baroness, record 33.177 lbs. His sire's dam was the great cow, Lady Aaggie De Kol, record 27 lbs., and winner of the dairy test at Guelph for two years in succession. He is the only Canadian-bred bull whose dam and sire's dam, both Canadian-bred, have records averaging over 30 lbs. This year, at both the Toronto and Ottawa shows, the winners from this herd were practically all bred there, something that does not often happen, especially with such a long string of wins as came to the herd at Toronto, and the practical sweep at Ottawa. Haley Bros. have some especially attractive offerings in young females, and some extra richly-bred young bulls. Write them your wants.

Questions and Answers.

Miscellaneous.

To Find Size of Pulley.

What size of pulley will I need on engine to run a three-horse separator for thrashing? Engine runs 400 revolutions per minute. A. A. Ans.—To find diameter of engine pulley required, proceed as follows: Multiply the speed of the separator by the diameter of the pulley on the separator and divide by speed of the engine. Fifteen hundred revolutions per minute is probably about the right speed for the separator, and let us suppose that the pulley of the separator is 6 inches in diameter, then the diameter of pulley for the engine would be 1,500 ÷ 6 × 100 = 22½ inches. W. H. D.

Ploughs—Wilkinson

TRADE MARK REGISTERED
U.S.S. Soft Centre Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel landsides and high carbon steel coulters. Clevises can be used either stiff or swing. Each plough is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plough. Shares of all widths—specials for stony or clay land. The plough shows turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for catalogue.
The Bateman-Wilkinson Co., Limited
411 Symington Ave., Toronto, Canada.



Cotton Seed Meal

GOOD LUCK BRAND is guaranteed with the Dominion Government to contain 41% protein. It is an ideal feed for dairy cattle, and will save you money this winter. Try it with those dairy cows and watch their records increase.

PRICES: In ton lots, \$1.80 per 100
1/4-ton lots, \$1.85 per 100
F.o.b. Toronto 500-lb. lots, \$1.90 per 100

Terms Cash With Order

CRAMPSEY & KELLY
Dovercourt Road Toronto

Maple Grove Holsteins

Do you know that Tidy Abbekirk is the only cow in the world that produced three sons who have each sired 30-lb. butter cows, and two daughters with records greater than her own. She was bred, reared and developed at Maple Grove. Do you want that blood to strengthen the transmitting power of your herd, at live and let live prices, then write: H. BOLLERT
TAVISTOCK, ONT. R.R. No. 1.

Holstein-Friesian Association of Canada

Application for registry, transfer and membership as well as requests for blank forms and all information regarding the farmer's most profitable cow, should be sent to the Secretary of the Association.

W. A. CLEMONS, St. George, Ontario

Woodbine Holsteins

Young bulls and bull calves, sired by Duke Beauty Pieterje; sire's dam's record 32.52 lbs. butter, and his two grandams are each 30-lb. cows, with 30-b. daughters, with 30-lb. granddaughters. Three generations of 30-lb. cows. If you want a bull that will prove his value as a sire, write: A. KENNEDY & SON, R.R. No. 2, Paris, Ont. Stations: Ayr, C.P.R.; Paris, G.T.R.

3 Holstein Bulls

Ready for service, and 5 younger; 40 females, R. O. M. and R. O. P. cows and their calves to choose from. Four ponies and 2 two-year-old Clydesdale stallions.

R. M. HOLTBY,
Phone. R. R. No. 4, PORT PERRY, ONT.
Manchester and Myrtle Stations.

The Maple Holstein Herd

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves born after Sept. 1st, 1913. All sired by Prince Aaggie Mechthilde and from Record of Merit dams. Prices reasonable.

WALBURN RIVERS
R. R. No. 5 Ingersoll, Ont.

Ridgedale Holsteins For Sale—Only 1 young bull, smooth and straight, richly bred, closely related to our champion cow. Also our aged stock bull, Imperial Pauline De Kol, No. 8346, very sure and quiet. Myrtle Sta., C.P.R.; Manchester Sta., G.T.R. R. W. Walker & Sons, R.R. No. 4, Pt. Perry, Ont.

Holsteins, Yorkshires and Cotswolds

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Look up this year's record at the shows. Breeding stock of all ages for sale.

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The oldest established flock in America. We exhibited for 30 years and held the Champion Flock until 1908, when we decided to cease showing. Our present offering is a few superior flock headers, also an imported 4-year-old ram, bred by J. T. Hobbs; first and champion at Toronto, 1911. Also 70 superior yearling ewes and a splendid lot of this season's ram and ewe lambs by imported sire; all registered. Prices reasonable.

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DORSET HORN SHEEP

Present offering: 3 yearling rams, 12 choice ram lambs, 6 yearling ewes and a few ewe lambs. My flock had the champion ram and ewe at Toronto and London Fairs, 1914. Write for prices. J. A. Orchard, Shedden, Ont. M.C.R. and P.M. Ry.

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Ram and ewe lambs for sale, sired by Adams 77. Imported by Wm. Cooper & Nephews, Chicago; of good type and quality.

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I have shearing rams up to 250 lbs. of show-ring quality, got by a Hobbs bred ram that was 2nd at the Royal; their dams were by a Stigo bred ram. Also very choice ram lambs. R.J. HINE, R.R. No. 2, St. Mary's, Ont.

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Young stock of both sexes in Dorset Horn and Shropshire sheep, and in Swine Poland Chinas, Duroc Jerseys, Berkshires and Chester Whites. Also Seed Corn, all varieties. Consult me before buying.

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Bred from the prize-winning herds of England. Have 12 young sows bred to farrow in Sept. and Oct., dandies, and also a number of boars fit for service. Also choice cows and heifers of the very best milking strain. Chas. Currie, Morrison, Ont.

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Choice young sows; bred for September and October farrow. Also a nice lot of boars. Write for particulars and prices.

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Twenty-five sows bred for fall farrow; a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old out of high-producing dams. Mac Campbell & Son, Northwood, Ont.

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Thirty cows bred for fall farrow; boars ready for service; young stock of both sexes, pairs not akin. All breeding stock imported or from imported stock from the best English herds.

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Both sexes and all ages; from imported stock. Prices reasonable.

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Last fall and winter shows' champions, male and female, as well as many lesser winners, are now breeding in our herd; young stock, both sexes, any age. W. E. Wright & Son, Glanworth, Ont.

TAMWORTH AND BERKSHIRE SWINE AND SHROPSHIRE SHEEP

Pairs of Tamworths supplied not akin. Choice Berkshire pigs all ages. An extra fine lot of Shropshire lambs bred right. Prices reasonable. Write or call. R.R. No. 1, Corbyville, Ontario, W. A. Martin & Sons

Gossip.

KELSO AYRSHIRES.

For many years a few notes of recommendation of the noted Kelso herd of Ayrshires, owned by D. A. Macfarlane, of Kelso, Que., have appeared in these columns, and the writer is free to admit that never before has he felt more satisfied in penning lines of commendation on superior individual merit and producing ability of the herd as a whole than this year of grace, 1914. It was a fortunate stroke of judgment that decided Mr. Macfarlane to purchase as head of the herd Imp. Scottish Thistle. He has proven a sire of exceptional merit. His heifers are growthy, level, full of quality, and give promise of great things in production. This year a considerable number of those in milk are running in the official R. O. P. test. For some time after freshening, Imp. Garcloth Rosebud gave 65 lbs. a day, and the others from 50 to 57 lbs. The result of the year's test should place the herd among the best as producers. Mr. Macfarlane intends to go on with the testing as fast as they freshen. Many of these same cows have won leading awards at the big shows, notably at Ottawa, and only the other day, Lady May of Kelso was first in the Canadian-bred cow class among a large line-up of good ones. Mr. Macfarlane has always some choice ones to offer of any desired age; also young bulls. Write him your wants, as he is situated in one of the strongest Ayrshire districts in Quebec, and can find something for you if he does not happen to have it.

J. E. ARNOLD & SON'S PERCHERONS

This year has seen a pretty thorough clean-up of the awards offered for Percheron, Shire and Belgian horses at the big Quebec shows, by the high-class entry of J. E. Arnold & Son, of Grenville, Que., importers and breeders of the above-mentioned breeds, as well as a limited number of Coach and Standard-breds. Some idea of the high-class quality of the horses imported by the Messrs. Arnold can be gleaned from the following report of their winnings this fall at Sherbrooke, Quebec, and Three Rivers. In the class for Percheron stallions four years old and over, Roscoe L. (imp.) 3477, a low-set, splendidly-balanced black eight-year-old, was first at Sherbrooke and Quebec; Kainos (imp.) 3896, a stylish, smooth, upstanding gray four-year-old, was second at Sherbrooke, first at Three Rivers, and fourth at Quebec; Kyste (imp.) 3898, another big gray four-year-old, was second at Three Rivers and fourth at Sherbrooke and Quebec; Loin (imp.) 3901, a gray three-year-old of high-class quality throughout, and one of the best three-year-olds seen out this year, was first all around, and champion over all ages and winner of the silver trophy presented by the Percheron Society at Sherbrooke and Quebec. Lurz (imp.) 3900, gray, three years old, a horse of more scale, was second at Quebec and Three Rivers, and third at Sherbrooke; Chancellor (imp.) 3479, gray, three years old, was third at Quebec and Three Rivers, and fourth at Sherbrooke. These winnings are all the more noteworthy when it is remembered that the classes were large, from eight to ten being out for comparison. Besides the above, other winnings for the Grenville stables were first and championship on the Belgian stallion Due (imp.) 616, a chestnut, three years old; first and championship on the Shire stallion, Jolliet General (imp.) 1016, a bay three-year-old carrying the form and quality that Canadians like; first and championship on Percheron mare. These horses have all been in Canada for a year, are thoroughly acclimatized, and in the pink of condition. Mr. Arnold can show a limited number of French Coaches and Standard-breds. It seems unnecessary to repeat that one result of the present war will be the entire prohibition of the exporting of horses from France for some years, so that the stallions now for sale in Canada will be the only available supply, and parties wanting one will certainly be consulting their own interests to make purchases at once. Anyone visiting Mr. Arnold's stables at Grenville, Que., will find a big selection, and one that will please. Grenville is on the North Shore Line of the C. P. R., between Ottawa and Montreal.



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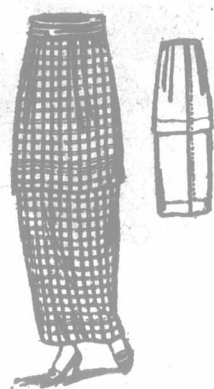
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