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

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Vol. XLIX.

LONDON, ONTARIO, JULY 30, 1914.

No. 1140

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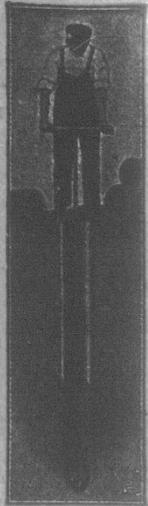
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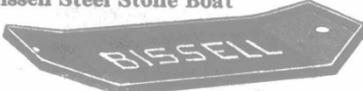
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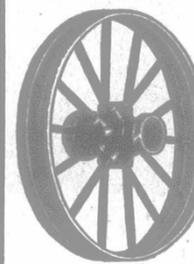


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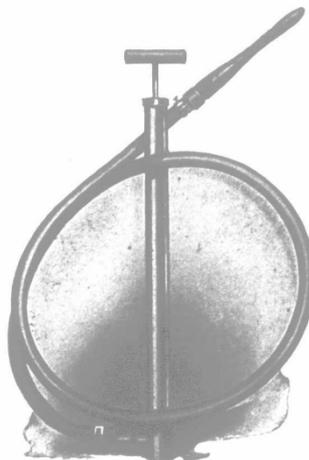
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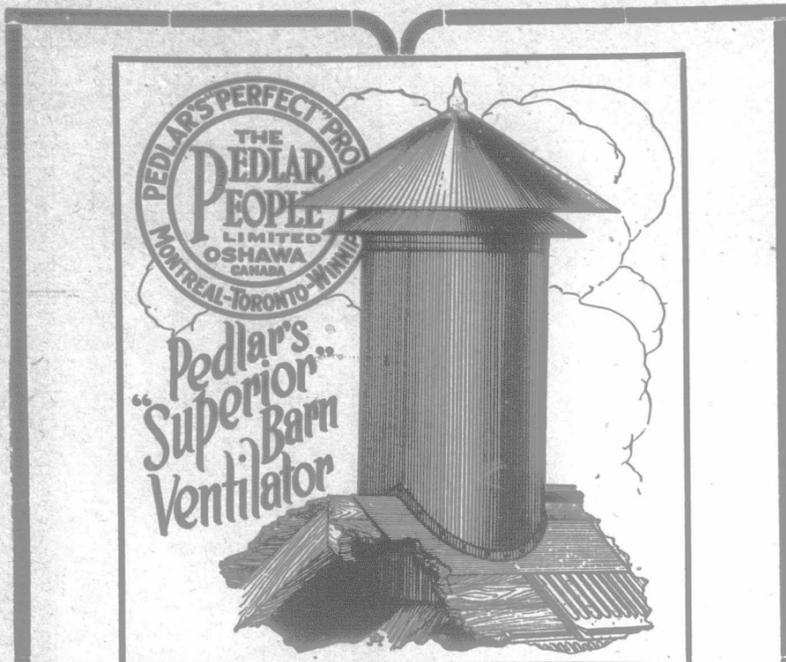
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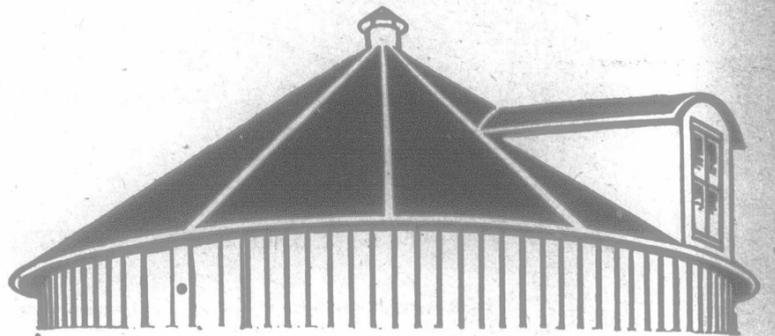
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If, however, you have a light hay crop but have silage to feed your cows, you won't have to buy any hay or sell some of your cows because you haven't enough feed, because you can feed them silage if you have a silo, and not only will they give a good deal more milk than they would on a hay ration, but you will find that they will come out in good deal better shape in the spring.

Another big advantage in raising and feeding silage is that you can keep more cows on the same number of acres, and derive a larger profit from them.

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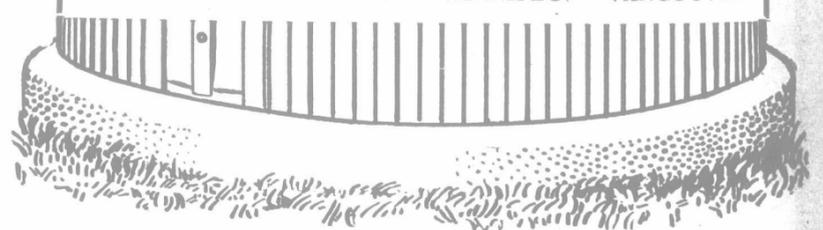
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EDITORIAL

A great many people are looking for a job with the work left out.

Uncle Bije says the trouble, with a lot of folks is that they do not like to sweat.

Recent army worm outbreaks again emphasize the necessity for farmers to stand together against all foes.

The hay crop was light, but in most sections the weather was dry and we never saw better hay made in so short a time.

Never did we see better prospects for mangels. This crop seems to enjoy heat, and stands drouth well if frequently cultivated.

Unless all signs fail cattle for beefing purposes will be scarcer this fall than for many years, and the finished beef next spring will be correspondingly hard to pick up.

From experience last year and for some years previously it would seem that early spring sowing of fall wheat produced the best yields. Now is the time to be getting the land ready.

If the government has a few millions of dollars lying idle, as in prospect, why not invest them in schools for industrial and technical education, including agriculture, rather than in institutions for the promotion of militarism?

The deep significance of a hundred years of peace between Great Britain and the United States is long in reaching the consciousness of some of our military statesmen. One might suppose they were preparing for a hundred years of war.

A hostile army has invaded several portions of our country in the form of the army worm. Such as these are the real enemies of the land, and all the military paraphernalia is helpless to drive out the invaders. Knowledge and reason must be appealed to.

Some of the old meadows produced a very light crop this year, which was mostly Canadian blue grass. These are not likely to be good fields of hay next year if left, but if plowed right away and the top kept well cultivated they may be turned into after-haying summer-fallows to good advantage.

The recent serious outbreaks of the army worm in several sections of Ontario only serve to drive home the necessity of keeping a watchful eye on all parts of the farm. And watching is not all that is necessary; quick action is imperative. It is the man who sees a thing and does it that succeeds.

When one sees the hayloader loading hay and the fork or slings unloading it, and turns in another direction and sees the self-binder cutting and tying the crop and carrying it into rows, and looking in another direction beholds the two-row corn cultivator cleaning the corn by strokes in both directions, made possible by the corn being planted in rows each way by the check-row planter, he is forced to conclude the farmer's up-to-date implements and machinery are his best friends in these days of few hired men.

Corn, The Crop of Crops

In travelling over the country from year to year many changes are noted in crops and cropping. Perhaps most conspicuous of all to the casual observer is the rapid increase in the acreage of corn and mangels, and the gradual, almost rapid, decrease in Swede turnips. Corn is now the main feed crop on hundreds of farms in Ontario where the Swede turnip formerly was relied upon to bring the cattle through the winter in a healthy and thriving state, and the mangel crop is fast crowding the remnant of the turnip acreage off the farms. It is no uncommon occurrence to see fields of anywhere from six to fifteen acres of corn with a strip of from two to five acres of mangels at one side, where, under former conditions, the large acreage would have been turnips and Swedes with only a small strip, possibly an acre and a half, mangels. There are two good reasons for the change. Corn has demonstrated that it is the crop that produces feed in greatest abundance and not only in largest quantity but at less expense than roots, therefore, the far-seeing farmer has erected a silo and grows corn. He gets good feed, plenty of it, and his labor bill for his hoed crop is cut in half. Why shouldn't he grow corn? Mangels, as a general thing, outyield turnips, are sown and hoed earlier and are generally preferred for feeding milk cows and young stock, and so, too, they have rightfully shoved the good old turnip crop down into a smaller corner. On your next trip over a long or short distance just recall the crops of a few years ago and compare them with those of to-day, and note how the live-stock farmer is keeping abreast of the times and changed conditions which demand changes on the farm.

The Six-o'Clock Man.

Did you ever notice that the man who sits on the fence for ten minutes waiting for the hands on his watch to get around to seven o'clock before he starts the day's work on the farm, and the man who would unhitch his horses at the far end of the field when the bell or whistle announced the hour of six p.m., are usually the poorest men in the field between the hours of seven and twelve and one and six? No man who is taking the interest he should in his farmer employer's work is so particular to a few minutes morning or evening. Do not think for one moment we are advocating long days. Not at all. As a general practice they are a detriment to progress; but at this season of the year conditions may arise which make it necessary for the best interests of the farmer and his men in getting the crop harvested to work a few days a little early or an hour late. Only a few such days may or should arise on a well-managed farm. It is not often necessary to draw in longer than ten hours, and reaping is a short work on most Eastern farms, but it may be that a certain field is in fine condition to go in the barn, and in fact may be all harvested but a load or two at six o'clock. The wind may be blowing damp from the southeast with an overcast sky threatening a heavy rainfall. The six-o'clock-under-all-conditions man lays down his fork and quits. Unless other willing workers are plentiful the remaining two loads gets soaked, possibly partially spoiled. Here is where a good system which should show in some cases a little more elasticity is overstretched. On the other hand no one can blame men for not wanting to

work from daylight until dark. Just be reasonable. Quit at six as a general rule, but do not object to an hour or two later if conditions demand it.

Too Much Farm and Too Few Men.

You have read time and again that the labor question and the falling off in rural population is fast becoming a very serious matter in this country, and yet while you have had help within your family or were able to hire efficient labor to do the work, the real serious side did not present itself. Nevertheless it is serious, far more so than many believe and unless a remedy is found agriculture must suffer, and if agriculture suffers in a country like this everybody feels the result. It is simply a question of too much farm with too little help on a large percentage of Ontario farms to-day. One-hundred-acre farms are being operated by the owner with the help perhaps of a little boy and an odd day's work. Two hundred and two-hundred-and-fifty-acre farms are only half worked in many cases by the owner with one hired man engaged for a few months in the summer. This cannot go on without injuring the yearly returns. True, labor-saving implements and machinery are doing much to get over the scarcity of hired help, but they cannot do it all.

There seems to be two wrongs, and it is an old saying that two wrongs never make a right. First, the hiring system on many farms is wrong, and second, the men available are not always the kind that the farmer could put up with for long. There are many good and worthy men to be hired, but not nearly enough to go around, and of the few of the out-of-work class in the cities who do drift out to the farms, too many would rather be summer boarders and walking bosses than farm laborers getting a fair wage with good bed and board. The man who has to be coaxed to go on a farm or driven to it by sheer privation and want is not often a first-class man. He wants about five big meals a day, a long sleep, a short working day, and all the nicest jobs on the ranch, while the boss does the dirty and heavy work. This class of man is no use to the farming community. The problem is to get the good men to do farm work, and here is where the farmer must do his part. Give yearly employment, and plan operations so that the hired man is a profitable investment winter and summer, and besides provide a comfortable little cottage for the man, and encourage him in his work on the farm. Do this and it will induce good men to take up farm work, and nothing but the good men are profitable. Let the soup kitchens feed the loafers, and the farm provide steady employment for the industrious. More men must be had or smaller farms must result.

Big Tasks for Big Men.

It has been computed that by the end of the year over 200,000 men in Canada will be needing employment, with the grim outlook before them of starvation or deportation to the overcrowded and hopeless lands from whence they came. This, if a correct forecast, is surely an astounding condition of affairs. The country has been spending vast sums in the development of a system to promote immigration of a supposedly good class of people. We have untold millions of acres of fertile land, some timbered, others prairie needing settlement. Thousands upon thousands of acres of farm land in old Can-

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JOHN WELD, MANAGER.

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ada is being laid down to grass, and is not producing one-half the crops and products of which it is capable for lack of help. The world and the cities in particular are clamoring for food which the farms and orchards and gardens might produce if only they were populated with willing hands. Are our governments, Federal and Provincial, going to confess their incapability to grapple with such a problem? Have they no alternative to place before these people in the vast land of hope and opportunity, but to weakly dump them overboard? If confirmed paupers, criminals or diseased, that their own lands should have cared for, the case is different, but for others there is land to clear and work, roads to construct, drainage to be done, and homes to be established under Canadian conditions. Here are great tasks ready to hand for the 20th century statesman.

Nature's Diary.

A. B. Klugh, M.A.

Few insects are more abundant and few are more destructive than the locusts. Year by year they make away with an immense amount of vegetation, and in some localities they increase so much in numbers as to constitute a veritable plague. It is true that we in Canada have never been visited by the immense swarms of Rocky Mountain Locusts which have on several occasions devastated Kansas and other Western States, but we have had in many localities "Grasshopper Years," the memory of which is far from pleasant. The places in which these plagues have occurred are not the well-tilled agricultural districts, but localities in which there is some farm land but a large amount of waste land. This is so because the main breeding grounds of the Locusts are in dry, waste land. The eggs are deposited in such soil in the fall, consequently if land is ploughed they are destroyed.

One very dry summer in North Frontenac the Red-legged Locusts increased so tremendously in numbers that they cleaned up the hay and grain, ate all the garden stuff, stripped the leaves off the bushes and low trees, and even chewed the wood of the fences, barns and other unpainted surfaces. In an attempt to provide some fodder for winter some sowed corn and any of the

grains which were left on the surface were eaten into until they were shaped like an old molar tooth. By the time the corn came up the plague was practically over and it made fair growth before late fall. Many who were unable to import baled hay lost nearly all their stock that year from starvation.

Speaking of the Rocky Mountain Locust, Kellogg says: "One day in early summer of 1879 the people all over Kansas might have been seen staring hard with shaded eyes and serious eyes up towards the sun. By persistent looking one could see high in the air a thin, silvery, white shifting cloud or haze of which the old residents sadly said, 'Its them again, all right.' Now this meant, if it were true, that far from being all right, it was about as wrong as it could be for Kansas. 'Them' meant the hateful Rocky Mountain Locusts, and the Locusts meant devastation and ruin for Kansas crops and farmers. In 1866 and again in 1874 and 1875 the locusts had come; first a thin, silvery cloud high overhead—sunlight glancing from millions of thin membranous wings—and then a swarming, crawling, leaping, and ever and always busily eating horde of locusts over all the green things of the land. And the old residents spoke the truth in that summer of 1876. It was 'them,' uncounted hosts of them."

"The Rocky Mountain Locust has its permanent breeding grounds on the plains and plateaus of Colorado, Wyoming, Montana and British Columbia, at an altitude of from 2,000 to 10,000 feet above the sea level. But in those days there were few ranches and farms on the great plains, and succulent corn and wheat were not at hand to feed the millions of young which hatched each spring. So, after exhausting the scanty wild herbage of their breeding grounds and developing to their winged stage, hosts of locusts would rise high in the air until they were caught by the great wind-streams bearing south-east, and with parchment-like wings expanded and air-sacs in their bodies stretched to their fullest, would be borne for a thousand miles to the rich grain fields of the Mississippi Valley. As far east as the middle of Iowa and Missouri and south to Texas these great swarms would spread, and once settled to ground and started to their chief business, that of eating, not a green thing escaped. First the grains and grasses; then the vegetables and bushes; then the leaves and fresh twigs and bark of trees! A steady munching was audible over the doomed land! And this munching was the devouring of dollars. Fifty millions of dollars were eaten in the seasons of 1874-6 alone.

"There has been no serious Rocky Mountain Locust invasion of the Mississippi Valley since 1876, and there will probably never be another. The Locust is being fed and fought in its own ranges; many are killed every year, and for those that are left there is food enough and to spare in the great grain fields of the north-west plains."

In these plagues all sorts of remedies have been tried, such as scattering straw over the fields and setting fire to it, using 'hopper-dozers' (large pans containing coal oil and drawn by horses), rollers, etc, but none have been of any avail against the immense hosts.

The life history of all the locusts is in general characteristics very much the same. The eggs are deposited in bean-shaped packets enclosed in a glutinous substance. The strong, horny ovipositor at the top of the abdomen is worked into the ground, the four pieces of which it is composed are separated, and the eggs and covering mucous material extruded.

The eggs in a single packet vary in number from 25 to 125. The majority of species oviposit in the fall but some in the spring. The young hoppers are wingless, very small and pale-colored. They become mature in two or three months, having moulted five or six times and developed wings. The main factors in controlling the numbers of locusts are our insectivorous birds, as nearly all species eat quantities of these insects.

The farmer can control to a great extent the amount of moisture his land gets by good cultivation, but if it gets little or none, as many districts have this season, he has no real remedy. However, the results of good cultivation are more marked in a season like this than in a season of plenty of rain.

The grain farmer stands to have a hard year in most sections and it is surely going to be another good chance for the mixed farmer. Feed may not be too plentiful, but the rough feed crops promise much better than the grain crops. This fellow that has all his eggs in one basket generally is not long on the market, and it takes him only a short time to spend his small returns. Live stock is agriculture's sheet anchor.

THE HORSE.

Dietetic Diseases in Horses---II.

Pulmonary Emphysema—Broken Wind—Heaves.
—This disease might be classified as a disease of the respiratory organs, as the lungs are the organs principally involved, but as it is usually caused by errors in feeding, we will discuss it as a dietetic disease. When we know that the same pair of nerves, originating in the brain (and called the pneumogastric) supplies to a great extent both the lungs and the stomach, we can readily recognize that a more or less constant irritation to the latter, by overloading with food, or the feeding of food of poor quality, may, through nervous sympathy produce disease of the former. This disease may be defined as a non-inflammatory disease, characterized by difficult and peculiar breathing; the inspiratory movement is performed in the normal manner, the expiratory with two apparent efforts. The difficulty in breathing is liable to remissions, occasionally being hard to detect; a peculiar, hollow cough, hard to describe, but easily recognized, called "the broken-winded cough" is a more or less constant symptom, and in many cases is accompanied by violence of flatus per anus. Indigestion and flatulence aggravate the symptoms.

The causes of broken wind given by various authors are numerous and complicated, but there is little doubt that it is generally due to improper food or improper feeding. More particularly is it due to bad, musty or dusty hay, or coarse hay containing a large percentage of woody, indigestible fibre, usually the result of being too ripe when cut and poorly saved; to habitually overloading the stomach with hay of any kind, but especially with a quality that is more or less indigestible. Horses that are heavy feeders, if allowed large quantities of bulky food are more liable to the disease than those with moderate appetites. Horses with very round chests, not capable of the ordinary degree of expansion are also more easily affected. In a year following a season in which the weather has been wet during hay harvest, and, as a consequence, a large percentage of the hay has been more or less damaged, broken wind will be more frequently seen than in other years. The disease is at first purely a nervous affection, dependent upon the condition of the digestive system, the pneumogastric nerve being especially involved, and the organic lesions are the effect of the nervous disorder. There is at first an abnormal condition of the bronchial tubes and the air cells, which is quickly followed by structural change. The air cells become inflated; this prevents free circulation of blood in the capillaries, hence nutrition to the bronchial muscles and mucous membrane is weakened; degeneration follows, the walls of the air cells become stretched, disorganized, perforated or ruptured, two or more become converted into one, hence the air escapes and infiltrates into the lung tissue, causing the condition known as emphysema.

Symptoms.—Inspiration is performed with ease but the expiratory movement requires two apparent efforts, at the conclusion of which the muscles relax and the flanks fall with a peculiar force. There is usually a peculiar, hollow cough, which seems to be ejaculated with a sort of grunt, which, as already stated, is often accompanied by a passage of flatus per anus. The cough, while peculiar, is hard to describe, but is easily recognized by those who have paid particular attention to its characteristics, and its peculiarity will be noticed whether the horse coughs voluntarily or is forced to cough by pressure upon the larynx (the throat). In some cases there is an irregular, thick discharge from the nostrils during fits of coughing, or when drinking, but in many cases this symptom is not well marked. By placing the ear against the ribs the respiratory murmur will be noticed to be abnormal, but in order to be able to detect this it is necessary to be familiar with the normal sounds, which can be acquired by listening to the sounds in healthy animals. The symptoms are better marked after the animal has been fed. After the stomach has become comparatively empty the respirations may be tolerably easy until he has been fed again. The symptoms are also more marked during damp, close weather than when there is a clear atmosphere. Severe exercise also aggravates the symptoms. The digestive organs are often weak, but this is not a constant symptom.

Treatment.—Preventive treatment should al-

ways be observed. Care should be taken not to give food of poor quality, especially musty or over-ripe hay. Greedy horses should be fed only a reasonable quantity of bulky food of any kind or quality, and if possible should not be worked or exercised immediately after a hearty meal, when the first symptoms of the disease are noticed. Before structural change has taken place, it is possible that the development may be arrested by the removal of the cause. In this case a purgative is indicated, followed by feeding food of first-class quality in small quantities. When the walls of the air cells have become ruptured, of course, a complete cure cannot be effected, but the symptoms can be palliated by attention to diet. All bulky food given must be of first-class quality, and given in limited quantities. It is good practice to dampen all food consumed with lime water, and some claim to observe benefit by the addition of a couple of ounces of raw linseed oil two or three times daily. Care should be taken to not allow the animal to overload the stomach. Small quantities of bulky food and larger rations of grain than is usually given give good results when the digestive organs are tolerably active. All methods that improve digestion tend to relieve the symptoms, hence gentian, ginger and nux vomica in dram doses of each two or three times daily are serviceable.

Unscrupulous horse dealers resort to various methods to relieve the symptoms of broken wind for the purpose of sale or trade. They know that the animal breathes tolerably well when the stomach is empty, therefore, when a deal is probable they keep him short of food and water, and give him a sharp drive to unload the bowels before showing him to the probable victim. Large doses of various sedative drugs, as opium, arsenic, etc., are also known to have palliative effect, and are often given. A heavy horse can be treated and dosed in such a manner as to practically remove the evident symptoms for a few hours, and the unwary purchaser finds out when it is too late how cleverly he has "been done." At the same time, an affected horse cannot be fixed so that he will not show the characteristic movements of the flanks during expiration if he is subjected to a sharp gallop for a quarter of a mile or further, neither can the peculiar, characteristic cough be removed, hence it is wise for a prospective purchaser to subject the animal to these tests if he has any reason to suspect the honesty of the vendor. WHIP.

Forcing the Colt.

While it has been time and again demonstrated that it is generally better practice to work the in-foal mare than to feed her heavily and give an insufficient amount of exercise, the fact remains that to make the best colts after foaling the mare should not be called upon to do much work, and should have the run of a good pasture. It is not necessary to keep the mare suckling the colt in idleness and it is an expensive practice, but where show colts or colts to be sold early in life are raised a great deal is gained by allowing the mare almost if not complete idleness. Besides this the colt which is being rapidly pushed along should get a few oats regularly from a box conveniently placed and away from his dam. When the youngster has grown large enough to eat well he will usually do better to get the oats himself than if they are fed to his dam when he only gets a small portion of their good in his milk. Of course, where feeding for show is the main object mare and colt both should get grain, especially at this season when the pasture is none too good, and flies quite troublesome.

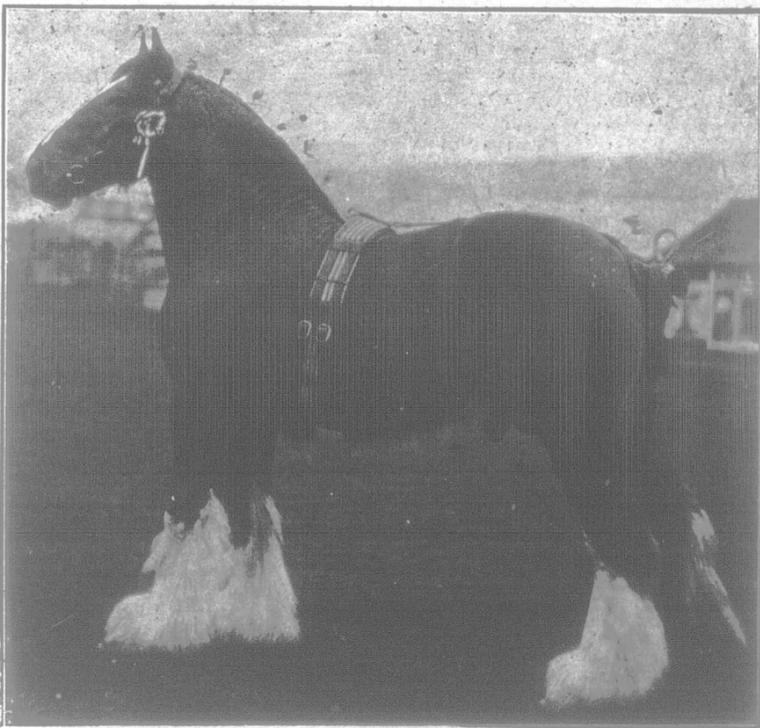
On Stallion Enrolment.

Editor "The Farmer's Advocate":
In a recent issue of "The Farmer's Advocate" I noticed where R. W. Wade had seen a marked change in the number of grade stallions that had gone out of business since last year. If Mr. Wade would take a drive through the country and notice all the posters along the different routes of stallion owners who either carry their enrolment certificates in their pockets or whose horses are not enrolled at all, and would take account of all the others out doing business without any posters at all, it might change his views. For my part I fail to see where the Stallion Enrolment Act is one whit better this year than last, or where it ever will be better, as it now exists. I do not know of one mongrel stallion in this section that is not doing the same business he always did, and for my part I will never pay \$1.00 to have my stallion enrolled again. I will take the chance of being fined, and if I am there will be others also. There is no use of a dozen or so stallion owners keeping the law and the rest breaking it and let go scot free.
Carleton Co., Ont. T. A. HAND.

LIVE STOCK

Our Scottish Letter.

Having just returned from the Royal Show at Shrewsbury one's thoughts naturally turn to things suggested by what was seen there in 1914, and what one saw on the same show-ground 30 years ago (in 1884), when the same town was visited by the Royal Agricultural Society. It may be interesting to some to mention that the writer has been present at every show of the R. A. S. E. since 1879 with the one exception of that held at Derby in 1881. Possibly this is what is called a "record." In any case it is not at all likely that many, if any, alive today can equal it. Apart from that which is the common experience of humanity—the passing hence of the generations of man—many changes can be discerned in the conditions of agriculture now as compared with those of thirty years ago. One of the most remarkable is the prominence given now to agricultural education and training in the technique of dairying and domestic management. A splendid school for this kind of work is conducted by the Shropshire County Council at Radbrook near to Shrewsbury. This technical school, which is for girls only, is under the control and management of a lady named Miss Macleod, who is of Canadian birth, although of Skye descent, as her name indicates. So popular has the school become under her management that now in place of the school canvassing for pupils, candidates have to await their turn for admission, and none outside the county are admitted as students until the whole of the county candidates have been enrolled.



Oxford Blue Blood.

Champion Shire stallion at the Royal Show, 1914.

Another new feature is the prominence given to practical training in the development of rural education. Premiums are awarded by the Royal Agricultural Society for the most efficient workmanship in hedging, ditching, draining and fencing, the building of stacks and all the other details of farm labor. The laborer is being recognized, and his importance in the rural economy is no longer ignored. At the meeting held in the show-yard the Society's gold medal was presented to the champion hedger, found after a thorough test by the local societies. All this is work in the right direction, and one did not hear of such things thirty years ago.

Shrewsbury is the centre of a great agricultural area. It is possibly one of the best market towns in England, and, as a centre for the distribution of store cattle and sheep, it has few equals anywhere in Great Britain. It was one of the first towns to adopt the principle of selling cattle, both stores and fat, by live weight, and it is the headquarters of the famous Shropshire breed of sheep.

The Show which is just closing has been characterized by an exceptionally good display of Shorthorn and Hereford cattle, Shire horses and Shropshire sheep. Regarding the last it is worthy of note that the highest average at the sale held within the show-yard was made by the Scottish flock of T. A. Buttar, Corston, Cowpar-Angus. Mr. Buttar has a very fine flock, and commands a ready sale for export. Shorthorns have rarely made better appearance at the Royal.

In spite of extensive exportation the quality of this great breed shows no deterioration.

A very interesting department is the working dairy. Here many tests are made in addition to the work done by competitors in butter-making, which is always a big "draw" at the Royal. The breed now known as British Holsteins is rapidly forging ahead. Since a register was started and records were officially kept, the advance of this breed, not in England only but in Scotland, has been phenomenal. On certain classes of land there is every likelihood that the breed may prove a formidable competitor with the Ayrshire. So far the last-named breed has succeeded in holding its own, but its patrons have need to look to their laurels. Ayrshires made an unusually good appearance at Shrewsbury. The class of uncalved cows was well above an average, and the merits of the breed were quite successfully made patent to visitors.

Shire horses were next to Shorthorn cattle, the heaviest classes to judge. The best animals among those exhibited was the champion female Dunsmore Chessie, now owned by Sir Walpole Greenwell, Marden Park; and one of the best Shire mares seen for many a day. Stallions were not from the Scotsman's point of view a good lot. They lacked the essential points of a lasting cart horse, viz., soundness, and wearing quality in feet and limbs. By "soundness" we do not mean technical soundness; we mean the indescribable something which stamps a horse as a wearer. The most valuable horse is that which stands the tear and wear of street traffic for the longest period. To attain this end it is needful above all things to have sound, good wearing feet, and razor-like bones with clean, open joints. These are the very points in which the Shire stallions seen at the Royal appeared to be deficient.

At present we are favored with a visit from a delegation of South African farmers. They have come to this country as the guests of the Union-Castle line of steamers whose chairman, Sir Owen Philipps, is one of the most spirited breeders of Shorthorns at present. These farmers are being feasted and feted in a remarkable way, but they are not seeing quite as much practical farming as they would like to see.

Hay crops are light this year everywhere. The crop is being rapidly saved north and south. The weather on the whole has been ideal for getting such work done. The heat at Shrewsbury was overpowering, and fourteen animals succumbed; very heavy rains fell accompanied by severe thunderstorms during the show. These rains have been general all over the country, and in some places they have wrought havoc. On the Highland line a railway bridge was swept away, its foundation being undermined, and the bridge collapsed while a train was slowly passing over it. Several lives were lost. The disaster is unique in the history of railway travelling in Great Britain. SCOTLAND YET.

Feeding the Calves.

To a large extent the care of the calf determines the value of the mature animal. This is a trying season on the calves, and something should be done to keep up their vigor and produce rapid growth during the dry, hot season. Our calves at Weldwood are doing remarkably well in a shaded paddock, half of which is a newly-seeded timothy meadow and the other half oats with rape sown in. It is astonishing how the calves have trimmed off the oats and are feeding on the rape, and their growth and condition has been all that could be desired. In addition to this small improvised stalls have been made for each calf, with a long manger along the front, and a pole behind to fasten the calves in while they drink their skimmed milk and eat their chop feed. This ensures that each calf gets his full allowance of feed, none being robbed by the bigger and stronger youngsters. When the calves are through with their feed they are released, and move off to graze or to the shade. Next to stabling during the day and allowing out at night only, we believe this is the best method in raising calves, and when work is considered

possibly it is the most practicable of all. It is at least giving first-class returns with our calves. Anyone can build the little stalls out of old boards and scantlings.

Green Crops for Sheep and Lambs.

Editor "The Farmer's Advocate":

Mid-summer is here. The spring pastures which sprang forth so luxuriantly are now beginning to show signs of the continued grazing of stock. The hilly and more barren parts are already closely cropped, and in some places browned with the sun. In a month or six weeks, if the usual hot, dry summer weather prevails a shortage of pasture will be general, especially on those farms that are stocked up to their full capacity.

It is at this time of the year that we hear so many complaints about the evils of sheep pasturing with other stock. It is not uncommon to hear a group of farmers say that "you can chase a louse over a sheep pasture in August," and in driving through the country one has to admit that pastures are often very scanty where sheep are grazing with a herd of dairy cows or other stock, yet when you come to analyze the situation, in all probability the farmer who pastures twelve ewes and so many lambs with his other stock, has not allowed an acre more than his neighbor who does not keep sheep. There can only be one result where such is the case. Go out into such a pasture early in the morning and the sheep and lambs are busy at work. They will bite twice or three times while the other stock are getting one mouthful. They are to be found feeding on the shorter herbage, and if you take the trouble to examine the part of the pasture that they have grazed over it will be cropped very short. Go again to where the cow or horse have been feeding and they will have taken only the stronger part of the plants, leaving that part which the sheep relish most. This would indicate that the most economical returns are got from a pasture where sheep are kept with other stock, especially where sufficient area is allowed for both, but in the summer season when the pastures make slow growth there is no doubt that sheep have every advantage over other classes of stock, both on account of their activity and close grazing habits.

This being the case some provision should be made whereby sheep and lambs can be removed, part of the time at least, from pastures where other stock are grazing. As already indicated sheep show a decided preference for fresh, green herbage, and this has led to the practice of sowing green crops for use during the late summer and fall months, when other pastures are short. These crops must be rapid growers, and furnish a crop of green foliage of a highly nutritive nature. A number of such crops are recommended, including rape, vetch, peas, oats, rye, fall turnips, cabbage, clover and alfalfa.

Rape is perhaps the most widely used, being a rapid grower and much relished. It may be seeded with the spring crops, between the rows of corn, or separately. When sown with barley or oats it is sometimes troublesome at harvest time, as in a favorable season the leaves are cut and bound with the other grain, thus delaying harvesting. Perhaps the better way, especially with barley, is to disc immediately after harvesting and reseed to rape. Oats are usually harvested too late for this practice. When seeded between the rows of corn the seed may be sown just previous to the last cultivation. As soon as the corn is harvested the rape will make rapid growth, and has a tendency to keep down weeds.

Aside from these crops rape may be seeded alone either in drills or broadcast, the usual time of seeding being from April until the middle of July. By seeding on different dates a succession of crops may be secured for use over a long period. Rape is usually ready for pasture in eight to ten weeks after seeding. When sown broadcast from 5 to 8 lbs. of seed per acre is required. When sown in drills twenty-eight to thirty inches apart 1 1/2 to 2 lbs. is sufficient. Seeding in drills gives an opportunity for cultivation, which is often valuable in cleaning up a dirty piece of ground. Rape grown in drills is much stronger in growth and the rows provide a path for grazing, thus eliminating to a certain extent loss from tramping. On the other hand, rape grown broadcast is perhaps more tender, especially for lambs, and less labor is required.

Care must be taken in getting sheep accustomed to rape. The afternoon is the best time to drive sheep or lambs into a rape field, as then they are not so hungry as early in the morning. Sheep and lambs are subject to bloat if turned into a rape field after a rain or early in the morning. Severe frosts are also likely to set up acute indigestion. The best results are obtained from feeding rape in conjunction with a good pasture field.

Vetches are good for sheep and provide a variety. Oats and peas are especially valuable

for sheep, either as a pasture or for green feed. Rye may be used for early spring or late fall pasture. Fall turnips have much the same value as rape, and may be sown either in drills or broadcast.

Cabbage is especially relished by sheep and affords a large amount of the best feed. Owing to scarcity of labor this crop is not likely to be cultivated only in a small way.

Clover and alfalfa make excellent supplements to other pastures, and are highly nutritious.

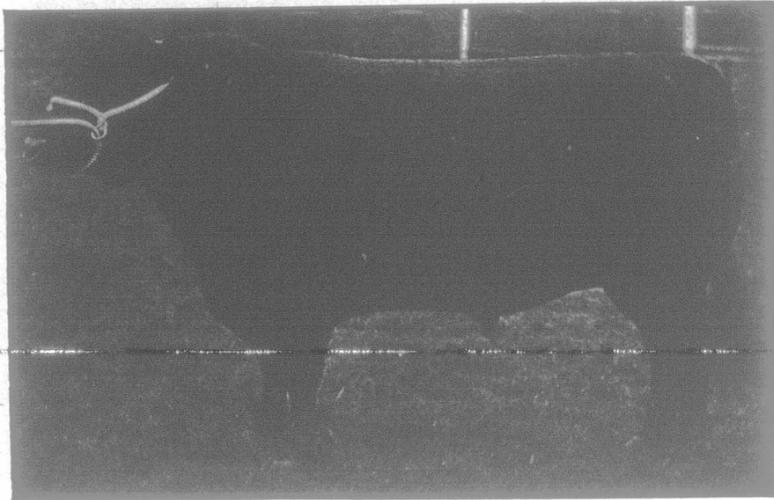
There are always a few acres around every farm that can be easily utilized for the growing of green crops. Many of our fields are overgrown with weeds in the fall which could be profitably producing a green crop for sheep,

water, but the soil in most parts of the older settled districts of the Province has become so contaminated with decaying vegetable and animal refuse that surface or seepage water can no longer be considered a safe water for domestic purposes. Consequently, every effort ought to be made to exclude this kind of water. If the well is dug in a clayey soil this may be secured by puddling the clay back of the brick, stone or concrete wall. In this case puddled clay is used to exclude the water. If, however, the well penetrates a sandy or gravelly soil it may be more convenient to put in a good cement wall and thoroughly cover the surface with a thin mixture of water and cement. This can be put on with a whitewash brush.

The tight wall should extend down several feet or to the level of the ground water. The object is to force the water to filter through the soil and come up under the wall. The filtering process purifies the water, and the deeper it has to settle through the soil before it gets into the well the better. It is impossible to say just how many feet of soil the water should pass through, but we should insist on at least 8 or 10 feet.

The idea is to construct a well that no water may find entrance to it without filtration through a depth of soil at least equal to the vertical distance between the ground level and the lowest level of ground water. To insure this it is important that the wall of the well extend above the ground so as to prevent any possibility of water getting in directly from the surface of the soil. Furthermore, the top of the well should be practically air-tight. This may be either cemented over or double boarded. It is too true that a great deal of contamination gets into wells from the top, either through the surface water making its way into the well or from drippings from the pump, carrying the dirt into the well through loose boards which cover the well.

PROF. R. HARCOURT.



Princes of Bleaton.

Champion male Aberdeen-Angus at Glasgow, 1914.

thereby increasing the earning power of the farm and at the same time maintaining the fertility of the soil. Many farmers under present conditions are forced to sell their lambs early in September owing to shortage of pasture, whereas a little foresight and outlay would enable them to carry their lambs over for the top price. Now is the time to take steps to avert this difficulty.

Macdonald College - A. A. MacMILLAN.

THE FARM.

Cribbing a Well.

Editor "The Farmer's Advocate":

Can you give me any information as to the suitability of concrete for cribbing a drinking well for house use? Which would be the better, brick or concrete? Would either of them make any difference in the taste of the water? Any suggestions in regard to digging and cribbing a house-well would be very acceptable, as I shall have to dig one this summer.

A. J.

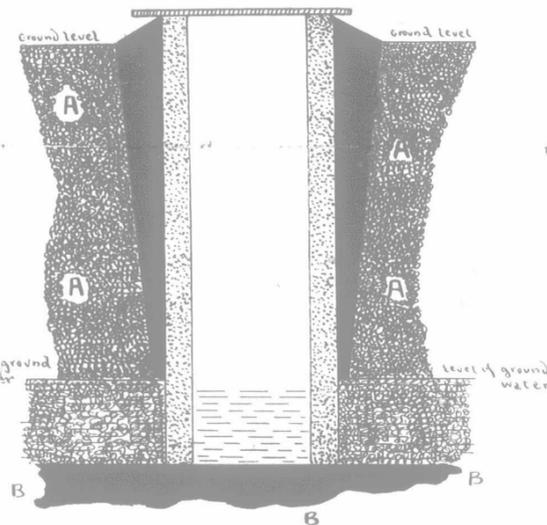


Diagram of well, showing a backing of puddled clay or other impermeable materials between the cement-work and the porous strata through which the well is dug.

I think that either concrete or brick will harden the water somewhat at first, but I do not think that either of these facing materials will give any decided flavor to the water. It is, however, important that the wall and top of the well be water-tight, and as long as this is secured without affecting the water it does not matter what the material is.

In the past seepage water was probably a safe

lowest level of ground water. To insure this it is important that the wall of the well extend above the ground so as to prevent any possibility of water getting in directly from the surface of the soil. Furthermore, the top of the well should be practically air-tight. This may be either cemented over or double boarded. It is too true that a great deal of contamination gets into wells from the top, either through the surface water making its way into the well or from drippings from the pump, carrying the dirt into the well through loose boards which cover the well.

Shallow Cultivation for Wheat.

In the course of a trip not long ago we were shown a large field of fall wheat which was a very heavy crop, the heaviest for a field of the size that has come under our observation this year. According to the old-established custom in the neighborhood it was deemed necessary in preparing for wheat to "ridge up," as it is called, just before sowing. This ridding up is simply a deep cross-plowing. The working of the land for the particular crop in question entirely exploded older theories. It was a summer-fallow, and the only plowing it got was with a gang-plow about four inches deep when the manure was turned under. The top was worked with a broad-shared cultivator, and all weeds kept down, cultivations being frequent. The wheat was sown fairly early on this shallow seed-bed and a bumper crop resulted. The method looks good.

This Mixture Exterminates Grasshoppers.

In our issue of June 18th Prof. Caesar, of the Ontario Agricultural college, outlined a new remedy for grasshoppers, which in some localities in a dry season become a pest. For the benefit of our readers who are experiencing trouble with these insects we repeat the formula:

- Bran 20 lbs.
- Paris green 1 lb.
- Syrup or molasses 2 quarts.
- Lemons 3 fruits.
- Water, about 2 1/2 gallons.

The bran and Paris green are mixed thoroughly in a washtub while dry. The juice of the lemons is squeezed into the water, and the peel and pulp are added after being very finely cut or ground up. The syrup is poured into the water and stirred until thoroughly dissolved. Just before using the bran and Paris green is thoroughly moistened with the water containing the lemons and syrup. Do not make sloppy.

Prof. Caesar informs us that he has just completed a trial of this preparation on an eight-acre field, and that the results were so satisfactory that he wishes "The Farmer's Advocate" to

impress upon its many readers the value of this new remedy which he describes as remarkably cheap, simple and entirely satisfactory in every way. The results on the eight-acre field treated, which was a badly-infested old pasture, were almost perfect. The cost is extremely low, only about 21 cents per acre. The poison should be applied very early in the morning, when the insects feed and when the material takes a longer time to dry. The amount given in the foregoing formula is sufficient for four acres, so it is seen that it must be scattered very thinly over the fields, so thinly in fact that wild birds or any domestic animals are not injured by it. If grasshoppers are bad on the place try this the newest, easiest applied and best remedy, and let us know your results.

Getting Ready for Fall Wheat.

Fall wheat has been and still is a good crop to grow in most sections. All farmers know the advantages it presents in the seeding and harvesting, and the opportunities for seeding down. In addition to this many weeds succumb in fall wheat that might still persist in fields sown to spring grains. Straw is none to plentiful now-a-days when so much is fed in conjunction with roots and silage, and this point alone commends the growth of wheat on a portion of the farm.

The old-time practice in preparing for fall wheat was to summer-fallow, but some farmers believe it an extravagant custom. Two years are required to produce one crop, but if the land is at all dirty there is a motive in the madness. It is an effective way of cleaning the land and storing up moisture, and many good crops seen this year were sown on a summer-fallow. In connection with this way of preparing for wheat it has been customary to plow deeply just prior to sowing, and then make a good surface. Fall wheat apparently requires a fairly compact bottom, and if the cultivation has been thorough throughout the summer a good disking and harrowing should put the land in better shape than plowing down the weathered soil only to bring up the raw material upon which to sow the seed. The harrowing method was used last fall, and the results have been pleasing this harvest.

From the standpoint of a crop of wheat alone perhaps a clover sod is the best foundation, but many require this part of the farm for roots or corn. Fallowing a clover sod a barley stubble is not to be condemned, and it is all the more acceptable when manure is available, for it has a marked influence on the resulting crop. The stubble should be plowed as soon as possible after the barley is removed, but not too deeply five inches being sufficient, and then the harrows should be put to work. The month of August is an excellent time to germinate weed seeds and kill them in the early stages of growth. Although oat and corn stubble are recommended as being suitable yet, for Canadian conditions generally, it is taking a chance when one waits till the land is available. By the time a proper seed-bed is prepared it is then getting rather late, and only where local circumstances make this practice imperative is it to be commended.

A heavy coating of manure is just as well plowed down shallow, but if only a small allowance is to hand perhaps a top dressing is wise. The latter system assists the crop through the winter by holding the snow, especially if it be of a coarse character and contains considerable straw.

On account of the Hessian-fly seeding in most sections has been deferred until the middle of September, and there are districts, chiefly in South Western Ontario, where this period should be adhered to, but in other sections farther north more early seeding should have preference. Growers might judge from the past whether danger exists or not, and where there has been no fly in the past few years the probabilities are that it will not appear in destructive numbers next year. Under these circumstances the last week of August is not too early to seed, and many good crops harvested this summer were seeded during the later part of August or the first week in September of 1913.

A Good Meadow Cleans Land.

It may not be the best farm practice, but an experienced farmer has demonstrated that beyond a doubt seeding down and cutting one or two crops of hay per year, or in fact pasturing the second crop off quite closely is one of the surest ways to clean the land of noxious weeds. By cutting early and closely, weeds are caught at the right stage of growth just before the formation of seeds and are killed. Those which do not succumb to the first cutting are caught in their second growth and generally give no more trouble. It does not pay to leave the land down too long, or until the clover and timothy have been almost entirely replaced by blue grass. Did you ever notice that a hoed crop gives little difficulty when put on sod? Why? Largely because the sod land being cut over for hay once or twice a year for the two or more years previous-

ly, has been cleaned by the practice. Of course there are exceptions, seeding down does not kill twitch grass, and mustard seed will remain in the land for many years. But a great many of our commoner, troublesome weeds cannot stand the cutting during their struggle to produce seed.

Prices Fair in York County.

Editor "The Farmer's Advocate":

At the time of writing, July 21st, haying is almost completed, it being very light in most parts, it is selling now from \$12 to \$15 per ton; higher prices are being looked for in the spring. Pastures are very short and dry, and some farmers are cutting their oats for green feed, as cattle are going back in their milk. Mangel and turnip crops are very poor in some places on account of the drought. We have had but one good rain this summer, while in some parts of the county there hasn't been any. American tent caterpillar was a plague through here this summer, attacking the apple trees and stripping them. All small fruits will be very scarce, and high prices are being asked by gardeners.

Still, again, more silos are being built this year, as the people see the need of them. Corn is looking the best of all crops. Those who have a field of corn will not want for fodder this winter. Low fields in which grain was sown are looking best. The high fields were sown early and are now turning very fast, and will not fill as well as the later grain.

The live stock market is at present very quiet. Cattle are scarce, in fact, good beef ringers can hardly be bought. Some two-year-olds were sold to the butchers from \$60 to \$75. Hogs are a fair price, and will be if there are not too many shipped in from other points. Buckwheat is coming fair in consequence of a good rain just before it was sown.

York Co., Ont. ROSS E. RATCLIFF.

THE DAIRY.

How to Pasteurize Milk?

Editor "The Farmer's Advocate":

The term pasteurized and all similar words originated from the name of a noted French scientist, Louis Pasteur, who lived through the greater part of the 19th century. Born the son of a farmer, he rose to the highest pinnacle of scientific fame. In this respect he is a bright example for our young men everywhere, who are sighing for fame. The road to success and fame may start anywhere in this democratic country—from behind the plow, behind the counter, from the public school, the college, or anywhere that the young man with ambition and grit may find himself.

Pasteur first applied his system in the manufacture of wines, and thereby enabled the French farmer to produce a uniformly good quality of wine, where formerly all was haphazard, or luck,—good and bad. By heating the raw wines and introducing the proper ferment, he was enabled to produce the desirable flavor in wine, and check the undesirable.

A young man named Jenson, who was an assistant at the Royal Agricultural College, Copenhagen, Denmark, was requested by Prof. Fjord to investigate the butter-making industry of Denmark, with a view to overcoming the difficulties in making fine butter. He applied heat to the cream, and added a pure lactic culture to overcome the troublesome bacteria. From these

tests the system spread among the creameries and to other branches of dairy work, particularly to that of preparing milk for human consumption, about which considerable difference of opinion exists as to its advisability, some medical men claiming that the heating destroys natural ferments in the milk which aid digestion. This is a very doubtful theory, because foods do not as a rule furnish the material for digesting themselves—this must be furnished by the animal eating the food, thus dividing the labor of nourishing the animal organism.

It is claimed by those who ought to know, that the recent agitation against the ordinance requiring pasteurization of milk in a certain city, is being conducted by irresponsible parties, and that the increase in infant mortality is not due to pasteurized milk.

The question is one difficult to settle, as few people care to experiment with their children or have others do so. The tests made in New York would seem to be in favor of the pasteurized milk for babies, as 110 babies made decidedly greater gains in weight on the pasteurized as compared with being fed on raw milk. The investigators conclude that, "no possible injury to the nutritive properties of milk actually takes place as a result of modern scientific pasteurization."

These facts would have greatly pleased a man like Pasteur, who is reported as having said: "Nothing is more agreeable to a man who has made science his career than to increase the number of discoveries, but his cup of joy is full when the result of his observations is put to immediate practical test." To the man who is looking for a "snap," a "soft job," an "easy berth," this scientist's observation on work ought to call him to his senses,—"Work can be made into a pleasure, and it alone is profitable to a man, to his country, to the world." This was said by Pasteur after being afflicted for 25 years with a form of paralysis.

Coming to the topic under discussion, How to Pasteurize Milk, it may be done in several ways:

1. The best plan for city milk is to pasteurize in the original package, or in the milk bottle, so as to prevent after contamination by the bottling and capping process. We were in a certain milk plant in a city, one day, and while watching the operator putting caps on the bottles filled with pasteurized milk, he frequently stopped to wipe his milky fingers on his white overalls, which were none too clean. He, to a large extent, neutralized the good effects of pasteurization by this careless practice. (By the way there seems to be an almost resistless desire for a man to wipe his soiled hands on the slack of his pants. Witness engineers and others.)

2. The next best plan is to pasteurize and cool in what is sometimes called a "holder" vat. The milk or cream is first heated by means of steam coils which revolve through the milk or cream until the desired temperature of 140 degrees to 150 degrees F. is reached; then it is held at this temperature for 20 to 30 minutes, after which cold water is forced through the revolving coils until the milk or cream is cooled to 50 degrees or under for milk, and to the ripening temperature for sweet cream, if it is to be ripened for churning. If the cream is to be used for direct consumption then it also is cooled to 50 degrees or under. As the "holder" vat is provided with a tight cover, and a thermometer having the bulb in the milk, with the temperature scale outside, there is no need for opening the vat during the heating or cooling process to note the temperature. There may also be a special registering thermometer, or thermograph attached to these vats, and the range of temperature throughout the heating and cooling is



Harvest is Usually a "Dry" Time.

recorded on discs, which may be removed and filed for inspection or reference purposes.

3. The third system is that known as "continuous" or "flash" pasteurization, by which the milk or cream passes in a continuous stream through the heater and over a cooler. This plan is suitable for handling large quantities of milk or cream in a short time, but in order to be effective, it is necessary to adopt a higher temperature for heating than is the case for the "discontinuous" or "holder" plan. Time and temperature are both important factors in deciding the effectiveness of pasteurization. The Department of Health in New York sent out the following table for efficient pasteurization of milk:

Heat to 158 degrees F. for 3 minutes.
Heat to 155 degrees F. for 5 minutes.
Heat to 152 degrees F. for 10 minutes.
Heat to 148 degrees F. for 15 minutes.
Heat to 145 degrees F. for 18 minutes.
Heat to 140 degrees F. for 20 minutes.

We thus see that according to this authority a temperature of 158 degrees F. for 3 minutes is as effective in killing germs as heating to 140 degrees for 20 minutes. In most of our work with cream at the O. A. C. we have got best results by adopting a temperature of 180 degrees to 185 degrees F. for continuous pasteurization of cream for buttermaking. Lately, however, we have used the "holder" type of pasteurizer almost altogether, with a temperature of 140 degrees to 145 degrees, but the keeping quality of the butter does not seem to be so good as when we used the higher temperature. We are making some tests on various temperatures for heating cream, during the present summer, which will be reported on in the Annual College Report for 1914.

4. To heat a small quantity of milk for family use, what is known as the "double holder" answers the purpose very well. Or the milk may be heated on the stove in a clean, granite or tin sauce-pan, and then be cooled in the refrigerator or in cold water.

Pasteurized milk is certainly the safest kind of milk to use, and where the dealer does not supply it, it should be prepared in the home.

H. H. DEAN.

Missing the Mark.

There is a practice going on in many districts of Ontario which is not conducive to success. It is neither beef cattle farming, nor dairying, but a hopeless, halfway practice which misses also the dual-purpose cow idea. Beef cattle went flat and as a result breeders became careless. Milk and milk products were in demand, so the owners of some beef cows immediately trotted them off to be bred to the nearest Holstein or other breed of dairy bull, very often a very inferior specimen of his breed. The result has not always been satisfactory. Many of the calves have been a decided disappointment, yet nondescript heifers have taken the places at the pail formerly held by their dams. They may be fairly good milkers, but as breeders, what? Simply culls. The cross will not stand perpetuating generation after generation. It seems a shame to see what were good herds of reds and roans now showing all the colors that cattle carry plastered on in blotches and spots, and not only is the color bad, but the form and performance are not good. They are no credit to beef cattle, and no dairy breed cares to claim them although it may cause a Holstein owner passing on the train a thrill of joy to see how popular the black and white is becoming. Yet if he be permitted to look over them closely or if someone asked him to buy one for his milking herd he would turn away in disgust. What will happen now that beef is in keen demand? How can the breeder who has made so grave a mistake get right? Only by getting once again the right class of females, good milkers which will raise a good type of calf worth something in the herd or on the block, and by breeding them to a first-class beef bull. If specialized dairying is to be followed, get dairy cows. If beef cattle are to be bred, stick to the beef cow, and if milk and beef together are desired avoid indiscriminate crossing. Get a strain of a breed and develop it.

Aggie Emily of Riverside 2nd, a junior four-year-old Holstein cow, owned by the Hamilton Hospital for the Insane, stands second for age in the test with considerably over 17,000 lbs. of milk. This herd is doing well, and is considered one of the best in the county. The heaviest-producing cow gave in one lactation period 22,165 lbs. of milk.

POULTRY.

With the Poultry.

Right now is the season to get the chickens out to the fields in their colony houses. Try the corn field. It provides shade, cultivated land, meat food in the form of insects, and around its borders green food is generally abundant. Did you ever notice that chickens have a preference in green food? They do not care for grass if they can get young oats. Here is a point to act upon. Why not sow a few oats at intervals throughout the season so that hens and chickens may have an abundance of the particular kind of meat food they like best. Watch them some time and see how they leave the old, dry grass or even the younger grass and make a raid on the tender-growing oats.

If you haven't a corn field get the chickens out anyway. Place their colony houses down the lane and let them have the run of the stubble fields or of oat fields not cut. Spring chickens will not do much damage to oats. It is necessary, however, to keep the old hens out of the ripening grain.

Give the hens more grain feed, as it becomes more difficult for them to forage enough feed. A great mistake is made in forcing hens to pick up all their feed during this season, as is so often done on the farm.

July and August are the months when water is even more essential than at any other season. If not water skim milk should be given. The latter is preferable, but is not always available. Anyway, give plenty of clean, fresh drink from clean troughs or disks.

Do not be cruel to the cluckers. Broodiness is simply the hen's desire to perpetuate her race. Shut the broody hens in a small coop in a shady



Guernsey Cow.

A champion in England in 1914.

place and feed them well and they will soon try laying again for a change. It does not produce desired results to starve or abuse and is cruel.

Young ducks require shade. Intense heat is fatal to the flock, and many healthy birds are often lost before the owner realizes what is wrong. Besides, young ducks should not be fed on solid grains. Give them ground grains, or better, shorts moistened to a thick paste.

HORTICULTURE.

Cherries as Fillers.

While the filler system is largely used in orchard plantations there may be cases where the practice is unwarranted. On land low in value and suitable for roots or berries the fillers might profitably give way to those crops, but in many instances fruit and fruit only is desired, and in that case the planting of fillers is justifiable. Although cherries have been a disappointment this year, especially the sour, yet the outlook for them is still good, and sweet cherries, even this year, yielded good returns.

The season's results and the general character of the cherry commends that kind of fruit to us as a filler. It comes into bearing at a comparatively early age, and goes out when the land is required by the standard apple trees. All land is not suitable for the production of cherries or the growth of the trees, but on a light soil of a gravelly nature with a loose subsoil the conditions are favorable. The way cherries have borne this year and their appearance in the orchards visited are good recommendations for them as fillers, and where that system is to be followed the grower will do well by taking his local and soil conditions into consideration and giving them a trial.

Fortifying Against Mice and Rabbits.

Trees injured by mice and rabbits are an annual occurrence with us. A remedy is of little use, it is the preventive that is so much required. It lies in fortifying against their depredations in the fall of the year, and W. T. Macoun, of the Central Experimental Farm, has outlined a few means most effective when followed out.

Every year thousands of trees are injured in Canada by mice, and, in the newer districts, a large number by rabbits also. There could be nothing more discouraging to a fruit grower, or would-be fruit grower, than to see his orchard which he had cared for, perhaps, for five or six years, ruined by mice; and yet this frequently happens. All this could be prevented if the farmer or fruit grower would use the information available and protect his trees from mice. Some years there is less injury than others, and this fact leads to carelessness, and when a bad year comes the trees are unprotected.

While the depredations from mice and rabbits in winter vary from one year to another, depending on the scarcity or abundance of food, the number of mice which are in the vicinity and the character of the winter, the injury is always greatest when the orchard is in sod, and when there is rubbish lying about; hence the latter should be removed before the winter sets in. In most cases it is not necessary nor advisable to have the orchard in sod, particularly when the trees are young, although it is highly important to have a cover crop, which also may sometimes become a harbor for mice. As mice may be expected in greater or less numbers every winter, young trees should be regularly protected against their ravages. Mice usually begin working on the ground under the snow, and when they come

to a tree they will begin to gnaw it if it is not protected. A small mound of soil from eight to twelve inches in height raised about the base of the tree will often prevent their injuring the tree, and even snow tramped about the tree has been quite effectual, but the cheapest and surest practice is to wrap the tree with ordinary building paper, the price of which is merely nominal. Tar paper is also effectual, but trees have been injured by using it, and it is well to guard against this when building paper will do as well. After the paper is wrapped around the tree and tied, a little earth should be put about the lower end to prevent the mice from beginning to work there, as if they get a start the paper will not stand in their way. It

may be stated, however, that although several thousand young trees have been wrapped with building paper for years at the Experimental Farm at Ottawa, there have been practically no instances where the mice have gnawed through the paper to get at the tree. The use of a wire protector, or one made of tin or galvanized iron, is economical in the end, as they are durable.

There are a number of washes and poisons recommended for the protection of fruit trees and the destruction of the mice and rabbits, but none of these is very satisfactory, as if the mice or rabbits are numerous the poison has not sufficient effect upon them to prevent injury altogether. The following method of poisoning has been found fairly successful for mice, but rabbits are very difficult to deal with.

Make a mixture of one part by weight of arsenic with three parts of corn meal. Nail two pieces of board each six feet long and six inches wide together so as to make a trough. Invert this near the trees to be protected and place about a tablespoonful of the poison on a shingle and put it near the middle of the run, renewing the poison as often as is necessary.

If a tree is badly girdled by mice or rabbits it usually dies. If, as soon as the wound is noticed, it is cleaned and covered with grafting wax or cow dung and clay and wrapped with cloth to exclude air and prevent the wood from drying out, there is a possibility of saving the tree if the girdle is a small one, as the sap which rises through the wood will continue to do so, and returning through the inner bark will tend to repair the wound, and if the latter be not too large there is a chance for its healing over.

THE APIARY.

Increasing the Colonies and Controlling Swarming.

The beginner with bees generally is anxious to increase his one or two colonies to a fair-sized apiary, and the man who has all the colonies he can handle tries to control swarming. A writer in "Gleanings in Bee Culture," signing himself "Outlaw," describes his methods, and they may interest any of our readers who have a few colonies to care for.

"With the new season I found myself imbued with the usual hopes and aspirations of the amateur apiarist. The predominating idea was that of making increase. I wanted to see my one colony grow into several. Bee literature in the past contained its quota on the subject of making increase; but in spite of all that has been written on the subject I will wager a month's salary that the major part of the increase for this season will be made by natural swarming. From my observation I have come to the conclusion that, while the novice, the first few seasons, boasts that natural swarming is a thing of the past, in his apiary at least, he is apt to forget the fine-spun theory of the non-swarming apiary, as the seasons speed by.

"The theory of management which, for want of better name, I will call the "outlaw method," is one that in years past I have practiced in almost all kinds of climates and localities under all kinds of conditions; and where the apiarist desires but a moderate increase, and all possible results in the production of honey, I consider it the best. The method is based on the theory that, while it is natural for bees to cast a swarm, the colony must first reach a certain condition before getting the swarming idea, and that, if the colony is kept in a proper condition up to and until the heavy honey-flow starts, the idea of swarming never matures. A colony of bees under normal circumstances will not start the construction of queen-cells until the brood-nest is in this certain condition. The method here advocated is to go over the apiary regularly once a week and take out from those colonies which are approaching the danger-point a frame or two of sealed brood, replacing with empty combs or full sheets of foundation. This must be done just enough to hold down the idea of swarming, and it can be done so that, when the principal honey-flow comes on, the colony is in proper shape to handle it. So much for the prevention of swarming.

"In making the increase, place six or eight of the frames of sealed brood and the adhering bees in a hive, always taking care to place a frame of honey outside of the last frame of brood if the hive is not completely filled, then give to the colony thus formed a ripe queen-cell. The entrance to the hive should always be stuffed with grass, tight enough so that it will take three or four days for the bees to clear it. This prevents the bees from deserting the brood and returning to the parent stand. This new colony will, as soon as the queen gets to laying, be on a par with the old colonies. The bees of that colony will not have any desire to swarm during the season, and should produce as much honey as the average colony in the yard. The reason why the original colonies do not swarm when treated in this way is that, by removing the brood, the strength is somewhat reduced, which no doubt has a bearing; but the principal cause is that there is vacant comb in the center of the brood-nest, which place it is always the desire of the bees to have filled with brood before desiring to swarm. There is also the further reason that, having a great amount of unsealed brood in the hive, the bees are not in condition to desert so much unsealed brood.

"If this method is followed out carefully when the honey-flow begins in earnest it is possible to have every colony in the yard, both new and old, of almost equal strength, which is something that all practical apiarists desire. It might also be stated that the weak colonies should also be built up with the aid of the brood that is taken from the strong ones.

"In conclusion I will say that the foregoing is but an outline. The locality, time of honey-flows, and the desires of the apiarist, will in each case have a bearing as to just what results are obtained. In the average apiary in the North where the honey-flow commences about the first of July, if the object is to secure the greatest amount of honey possible, after building up the full quota of weak colonies that are found in the average apiary, making an increase of 20 per cent., is about the proper amount. The great advantage of this system is that in all stages the queens have an opportunity to work at their full capacity, and are not confined or restricted to laying in a comb or two as are queens in small nuclei, and this advantage also applies to what the bees themselves are capable of doing. It is a well-known fact that an average colony of bees capable of gathering its full quota of surplus nectar, if split into two

divisions, is capable of making only a living, and the surplus received is nothing."

A Light Honey Crop.

Indications point to a short crop of honey this year. One of the largest producers of honey in Western Ontario describes this as an "off year." The bees have not been working as they should. The crop of clover honey will be very short. According to reports in the American bee journals like conditions prevail over there, so the market for honey should be firm. One paper says:

It is evident now that the clover crop will be short this season. While the yield has been good in some favored localities, has been from fair to good in northern Michigan, Wisconsin, and Minnesota, the aggregate yield will be very much below that of last year. When there is a shortage in clover it always means a stiffening of the market.

When the prospects were so promising a month ago, the general honey market was in a state of decline. What few offerings were made were on a very conservative basis. In fact, Florida beekeepers wrote asking what was the matter of the market that they could not sell their crops. Buyers, expecting an enormous yield



Trees Must Be Grown Before the Fruit.

of clover again, either would make no offers for honey or at figures so low that the producers did not care to sell. But from now on, there should be a stiffening of prices; notwithstanding there is a prospect of a good yield of alfalfa in the West, both comb and extracted, and from a light to fair yield from mountain sage in California.

Those who have secured a crop of clover comb honey should not make the mistake of holding the price too high. In fact, their figures should be but little higher than those of last year. Buyers will not pay very high prices for clover comb honey if there is a good supply of alfalfa comb honey at lower prices. So western alfalfa will probably prevent a very sharp advance on eastern clover. The facts are, consumers are being educated to alfalfa. The day has gone by when white clover can command a price exclusively its own.

There has been a comparatively large yield so far from basswood—in fact, it is a basswood year. Reports show that, where there is any basswood left, the yield will be good; but the areas where it grows are so limited that it does not greatly if at all affect the general clover market.

FARM BULLETIN.

The Army Worm.

By Peter McArthur.

When I announced last week that this week's article would be about "loyalty" I did not take into account the number of things that might happen to prevent the writing of a careful essay on so all important a subject. I did not take into account the hay that had to be hauled in, and hauled in hurriedly because of threatened rain, and I did not guess that the army worm would appear in Ekfrid and cause such excitement. I am too much in earnest about getting a proper analysis of Canadian loyalty to write about it hastily or without due consideration. After pitching hay and building stacks I am too much fagged to discuss anything more important than the things that I see going on around me—and they are important enough. This is the time of the year when all rules for working regular hours are likely to go by the board, for the thunderstorms do not keep regular hours and the crops must be harvested. Even if I could write the article everybody is too busy to read it, and I am hoping that I can get many people

to consider the question seriously, and write to me about it so that we may decide on a firm foundation for our loyalty. I do not find the cockles of my heart warmed very much by the high-sounding phrases, used by public orators, but I am conscious of a very sincere love of Canada. All things considered I think we had better defer a discussion of the subject for a few weeks until we are all in a position to give it our best thought.

Now for the army worm. When I saw by the papers that it was appearing in other parts of the country I felt that it would hardly be possible for Ekfrid to escape. We get our full share of all the troubles that are going in the way of pests and blights, and there are times of depression when I go around quoting with much appreciation the words of Joel, the son of Pethuel:

"That which the lefter worm hath eaten; and that which the locust hath left eaten; and that which the locust hath left eaten; and that which the canker worm hath left eaten; and that which the caterpillar hath eaten."

Because of this I was not at all surprised when Mr. Noble, the Assistant District Representative, drove

up and announced that he had found the army worm within a mile of us. He offered to take me to see it, and we made a rush to get a top on the hay stack we were working at, and the boys and I climbed into the buggy and went with him. It was almost dark, for we had been working late to get the stack finished on account of the threatening weather. By the time we reached the infested field it was too dark for us to see, and after a futile attempt to find the pests with matches we got a lantern and made a careful search. Fortunately the outbreak is not serious, but we managed to find a few specimens. Before coming to me Mr. Noble had picked a couple of hundred from under one barley shock, which is surely enough for so small a space. I confess that I had expected to find the creatures marching on their work of destruction like an army with banners, but it seems that that is not their way. In fact the appearance of the army worm was a distinct disappointment. If I had come across it without anyone at hand to tell me what it was I should have said that it was the old-fashioned cut-worm that sometimes works havoc with young corn and cabbage plants. I do not wish Mr. Noble to be held responsible for my description of the army worm for I neglected

to get a scientific description of it from him, but I understand that it really belongs to the cut-worm family, and that it develops the characteristics of a marching army only when it becomes so plentiful that food becomes scarce and it has to keep moving to get enough to eat. The specimens we found were on the ground under the sheaves, and when we disturbed them they curled up just as the cut worms do when you overturn a clod under which they are hiding. The search we made by light of the lantern was necessarily hasty and imperfect, and at the present writing I do not know whether the pest is sufficiently numerous to cause much damage. As it is raining this morning I am unable to continue the search, but there is a knoll on the farm where the cut worm was very plentiful a few years ago—so plentiful that I had to re-plant several acres of corn, and if they are anywhere on the farm they will probably be on that knoll. It is sown with a mixture of oats and barley, and that ought to be just the food for them.

Hunting for army worms by the light of a lantern is almost romantic, but it is not a thing to go to sleep on; especially if you lunch on bread and cheese after coming home. We went to sleep in the tent talking about the army worms, and when I slept I dreamed. I was wandering around somewhere when I came across a lot of army worms about the size of boa-constrictors. I thought they were going to eat me, and I was trying to fight them off with a little short-barrelled revolver that wouldn't shoot. It was a fearful sensation, well worthy to be described in the words of Keats:

"That night the Baron dreamt of many a woe,
And all his warrior guests with shade and form
Of white, and demon and large coffin worm,
Were long be-nightmared."

I do not think that large coffin worms would be a bit more gruesome than the huge army worms I battled with in my nightmare. When things were at their worst and I was being swallowed at one bite I wakened with a yell that was heard in the house and maybe farther. And the moral of this is that one should not hunt for army worms with a lantern, and should not eat bread and cheese before going to bed. But as no real farmer would be likely to do such things it is probably unnecessary to warn them against it.

A Drouth in Ontario and York Counties.

This season will be remembered for many years by farmers in several of the counties of Ontario east of Toronto as one of the driest in years. Down in York and Ontario and on farther east it has been very dry. Week before last, when the counties in south-western Ontario were favored with two or three copious rains, the eastern counties were parching at 90 degrees in the shade, and not a sprinkle. It was great weather for making hay, but not the best for filling oats and rushing along roots and corn, although the latter crop seemed to be doing well. East of Toronto the hay crop was very light. In such good counties as York and Ontario the bulk of the crop would not average more than three-quarters of a ton to the acre, but the weather was good for making hay, and some of the best hay harvested in years is now in the lofts and barns. Never have we noticed hay make faster than it did this year. With a blazing sun above, and hot, dry ground underneath the light swath dried out in about three hours to such an extent that in many cases it was cured ready for the barn, and in most instances was harvested without even the dampness of a dew.

The acreage of barley in these counties to the casual observer seems smaller than usual, and the crop is not a heavy one. As a rule the straw is short, but it seems to be fairly well headed. Considering the drouth the oat crop is average. The straw is a fair length and the crop is well headed, although considerable blight is noticed in some fields.

Fall wheat is about the best of the grain crops in these districts, especially where it is on summer-fallowed land and where it was sown early and got a good top last fall.

More corn and a smaller acreage of roots seems to be the order here as elsewhere in the Province, farmers preferring to do their cleaning with horse-drawn implements rather than with the hand hoe.

Good hired men are scarce, but there is not the demand for hired help there once was. Implements and machinery are doing the work of many men, and they never grumble about hours or the hardness of the labor. As one man was heard to remark about his hayloader, "It never kicks if I work it after six, and it will pitch more hay than four men." There are more men available now, compared with the work to be done, than was the case a few years ago and conditions are rapidly changing. There are plenty of men out of work in Toronto, some of

whom are drifting out to the farms and making good, but there are too many of them that do not care to go to the country, and are no more than "boarders" when they do go. Farm work is real work, and the lazy loungee or the grumbling grunter need not apply.

There is a great scarcity of good beef cattle. These counties have been scoured by butchers and drovers, and if they know a man has any kind of a beeper on his place they never quit their calls until such animal or animals go with them. In some sections where a few years ago good Shorthorn bulls were kept for service and a first-class lot of calves produced to be fed off at two or three years of age, no good bulls are to be found, their places having been taken by inferior Holstein males which are used on good grade Shorthorn cows, most of the male calves being vealed, while the heifers are raised to add milkers to the nondescript herds.

Pork is one of the main standbys of these farms, and good prices have made the business firm. It is a mixed farming district, and with anything like favorable weather from now on to ensure good corn and an abundance of roots there should be plenty of feed for the coming winter. Crops are not heavy, but this district never knows a failure.

The army worm has made its appearance, but is not taken very seriously by farmers. Reports of the damage done have been somewhat exaggerated.

Killing Bindweed.

Of all the weeds that infest farm land none is more pernicious and tenacious than the field bindweed or wild morning glory. This weed should not be confused with wild buckwheat, which is so often called bindweed. Any hints which may be of value in fighting this pest are appreciated by all. We have some of the weed at Weldwood, and are endeavoring to keep it down by clean cultivation. It requires very frequent cultivating to keep below the ground, and unless it is kept down one cannot hope to kill it. A writer in Wallace's Farmer advises that where land is to be put in crop next year it is best to plow the last week in July; plow deep enough to get below all the roots. The drier the ground is when you plow the better the results will be, and the drier it is a week after the plowing, then the better. But if a wet spell catches you in this kind of a deal the last of July, then watch, and if many of the plants start to grow again, then plow the ground again some time in November, or just before the freezing up of the ground for winter.

And why plow at this time of year? All vegetation has a weak time in its life, and the weak time in the life of a morning glory plant is when it has put forth good efforts in a season's growth. When that growth is being made, the starchy substance of the plant is in the top that is exposed to the air, and if the roots are disturbed or taken out of the ground, they are in a weak condition to take care of themselves and are the easiest killed. Soon after the first of August, if you examine some leaves of the morning glory, you will find some little, tiny brown or black spots on them. This indicates that the plant has about completed its season's growth. The starchy substance of the plant is settling back into the root to winter, and after that fall plowing will kill but few of the roots, and if the weather is cool or damp, only the roots left on top of the ground will be killed by plowing. I have plowed patches of morning glory in July; climatic conditions favored me, and the morning glories did not become thick enough to bother a corn field again for ten years.

Crops Doing Well on P.E.I.

Editor "The Farmer's Advocate":

We are having splendid growing weather on Prince Edward Island now. Abundance of moisture and heat is maturing the crop very rapidly. A big grain crop is assured, barring accidents in the filling and ripening stages. Haying is just beginning, and has grown well the last two weeks. Will be up to a good average crop. Roots and tubers are doing splendidly with very little cut worm in evidence. Pastures are at their best, and the milk flow heavy. Just now the prospect for island farmers looks exceedingly bright.

P. E. I.

W. SIMPSON.

The following men have been added to the staff of the Live Stock Branch of the British Columbia Department of Agriculture; S. H. Hopkins, B.S.A., Assistant Live Stock Commissioner; R. L. Ramsay, B.S.A., Assistant Agriculturist; and William Newton, B.S.A., Assistant Soil and Crop Instructor.

The first two men mentioned are graduates of the Ontario Agricultural College, while Mr. Newton is a graduate of the Macdonald Agricultural College.

Dairy Production in Western Ontario.

The strong position of the Dairy Industry in Western Ontario is indicated by the following figures. The first table shows the yearly output of cheese and creamery butter, 1908-1913 with the yearly average number of lbs. of milk required to make 1 lb. of cheese.

Year.	Lbs. Cheese.	Yield.	Lbs. Butter
1908	34,442,000	11.083	6,542,000
1909	35,766,000	11.09	6,560,000
1910	33,617,847	11.078	9,552,000
1911	27,600,982	11.14	12,986,251
1912	27,743,876	11.05	13,833,730
1913	21,055,531	11.18	*18,336,376

* Includes 2,722,739 lbs. of butter manufactured by the several Toronto creameries, at least one-half the cream for which was produced in Eastern Ontario. Includes also 932,065 lbs. of butter made at the Cheese Factories in Winter.

Value of Dairy Products produced in Western Ontario in 1913:—

Cheese, \$2,679,605.83; Butter, +\$4,371,569.62; Milk and Cream sold Direct by Factories, \$241,735.20; Powdered and Condensed Milk (Approximate), \$1,137,500.00—Total, \$8,430,410.65.

+ \$340,342.37 deducted as value of cream produced in Eastern Ontario for Toronto creameries.

To the above total should be added the value of the dairy butter produced and the value of milk and cream supplied to the cities and Towns of which no accurate record can be obtained.

The total number of cheese factories and creameries in operation in 1908 was 278. The same number of factories were in operation in 1913 but compared with 1908, 40 more of the 278 factories made butter instead of cheese.

There are several factors over which the maker has no control which affect the number of pounds of milk required to make one pound of cheese, chief of which are (A) Composition of the milk, (B) Sanitary condition of the milk, (C) Season, (D) "Short" or "Long" Fall make. The season of 1913 was remarkable for the "Short" Fall output which accounts for the slightly greater number of pounds of milk required to make one pound of cheese compared with the previous year. The "Short" Fall make also affected the total production of the season. The average percent of fat in the milk has decreased slightly each year for several years yet the yield of cheese per 100 lbs. of milk has remained fairly constant which indicates that the cheese makers are doing good work and securing the best possible yield of cheese consistent with the quality required by the trade.

The writer secured from the Secretaries of a number of cheese factories located in different sections of Western Ontario figures from the factory books relating to production for the past 30 years.

From the figures so kindly furnished by the Secretaries we compile the following:—

Dates.	10 YEAR PERIODS.		
	Average of Yearly yields (Lbs. milk to Make a lb. of cheese).	Average of Yearly prices per lb. cheese	Average of Yearly prices per 100 lbs. milk. (Gross Value)
1884	10.66	\$0.963	\$0.89
1893			
1894	10.87	\$0.891	\$0.82
1903			
1904	11.	\$0.1156	\$1.05
1913			
1909	11.10	\$0.1212	\$1.09
1913			

(5 years)

These figures clearly indicate a considerable rise in the value of cheese milk for past 10 years.

These figures also indicate a slight rise during the past 20 years, especially the past 10 years at some factories in the number of pounds of milk required to make 1 lb. of cheese, while at others the yield remains practically the same. As previously explained this is chiefly due, where an increase occurs, to the slight gradual decrease in the average per cent. of fat, and possibly casein in the milk from year to year, the granting of 1/4 lb. up beam in shipping weight, and a short fall make, as many of the cheese factories turn to buttermaking in the early fall.

The oft-repeated statement that "In the early days of cheesemaking, 10 lbs. of milk only was required to make a pound of cheese for the season while in these days nearly 12 lbs. are required" requires considerable readjustment to square with the actual facts. Available records back to 1867 (About the beginning of cheesemaking in Western Ontario) furnish no evidence to indicate that 1 lb. of cheese from 10 lbs. of milk for the season was ever a common practice.

Comparing milk prices for the month of June, 1914, for different dairy products we find that cheese factories paid about \$1.00 net per 100 lbs. milk, plus the whey returned, creameries about \$0.70 cents per 100 lbs. milk testing 3.2% fat, plus the skim-milk. The powdered milk factories and two of the milk condensers we

understand paid \$1.06 per 100 lbs. for milk testing 3.5% fat and deducted 3 cents per 100 lbs. milk for each one-tenth percent fat the milk tested below 3.5% (No by-products returned). The average test of cheese factory milk in June was 3.2%. There is no reason to suppose the average test at other factories was higher, therefore milk testing 3.2% fat would on the above basis be worth \$0.97 cents, and 3% milk \$0.91 cents per 100 lbs. We understand that two other milk condensers paid \$1.10 per 100 lbs. milk (No by-products returned).

Cattle Out Strong at Winnipeg Industrial.

The Winnipeg Industrial Exhibition furnished some pleasing surprises this year—pleasing because they indicated a rapid advance. New stock barns were required to house the increased entries, and cattle, both dairy and beef, excelled all previous Winnipeg shows. Nearly 600 head of bovines were in the stalls, a little over half of which were dairy cattle, indicating the progress which dairying and mixed farming is making in the great West. Of the horses ponies made the hit in increase of numbers. The weather was not good, but new walks and paths kept the grounds in better condition than upon former occasions. Winnipeg turned out large crowds, but many country people were kept away by threatening weather.

HORSES.

Horses are not in the demand which they enjoyed a few years ago, and this may have had some effect on the show, which was not as large as last year. Some excellent individual animals were in the stalls, but some of the classes did not furnish very keen competition.

Aged Clydesdales were few in number, and this breed did not make its usual strong showing. Percherons were not numerous, notwithstanding the fact that the management increased the prize money very considerably.

CLYDESDALES.—Clydesdales were exhibited by A. Galbraith, Brandon; C. & D. McDonald, Russell, Man.; J. M. Webster, Cartwright, Man.; R. H. Bryce, St. Charles, Man.; A. Popple, Louise Bridge; Jas. Adamson, Gladstone, Man.; J. E. Martin, Condie, Sask.; D. Little, Portage la Prairie; Matt Gibb, Morden; J. J. Miller, Myrtle; Andrew Graham, Pomeroy, Man.; T. Wishart, Portage la Prairie; Fred Brook, Elgin; Trotter & Trotter, Brandon; Alex. Steele, Glenboro.

Prince Ivory, by Black Ivory, a well-made, compact horse of high quality, won the aged stallion class for Webster, closely followed by Galbraith's Proud Edward, by Royal Edward. Galbraith stood third with McDonald, by Dundonald, and McDonald fourth with Edward, by Pride of Balcon. It was not a strong class.

The three-year-old class furnished the champion in the well-known Charnock, by Criterion, which won his class for Galbraith; Adamson's Rob Roy, by Burdon Boy, was second, and Bryce got third on Doune Lodge Revelanta, by Revelanta's Heir.

Two-year-old stallions were headed by Everest Headlight, a high quality horse, which afterwards stood reserve, owned by Martin; Gay Palmerston was second for Galbraith, and Prince Earnside, by Black Ivory, third for Trotter.

Yearlings were not an exceptional class, and were headed by Sweetheart's Pride, by Lord George, a Miller entry.

The female sections were not strong, but furnished some good competition.

Brood mare with foal: 1, Gibb, on Marchioness, by Royal Favorite; 2, Graham, on Lady Kipling, by Dunure Kipling; 3, Bryce, on Blossom of Keith, by Royal Blanch; 4, Little on Seascale Flower, by Sir Everest.

Yield mare any age: 1, Little on Gay Ruby, by Ruby Pride, a grand mare; 2, Wishart, on Darling Belle; 3, Gibb, on Miss Dee, by Baron O'Dee; 4, Wishart, on Princess of Lucan.

In three-year-olds Martin was first with Graham second and third, while in two-year-olds Graham was first and second with Porterfield third and Little fourth.

A few good yearlings came forward, and Pearl Guide, by Fyvie Stamp, and owned by Martin, beat Little's Nina of Maple Grove, and the Bryce & Brook entries.

Futurity colts were led by Miller's Sweetheart's Pride, while in fillies Pearl Guide was the winner, and she was also champion Canadian-bred female. Sweetheart's Pride won like honors in males.

Shires were exhibited by M. C. Weightman, Morden, Man., and Finch Bros., Fargo, North Dakota; the former winning in yearling stallions and yield mares, while the Dakota stud took first honors in the older stallion classes.

Belgians and Suffolks made a very creditable showing, although few in numbers.

PERCHERONS.—Exhibitors: Finch Bros., Fargo, N. D.; E. O. & O. O. Ellison, La Moure, N. D.; and R. P. Stanley, Moosomin, Sask.

A class of three aged stallions was headed by Finch's Killdeer, a very fine quality horse, show-

The Western Provinces are producing greater quantities of butter each year and taking this along with the present market conditions into consideration it would seem that so far as Western Ontario is concerned the required limit of butter production necessary to supply the demand has probably been reached. Should a surplus develop, production will then swing back to cheese until a balance of prices and output are again reached.

F. HERNS,
Chief Dairy Instructor for Western Ontario.

ing good action. Ellison was second and Finch third.

A great, big three-year-old named Hurra led for Roberts, with Lubeck second for Stanley.

Garson, Finch Bros' good colt, led the two-year-olds, while Ellison captured the yearling class with Fearless.

Finch's Killdeer was made champion. Finch Bros. took all the best of the money in females, including the championship on Kernerque.

Light horses and ponies made a strong feature of the entire exhibition, and some real world-beaters were forward, including King Larigo, a pony which has won in the Old Land and at Madison Square Garden, N. Y.

CATTLE.

SHORTHORNS.—As usual the Shorthorn was the "big show" in cattle. It was a show worth going miles to see, and Harry Smith, of Hay, Ont., had his work cut out for him in judging. Carpenter & Ross, of Mansfield, Ohio, and J. A. Watt, of Salem, Ont., had herds out competing with the Western breeders, notably J. G. Barron, Carberry, Man., and H. L. Emmert, of Oak Bluff, Man. Old Gainford Marquis came back and carried off championship honors, and his son Gainford Perfection stood junior champion. The old show bull has proven himself a sire as well.

Awards.—Aged bull: 1, Emmert, on Gainford Marquis; 2, Carpenter & Ross, on Craighill; 3, Emmert, on Browndale; 4, Barron, on Huntlywood 8th. Bull, 2 years: 1, Watt, on Lavender Scott; 2, Carpenter & Ross, on Maxwalton Renown; 3, Emmert, on Sittyton Selection. Bull, senior yearling: 1, Barron, on Fairview Again; 2, Watt, on Ideal Gainford. Bull, junior yearling: 1, Watt, on Gainford Perfection; 2 and 3, Carpenter & Ross, on Maxwalton Revolution, and Opportunity; 4, Emmert, on Oak Bluff Champion. Senior bull calf: 1, Barron, on Fairview Jubilee King; 2, Watt; 3 and 4, Emmert. Junior Bull calf: 1, Carpenter & Ross; 2, Watt; 3, Barron. Cow, 3 years and over: 1 and 3, Emmert, on Thelma 2nd, and Fair Start 2nd; 2, Carpenter & Ross, on Maxwalton Gloster; 4, Watt, on Jealousy 4th. Heifer, 2 years: 1 and 5, Emmert, on Sittyton Lady 3rd, and Burnbrae Wimple; 2 and 3, Carpenter & Ross, on Maxwalton Roan Lady, and Rosebud; 4, Watt, on Irviside Emmeline. Cow in milk: 1 and 4, Barron, on Emma, of Oak Bluff, and Morning Glory; 2, Carpenter & Ross, on Banner Fortune; 3, Watt, on Village Queen. Heifer, senior yearling: 1 and 3, Carpenter & Ross, on Mina 6th, and Maxwalton Crown Rose; 2, Watt, on Duchess 5th; 4, Barron, on Fairview Baroness Queen. Heifer, junior yearling: 1 and 3, Carpenter & Ross, on Maxwalton Jubilee, and Gloucester 7th; 2, Emmert, on Ury Queen; 4, Barron, on Morning Glory 2nd. Senior heifer calf: 1, Emmert, on Duchess of Lancaster; 2, Barron, on Fairview Jubilee Queen 3rd; 3, Carpenter & Ross, on Foxglove 3rd; 4, Watt, on Stately Lady.

Thelma 2nd was senior and grand champion female, with Mina 6th junior and reserve grand.

HEREFORDS.—Up from Montana came the great Hereford herd of A. B. Cook to do battle with L. O. Clifford, of Oshawa, Ont., and J. A. Chapman, of Hayfield, Man. The American herd had the best of it in older bulls, while Clifford's youngsters were invincible.

Awards.—Aged bulls: 1, Cook on Fairfax 16th; 2, Chapman, on Beau Albion; 3, Clifford on Refiner. Bull, 2 years: 1, Cook, on Beau Perfection 23rd; 2, Chapman, on Governor Hadley. Bull, senior yearling: 1, Cook, on Standard 2nd. Bull, junior yearling: 1 and 3, Clifford, on Lord Fairfax and Glory; 2, Chapman, on Beau Albion. Senior bull calf: 1, Cook, on Panama; 2 and 3, Clifford; 4, Chapman. Cow, aged: 1 and 2, Clifford, on Miss Perfection Lass, and Miss Brae 26th; 3, Chapman, on Gay Lass 5th; 4, Cook, on Bonnie Lass 7th. Heifer, 2 years: 1, Clifford, on Miss Brae 40th; 2, Chapman, on Miss Fairfax.

Cook's senior yearling heifer Joy was grand champion female, beating Clifford's great aged cow, Miss Perfection Lass. Clifford was first in graded herd and second in junior herd and group of two calves. He also got the best of the money in the younger female classes.

ABERDEEN-ANGUS.—J. D. McGregor, of Brandon, Man., and Jas. Bowman, of Guelph, Ont., fought it out once more with their herds of the best that is in Angus cattle. McGregor got

both championships, but had to fight all the way to win against Bowman's strengthened herd.

Awards.—Aged bulls: 1, McGregor, on Everaux of Harvieston; 2 and 3, Bowman, on Elm Park Wizard, and Young Leory. Bulls, 2 years: 1, Bowman, on Beauty's Erwin. Bull, senior yearling: 1, Bowman, on Union Lad. Bull, junior yearling: 1, McGregor, on Just Pride of Glencarnock; 2, Bowman, on Wizard 3rd. McGregor won the calf classes. Aged cow: 1, McGregor, on King of Heather 2nd; 2 and 3, Bowman, on Beauty 4th, and Rosebud 11th. Heifer, 2 years: 1 and 2, Bowman, on Pride 12th and Rosebud 15th; 3, McGregor, on Ella of Morlick. Senior yearling heifer: 1 and 3, McGregor, on Eva of Glencarnock, and Missie of Glencarnock 2nd; 2, Bowman, on Elm Park Pride. Junior yearling heifer: 1 and 3, McGregor, on Eileen of Glencarnock and Elcona of Glencarnock; 2, Bowman, on Rosebud 16th. The calf classes were divided. McGregor got first in herd prizes, while Bowman won on get of sire and on two calves under one year.

DAIRY CATTLE.

The dairy cattle were shown to a great disadvantage, the stables being in a very bad condition. As far as cattle were concerned it was the best show of producers ever staged in Winnipeg. A. C. Hallman, of Breslau, Ont., judged Holsteins, Ayrshires and Jerseys, and Dean Rutherford, of Saskatoon, placed Guernseys and Red Polls.

HOLSTEINS.—The show of this breed came from the herds of E. C. Shroeder, Moorehead, Minn.; L. H. Lipsitt, Straffordville, Ont.; Logan & Dickie, Edmonton, Alta.; A. B. Potter, Langbank, Sask.; H. H. Hancox, Dominion City, Man.; and H. W. Hodgkinson, Neepawa, Man. The first three mentioned got most of the money. In males the Minnesota herd and that of Logan and Dickie divided first and second places with Lipsitt generally coming in for third money; while in females Lipsitt took several firsts. Shroeder got both championships.

AYRSHIRES.—Only one Eastern herd, and that a new one, was forward, J. Boden, Danville, Que., being the owner. R. Ness, De Winton, Alta.; J. W. Briggs, Winnipeg; Wm. Braid, Oak River; W. H. Mortson, Fairlight, Sask., and R. H. Bryce, St. Charles, Man., were the other exhibitors, and a good fight was put up. Ness had the strongest entry and won the championship and herd prizes, and a high place in every class.

JERSEYS.—G. G. Slade, of Bear Lake, Minn., made things interesting in Jerseys for B. H. Bull & Son, Brampton, Ont., and J. Harper & Sons, Westlock, Alta., and two smaller exhibitors E. L. Drewry, Winnipeg, and E. E. Blore, Winnipeg. The first three exhibitors divided the money fairly evenly, with Slade and Bull getting the best of it. Slade got both championships, but Bull took the greater number of firsts in the female classes, and captured first on junior herd. Guernseys and Red Polls made a much better showing than usual, with good United States herds competing with Western Canada cattle.

SHEEP.

The sheep display was little different from that of last year, with a few new faces at the ringside. Robert Miller, of Stouffville, Ont., placed the awards. In Cotswolds McGregor & Bowman, of Brandon, met S. Dolson, of Norval Station, the former getting five reds, two blues and one championship; while Dolson took three reds, five blues and the female championship.

No Eastern breeders were out with Leicesters. In Southdowns Rob't. McEwen, of Byron, Ont., cleaned up over F. T. Skinner, a Western exhibitor.

A. McEwen, of Brantford, Ont., took the best of the money in Shropshires in competition with W. L. Trann, of Crystal City, Man., and F. F. Skinner. Besides many firsts McEwen got both championships.

As usual Peter Arkell & Sons, of Teeswater, Ont., were there with Oxfords, and although two good Western flocks lined up against them they got the best in everything.

A. McEwen got all that was worth while in Hampshires, and Jas. Bowman, of Guelph, Ont., got the best of it in Suffolks, while J. A. Chapman was the only exhibitor of Dorsets.

PIGS.

The exhibit of swine was larger than usual, and some went so far as to say that the Berkshire show was the best ever seen in Canada. Very few Eastern pigs went West this year. Sam Dolson & Son, of Norval, having out a herd of Berkshires, on which they did well in hot competition. They also won two firsts on pens of bacon hogs.

Dry in North York.

Editor "The Farmer's Advocate":

We are having a very dry season in North York, the driest for many years, but the crops of different kinds are looking fairly well. Hay was light but of good quality, and is all harvested. Fall wheat was badly winter-killed, and will be about half a crop. Barley and oats look well, but are short in straw. Roots are doing

well considering dry weather. Rain is very much needed and must come soon to help us.
York Co., Ont. S. LEMON.

The Nature of the Army Worm Depredations.

It is hard to conceive what natural conditions have existed to make the depredations of the army worm so extensive this season. They have appeared in various parts of Ontario, in numbers sufficient to cause alarm, while in a few townships the injury done by this pest has been extremely serious.

In Burford Township, in the County of Brant, the worm has probably done more damage than in any other area of similar extent. Here, natural conditions were favorable and the outcome has been very discouraging to some farmers. Readers should remember that the army worm does not march for miles causing destruction right and left. Their nature and life history do not permit of that peculiarity. The parent, a dark-colored, small moth, lays her eggs in flat or low land and here the young are hatched in about six days. The moth is capable of laying seven hundred eggs or more which makes the brood enormous when moths are numerous. Sedges and grass, native to low land, are the natural food of the worm when it hatches from the egg, but when this food supply is exhausted they must of necessity seek it elsewhere. Then, and not till then do they begin to seek out the field crops or higher pasture land and cause the damage which has been so severe this season. There is no doubt but that this same worm exists every year, only in much smaller numbers and only on account of peculiar natural conditions have they become so serious in 1914. Parasitic insects and fungus disease keep them in check, but nature has lost her balance this summer and the worms have triumphed. Furthermore, the habit of the army worm is to feed during the evening and night time and when food is plentiful to conceal itself during the day. This has led to their existence being unnoticed until the damage done became enormous and attracted attention. The young larvae or worms live in this stage for upwards of a month and in many cases never leave the field in which they are hatched. It is not probable that the parent would deposit her eggs in a grain or corn field when grass land is near, but they are left in various places and their appearance in a field does not imply that they have come any great distance. Those not having experience with the insect can now understand why they have gone to such a length before being curtailed or controlled by the farmers.

Running across Burford Township for a distance of about nine miles is an area of flat land, known as the Kenny Creek, and Whiteman's Flats and on this land, the insect has been bred most largely. Consequently crops on this soil have suffered as have the neighboring fields, but the infestation has not been general in the most destructive degree. One man may lose pasture, grass and field crops, while a neighbor would apprehend only a few worms in the field and, while some have suffered an extensive loss, the onslaught has not been general. Wm. Milmine has been one of the losers and we cite this one instance to give readers an idea of the nature of their work. Forty acres of pasture were laid entirely bare of the grass that cattle usually feed upon, while a corn field which had been cultivated twice and hoed once looked as bare as a summer fallow to a representative of the paper on July 24th. A timothy meadow, capable of yielding from 2 to 2½ tons per acre was made unprofitable to cut, and some which was mowed yielded only half a crop. The bottom which is usually green on that flat land was dry and lifeless, and covered with the excrement of the worms. On the same day the insects were working in an

oat field, and causing considerable damage. The young worm goes to the top of the plant and eats the tender parts or cuts the grain off, leaving a bare stalk. In the corn, they begin at the top and eat it to the ground but in larger plants they find their way to the heart and devour it. Burford Township was not the only one in Brant County suffering from the army worms, it has been reported throughout the County, and Mr. Milmine being Warden of the County Council, and knowing the significance of the pest called a special meeting. Five hundred dollars were appropriated to fight the pest and placed in the hands of the District Representative, Roy Schuyler. Efforts are being put forth to curtail the work of the worm, but they still exist in divers localities in diminishing numbers.

Oxford, Middlesex, Kent, Lambton and in fact many Ontario counties report the worm, but the season for their depredations is now drawing to a close and it is to be hoped that the worst is past. The Ontario Agricultural College, and the Dominion Entomological Department have had men in the field to engineer the work, and farmers should remember that these institutions exist and are always at the disposal of the rural people for whom they are established. These departments have done good work and deserve the gratitude and future recognition of the people. The District Representatives too have been foremost in warding off attacks and demonstrating methods of controlling the worm.

Outbreaks in the near future are problematical. The parasitic insects which destroy the army worms and keep them in check have been discovered at their work and the worms may pupate or go into the changing state never to come out, thanks to the actions of the tachina and ichneumon flies, the deadly enemy of the army worm.

An Important Conference.

The Rural Teachers' Conference, to be held at the Ontario Agricultural College August 3rd to 7th inclusive, should draw a large number of delegates and others interested in the advancement of technical agricultural education. The meetings are open to anyone interested in rural problems. Railway tickets should be purchased on the standard certificate plan. If interested write Prof. S. B. McCready, O. A. C., Guelph, for program, which contains among those to address the gathering the names of many of the professors at the O. A. C., the Director of Elementary Agricultural Education, Rev. John MacDougall, author of "Rural Life in Canada"; H. W. Focht, Specialist in Rural Education, Washington, D. C.; Taylor Statten; Miss Jessie Field, of New York; L. H. Newman, Secretary of the Canadian Seed Growers' Association, and Dr. Jas. W. Robertson, Chairman Royal Commission on Technical Education.

Lethbridge Exhibition.

The horse department of the Lethbridge Exhibition had a distinctly Percheron complexion, owing to the number and quality of the exhibit, and the strong feature which was made of the Futurity. The number of horses and cattle brought out were in sympathy with the slowing-down condition of things generally while the hog and sheep pens were completely filled.

Jureur was still king of the Percherons, but Lord Nelson by Halifax looked good to the Percheron men and stood reserve. In the females, Bonnie Belle was champion and Mary Black, the reserve champion at Calgary, won like honors at Lethbridge. In Clydesdales, Scotland's Gallant won the aged stallion class and the highest honors of his breed, and Maggie Fleming occupied a similar position among her female competitors.

On Missie's Prince, Yule & Bowes won the Shorthorn bull championship. The best female

on the grounds was Sittyton Rosebud, the two-year-old first-prize heifer. She was exceedingly smooth and nicely lined. The Doddies and Herefords made a good showing, while the Ayrshires, Holsteins and Jerseys brought out some of the best stables of the West.

Why the Army Worm is Here.

Editor "The Farmer's Advocate":

The prevalence of the army worm in numbers this year is undoubtedly due, in brief, to 1, suitable climatic conditions favorable for the development of the insect; and 2, lack of parasites and predaceous enemies during the first brood of caterpillars, which developed from eggs laid during the previous late summer. In almost every instance where invasions of this insect have occurred in Canada, the injury has been done by the brood of caterpillars which appeared in July from eggs laid by moths which developed from over-wintered larvae.

Dry weather is certainly favorable to the life of the army worm, and spring conditions obtaining in 1913 and 1914 were specially suitable to abnormal increase in numbers of such an insect. In 1896, the previous army worm year the summer was dry, as was also the season of 1895. As to the presence of parasites in the present outbreak, there is no evidence to show that these useful insects are not now busily at work. In fact, investigation indicates a very large percentage of parasitism, particularly by the tachina fly, Winthemia. Other parasites are also doing splendid service.—ARTHUR GIBSON, Chief Assistant Entomologist, Ottawa.

Stallions Enrolled.

The stallion year for 1913-14 ends with the 31st of July. During the stallion year 1912-13 there were 2,760 horses enrolled. Up to July 20th, 1913-14 there were 3,150 enrolled, being an increase of 400 over the previous year.

All stallion owners who have not enrolled should avail themselves of the remaining few days to do so, as after August 1st, it will be too late.

The following table gives the number of stallions enrolled in the eleven largest horse counties in the Province.

NUMBER OF STALLIONS ENROLLED.			
County.	1913.	1914.	
Bruce,	103	114	
Grey,	108	121	
Huron,	112	132	
Kent,	130	136	
Lambton,	113	129	
Middlesex,	128	155	
Ontario,	101	106	
Perth,	81	101	
Simcoe,	139	155	
Wellington,	104	114	
York,	119	144	

Drouth in Frontenac.

Editor "The Farmer's Advocate":

Frontenac County is suffering from extremely hot and dry weather, and a very light crop of hay has been safely gathered in. Our land is too light for dry seasons. Early potatoes and the barley crop are past remedying now, and the oat crop has looked well until the last few days. Fall wheat is a good crop, but the acreage is very small. Silo corn in some places has decided to wait for rain, but where it has been properly cultivated it is holding a good color and growing. Pasture fields on high and rocky land, of which our county has rather more than its share, are nearly barren, and the milk flow has gone down 30 per cent.

Frontenac Co., Ont. BYRON GORDON.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, July 27th, numbered 91 carloads. Cattle prices were stronger for best grades. Choice steers, \$8.50 to \$8.75; good, \$8.25 to \$8.50 medium, \$7.50 to \$8.00; heifers, \$8.15 to \$8.35; common, light steers and heifers, \$6.75 to \$7.75; bulls, \$5 to \$7.25; cows, \$3 to \$7; feeders, \$6.50 to \$7; stockers, \$5.50 to \$6.25; milkers and springers, \$45 to \$100; veal calves, \$6.50 to \$11. Sheep, \$3.50 to \$6.25; yearlings, \$7 to \$8; lambs, \$9 to \$10 per cwt. Hogs, \$9 fed and watered, \$8.75 f. o. b. cars, and \$9.25 weighed off 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	28	305	333
Cattle	610	3,440	4,050
Hogs	154	7,705	7,859
Sheep	397	3,309	3,706
Calves	132	963	1,095
Horses	67	45	112

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

	City.	Union.	Total.
Cars	38	393	431
Cattle	708	6,019	6,727
Hogs	263	5,944	6,207
Sheep	1,054	4,381	5,435
Calves	266	996	1,262
Horses	—	2	2

The combined receipts of live stock at the City and Union Stock-yards for the past week show a decrease of 98 cars, 2,677 cattle, 1,729 sheep and lambs, 167 calves; but an increase of 1,652 hogs,

and 110 horses, compared with the same week of 1913.

Receipts of cattle were fairly large, but not more than equal to the demand. In all other classes of live stock the supply was barely enough to supply the call. The supply of choice cattle was not as large as for the previous week, and none were exported, all being used by the local abattoirs and wholesale butchers, at prices which were about 25c. per cwt. in advance of the previous week. Light weight, common, grassy steers and heifers sold at about 25c. to 30c. per cwt. cheaper, as the bulk of the offerings were common and medium quality. There was a fair demand for choice feeders and stockers, of which there was not enough to supply the demand. There was an improved demand for fresh milkers and forward springers, prices for which were firmer, several during the week reaching the \$100 mark

and one or two crossed that mark at \$105 to \$110.

Butchers' Cattle.—Choice steers sold at \$8.40 to \$8.65, and one load of extra quality steers was sold at \$8.90; good steers and heifers, \$8.25 to \$8.40; medium, \$7.85 to \$8.15; common, \$7.25 to \$7.75; inferior, light weight grass steers and heifers, \$5.50 to \$6.75; choice cows, \$6.75 to \$7, with a few at \$7.25; good, \$6.50 to \$6.80; medium cows, \$5.75 to \$6.25; common cows, \$5 to \$5.50; canners, \$2.50 to \$3.75; bulls, at \$5 to \$7.25.

Stockers and Feeders.—Choice feeders, \$7 to \$7.25; good, \$6.50 to \$7; stockers, \$5.25 to \$6.25.

Milkers and Springers.—A fair supply but not enough, sold at \$50 to \$105 each, the bulk going at \$70 to \$90 each.

Veal Calves.—Choice calves sold at \$10 to \$11 per cwt.; good calves, \$9 to \$10; medium, \$8 to \$9; common calves, at \$7



"Safety First"

You hear these words everywhere, and the thought they contain should be heeded particularly by bank depositors.

Since 1832 we have provided the public with a safe place for their money. Our Reserve Fund of \$11,000,000 is now 183% of our Paid-up Capital and we constantly maintain adequate holdings of Cash Assets. We invite Savings Accounts, large and small.

The Bank of Nova Scotia

Capital - - - - - \$ 6,000,000
Surplus - - - - - \$11,000,000
Total Resources - - - - - \$17,000,000

BRANCHES OF THIS BANK in every Canadian Province, and in Newfoundland, West Indies, Boston, Chicago and New York

to \$8; and inferior eastern, rough calves sold from \$5.50 to \$6.75 per cwt.

Sheep and Lambs.—Sheep, light ewes sold at \$5.50 to \$6.25; heavy ewes and rams, \$3.50 to \$4.50; yearling lambs at \$7 to \$8 per cwt.; spring lambs sold from \$9 to \$11 per cwt., and light feeding lambs sold down to \$7.50 per cwt. Hogs.—Receipts being moderate, prices increased until at the end of the week selects, fed and watered, sold at \$9.10, and \$8.75 f.o.b. cars; and \$9.40 weighed off cars.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 98c. to 99c., outside; Manitoba, No. 1 northern, 94½c., track, bay points; No. 2 northern, 93c., bay points.

Oats.—Ontario, new, white, No. 2, 39c. to 40c., outside; 41½c. to 42½c., track, Toronto; Manitoba, No. 2, 42½c.; No. 3, 42½c., lake ports.

Rye.—Outside, 63c. to 64c. Peas.—No. 2, 98c. to \$1.03, outside. Buckwheat.—No. 2, 88c. to 90c., outside.

Corn.—American, No. 2 yellow, 76c., track, Port Colborne.

Barley.—For malting, 56c. to 58c., outside. Manitoba barley for feed, 5½c., track, bay ports.

Rolled Oats.—\$2.25 per bag of 90 pounds.

Flour.—Ontario, 90 per cent, winter-wheat patents, \$3.60 to \$3.65, bulk, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.50; second patents, \$5.10; in cotton, 10c. more; strong bakers', \$4.80, in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$14 to \$14.50; No. 2, \$13. Straw.—Baled, in car lots, \$8 to \$8.50.

Bran.—Manitoba, \$25, in bags, track, Toronto; shorts, \$26; Ontario bran, \$23, in bags; shorts, \$26; middlings, \$28.

HIDES AND SKINS.

No. 1 inspected steers and cows, 14c. to 14½c.; No. 2 inspected steers and cows, 13c.; city hides, flat, 14c.; country hides, cured, 15c.; calf skins, per lb., 16c.; lamb skins and pelts, 35c. to 50c.; horse hair, 37c. to 38c.; horse hides, No. 1, \$3.50 to \$4; tallow, No. 1, per lb., 5½c. to 7c.; wool, unwashed, coarse, 17½c.; fine, unwashed, 19c.; wool, washed, combings, coarse, 26c.; wool, washed, combings, fine, 27½c.

COUNTRY PRODUCE.

Butter.—Receipts were liberal and prices easy. Creamery pound rolls, 24c. to 26c.; creamery solids, 24c.; separator dairy, 22c. to 23c.; store lots, 20c. Eggs.—New-laid, firm, at 23c. Cheese.—New, large, 12½c.; twins, 11c.

Beans.—Imported, hand-picked, \$2.40; Canadians, hand-picked, \$2.40; primes, \$2.25 per bushel.

Potatoes.—Old potatoes are off the market, but new Ontarios are selling at \$1.50 per bag; and, American at \$4 to \$4.25 per bbl.

Poultry.—Live weight: Spring chickens, 20c. to 25c. per lb.; hens, 14c. per lb.; ducks, old, 10c. to 12c. per lb.; spring ducks, 14c. to 16c. per lb.; turkeys, 16c. to 22c. per lb.

FRUITS AND VEGETABLES.

Receipts for both fruit and vegetables for the past week were large. Prices by the 11-quart basket unless otherwise specified.

Blueberries, \$1 to \$1.25 per basket; cherries, red, 45c. to 60c. per basket; currants, red, 40c. to 50c. per basket; black currants, \$1 to \$1.25 basket; gooseberries, 35c. to 65c. basket; lawnberries, 15c. to 20c. quart; plums, Canadian, 40c. to 45c.; raspberries, 10c. to 11c. per box; watermelons, 30c. to 45c. each.

Beets, 15c. to 25c. per dozen bunches; beans, 20c. to 25c. basket; celery, 35c. to 40c. per dozen; corn, \$1.50 to \$1.75 per sack; cucumbers, 85c. to 50c. basket; egg plant, \$1.25 basket; onions, green, Canadian, 40c. basket; lettuce, head, \$1.50 per box; parsley, 30c. per basket; peas, 35c. to 40c.; basket; peppers, green, 40c. to 60c. basket; turnips, white, 35c. basket; tomatoes, 45c. to 60c. basket; vegetable marrow, 30c. to 40c. basket.

Montreal.

Supplies of cattle continued limited in the local market. This is no doubt largely due to the hot weather which prevailed and to the fact that this is the holiday season and a large number of people are out of town. Consumption, in any case, is light, this being partly brought about by the very high prices which prevail. A few choice steers were reported at 9c. per lb., but it may be taken for granted that there was very little at this price. Choice stock, in fact, sold at 8½ to 8¾c. per lb., and it was none too easy to get this figure and the stock had to be good. Fine was quoted at 8½c. and good at 7½c. to 8c. with some stock at 7½c. per lb. Medium was 6½c. to 7½c. and common ranged all the way down to 4½c. and 5c. per lb. for bulls and stocker heifers. There was a very fair demand for lambs and prices were fractionally higher. Sales were made at \$4 to \$6 per head. Common sheep sold at 4½c. to 4¾c. per lb. Calves were in good demand also, and prices ranged from \$3 to \$5 each for common and up to \$12 each for good. Hogs were 9½c. to 9¾c. per lb. for light and 8c. to 8½c. for heavy.

Horses.—The market for horses was very dull and there has been no change in price worthy of mention for a long time past. Supplies were light so that the tone of the market was firm.

Dressed Hogs.—Abattoir-dressed, fresh-killed hogs were fairly firm in price, at 12½c. per lb.

Eggs.—There was a slightly firmer tone to the market for select eggs. Ordinary stock was unchanged. The quality of the stock was affected by the heat, and local merchants resolved amongst themselves to buy on quality only. Single cases of selected stock continued at 27c. per doz.; straight receipts, according to quantity, ranged from 22½c. to 24c.; single cases of No. 1 candled stock were 23c. and No. 2 stock was 20c. to 21c. per doz. Syrup and Honey.—A little new honey was offered and there was some demand. Prices were 13c. to 13½c. per lb. for white clover comb honey, 10c. to 11c. for extracted; 12½c. to 13c. for dark comb and 6c. to 7½c. for extracted.

Syrup was dull at 55c. to 80c. for tins of from 8 to 11 pounds. Sugar was 7½c. to 8c.

Butter.—The tone of the market for creamery was firm. Receipts continued much lighter than those of a year ago and this naturally exercised an influence on prices. Of late, there has been some enquiry from Vancouver, though it is not known whether business has been closed or not. Choicest stock was quoted at 24½c. to 24¾c. per lb. and fine at ½ to ¾c. less while seconds sold around 23c. per lb. Manitoba dairy butter was 20c. to 21c. per lb. and Ontario 21½c. to 22½c. per lb.

Cheese.—The market for cheese showed considerable strength. Offerings were not large and are likely to be smaller unless the grass improves. Prices were 13c. to 13½c. per lb. for Western colored and white, and 12½c. to 12¾c. for Eastern colored and ¼c. less for white.

Grain.—There was a fair demand for oats in car lots and prices were 44c. per bushel for No. 2 Canadian western and 43c. for No. 3 and 42½c. for No. 2 feed.

Flour.—The demand for flour has been limited for some time past. Prices have continued steady and there was still little or no change. Manitoba wheat is not likely to turn out as large a crop as a year ago, but the flour was unchanged in price, as follows: First patents \$5.60, seconds at \$5.10 and strong bakers at \$4.90 per bbl. Ontario patents, \$5 to \$5.25 per bbl. and straight rollers at \$4.70 to \$4.75 per bbl. Manitoba quoted in jute and Ontarios in barrels.

Feed.—Sales of bran were still being made at \$23 per ton, in bags. Shorts sold at \$25 and middlings at \$28 per ton. Mouille was in fair demand and prices were \$28 to \$29 per ton for mixed and \$30 to \$32 for pure.

Hay.—Supplies of hay seem to be on the light side. Prices were firm but very little changed, being as follows: Carlots of No. 1 hay, on track, \$17 to \$17.50; extra good No. 2 hay, \$16 to \$16.50; No. 2 hay, \$15 to \$15.50.

Buffalo.

Excessive receipts at Buffalo the past week had the effect of depressing prices substantially, shipping cattle, selling from 25 to 40 cents lower, with butchering grades mostly a quarter. There were something like seventy cars of Canadians and they ran mostly to better weight steers, supply in this division figuring around sixty-five cars. Excepting a few tippy loads of Canadians, which sold from \$9.25 to \$9.30, most of the offerings ran to the fairish kinds, and the eastern order buyers were not inclined to take hold of these, preferring the natives, most of which were pretty well cleaned up, top weighty steers selling at \$9.50. Trade at western markets for the preceding week closed up very bad and lower, with the exception of some choice weighty steers and this bad finish for the week, together with the fact that the beef trade was reported in anything but good shape in the east and the further reason that Jersey City had quite a few pretty good Virginia cattle, made it an up-hill pull for sellers. All of the Canadians had not been sold on Monday and during the week some were taken for Philadelphia but even with this outlet, some of these Canadian shipping steers were still in first hands at the close of the week. Cow stuff sold mostly a quarter lower, canners showing as much as half a dollar decline. Stockers and feeders brought barely steady prices, supply of half a dozen loads running mainly to the little Montreal stuff, some tail-ends of which sold below a nickel. Fleshy and fat bulls brought about steady prices, some fancy ones running up to \$7.50 to \$7.65, but this sausage grades were a dime lower. Dairy cows showed about a steady level, some good Canadian cows selling especially satisfactory. It was the largest delivery of Canadian cattle since the tariff was removed and an excessive run from that quarter was no doubt caused by the market the preceding week being especially high on these, in fact it was about the highest market on Canadians within the history of the yards. Killers in the east are looking for strictly prime steers now, the medium finished grades being neglected, when the best are offered. Receipts the past week totalled 6,650 head, as against 4,800 for the preceding week and as against 4,700 head for the corresponding week last year. Quotations: Choice to prime shipping steers, 1,250 to 1,500 lbs., \$9.25 to \$9.50; Fair to good, \$8.60 to \$8.90; plain and coarse, \$8.25 to \$8.40; Choice to prime handy steers, \$8.40 to \$8.85; Fair to good, \$8.25 to \$8.35; Light common, \$7.50 to \$7.85; Yearlings \$8.25 to \$9.00; Prime fat heifers, \$8.00 to \$8.25; Good butchering heifers, \$7.75 to \$8.00; Light, \$7.00 to \$7.75 Best heavy fat cows, \$7.00 to \$7.25; Good butchering cows, \$6.00 to \$6.75; Canners and cutters, \$3.40 to \$5.00; Best feeders, \$6.90

to \$7.25; Good, \$6.65 to \$6.85; Best stockers, \$6.25 to \$6.85; Common to good, \$5.50 to \$6.00; Best bulls, \$6.75 to \$7.50; Good killing bulls, \$6.25 to \$6.75; Stock and medium bulls, \$5.00 to \$6.00; Best milchers and springers, \$75.00 to \$90.00; Good, \$55.00 to \$65.00; Common, \$35.00 to \$50.00.

Hogs.—Very uniform hog market last week, prices being held within a fifteen cent range, the spread being from \$9.50 to \$9.65. Heavy hogs were very dull the latter part of the week and were not wanted, unless the prices were ten to fifteen cents under grades weighing around 200 lbs. Around twelve decks of Canadians the past week. Monday, six decks moved at \$9.30, and Thursday, five decks brought \$9.45 to \$9.50. Roughs \$8.00 to \$8.15, stags \$6.50 to \$7.50. Receipts: The past week, 25,120; preceding week, 28,960; year ago, 27,040.

Sheep and Lambs.—Lambs were stronger nearly every day the past week, Monday general range on tops being from \$8.00 to \$8.25 and before the week was out, choice ones sold up to \$8.75. Culls the first part of the week sold from \$6.50 down and Friday some reached up to \$7.00. Handy sheep were scarce and strong, while heavy ones were slow. Best wethers sold at \$6.00 to \$6.10 and ewe range was from \$3.50 to \$5.00, as to weight, heavy ones \$3.50 to \$4.00. Receipts: Past week, 7,600; previous week, 8,400; year ago, 12,200.

Calves.—Top veals the first four days the past week sold at \$10.75 to \$11.00, and on Friday, under a red-hot eastern demand, prices were jumped seventy-five cents, best reaching up to \$11.50 to \$11.75. Culls \$10.00 down and common to good grassers \$5.00 to \$6.50. Two decks of Canadian grass calves were offered the latter part of the week and have not been sold at this writing. Receipts the past week, 3,325; previous week, 2,475; year ago, 2,150.

Chicago.

Cattle.—Beeves, \$7.60 to \$10; Texas steers, \$6.40 to \$8.35; stockers and feeders, \$5.60 to \$8; cows and heifers, \$3.85 to \$9.25; calves, \$7.75 to \$11.25.

Hogs.—Mixed, \$8.45 to \$9; heavy, \$8.35 to \$9; rough, \$8.35 to \$8.55; pigs, \$7.75 to \$8.90; bulk of sales, \$8.65 to \$8.90.

Sheep and Lambs.—Sheep, native, \$5.15 to \$5.90; yearlings, \$5.50 to \$6.50. Lambs, native, \$6 to \$8.05.

Cheese Markets.

Brockville, highest offer, 12½c., was refused; Kingston, colored sold for 12 7-16c. and 12 5-6c. offered for white; Vankleek Hill, 12 7-16c.; Peterboro, 12 11-16c. and 12½c.; Woodstock, colored, 12½c.; Madoc, 12 11-16c.

Trade Topic.

AN IDEAL VACATION TRIP VIA GREAT LAKES STEAMSHIPS

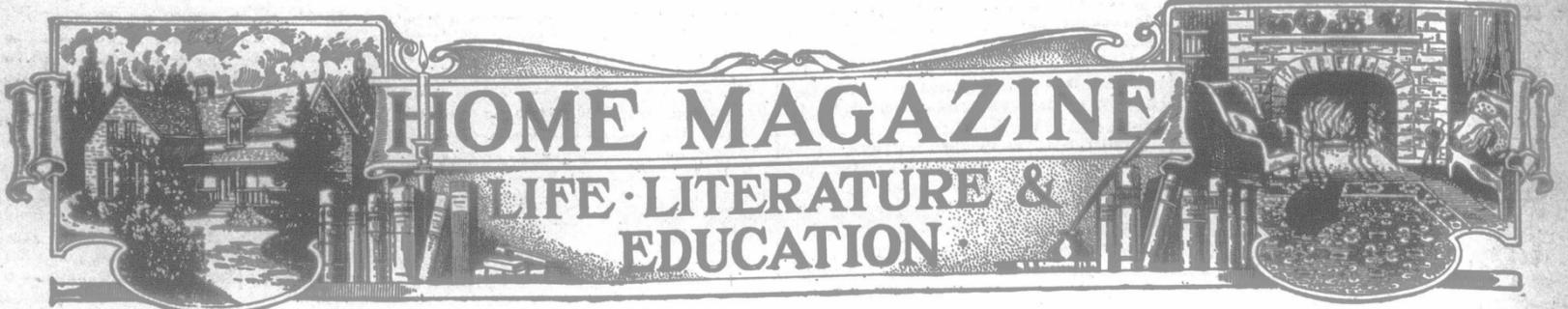
At this season of the year when so many are planning their vacation trip the question "Where To Go" naturally arises—What could be more delightful than a Great Lakes trip, where the air is pure, the sun shines, and cool refreshing breezes blow?

Five sailings weekly from Port McNicoll for Sault Ste. Marie, Port Arthur and Fort William. Steamship Express leaves Toronto 12.30 p.m. sailing days, making direct connection.

If you are contemplating a trip, don't let this slip your memory, Canadian Pacific Steamships make the fastest time, have the best of accommodation, and the table is unexcelled. Full particulars and reservations on trains and ships, at every Canadian Pacific Ticket Office.

Hog Special.

In order to encourage the raising of hogs suitable for bacon for the English market, the William Davies Co., Limited, are offering a special prize at the Toronto Fat-stock Show, Union Stockyards, Toronto, Dec. 11-12, 1914, for a carload of fifty bacon hogs, 170 to 200 lbs. First prize, \$150; second, \$75; third, \$40. Our Canadian hog-producers should appreciate this kind of encouragement, and lend a hand to retain Canada's supremacy as a bacon-hog country, for which it has long been famous.



Jewel-Weed.

By Florence Earle Coates.

Thou lonely, dew-wet mountain road,
Traversed by tolling feet each day,
What rare enchantment maketh thee
Appear so gay?

Thy sentinels, on either hand
Rise tamarack, birch, and balsam-fir,
O'er the familiar shrubs that greet
The wayfarer;

But here's a magic cometh new—
A joy to gladden thee, indeed:
This passionate out-flowering of
The jewel-weed.

That now, when days are growing drear,
As summer dreams that she is old,
Hangs out a myriad pleasure-bells
Of mottled gold!

Thine only, these, thou lonely road!
Though hands that take, and naught
Restore,
Rob thee of other treasured things,
Thine these are, for

A fairy, cradled in each bloom,
To all who pass the charmed spot
Whispers in warning:—"Friend, admire,—
But touch me not!"

"Leave me to blossom where I sprung,
A joy untarnished shall I seem;
Pluck me, and you dispel the charm
And blur the dream!"

—Literary Digest.

Browsings Among the Books.

THE LANTERN-BEARERS.

(From "Across the Plains," by R. L. Stevenson.)

It was a sport peculiar to the place, and indeed to a week or so of our two months' holiday there. Maybe it still flourishes in its native spot; for boys and their pastimes are swayed by periodic forces inscrutable to man; so that tops and marbles reappear in their due season, regular; like the sun and moon; and the harmless art of knucklebones has seen the fall of the Roman Empire and the rise of the United States. It may still flourish in its native spot, but nowhere else, I am persuaded; for I tried myself to introduce it on Tweedside, and was defeated lamentably; its charm being quite local, like a country wine that cannot be exported.

The idle manner of it was this:

Toward the end of September, when school-time was drawing near and the nights were already black, we would begin to sally from our respective villas, each equipped with a tin bull's-eye lantern. The thing was so well-known that it had worn a rut in the commerce of Great Britain; and the grocers, about the due time, began to garnish their windows with our peculiar brand of luminary. We wore them buckled to the waist upon a cricket-belt, and over them, such was the rigor of the game, a buttoned top-coat. They smelled noisomely of blistered tin; they never burned aright, though they would always burn our fingers; their use was naught; the pleasure of them merely fanciful; and yet a boy with a bull's-eye under his top-coat asked for nothing more. The fishermen used lanterns about their boats, and it was from them, I suppose, that we had got the hint; but theirs were not bull's-eyes, nor did we ever play at being fishermen. The police carried them at their belts, and we had plainly copied them in that; yet we did not pretend to be policemen. Burglars, indeed, we may have had some haunting thoughts of; and we had certainly an eye to past ages

when lanterns were more common, and to certain story-books in which we had found them to figure very largely. But take it for all in all, the pleasure of the thing was substantive; and to be a boy with a bull's-eye under his top-coat was good enough for us.

When two of these asses met, there would be an anxious "Have you got your lantern?" and a gratified "Yes!" That was the shibboleth, and very needful, too; for, as it was the rule to keep our glory contained, none could recognize a lantern-bearer, unless (like the polecat) by the smell. Four or five would sometimes climb into the belly of a ten-man lugger, with nothing but the thwarts above them—for the cabin was usually locked, or choose out some hollow of the links where the wind might whistle overhead. There the coats would be unbuttoned and the bull's-eyes discovered; and in the chequering glimmer, under the huge windy hall of the night, and cheered by a rich steam of toasting tinware, these fortunate young gentlemen would crouch together in the cold sand of the links or on the scaly bilges of the fishing-boat, and delight themselves with inappropriate talk. Wee is me that I may not give some specimens—some of their foresights of life, or deep inquiries into the rudiments of man and nature, these were so fiery and so innocent, they were so richly silly, so romantically young. But the talk, at any rate, was but a condiment; and these gatherings themselves only accidents in the career of the lantern-bearer. The essence of this bliss was to walk by yourself in the black night; the slide shut, the top-coat buttoned; not a ray escaping, whether to conduct your footsteps or to make your glory public: a mere pillar of darkness in the dark; and all the while, deep down in the privacy of your fool's heart, to know you had a bull's-eye at your belt, and to exult and sing over the knowledge.

It is said that a poet has died young in the breast of the most stolid. It may be contended, rather, that this (somewhat minor) bard in almost every case survives, and is the spice of life to his possessor. Justice is not done to the versatility and the unplumbed childishness of man's imagination. His life from without may seem but a rude mound of mud; there will be some golden chamber at the heart of it, in which he dwells delighted; and for as dark as his pathway seems to the observer, he will have some kind of a bull's-eye at his belt.

There is one fable that touches very near the quick of life,—the fable of the monk who passed into the woods, heard a bird break into song, hearkened for a trill or two, and found himself at his return a stranger at his convent gates; for he had been absent fifty years, and of all his comrades, there survived but one to recognize him. It is not only in the woods that this enchanter carols, though perhaps he is native there. He sings in the most doleful places. The miser hears him and chuckles, and his days are moments. With no more apparatus than an evil-smelling lantern, I have evoked him on the naked links. All life that is not merely mechanical is spun out of two strands,—seeking for that bird and hearing him. And it is just this that makes life so hard to value, and the delight of each so incommunicable. And it is just a knowledge of this, and a remembrance of those fortunate hours in which the bird has sung to us, that fills us with such wonder when we turn to the pages of the realist. There, to be sure, we find a picture of life in so far as it consists of mud and old iron, cheap desires and cheap fears, that which we are ashamed to remember, and that which we are careless

whether we forget; but of the note of that time-devouring nightingale we hear no news.

Say that we came (in such a realistic romance) on some such business as that of my lantern-bearers on the links, and described the boys as very cold, spat upon by flurries of rain, and drearily surrounded, all of which they were; and their talk as silly, which it certainly was. To the eye of the observer they are wet and cold and drearily surrounded; but ask themselves, and they are in the heaven of a recondite pleasure, the ground of which is an ill-smelling lantern.

For, to repeat, the ground of a man's joy is often hard to hit. It may hinge at times upon a mere accessory, like the lantern; it may reside in the mysterious inwards of psychology. It has so little bond with externals that it may even touch them not, and the man's true life, for which he consents to live, lie together in the field of fancy. In such a case the poetry runs underground. The observer (poor soul, with his documents!) is all abroad. For to look at the man is but to court deception. We shall see the trunk from which he draws his nourishment; but he himself is above and abroad in the green dome of foliage, hummed through by winds and nested in by nightingales. And the true realism was that of the poets, to climb after him like a squirrel, and catch some glimpse of the heaven in which he lives. And the true realism, always and everywhere, is that of the poets: to find out where joy resides, and give it a voice far beyond singing.

For to miss the joy is to miss all. In the joy of the actors lies the sense of any action. That is the explanation; that the excuse. To one who has not the secret of the lanterns, the scene upon the links is meaningless. And hence the haunting and truly spectral unreality of realistic books. In each we miss the personal poetry, the enchanted atmosphere, that rainbow work of fancy that clothes what is naked and seems to enoble what is base; in such, life falls dead like dough, instead of soaring away like a balloon into the colors of the sunset; each is true, each inconceivable; for no man lives in the external truth among salts and acids, but in the warm, phantasmagoric chamber of his brain, with the painted windows and the storied wall.

The Halifax Green-Market.

(By Blanche Dewar.)

The Saturday morning green-market at Halifax (N. S.) is certainly unique. There is no building; the country people calmly take possession of Post-office Square, as well as of two or three blocks of one of the principal streets, while the citizens make no protest, although they often have to resort to the middle of the road in order to get along at all.

There are no stalls or benches, but in front of each seller, neatly arranged in piles, are to be found the products of their market gardens, consisting of potatoes, turnips, cabbages, parsnips, cauliflowers, beets, raddishes, beans, and peas; small fruits, such as strawberries, raspberries, blueberries, blackberries, etc., while here and there potted plants and bunches of bright flowers give color to the scene.

Sauntering along through the crowd of buyers and sellers, one comes across colored people from Preston, banked around with ferns in rustic baskets, berries in boxes rudely manufactured from bark, brooms made out of twigs (for out-of-door use), dyed grasses, wild flowers, and, in fact, anything from the woods that will sell. They always look very

happy, and apparently enjoy themselves immensely, judging by the continual chatter and loud laughter, often at the expense of a customer.

These darkies are descendants of refugee slaves, of which several hundred were brought here at the close of the American war of 1812-1814, and settled in the township of Preston, on the eastern side of Halifax harbor, about five miles from Dartmouth. They bring their wares to market in an ox cart (frequently called the Preston automobile). In the winter these often look very gay, covered with old and brightly-colored patch-work quilts to protect them from the cold while they patiently await the return journey.

A little further on we loiter in front of a group of Indians and Squaws, "squatting" on the sidewalk, surrounded by the most tempting array of their own handiwork. Baskets of all sizes, colors and shapes, from the large shopping basket, to the small, dainty one, for fancy-work, made entirely of sweet hay, and giving forth a pleasing fragrance; gaily embroidered moccasins; photograph frames in the shape of snow-shoes; miniature canoes with miniature Indians paddling; and reproductions of the bows and arrows with which the Indian did his hunting when monarch of this land, may here be purchased for a trifle. It would be hard to recognize in these harmless Micmacs, who ask you in the soft voice peculiar to their race, "You buy me basket?" the warrior who terrified the first settlers of Nova Scotia.

If in season, you will be attracted to a certain corner where big, red lobsters, make your mouth water, and you almost envy the colored lady who is making her lunch off one, sans plate, fork, etc., or the small boys who are having such a good time sucking lobster claws.

Across the street you will see French women from Chezetcook, a French village near Halifax, with boxes of big, brown eggs, and crocks of fresh butter for sale, at what you might think exorbitant prices, but bought up quickly, nevertheless.

Meanwhile, wending his way in and out of the crowd, will be found the ubiquitous Italian peddler, trying to induce the country people to part with some of their newly-earned money.

The costumes of the market women are many and varied, from the voluminous skirts which look as though they were relics of the hoop-skirt period, to the hobble gowns of the present day. All have, however, seen more or less service.

During the summer months a band concert is given every Saturday morning by the Royal Canadian regiment, on the old parade grounds, just a short distance from the market, which is a great treat to the country people, who have few opportunities of hearing such music. It also tends to make the green-market a popular rendezvous; in fact, it is considered quite the correct thing, armed with a basket, to go to market Saturday morning, ending up at the parade grounds for the concert.

Vacation is Here.

By K. L. H.

School days and study days,
The short days and long,
Held a bit of gladness
And a note of song;
They swiftly came and swiftly went
Like a passing train.
Lessons now are ended,
Vacation comes again.
The school-room door is open.
It is the end of June.
A robin in the pine tree
Sings a merry tune.
Dull days and work days,
Study days are o'er,
The path leads to the hillside,
The woods, the fields and shore.

Hope's Quiet Hour.

Rejoice in Goodness.

Let Thy saints rejoice in goodness.—2 Chron. vi: 41.

This is one petition of the great prayer which Solomon offered to God when he dedicated the Temple. Did you ever consider the many texts in the Bible about joy, noticing how constantly the various writers refer to God and His word as the source of abiding gladness? "I will rejoice in Thy salvation," is a phrase often repeated in the Psalms. "In the shadow of Thy wings will I rejoice," is the song of a heart at peace with God. It is one sign of spiritual health to rejoice in goodness, as it is a sign of physical health to enjoy the everyday work, which is much pleasanter than having nothing to do but amuse one's self.

People do not always rejoice in goodness. Jeremiah sternly rebukes his people, saying: "When thou doest evil, then thou rejoicest." St. Paul says that one of the marks of charity is that she rejoiceth not in iniquity, but rejoiceth in the truth."

If a man does not rejoice in goodness, but finds his pleasure in evil things, he is not helpless in the matter. It is a strange fact that we can learn to like things which are positively unpleasant to us. I used to dislike tomatoes, but cultivated a taste for them—as many other people have done. It is a startling fact that our tastes and distastes are largely of our own making. One person is very fond of reading sentimental stories, while another person dislikes them. One person thinks that any kind of "church work" is an unmitigated bore, while another person flings himself into it wholeheartedly and finds it intensely interesting. Of course, temperament has much to do with our likes and dislikes—one loves music and another painting; one prefers to read and another delights in activity—and yet it is true that we have the power to cultivate a liking for almost anything. It is not enough to pray, with Solomon: "Let Thy saints rejoice in goodness." We must actively cultivate a taste for goodness by our everyday habits.

Our physical and spiritual senses are governed by similar laws. By constantly listening to good music, taste in music is cultivated, until the listener learns to rejoice in compositions which would have been meaningless to him ten years before. A blind person cultivates his other senses until his powers of feeling, hearing, and smelling, bring him information and pleasure which we miss in great measure. A woman who keeps her house neat and beautiful is pained by disorder, while another woman feels no discomfort, although her house is untidy, her tablecloth crumpled and spotted, and her clothes torn or dirty. One man rejoices over the neat rows of plants in his vegetable garden, while another finds his satisfaction in the foul air and language of a bar-room. It is largely a matter of habit. We can learn to like what we do constantly.

Darwin devoted himself to science so persistently that he lost entirely his taste for poetry. One who reads nothing but trashy books, or the daily newspaper, is slowly destroying his power of appreciating and assimilating the thoughts of great writers. Our Lord's words to His disciples were full of encouragement as well as warning, when He told them that it was given to them to know the mysteries of His kingdom, while to others it was not given. They had chosen to listen to Him and follow His teaching and example, therefore they should gain still more of His spirit: "For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath."

By constant practice the leader of an orchestra can detect a false note instantly, through all the various sounds

of the instruments surrounding him. In the same way a girl in the ribbon department at Eaton's can tell you at a glance whether she can match your sample. "Practice makes perfect" in everything. Those who spend many years in the service of God, find increasing joy in that service, and the smallest act of deliberate disobedience to conscience makes them uncomfortable. Those who throw away years of life in selfishness or vice, lose their taste for spiritual things. They think that church services are tedious, and the Bible has no inspiration for them. Their idea of having "a good time" is very different from that of the man or woman devoting life to the service of others.

Perhaps you are struggling to live a Christ-like life of service, yet find no pleasure in it. Then take courage and persevere, you will find true and lasting joy along that road. You are like a child who finds no pleasure in learning to read. It is hard work and deadly dull. How can he know the pleasure which will flow from that short drudgery, when the magic world of books is flung open to him? What a pity it would be if he stopped in discouragement at the uninteresting page, "Is it an ox? It is an ox."

A woman, who had been in great spiritual distress, came to her clergyman and said: "Peace with God I know nothing about, but I have done quarrelling with Him. I have resolved to submit to God and serve Him, and do all the good I can while I live, then go to hell as I deserve."

The clergyman told her that the road she had chosen did not lead to hell. The fruit of the Spirit is love, joy, peace, etc. One who wills with all his might to serve God, soon finds that he has chosen the best Master, Who will not fail to keep His promise: "My servants shall sing for joy of heart."

It is important to find out whether we are really serving God or seeking our own advantage. St. Peter said to Christ: "We have forsaken all, and followed Thee; what shall we have therefore?" Our Lord answered that calculating question with the parable of the householder and his laborers. The men who were hired early in the morning bargained with their master for a full day's wages, but those who entered the vineyard when the day was nearly over, agreed to work, and left the matter of pay entirely in the master's hands. They also received a full day's wages.

Our Master can be trusted to treat His servants, not only justly, but very generously. Let us not spoil the beauty of our service by keeping our minds on the rewards, saying: "What shall we have therefore?" How it spoils a gift to the poor when we are looking for

gratitude, or a noble act when our hearts are set on praise!

There is a picture of Christ on the Cross which shows Him hanging against it, with no nails to hold Him there. It is intended to teach the fact that Love instead of hate really held Him there. He had the power to come down, but gave up His life of His own free will. "Therefore doth My Father love Me, because I lay down My life," said our Master, and greater love hath no man than this, that a man lay down his life for his friends. Ye are My friends." He laid down His whole life in willing service, leaving us an example that we should follow His steps. How many are held to their daily cross by that same constraining force of love? How many leave behind former pleasures and discover new and greater joy in self-sacrifice for the good of others! The young girl turns her back on the pleasures of girlhood, and holds out both hands for the responsibilities and duties of a wife. Then the joy and cares of motherhood come upon her, and her days are filled with service. If love is the motive-power, then service fills her life with a joy which throws into the shade the "good times" she had at sixteen. Does a woman, with her first baby in her arms, long for the doll which was a delight to her at six years old? We are not called to renounce the pleasures of the world so much as to grow away from them. We cannot stand still, but must every day set our hearts more and more on serving God, or on serving mammon. If we climb after God, we shall find new joys to brighten the days—but we must keep on climbing, and never imagine we are good enough. To relax our efforts is to slip back.

"New occasions teach new duties,
Time makes ancient good uncouth;
They must upward still, and onward,
Who would keep abreast of Truth."
DORA FARNCOMB.

The Beaver Circle

Eyes.

We've most of us things in our heads
We like to consider as eyes.
They may be as black as a sloe,
Or hazel—or grayish, or so,
Or they may be as blue as the skies;
But they're not worth a penn'orth of salt
(Whatever their color may be)
If they never get farther than looking at things
(Mere commonplace blinking and staring at things),
For eyes were intended to see!

Two fellows set out for a tramp,
And the sunlight was blazing around,
And a curious haze hung aloft in the West,
And the small puffing breezes were none of the best—
And the swallows flew close to the ground.

One fellow stopped home in the rain,
As wet as a younker could be;
The other came smiling, as dry as a drought,
In his waterproof poncho, but he was a Scout,
And Scouts are the fellows who see?

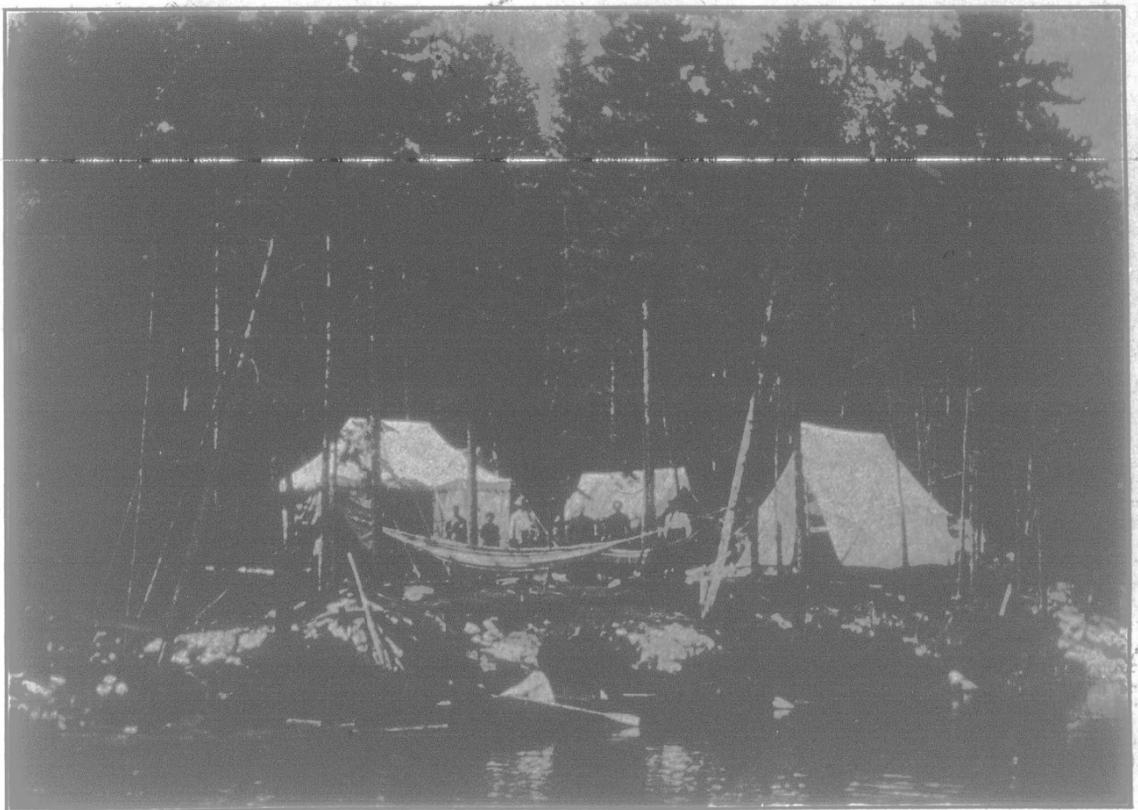
Young Wilmington sauntered from school,
And Grey came along from his gym,
There passed them a tottering, elderly man,
Who was nervously crossing the street,
When a van
Came blundering down upon him.
What followed was done in a flash,
Before one could count beyond three,
The helpless old fellow was saved by an inch,
It was Grey who had acted the man at a pinch,
For Scouts are the fellows who see!

The counting-house juniors were five,
Including Patrol-leader Brown,
And he had the gumption and wit to perceive

That one of the clerks intended to leave
To take a position in town.
He went in for shorthand, and slaved
At his French (on the strictest QT),
And the consequence was that he colored the billet,
He being the only man ready to fill it—
For Scouts are the fellows who see!

We've all of us things in our heads
We're fond of regarding as eyes;
They may be as black as a crow,
Or grayish—or hazel, or so,
Or they may be as blue as the skies;
But they're not worth a couple of cents
(Whatever their color may be),
If they are contented with looking at things
(Mere slack, unintelligent staring at things),
For eyes were intended to see!
—The Trumpeter, in the Scout.

Dear Beavers,—You are all fond of plants and flowers, and are interested in watching them grow and taking care of them, but did you ever think of them as having intelligence? A Mr. Bastin, who has been studying plants for some years, and making experiments with them, tells, in the Scientific American, of some won-



How to Enjoy the Hot Weather—Camping in Algonquin Park.

derful things he has seen, which almost make one believe that plants possess at least some of the five senses which we usually credit only to human beings and animals. Here is one thing he has seen which would seem to show that plants can see: "Everybody knows that the sundew catches flies. The leaves of this plant are, of course, covered with tentacles (like long, delicate fingers) which, being very sensitive, close in around the captive. But the foliage of the sundew has another remarkable characteristic. If a fly is fixed about half an inch from any of the leaves, a most astonishing thing happens. After a short interval it is seen that the sundew leaf has moved perceptibly towards its victim. Soon the cruel tentacles have actually reached the unhappy fly, and are seen to be slowly moving round their prey. There is now no chance to escape, and with every moment the fate of the insect becomes more certain. A few feeble wriggles, and the fly is dead. . . . In much the same way the tendrils of climbing plants show clearly that they can feel things at a distance. A young pea plant which was used in an experiment proved to be astonishingly clever in this respect. A stick was placed near the plant at a distance of two inches, and during the few hours which followed, a very strange thing happened. The tendril, which at first was held between the leaflets, where it had been developed, dropped down to a horizontal position. This was, of course, merely a matter of growth, but it was at once followed by a very decided movement of the tendril toward the stick. Finally the whole of the upper shoot of the plant leaned over, meanwhile the tip of the tendril was busy making sure of its hold. One could not very well get away from the idea that the tendril knew—if the word is permissible—that a support was within reach." Then he tells us of a hazel bush that grew in the upper part of an old willow tree—the nut being probably dropped there by some squirrel who was collecting his supply of food for winter—and when it needed more room for its roots, sent them out to hunt for the soil beneath; and they travelled downward, through the hollow trunk of the willow, till they reached the ground twelve feet below. He also tells of a trailing cactus, growing on a galvanized-iron roof which was in one place eaten through by rust. As soon as the cactus reached this point it at once sent out a quantity of roots, through the hole, to the ground nine feet below. Mr. Bastin asks how on earth the plant could know that it would reach the ground through that hole, once at the end of its journey through the air. Another case he mentions is that of a fern, growing in a pot which was kept standing in a saucer filled with water. The fern, not getting enough water in this way to meet its needs, sent out a special root, outside the pot, down to the saucer of water. And lastly, he gives the following account of a case of root-intelligence which was observed by Dr. Carpenter some years ago:

"In a little hollow on the top of the shell of an old oak (the outer layers of which, however, and the branches are still vegetating) the seed of a wild service-tree was accidentally sown. It grew there for some time, supported, as it would appear, in the mold formed by the decay of the trunk on which it had sprouted; but this being insufficient, it has sent down a large bundle of roots to the ground, within the shell of the oak. These roots have now increased so much in size that, as they do not subdivide until they nearly reach the ground, they look like so many small trunks. In the soil, however, toward which they directed themselves, there was a large stone about a foot square, and, had their direction remained unchanged, they would have grown down upon this. But about half a yard above the ground they divide, part going to one side, and part to the other; and one of them branches into a fork, of which one leg accompanies one bundle, and one the other; so that on reaching the ground they enclose the stone and penetrate on the two sides of it."

Don't all these stories seem to show that plants can, in some way, see or feel? Perhaps, if you watch your gardens closely this summer, you may see some of your plants doing something interesting.

Senior Beaver's Letter Box.

Dear Puck and Beavers.—This is my first letter to your Circle. I live on a farm of about one hundred and thirty-five acres. My brother has just started to take "The Farmer's Advocate," and we like it fine. For pets I have a cat; her name is Tabby. I also have a calf; I call it Jerry. I had a lamb, and called it Buster, but it died. I have two sisters and one brother, Tommy. My sisters' names are Grace and Tillie. I am in the Sr. IV Class, and expect to try the Entrance this summer. I fear my letter is getting rather long.

WILHELMINE PERRIN (age 13).
Bailieboro, Ont.

Dear Puck and Beavers.—It is some time since I wrote before, so here I am again. We have taken "The Farmer's Advocate" since I can remember. I enjoy reading the letters of the charming Beaver Circle. I also enjoy reading the story entitled "The Ivory Snuff-box," which is published in your paper.

Well, this is the beginning of a new summer. I love when spring comes with the flowers and the blossoms. There were a lot of flowers, such as violets, lilies, dog-tooth violets, red trilliums, and Jack-in-the-Pulpits, this year. I like flowers at all times.

I have read a lot of books, such as "Black Beauty," "Through the Looking-Glass," "The Musician," "Our Bessie," "Myths," "Robinson Crusoe," "Swiss Family Robinson," "Fairy Tales," "Book of Pets," "Story of a Donkey," "Only a Dog," "Child's Companion," and ever so many more. I go to school as often as possible. We live

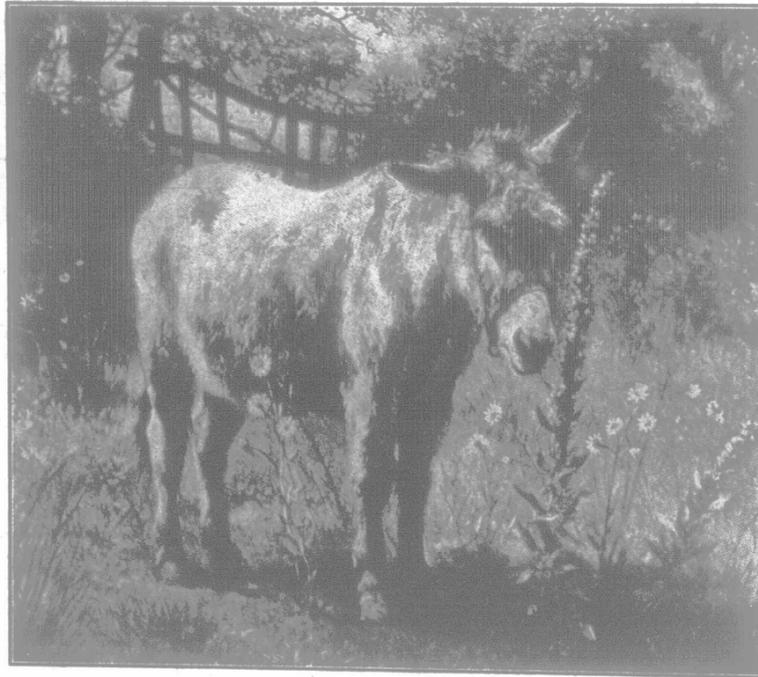
my age, and I also forgot to tell what class I was in at school, so you see I am an awfully forgetful girl. I am planting my garden to-day; it is rather late, but when I do get it planted I will water and hoe it often. I hope I am not too late to enter your Garden Competition. We have one colt, and it is a month old; we call her Gyp. One of our horses was eighteen years old yesterday (the 17th of May). She is awfully fond of lumps of sugar, so I thought I would give her a birthday present of some sugar, but there were no lumps in it, so she would not eat it. Her name is Jess. We have another horse we call Nell, and last fall when she was doing the fall plowing she was fed well and was fat, but it came on wet, and she had to stay in the stable, only getting out for water, and she took lymphangitis. We did not think she would get better, but since she got out on grass she can get up herself, and has done a half-day's work this spring, so it is likely she will get all right again. My father has eighty-five acres to put in crop, and has twenty-five acres sowed. Well, I think I had better stop.

JEAN GRAHAM.

(Age 13, Class Sr. III.)

Barrow Bay, Ont.

Dear Puck and Beavers.—Will you open your Circle a little to admit another member. My father has taken "The Farmer's Advocate" for a little over a year, and likes it very much. We are awfully disappointed if Saturday comes around and we do not get "The Farmer's Advocate." I like reading the Beavers' letters very much, and so I thought I would try my luck. I am



"Meditation."

From painting by Rosa Bonheur.

three-quarters of a mile from the school. Our teacher's name is Miss Thompson. It will not be long till summer holidays now. I am in the Junior Fourth Class, and am twelve years old. I am expecting to try for the Senior at holidays. I am having a good time now. You see I have no brothers or sisters at home to play with, only the kittens and the dog, but I always like playing with them and being out among nature. I never got a prize from the Circle, for I never tried. I hope this will escape the w.-p. b. Will someone of my own age please correspond with me? Wishing the Beaver Circle every success, your friend.

VERA V. SPEER.
(Age 12, Class Jr. IV.)

R. R. No. 3, Tara, Ont.

Your letter, like a good many others, Vera, has been delayed, you see. I hope you have passed your examination for the Senior Fourth Class, and are enjoying your holidays.

Dear Puck and Beavers.—I wrote a letter a while ago to your happy Circle, but I think I know the reason why it was not printed, because I forgot to tell

what you would call a regular book-worm. Some of the books I have read are, "Queechy," "The Lamplighter," "Black Beauty," and many others. I go to school every day, and am in the Senior Third Class. Well, I guess I will close for this time.

MYRTLE CAMPELL (age 12).

Porcupine, Ont.

The Circle is elastic, Myrtle, and there is always room for a new member.

Dear Puck and Beavers.—I have been a silent but interested reader of your lovely Circle. My father has taken "The Farmer's Advocate" for years, and would not be without it. I am eleven years old and am in the Junior Fourth Class at school; my teacher's name is Miss McFadden. I live on a farm of one hundred acres. We have six horses and twenty-two head of cattle, about eighty hens, and forty chickens, but will get more in a short time. For pets, I have a cat named Snowball, and a colt named Minnie. I guess I must close, hoping that the w.-p. b. is not hungry when this letter arrives.

NANCY GERBER (age 11, Jr. IV).
Millbank, Ont.

Dear Puck and Beavers.—This is my first letter to the Beaver Circle. My father has taken "The Farmer's Advocate" for 27 years, and when it comes I always turn to the Beaver Circle and read the letters. My brother and sister and I go to school every day; we have a mile to walk, but in winter we are driven. How many of the Beavers like picking May flowers? I do, and I go picking them often. We have 13 lambs, and 2 pet ones. I suppose a lot of the Beavers have flower gardens. We do, and have a lot of the seeds and dahlia bulbs planted. We have the seeds planted in the hotbed. I am going to try for the garden competition this year, and I will send in my name now. For pets, I have a cat and a pigeon; my cat's name is Buster. Well, I must close, as my letter is getting long, hoping this will escape the w.-p. b.

ELAINE SIMPSON (age 10, Jr. IV).

Bay View, P. E. I.

Dear Puck and Beavers.—May I enter your cozy Circle, to which I have long been a silent onlooker? I have always been going to write, but have never gathered up enough courage till now. My father has taken "The Farmer's Advocate" for a number of years, and would not be without it for anything. Like most of the Beavers, I am a great bookworm. I think the Alger books are great, although they are for boys. How many of the Beavers like music? I do, for one. I have taken one quarter, and like it fine. Say, Beavers, did you ever take part in a debate? We had a debate at our school at Easter. It was on "Country Life and City Life." I was on the negative side (city life), and the side I was on won. I think that debates are great sport. Well, Puck, as this is my first letter I will not make it very long. I will close with a few riddles.

What month do women talk the least in? Ans.—February, as it only has twenty-eight days?

What three great poets would you think of if you saw a house burning down? Ans.—Dickens-Howitt-Burns.

Why is a dog dressed more warmly in winter than in winter? Ans.—Because in winter he wears a fur coat, and in summer he wears a fur coat, and pants. Wishing you all success and happiness.

VIDA G. L. SPARLING.
(Age 14, Sr. IV Class.)

R. R. No. 2, Camlachie, Ont.

P. S.—Will some of the Beaver girls please correspond with me?

The name of Millie Glover (11), Madoc, Ont., has been added to our list of competitors in the Garden Competition. Her number is 37.

Dr. Grenfell's Advice to Boys.

I was reading a letter recently from a man called Tertullian. It was written to his school, and the letter is nearly eighteen hundred years old. I suspect you will hardly believe it, but the letter was really and truly to prepare the scholars to meet martyrdom bravely and not flinch at the suffering.

Here is a thing he says: "An overfed body may be good for the beasts, but it is no use to God."

If you are to be plucky and brave and worth while when trouble comes, you must keep yourself hard and fit.

In Labrador we have no penny, blood-curdling novels, and five editions of a newspaper a day. Lots of our boys cannot read and write. But they can endure hardship like good soldiers.

Last winter one boy of fifteen was left with two teams of huge, wolfish Eskimo dogs, while the doctor and his men travelled off to kill some deer. He was warned not to move, or they would possibly be lost. As it happened, the men got parted by heavy snowstorms, and only found a house fifty miles away on the third day after. They at once sent a gang of men to look for the boy. Do you think he had run away in all that long time, and during those dark, cold nights? Not a bit of it! He was just where they had left him.

I have had to look death in the face once or twice, and there is nothing in

the world that helps you to keep cool and give him the slip like not having the skeleton of an impure life to weaken you and trouble you. The best thing in the world is not gold and silver or food and clothing—no, not by a very long way.

If I left a watchword with you, it would be: "Learn to keep your eyes open and to see chances where you can be useful. You will have a life then and a career behind you that kings will envy."

The Ingle Nook.

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

How to Meet Emergencies.

Written by (Miss) Ada B. Odell, for the Blyth Women's Institute.

WOUNDS.

A short time ago a number of men were gathered in the bar-room of a country hotel. A quarrel arose, during which one man received a terrible gash in the leg from an ax, from which wound he bled to death before a physician could reach him, his comrades standing helplessly by. Of course, they were more or less intoxicated, but even had they not been, they very likely would have had no idea what to do. The wound was in the leg, just below the knee. The thigh should have been flexed, or drawn up on the abdomen, and the leg flexed on the thigh, and held firmly in place with a stout bandage, or had a very tight bandage been applied just above the knee, the hemorrhage could have been arrested until the physician arrived, and the man's life saved. Should hemorrhage occur from a wound in the hand or arm, below the elbow, a firm pad should be placed in the hollow of the elbow, and the forearm brought up tightly against the arm and held in place with a tight bandage.

If the bleeding be from the abdomen, the foot of the bed should be elevated on a table or two chairs, making sure to remove the castors from the head of the bed before raising the foot.

A little oozing does not necessarily mean a serious hemorrhage, but when the blood continues to flow in spurts, an artery has been severed, and no time must be lost. A physician must be called, and until he arrives the bleeding must be arrested. This can always be done by pressure on the artery severed, between the wound and the heart. In case of doubt as to which side of the wound to apply pressure, apply it both above and below the wound.

FRACTURES.

Fractures are very frequent emergencies, and, of course, call for a surgeon. Until he arrives, try to make the patient as comfortable as possible; remove the clothing gently, the seams being ripped, beginning with the injured side. In raising a fractured limb, slip the hands underneath, take firm but gentle hold at two points a short distance from the fracture on either side, lift with both hands at the same time, slowly and evenly, until the limb is in the required position, or most comfortable. Fractures of the skull are dangerous, and little can be done until a surgeon arrives, except to keep the patient very quiet in a dark room with cold applications to the head. Alcoholic stimulants must never be given in case of injury to the head.

SPRAINS.

In case of sprains or wrenches of joints, the limb should be elevated, hot applications applied for several hours, then bandage firmly. It is well, however, to have a physician examine the limb in case the injury may be more serious than suspected.

BURNS.

In case of severe burn or scald, excluding the air will do much to allay the pain. In superficial burns where the skin is not broken, bicarbonate of soda (common baking soda) should be sprinkled thickly over the burn, the part wrapped in moist gauze, and over this

place a layer of common cotton batting if absorbent cotton is not obtainable. Never apply powder to a burn or scald where the skin is broken. If there are blisters, they should be opened at the lower edge and the fluid allowed to ooze out. The dressings most frequently used are: Carron oil (which is equal parts of lime water and linseed oil), ointments of zinc oxide, or boric acid, and simple or carbolized sweet oil.

FAINTING.

For a condition commonly called fainting fit, put the patient in a recumbent position, the head lower than the body. This, in addition to loosening the clothing around the neck and upper part of the body, allowing the fresh air free access, is usually sufficient. If recovery does not almost immediately take place, external warmth should be applied and a physician called.

POISONS.

It would be impossible here to give an antidote for all the different poisons, but in any case where poison has been swallowed, an emetic should at once be given.

and drop it in the stove or grate when the fire needs replenishing, avoid whispering in a sick room, this being extremely annoying to a weak person. Keep medicine bottles out of sight. As to ventilation, secure pure, fresh air, at all hours of the day and night, keep the patient warm with external appliances, and protected from draughts, but never shut out the fresh air. Remember this, the smaller the space through which the air is admitted, the greater the danger of having a draught. In ventilating by means of windows, they should, if possible, be opened from the top, as pure air always descends, and at opposite sides of the room if possible, and in this way any draught is too high up to harm the patient unless a door is left open. A patient should be well covered two or three times a day, and all windows opened and the room thoroughly aired. No patient is ever too ill to be kept clean. Fear of taking cold, often leads to unwise neglect in this particular, but there is a greater risk in leaving the clothing unchanged, and the pores of the skin clogged by noxious products of dis-

her with face from you, and with both hands remove soiled sheet and draw the fresh one through smoothly and evenly; with a little practice this becomes a very easy task. The fresh upper sheet and blanket are to be spread over first, and the soiled ones drawn from underneath. As to the bed, if the patient be helpless, requiring a great deal of waiting upon, the bed should be high enough that the attendant would not have to stoop in lifting or raising the patient. A block of wood put under each foot of the bed will raise it to the required height. The bed should be made up with a firm mattress, never a feather bed, the under sheet being as tight as possible, and free from wrinkles, crumbs, etc.; the covering light, but warm. Two or three small pillows are better than large ones. Prop up the patient in a way to support the shoulders without throwing them forward, as this interferes with free play of the lungs.

FOOD.

As to food, serve regularly in dainty quantities, and of a quality above suspicion. Never taste it yourself in the presence of a sick person. Make it as attractive as possible in the way of spotless linen and china. Have hot things hot, and cold things cold. Sometimes, when a patient is not inclined to eat, a little judicious management on your part will result in a fairly good meal being taken. Encourage her to try a little more; or try to divert her mind with conversation that will be of interest (save your comical stories for this occasion), keep her attention off what she is doing, so that, unconsciously, she will eat a great deal more than if left alone. In conclusion, remember freedom from anxiety and cheerful companionship and surroundings are as essential for the mental, as are free ventilation, absolute cleanliness and nourishing food, for the physical well-being of a sick person. These are the elements of good nursing, and surely they are within the reach of all. Secure these, and you will have given the individual under your care the best chance for recovery.



"The Tocsin of the Soul, the Dinner Bell."

One which can nearly always be obtained in a moment is mustard and warm water. For an adult, one tablespoonful to a cup of water; for a child, half that dose, and repeat every ten minutes until the patient vomits very freely.

GENERAL SUGGESTIONS.

And now, let me give a few suggestions which can be observed in every sick room, without the aid of a trained nurse. First, as to the room, let it be on the sunny side of the house, and give plenty of sunshine; only in exceptional cases, such as inflammation of the brain, or eyes, should the light be excluded. Let it be as far as possible from the street noises, or the noise from the kitchen, oil the hinges of creaking doors, fix wedges in rattling windows, remove rocking-chairs, fill a paper bag with coal

ease. Change the bedding and the patient's clothing frequently, taking care to have the fresh linen well aired. To change the bed linen, only the upper sheet or a single blanket is left over the patient. The lower sheet to be removed is loosened at the top and bottom and both sides, one side is then folded along the whole length as flatly as possible, close to the patient, the fresh one should then be folded lengthwise, alternately, back and forward, for half its width, and placed on the side of the bed from which the soiled one was rolled, the loose half tucked in and the folded half close to the patient; now move to the opposite side of the bed, turn patient on side with face toward you, tuck the sheet to be removed and the fresh folded one as close to the patient's back as possible; next slip both hands under the patient, turn

Dear Junia and All,—Once more I'll try to come to join the circle of friends in the Nook; glad to feel I have been missed; how kind you "all are to the Lass. And so you wonder what has become of me; so the little birds have been telling me: Here I am yet, dear friends, same old way; had nothing new to tell, and hardly know what to write. One who is never off the farm or out anywhere, has no great stories to tell of scenes or pleasure trips, and I do not wish to weary you, but to-day some letters came to my view that had been written by many kind Nookers, and cheered me so much that tears of gladness fell when reading them, so full of kindness and helpful cheer to me, just when feeling so lonely, and how cheered I was. I thank again all who have so kindly written here to me, and to dear Junia, too, and Hope; how they inspire us by their good works. What nice talks Junia gives us, to be sure; she is not very little or not very big, but, oh, my, what a help she is to the Nook!

I hope she has had a pleasant holiday, so the questions asked will not tire her too much. The glad summer-time is fast passing away. May it be a pleasant one to all of you; even the birds are glad. How much more thankful we all should be for the blessings given from day to day, more than we could think or ask, our heavenly Father sends us. Yes, even when shut in, there are so many things to thank Jesus for, and no load is so heavy to bear but strength is given to bear it; and, oh, it is sweet to feel one Friend careth for us always. Earthly friends may forget, but Jesus never does, and in the end we shall see, after all, it was for some nice purpose to be laid aside from the outside pleasures the world gives; and how many there are now! Autos go racing by loaded with people on pleasure bent. I counted sixteen in one hour passing here one holiday afternoon, and motorcycles as well as other ways. How fast the world goes on to-day. I am afraid some of the Nookers have forgotten to write for so long now, as when I pick up "The Advocate" and scan the pages, no old friends' names are there. Please sit ye down and write a wee bit once more, won't ye, soon, the noo? Well, say, I almost forgot about my flowers; I do not

think they ever were so full of bloom as this summer. I often say I just feel Jesus gives so much bloom to cheer us along; passers-by and all say they are a lovely show. Now, dear Nookers, one and all, I hope this long letter will not weary you, but cheer you a wee bit, it is all I can do now, and to write is quite a task for me. Thanking one and all again for any kindness shown to me, may you not weary in well doing. The below lines came to my mind, so send them on to let you know I wish to do much if I could.

Oh, that I could be more useful,
Helping others along,
And wouldn't I really love to,
If only I were strong!

Will close, with best wishes to all.
Your shut-in.
LANKSHIRE LASS.
Wellington Co., Ont.

Dear Junia,—Is there any way in which white marks can be removed from a varnished table. They were caused by a damp dress being left lying on it. If so, please publish in "The Farmer's Advocate." I would also like to know what causes white curd in butter.

MOLLIE.

The Scientific American gives the following treatment for the removal of white marks from varnished or polished wood: "Fold a sheet of blotting paper a couple of times (making four thicknesses of the paper), cover the place with it, and put a hot smoothing-iron thereon. Have ready at hand some bits of flannel, also folded, and made quite hot. As soon as the iron has made the surface of the wood quite warm remove the paper, etc., and go over the spot with a piece of paraffin, rubbing it hard enough to leave a coating of the substance. Now, with one of the hot pieces of flannel, rub the injured surface. Continue the rubbing, using freshly-warmed cloths, until the whiteness leaves the varnish or polish. The operation may have to be repeated.

White particles or curds in butter are caused by having the cream too warm, too sour, or not thoroughly and frequently stirred. Sometimes it results from particles of dried cream or the surface layers hardening through evaporation. As a remedy, thoroughly stir the cream from the bottom upwards whenever adding new quantities to the container, and strain the cream into the churn through a perforated-tin strainer dipper.

Domestic Economy.

(Another Husband Housekeeper, supplementing the information already published in the Daily Mail, reveals the system of housekeeping by enforcing which he saves pounds and pounds and pounds a year.)

When Sunday's heavy meal is done
Our joint's career is but begun.

Imprimis, undismayed and bold,
It reappears on Monday, cold.

And lo! the same on Tuesday will
Appear again, and colder still.

The odds and ends we keep in store,
Divided neatly into four.

A portion (No. 1) will do
For Wednesday's so-to-speak "ragout";

A portion (No. 2) will be
The gist of Thursday's fricassee";

A portion (No. 3) supply
The pith of Friday's "cottage pie";

A portion (No. 4) will play
The leading role on Saturday,

Entitled, may be, "a la russe,"
Or, better still, "anonymous."

Thus is economy attained,
For thus is appetite constrained.

—From Punch.

The Scrap Bag.

When a garment has been scorched in the ironing, unless too deep, a hot sun-bath will effectually draw out the spot. If not quite gone, wet the place, rub with laundry soap, and again lay in the sun.

A very convenient contrivance is a leaf, like a table-leaf, built on your kitchen wall. It is out of the way when not wanted, and ready for use when needed.

Oil your castors once in a while and see how much more easily large pieces of furniture may be moved.

Before washing red table-linen, add a little borax to the water.

Pure oil of turpentine, mixed with one per cent. of oil of lavender, is the finest of all simple methods for purifying the air of a stuffy room.

If a paper bag is slipped over the hand before the cloth is taken to clean the stove, the finger-tips and nails will be saved contact with the brine.

To Launder Art-muslin Curtains.—Art-muslin curtains should not be washed in warm water. Put them into a lather of nearly cold water. If the curtains are green, add a little vinegar; if lilac or pink, a little ammonia. Salt will set the colors of black-and-white muslins.

Lemonade is a splendid liver tonic. A glass of it taken every morning before breakfast will often clear up a muddy skin.

A towel wrung out of very hot water and applied to the back of the neck will often relieve severe headaches.

To remove the traces of mud from black garments, rub the spots with a raw potato cut in halves.

Seasonable Cookery.

PICKLES AND SAUCES.

Ripe Cucumber Pickles.—Pare and scrape the insides from seven large, ripe cucumbers, cover with water to which has been added a tablespoonful of salt, and soak over night. In the morning, take one quart vinegar, one pound white sugar, one tablespoonful each of cloves, cassia, and pepper; add the drained cucumbers, and just boil for two minutes, and bottle.

Sweet Pickled Apples.—Make a syrup of one cup of vinegar and two of sugar; add a few small pieces of whole cinnamon and some cloves. Pare and core sweet apples, drop them into the syrup, and let them cook till tender. Put in a jar and pour the syrup over them. They are ready to eat as soon as cold, and will keep for any length of time.

Spiced Apple Pickles.—To three pounds pared apples allow one and a half pounds sugar and a half-cup vinegar; tie up a stick or two of cinnamon, a blade or two of mace, a few cloves, in a bag, and put with vinegar and sugar and teacup water. When it boils, put in the apples; let them cook until they are tender. Pour the spiced vinegar over them. Scald once or twice the first week by draining off and reheating the vinegar. Small apples are best for this pickle.

Little White Onion Pickles.—Pour boiling water over the onions and peel; then cook in strong salt water a few minutes, take out and fill up the bottles, pour hot vinegar over, and seal. To make the vinegar, use two quarts of any kind of white vinegar, two cups of sugar, two tablespoonfuls of white mustard seed, six drops of cinnamon oil, six drops of clove oil, and boil about ten minutes. A small red pepper or two will look pretty in the bottles. This quantity will make up two grape baskets of onions.

Pickled Cauliflower.—Separate the stems, wash them carefully, and sprinkle with salt, using half a pint of salt for a peck. Let them stand twelve hours, then shake off the salt. Lay them in jars with a few pepper-corns, and cover with boiling vinegar.

Pickled Beets.—Select small, red beets of even size and boil till tender; then drain and place in jars, cover with boiling vinegar (adding spices if desired), and seal.

Chow-chow of Ripe Cucumbers.—Use four quarts of ripe cucumbers, peeled and chopped fine, two quarts of white onions

chopped fine, half a pint of salt, two ounces of white mustard seed, two green peppers, and one red pepper, one tablespoonful of black pepper, and enough vinegar to cover. Mix the chopped onions and cucumbers with the salt, and put in the press for twenty-four hours. At the end of that time put the vegetables in a bowl and add the dry ingredients. Mix well, and then add the vinegar. Put the chow-chow in jars, placing a few nasturtium leaves and a few pieces of horse-radish root in the mouth of each jar. They flavor the chow-chow and help to keep it fresh.

Chow-chow No. 2.—For two quarts of this pickle use one good-sized head of cauliflower (one weighing about three pounds), eight small green peppers, ten small cucumbers, about one and a half inches long, one pint of pickling onions of the smallest size (they should be no larger than a cherry), one pint of salt, one quart of vinegar, three tablespoonfuls of tumeric, a generous teaspoonful of cayenne, and one gill of water. Peel the onions and cook them in boiling water for a quarter of an hour; then pour off the water and put them into a bowl. Break the cauliflower into small branches and wash in cold water. Put the peppers, cucumbers and cauliflower into a large bowl. Put the salt into a stew-pan with two quarts of boiling water and boil for ten minutes. Skim this brine and pour a part on the vegetables and a part on the onions. Let these ingredients stand in a cold place for twenty-four hours. At the end of this time pour off the brine and put the vegetables into a preserving kettle. Mix the mustard, tumeric and cayenne with the water and add to the vegetables. Now add the vinegar, and place the kettle on the fire, heat slowly to the boiling-point, and simmer for one hour. Put the pickle into hot jars, and seal.

On the Little Mill Trace.

It was cold in the mountains. The ivory laden summits towered white against the brilliant blue of the west, steep after steep. From above the sun poured down a flood of light, but it was light without warmth. Save for a few curls of smoke, that rose visibly against the snow to vanish again, no sign of life showed on the crackling tree-clad heights. The song birds had long ago gone, and the four-footed mountain prowlers were tucked snugly away in dens and hollow trees, sheltering themselves from the icy wind. Even the mountaineers, inured to cold and made rugged by their hard lives, clung closely to their mud chinked cabins, hovering above roaring, oak log fires.

Warmly wrapped as I was, I heaved an anticipatory sigh when, at the top of a ridge, my guide pointed a glove swathed finger at a prosperous looking log cabin, behind which showed a meat house and lines of bee gum hives. Some distance beyond rose a curl of smoke that betokened another cabin.

"That's Zeke Tolliver's," he explained. "Yonder's the little schoolmistress' cabin."

Interestedly I studied the cabin, wondering whether Zeke or anybody else would tell me enough to repay me for my visit to this far-away mountain region in the depths of winter. As we drew nearer I could see that the path from Zeke's to the cabin beyond was well trampled. Along it a half grown boy, wrapped like a bear against the cold, was just coming into view through the ice-laden trees. Close to Zeke's my guide stopped him.

"How is she?" he asked.

The boy did not ask whom he meant. "She's dyin'," he mumbled. "Dr. Saunders says she'll live a week maybe; but she's dyin'." He choked up and hurried past.

My guide looked after him. "That's Bill Floyd," he grunted. "He's been walking five miles every day from Three Ridges to ask about her." I noticed that the guide, too, assumed that there could be but one "her."

He was right. The nearer I had come to the mountains the more it had been born in upon me that there was one woman and only one so far as the people of the region were concerned, and that one was the woman whose illness had drawn me all the way from New York in search of a "heart interest" story for the daily newspaper for which

I wrote. One woman—and she was dying.

Every one in the mountains seemed to know it. Rockfish had heard it; Devil's Knob had heard it; Nellyford had heard it; Massanutten had sent a delegate thirty miles to inquire as to its truth; Three Ridges had held a meeting and had subscribed various mites for her benefit. Throughout the length and breadth of four counties the first question asked when men and women met was as to the health of the little schoolmistress of Little Mill Trace, Four counties! Few are carried in the hearts of the men and women of four counties. So general was the interest that even the correspondent of The Gazette in the Piedmont county to the east heard of it and sent in an item about it—an item that had brought me to the mountains.

The absorbing interest felt was the more remarkable because the schoolmistress of Little Mill Trace seemed not to be a native of the region, though she had lived in it for so long that no one whom I had yet seen could tell when or how she had come. Most of those whom I questioned knew only that for thirty years she had lived in the cabin back of the Little Mill Trace school-house and had taught day after day all who would come to her. Thirty classes—old and young, male and female—she had started upon the road to knowledge, offering their members escape from the narrow lives and hopeless ignorance that had hedged their parents for generations. Thirty classes she had taught that there were deeds to be done and prizes to be gained, both at home and in the great world that lay outside the towering mountain walls which ringed the Little Mill Trace. A few it seemed had gone forth and made great names for themselves—names that echoed even back across the mountains. Others had gone and had neither come back nor sent word to tell of their whereabouts. Most, however, had remained at their homes, richer, stronger, happier, for the knowledge that she had given them. Insensibly the whole tone of the region had changed. "Those people up there are most half civilized now," admitted one of my informants wonderingly.

And now she was dying. The Ridge could not believe it. She had been a torch for so many, lighting the way to better things. She stood for hope in the eyes of so many who had planned to attend her little schoolhouse "next year." It seemed impossible that she was going away and that the doors which had stood open for thirty years were to be closed forever.

So much I gathered here and there as I climbed the icy trails that led to the Little Mill Trace region. But of the woman herself, of her derivation, her history, her reasons for undertaking the great, unending task she had so splendidly begun, I could learn nothing. "Ask Zeke Tolliver," people told me. "He knows." So I had come to ask Zeke Tolliver. Zeke was at home. He rose and came forward to meet me as I entered—a huge old man, bearded and unkempt, and uncouth in speech, though not from lack of education. More than once as he talked he surprised me by his unexpected knowledge of the world.

"She came up hyer thirty-five years ago—thirty-five years 'most to a day," he said. "I know, fur I was forty years old the day I first see her and I'm seventy-five now. She's lived hyer ever since.

"I reckon you think we're mighty poor and shifless and onery up hyer. An' I reckon you're right! I reckon you're right! But we ain't neerer about as poor and shifless an' onery as we was when the little schoolmistress come. In them days we hved mighty nigh hand to mouth. We hadn't nothing—no fields no roads, no doctor, no preacher, no learning—nothing but old burnt-out muskets and a little powder and ball an' tobacco.

"Then the little schoolmistress come. She warn't the little schoolmistress then. She was jest a girl with white cheeks and with fear in her eyes. She come out of the night and fainted at the door of Dad's cabin. Mam looked at her and took her in an' turned us all out. An' before mornin' there was two of them. She never explained nothing; never said whar she come from; never told nary word about the baby's

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pa, though she had a ring on her finger all right; never said nothing except that we could call her Mary. Nobody asked her no questions, and she didn't offer no answers. She had a little money, and when she was well enough she bought two or three acres of land from Dad and hired some of us to build her a cabin and set her out a garden patch. And when it was done she went to housekeepin' as quiet as you please.

"Folks didn't like her at first. She warn't our kind, and we knowed it. She was mighty pretty to look at, and the boys used to gawk at her a heap; but most of 'em didn't do any more. There was the baby you see, an' the ring on her finger, and the fact that she didn't wear black. Buck Fanshaw tried to

make up to her, but he stopped mighty quick. He never told what she said to him, and Buck wasn't a sort of man you'd care to question; but he was always mighty nice to her afterwards. The women-folks was kinder shy of her, the Lord knows why. They just let her alone, and she wouldn't let the boys fool around her place. She'd have been pretty lonely sometimes if it hadn't been for that baby of her'n.

"He was the beatenist boy I ever see. I've had plenty of my own, sons and grandsons and great-grandsons; but none of 'em was like him. He was so strong and big and handsome. The women fell in love with him at sight, an' the men weren't far behind. He was mighty tender hearted too. You know

how children just naturally love to torment pets? I reckon it's because they don't understand how it hurts. But Harry—his ma called him Harold; but of course nobody'd stand for a fool name like that—was always doctoring them up instead. Before he was three years old he had a regular nursery of hurt things that he was a-curing. The boys used to bring him everything they come across that was ailin'. He was mighty popular. It was goin' to see him that made people get to know his mother.

"Then come the time when he was lost. The little school-teacher left him in the house one day while she went to the spring for a bucket of water. When she come back he was gone. He

must have wandered away and got lost in the brush, though I ain't never been able to figure out how he could have got lost anywhere about Bald Knob. But lost he was! An' dark was comin' on, an' the mountains was full of gullies and dead falls an' catamounts. And him only five years old.

"The little schoolmistress—she warn't the schoolmistress yet a while; but it comes handier to call her so—the little schoolmistress come running to our house a-panting like a wounded deer. An' of course we all turned out an' hunted. There was fifteen of us here in them days, an' when we didn't find him quick we sent for the Fields an' the Jeffersons and the Floyds. Before dark 'most a hundred men was combing Bald

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Knob and shouting for Harry. We hunted all night and all the next day and night till we was plumb worn out. Many a time we'd have given up if we hadn't been ashamed to stop as long as the little schoolmistress kept on. I can hear her now, saying again and again that he'd promised to stay in the house till she got back. Then she'd call, 'Harold! Harold! Harold!' so pitiful it made your heart turn to water, an' so low and husky he couldn't have heard it if he'd been twenty feet away.

"We never did find him! Never! Not even his body! A catamount must have got him of course; but nobody ever told that to the little schoolmistress. To her we said that he must have wandered away and away clear out of the mountains, and that somebody must have picked him up and taken him off, not knowing where he come from. We lied of course, for no five-year-old kid could have gotten far enough away for that, but we had to lie and keep on lying as long as we dared.

"For a while the little schoolmistress went half crazy, with her ears cocked—a-listenin'. Then she stopped listening. Her hair got frost white, an' her face got thinner and thinner. Most folks here in the mountains that gets thin and white haired get bent and ugly, too; but she got beautiful instead—beautiful! There ain't no other name for it.

"She changed in other ways, too. Up till then she'd always been a 'furriner' to us. As I said just now she warn't our kind, an' we knowed it and she knowed it. But after the boy went she began to change. The mountains seemed to get her somehow. Little by little she changed, till she seemed as much a part of them as the Blowing Rocks and the Big Pine and the gashed summit of the Old Bald above her cabin. Nobody held it against her any more that she was a furriner.

"Then she started the school. Seems like she hadn't had time to notice how ignorant and shifless we all were as long as she had her boy. But when he was gone, she looked around and saw, Maybe—it's a hard seat thing to say—but maybe the Lord sent Harold to bring her to Little Mill Trace and took him away again to let her see how much we needed her. There was a preacher up here a year or two ago that 'lowed that He did, an' maybe he's right—he seemed real intimate with the Lord! But it don't seem fair to me for the Lord to do a thing like that for the sake of a passel of onery mountain folks like we—uns.

"Anyhow she started the school in her own cabin. No, it warn't no free school. Nobody would have come if it had been. We ain't acceptin' charity from nobody up hyer in the mountains. Eve'body had to pay—not in money of course, for money's mighty scarce in these parts. The boys paid mostly by doing work in her garden and bringing her a side of haw meat now and then, an' the girls by making her clothes an' by taking her over a chicken or some eggs and sich like. After a while me and some of the others went over and built her a schoolhouse and cut cord-wood to keep it warm in winter. We've been cutting that cord-wood ever since—for full thirty years. I stacked the last of it this winter not more'n a week ago. She won't ever burn it."

The old man's voice broke, but instantly—and angrily—he regained command of it. "There's the chimney of the school," he went on hurriedly. "Yonder through that notch in the trees."

The old man's shaking finger, knotted and lean, pointed through the window. Following its direction with my eyes I saw, against the snow, the same faint wisp of gray that the guide had pointed out to me an hour before.

"For thirty winters I've seen the smoke curling up from the chimney," Zeke finally went on. "It don't seem possible it's going to stop now. It's been a beacon set on a hill to all the region hereabout. Nobody but us can tell how much we'll miss it."

His acceptance—the acceptance of all the people whom I had met—of the sentence of death as irrevocable made me wonder. I asked as to the malady of the schoolmistress and suggested that she might get well again.

Zeke shook his head. "I don't know just what she's got," he said. "But Dr. Rufe Saunders says she can't get well, an' he knows."

Dr. Rufe Saunders it seemed was one of the little schoolmistress' pupils. He had gone out into the world, had learned his trade and had come back to practice it among his kindred and neighbors. Either because he was a born doctor or because his heart was in his work, he had accomplished things that seemed wonderful to the mountainers. None of them questioned his dictum. I, however, being a stranger ventured to demur.

"Doubtless," said I, "Dr. Saunders is both wise and skilful; but in the city there are others still more skilful. Why not send for one of them?"

Zeke threw up his hands. "Because we ain't got the money," he declared roughly. "We're poor up here, Mister, dead poor. We've got enough to eat and wear, and we've got houses to shelter us. But we ain't got any money. An' furrin doctors want money. Dr. Saunders says none of the big men would come up here for less than a thousand dollars—an' the whole county ain't got a thousand dollars in cash."

My interest mounted uncontrollably. "But how about the men who have gone out into the world?" I questioned. "Perhaps they—"

Zeke nodded. "Some of 'em would I reckon if they knowed," he agreed. "But who's to find 'em? We don't set much store by letter writing up here, an' there's mighty few of 'em been kept up with. Dr. Saunders has written to some of 'em, but he ain't had no answers. An' I reckon it's too late now."

After a little Dr. Saunders came in—a typical mountaineer—a grave, stern man, whose appearance was a guarantee of his words. He gave absolutely no hope for the little schoolmistress.

"I've done all I can," he groaned. "But of course I'm not up-to-date. I can't keep so, living so far away from the hospitals and surgeons. One of the big men might save her. There's an operation that Curtis performs that might do it. I've written, but—"

His voice died away.

"I'm just going over to see her," he went on, after a pause. "Would you like to come with me? She is wandering a little—talking of the lost boy you know—and she can't talk to you. But you can see her, and that's a privilege to be remembered, though you may not think it. She's one of God's own women."

I went over, of course. The little schoolmistress' house was two rooms deep, built of whole logs notched together at the ends and daubed with clay. Within it was warm and comfortable. In the middle of one wall was a great fireplace, big enough to house the huge, black logs that it evidently regularly held in cold weather. Splint bottomed chairs one with rockers, stood on the slick, carpetless floors.

In the inner room, on a roughly-made bed, lay the schoolmistress, attended by a mountain woman. The doctor was right. It needed but a single glance at that fine head, those splendid eyes which had already taken on a touch of that infinity toward which their owner was drifting, to see that.

She did not notice me. The doctor was right. She was wandering—more than a little. I caught a word here and there. It was about her boy, her Harold. To her he was still alive. He would be great, famous, a power in the land. Memories of him blended indistinguishably with prophecies that never could come true. "Harold! Harold! Harold!" Her voice ran on insistently. The seals of thirty years had been loosed, and the great, hungry mother's heart poured forth its pent-up psalm. My own heart ached as I stood there and listened.

There came a tap at the door and Zeke entered, carrying an open telegram in his hand—probably the very first telegram that had ever come to the Little Mill Trace. He showed it to the doctor, and the doctor showed it to me. It read:

"Will be with you to-morrow. Am bringing Dr. Curtis with me. He will save her if any one can."

The signature made my eyes widen.



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LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

It was that of a colossus of finance—a man who played with millions as other men play with pennies. "Was he from here?" I asked wonderingly.

The doctor nodded. "One of her boys," he declared. "Left here twenty years ago without a penny. The little schoolmistress was disappointed when he became a mere millionaire. She always said she had expected better things of him. I wrote him the other day—without much hope I'll admit. But he's coming and is bringing Curtis. You know Curtis, of course?"

"Yes!" Of course I knew Curtis—Curtis, the wonderful surgeon with whose triumphs the country had more than once rung; Curtis, with his dark, stern, grave face and long, beautiful, strong, capable fingers. Yes, I knew Curtis. More than once in my newspaper experience I had interviewed him.

"This despatch has been delayed in transmission." The doctor was still speaking. "They ought to be here soon. Will you meet them, Zeke?"

They came an hour later, the millionaire pale, excited and anxious, the surgeon cool and deliberate, scanning the snow-clad, crystalline heights with eyes in whose depths a startled wonder lurked. With them they brought nurses and all the paraphernalia of the sick-room—enough to furnish a small hospital. They waited for nothing—not for rest nor food. Time was the great element, and the surgeon wasted none. Quickly the operation began.

I shall never forget how the time dragged until the famous surgeon came out of the sick-room again. It seemed hours of physical torture to all of us. I tried to talk to the millionaire—once in a while my newspaper instinct rising to the surface at the thought of a "boat" on the other boys—for the life story of a millionaire is always good news. But try as I would I could not talk shop.

Zeke and I and the millionaire, waiting in the outer room, took it very hard. I wondered at myself. Why on earth should I be so interested—I, who for years had studied the human heart, shaping its little histories into newer and newer forms until through much feeling I seemed to have lost the power to feel? Perhaps it was the sight of the millionaire's suffering that set my frequency-staled heart-strings to throbbing. We can't help—I can't at any rate—we can't help feeling that millionaires are metallic creatures, set above all human emotions. I learned differently that day. Then and there I made up my mind never again to question that all men are really brothers.

Dr. Curtis came at last to tell us that the operation was over and that it had been successful. I understood what that meant, knowing the shibboleth of the profession. But Zeke had to be told that at least two days must pass before it could be known whether the little schoolmistress would live.

Two days do not seem very long as you set them down, but those forty-eight hours that we waited in that little community will live forever in the memory of a man hardened by his profession as I am. Many times I have waited for a story in a setting far more gorgeous—in the lobbies of famous hotels, in the drawing-rooms of millionaire homes, in floating palaces; but none of them left an impression to be compared to this little log cabin in its grandeur and love of humanity. Men and women for miles around traveled on foot if horses were not available, through snow-clad fields and over ice-capped hills, to hear the fate of the little schoolmistress. And there I saw such love and deep devotion, such sympathy and true friendships as we never could see in a city where each man is for himself.

Somehow we got through those two days. We were all present, all of us, on the third day, ranged against the side of the room in a row like school-boys, charged not to speak or move. The doctor sat by the bed. The nurse stood ready.

The little schoolmistress was talking again. Her words were much the same as those I heard on the day I came; but her tones were different—cool, unfevered.

"Don't go away from the cabin, Harold," she repeated again and again. "Don't go away from the cabin, little son. Mother'll be back from the spring soon!"

"I won't, mother! I won't!"

Startled, I heard the doctor speak. He was bending over her. The sweat was gray on his temples; his eyes were wide; his jaw was set like steel. But his voice was soft as any woman's.

"Stay close, little son. If a bad man comes and tries to take you away, call for Mother and she'll come. You're mine, Harold! you're mine. He has no right to you. Call to Mother if he comes."

Lower bent the doctor. "I did call, Mother," he said dreamily. "I called, once, twice; then he carried me away. I couldn't help it, Mother dear. He carried me away, and I couldn't find my way back—till to-day—not till to-day."

The little schoolmistress' eyes opened. "Where is he now, little son?" she asked composedly.

"He is dead, Mother. Through all those long years he did the best he could for me, but he would never answer my questions about you. Only at the very last, when suffering had softened his heart, did his love for you bring repentance. Then he tried to tell me where to find you, but he had waited too long. He could not finish. But I

have found the way back anyway, darling Mother."

Feebly the little schoolmistress raised her arms and twisted them around the great, strong neck that bent so willingly to the embrace.

"My Harold!" she murmured. "My little, little son!"

.....

The editor objected to my heart interest story. He said it hurt my style to let my sympathies become engaged. But I didn't care, for I knew that the little schoolmistress was happy and that no mixed metaphors or boggled connotations of mine could rob her of her joy.—Crittenden Marriott, in Pictorial Review.

The Windrow.

Some of the large department stores in New York are closing their stores all day Saturday during the months of July and August. According to the Hebrew Standard, one of these firms intends to lengthen these rest periods for employees, as the years roll around, and thus, eventually, its employees need labor only five days a week.

.....

A new automobile has been invented which runs on two tandem wheels like a bicycle. It is built on the principle of the gyroscopic railway recently invented, and the advantages over the ordinary automobile claimed for it are the diminution of shocks caused by bad roads, and the consequent ease for the passengers, and lessening of wear and tear on the parts, economy of fuel, and the high rate of speed which is possible.

.....

The volcanoes along the Alaskan peninsula and on the Aleutian Islands are in violent eruption. A new crater has been

Partner Wanted

UNDERSIGNED owns patented farm at Dill Station, on the C. P. R. short line Toronto to Sudbury, eleven miles from the Town of Sudbury. Has the controlling interest in the adjoining one thousand acres.

Farm well stocked with horses, hogs and machinery. All lands are rich clay loam, well wooded and watered by the Wahnapitae River, Lake Alice, several small navigable creeks and numerous springs. About one hundred and seventy-five acres under grain and roots. 60 tons blue joint hay last season.

Big opportunity for stock farm, especially dairy. Milk sells at 8 to 12 cents per quart the year round. Greedy market for all that farmers can produce at Sudbury with its 7,000 population, and at Coniston, 3 miles distant, with about 1,500 of a mining and smelting population. Good roads.

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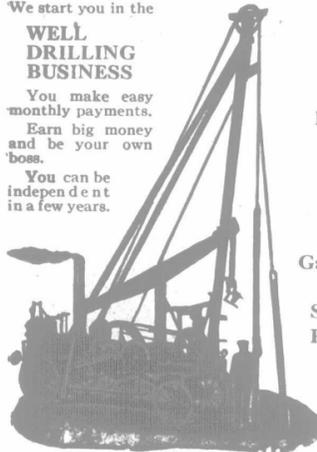
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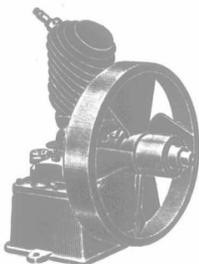
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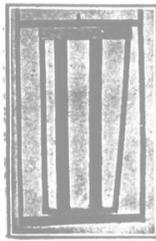
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In London Town.—Regular Customer.—"I shall want a large quantity of flowers next week, for my daughter's coming-out."

Flower Woman.—"Yes, mum. You shall have the very best for 'er, pore dear. Wot were she put in for?"—Punch.

formed on Mt. Shishaldin (which had been quiet for two years), and a path of lava has been cut through the snow for several miles; and Mt. Pavlof, another volcano on one of the islands, is throwing out black ashes. This volcanic activity in the north is, by some, supposed to be connected with the present activity of Mt. Lassen, in California.

A new anesthesia has been discovered. After experimenting for five years, Dr. Fitzgerald, of St. Francis' Hospital, Hartford, Conn., claims to be able to perform dental and surgical operations painlessly, by simply exerting pressure "just short of pain" on the foot or the hand. The degree of pressure produces numbness, which gradually extends upwards the entire height of the body. When the numbness passes the location of the pain for which the anesthesia is being administered, the suffering ceases, and when the area to be operated upon by dentistry or minor surgery is reached by the numb wave, surgery may be instituted without pain. Writing of this new anesthesia, Dr. Smith, of Boston, says: "The most startling part of the Fitzgerald discoveries we have held back to mention last. He claims to have located about three hundred spots in the mouth, nose, throat and tongue, where pressure applied for a moment or two with the finger, or with a blunt probe wound with cotton, will produce anesthesia in some definite but remote portion of the body. He has mapped out his areas so far that he now includes the entire body." A curative influence is also claimed for this treatment, and cases of sore throat, bronchitis, and even of tuberculosis, are said to have been benefited by it.

The deplorable neglect of literature is largely due to the restless spirit of the age; but for the intervention of Sunday, crowds of young people would scarcely read a book from year's end to year's end."—Silas K. Hocking, in T. P's Weekly.

"There are now far more possible ways of rising (than in the past), but the standards are rising also, and high quality and hard work are more than ever essential. The spread of learning has had a democratic tendency. Those who are to have the prizes of life are chosen on their merits more than ever before. It must, however, always be borne in mind that character and integrity count in the market-place among these merits as well as do knowledge and ability. For the man who possesses both capacity and character, and who, having selected his path, sticks to his place of life undeviatingly, the chances of success seem to me to-day very great. But wisdom means more than attention to the gospel of getting on. Life will, at the end, seem a poor affair if the fruits of its exertions are to be no more than material acquisitions. From the cradle to the grave it is a course of development, and the development of quality as much as quantity ought to continue to the last. For it is in the quality of the whole, judged in all its proportions and in the outlook on the Eternal which has been gauged that the test of the highest success lies, the success that is greatest when the very greatness of its standards brings in its train a deep sense of humility."—"The Conduct of Life," by Lord Haldane.

A young lady sat next to a distinguished bishop at a church dinner. She was somewhat modest and diffident, and was rather awed by the bishop's presence. For some time she hesitated to speak to him, waiting for what she considered to be a favorable opportunity. Finally, seeing some bananas passed, she turned to him and said:

"I beg your pardon; but are you fond of bananas?"

The bishop was slightly deaf, and leaning forward, replied:

"What did you say?"

"I said," repeated the young lady, blushing, "are you fond of bananas?"

The bishop thought for a moment, and then said:

"If you want my honest opinion, I have always preferred the old-fashioned nightshirt."

News of the Week Farm For Sale

Saturday, July 25, was the 100th anniversary of the battle of Lundy's Lane.

It is rumored that Lord Kitchener may succeed Lord Hardinge as Viceroy of India.

The army worm is now under control, and it is expected that a couple of weeks will see the end of the trouble.

Sir Thomas Lipton's yacht, Shamrock IV, has started on its trip across the Atlantic, to compete in United States waters for America's Cup.

At the races at Cleveland, July 22nd, Etawah III, owned by Frank G. Jones, of Memphis, Tenn., made a new world's record by trotting a mile in 2.04, the former world's record being 2.05 1/2.

Mt. Lassen, California, is still active, several eruptions having occurred recently. During a particularly active eruption on June 14th, several persons were injured by falling or rolling stones. The new crater is enlarging with each eruption.

A conference of postmasters is to be held at Madrid shortly, at which it is hoped that universal penny postage will be agreed upon. A movement is also on foot to allow week-end cable messages at reduced rates between all English-speaking countries.

The shiplod of Hindus who have been waiting in Vancouver harbor since May 23rd for permission to enter Canada, but who have been refused that permission, have agreed to return quietly to India, and left on the 23rd inst.

While carrying on repairs in a house in Bazilles, France, recently, a workman discovered under the hearthstone a potato which must have lain there for over forty years. The house had been rebuilt in 1873, after the village had been burned by the Prussians, and it is supposed that the potato—which was in perfect condition when found—was then put away in its strange hiding-place.

The steamer, Empress of Ireland, is now shifting her position at the bottom of the St. Lawrence, and her masts are likely to endanger navigation. Arrangements are being made to dynamite the masts so as to remove this danger.

As a background for the Canadian exhibits at the Panama-Pacific Exposition, an immense oil painting is being prepared, 20 feet high and 79 feet long, showing Canada's water powers and industrial possibilities. This will be the biggest thing yet attempted by the Dominion in connection with world exhibitions.

HOW THEY OBSERVED.

"I think that children are not so observing as they used to be," said a member of the School Board to a teacher whose class he was visiting.

"I hadn't noticed it," replied the teacher.

"Well, I'll prove it to you," answered the Committeeman. Turning to the class, he said:

"Someone give me a number."

"Thirty-seven," said a little girl eagerly.

He wrote "73" on the board. Nothing was said.

"Well, someone else give me a number."

"Fifty-seven," said another child.

He wrote "75" on the board and smiled knowingly at the teacher when nothing was said. He called for a third number, and fairly gasped at the indignation manifested by a small, red-faced urchin, who said: "Seventy-seven, and see if you can change that!"

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Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted, and must always accompany the order for any advertisement under this heading. Parties having odd pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 10 cents.

DUCKS—Records exist where Indian Runner ducks have produced 300 to 320 eggs in 305 days. True Indian Runner ducks, trios \$10, baby ducks 75cts. each. Fertile eggs, \$2, \$3, and \$5 per setting. Mrs. E. C. Cattley, Weston, Ont.

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IT WORKED.

A young lady took down the receiver and discovered that the 'phone was in use. "I just put on a pan of beans for dinner," she heard one woman complacently informing another.

She hung up the receiver, and waited. Three times she waited, and then, exasperated, she broke into the conversation.

"Madam, I smell your beans burning," she announced crisply. A horrified scream greeted the remark, and the young lady was able to put in her call.

The Spice of Life.

Father (from top of staircase)—Ethel, is that young man gone? Ethel—Awfully, pa.—Grit.

SHE TOOK UP POULTRY.

"Hens have made a new woman of her. She looks ten years younger, and she's lost fifteen pounds she in no wise needed."—Girl's Own Paper.

Two Irishmen were working on the roof of a building one day when one made a misstep and fell to the ground. The other leaned over and called:

"Are yez dead or alive, Mike?" "O'im alive," said Mike, feebly. "Sure you're such a liar Oi don't know whether to believe yez or not." "Well, then, Oi must be dead," said Mike, "for yez would never dare to call me a liar if Oi wor alive."

Mrs. Black woke her husband one night and whispered: "Larry, there's a burglar in the parlor! He just bumped against the piano and struck several keys." "Is that so?" said Larry. "I'll go right down there." "Oh, Larry," whispered the excited wife, "don't do anything rash!" "Rash!" replied the husband. "Why I'm going to help him. You don't suppose he can mave that piano from the house without assistance, do you?"

A young gentleman with a very plain face was rather annoyed because his view of the stage was obstructed by the hat of a pretty girl who was sitting in front of him in the gallery. Wishing to get a glimpse of the performance, he plucked up courage, and in a nervous voice exclaimed: "See here, miss, I want to look as well as you." "Oh, do yer?" she replied in a rich Cockney accent, as she turned round and looked at him square in the eye. "Then you'd better run 'ome and change yer face."

WHY HE LOVED.

A woman prison missionary was insistent that there was some good in every one—even the worst of the prisoners. To prove it she sought out the prison demon and found him fondly stroking the cat.

"A man who'll pet a cat certainly has love in his heart," she said to herself, adding aloud: "Do you love that cat?" "You bet I do," replied the prisoner. "He bit the warden this morning."

A small boy had been given a penny with a hole in it. Handing it to a still smaller companion, he said:

"Jimmie, I dare you to go into that store and buy something with this penny." Jimmie was quite willing. Entering boldly, he said: "I want a doughnut." And taking it, he hastily presented the penny. "Here," said the clerk, "this penny has a hole in it." "So has the doughnut," announced Jimmy, triumphantly holding it up.

NOT SO NOISY.

A gentleman tells this story of Sabbath breaking north of the Tweed. One brawny Scot was hammering away at the bottom of his wheelbarrow when his wife came to the door. "Mon! Mon!" she exclaimed, "you're making much clatter. What wull the neebours say?" "Never mind the neebours," returned the busy husband. "I maun get ma barrow mendit." "Oh, but Donal," it's very wrong to wurk on Sawbath," protested the good woman. "Ye ought to use screws."

Murphy was a new cavalry recruit and was given one of the worst horses in the troop.

"Remember," said the sergeant, "no one is allowed to dismount without orders."

Murphy was no sooner in the saddle than the horse kicked and Murphy went over his head.

"Murphy," yelled the sergeant, when he discovered him lying breathless on the ground, "you dismounted!"

"I did." "Did you have orders?" "I did." "From headquarters?" "No, sor; from hindquarters."

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Girl Training.

A few years ago Prof. Wm. A. McKeever, Child Welfare Department in the University of Kansas, wrote an admirable work called "Farm Boys and Girls," commended in "The Farmer's Advocate and Home Magazine." At a later date he followed it with a supplemental work, "Training the Farm Boy," and now completes the series with a third, "Training the Girl." The latter is a volume of 350 pages, issued by the Macmillan Co., well printed, and illustrated. It might very properly have been dedicated to the service of the multitudes of growing girls in Canada, and should find its way into every library, rural and urban, for the help and inspiration of parents, and particularly of mothers in the upbringing of their daughters. The book offers a wholesome whole-life plan, arranged in four sections.—Industrial Training, Social Training, Vocational Training, and Service Training. The various chapters conclude with very complete lists of other publications by specialists that take up in detail almost every conceivable related subject. In some respects this book is more important than the other two, because more fundamental in relation to the betterment of the coming generation. It is a happy, hopeful, understandable work, and its faithful perusal should open the eyes of indifferent or frivolous home-makers to the duties resting upon them.

One of the most amusing things in nature may be seen in the month of May wherever a brood of baby bullheads is undergoing education. This little cat-fish, lurking in sluggish streams from whose muddy bed it gets good fare of worms and the like, is a pattern of paternal care, for when the young are hatched in the tunnel-like burrow under the bank where the mother had left her eggs, the father becomes nurse and guardian—the mother has long disappeared. As the fry swim about in a close flock, he moves round and round them, keeping them together; and the moment he thinks danger threatens he hurries them back to the cave, and shuts the door by placing himself in the entrance, his ugly, horned head peering out and, ogre-like, defying intruders.

"Tommy," said a young lady visitor at his home, "why not come to our Sabbath school? Several of your little friends have joined us lately."

Tommy hesitated a moment. Then suddenly he exclaimed: "Does a red-headed kid by the name of Jimmy Brown go to your school?"

"Yes, indeed," replied the new teacher. "Well, then," said Tommy, with an air of interest, "I'll be there next Sunday, you bet. I've been layin' for that kid for three weeks, and never knew where to find him."

TAKEN AT HIS WORD.

A suburban minister, during his discourse one Sunday morning, said: "In each blade of grass there is a sermon." The following day one of his flock discovered the good man pushing a lawnmower about, and paused to say: "Well, parson, I'm glad to see you engaged in cutting your sermons short."

His Contribution.

Bacon.—"Are you doing anything to relieve the sufferings of your neighbors?" Egbert.—"Yes; I've sold my phonograph!"—Yonkers Statesman.

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The newly appointed master at a school had learned all about "cribbing" and such little dodges as schoolboys practice, and had not forgotten them.

One day during a lesson in history he observed one of his pupils take out his watch every minute or two. He grew suspicious, thinking that the pupil was consulting notes on the lesson. Finally he strode slowly between the desks and stopped in front of the boy. "Let me see your watch," he commanded.

"Yes, sir," was the meek reply.

The master opened the front of the case. He looked somewhat sheepish when he read the single word "Sold!"

But he was a shrewd man. He was not to be thrown off the scent so easily. He opened the back of the case. Then he was satisfied, for he read: "Sold again!"

Tommy—"Paw, what is a free thinker?" Paw—"An unmarried man, my son."

SLEEP PREFERRED.

Mrs. Randall had just finished instructing her new girl, who came to her from an intelligence office. Her general appearance pleased the mistress greatly, and she felt sure that at last she had succeeded in finding a prize.

"And, Lizzie, do you have to be called in the morning?" she asked as an afterthought.

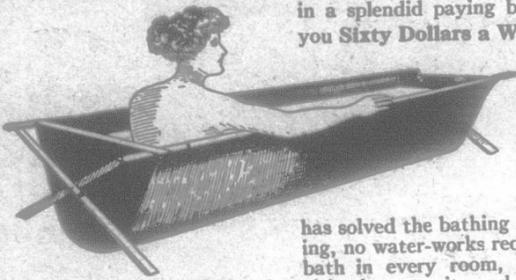
"I don't have to be, mum," replied the new assistant hopefully, "unless you just happens to need me."

TACTFUL.

Edward was the proud owner of his first pair of pants. On the occasion of his first wearing them a neighbor happened in and was chatting with his father, but, much to Edward's disgust, the all-important subject was not mentioned. The little fellow stood it as long as he could, then, in a very indifferent manner, remarked, "There are three pairs of pants in this room."

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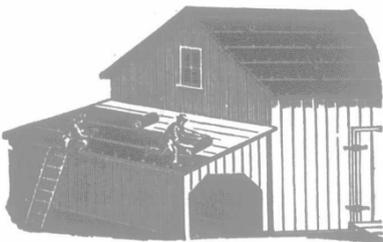
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PETER.

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Chapter V.

While all this was going on downtown under the direction of the business end of the house of Breen, equally interesting events were taking place uptown under the guidance of its social head. Strict orders had been given by Mrs. Breen the night before that certain dustings and arrangements of furniture should take place, the spacious stairs swept, and the hectic hired palms in their great china pots watered. I say "the night before," because especial stress was laid upon the fact that on no account whatever were either Mrs. Breen or her daughter Corinne to be disturbed until noon—neither of them having retired until a late hour the night before.

So strictly were these orders carried out that all that did reach the younger woman's ear—and this was not until long after mid-day—was a scrap of news which crept upstairs from the breakfast table via Parkins wireless, was caught by Corinne's maid and delivered in manifold with that young lady's coffee and buttered rolls. This when deciphered meant that Jack was not to be at the dance that evening—he having determined instead to spend his time upstairs with a disreputable old fellow whom he had picked up somewhere at a supper the preceding night.

Corinne thought over the announcement for a moment, gazed into the egg-shell cup that Hortense was filling from the tiny silver coffee-pot, and a troubled expression crossed her face. "What has come over Jack?" she asked herself. "I never knew him to do anything like this before. Is he angry, I wonder, because I danced with Garry the other night? It was his dance, but I didn't think he would care. He has always done everything to please me—until now." Perhaps the boy was about to slip the slight collar he had worn in her service—one buckled on by him willingly because—though she had not known it—he was a guest in the house. Heretofore she said to herself Jack had been her willing slave, a feather in her cap—going everywhere with her; half the girls were convinced he was in love with her—a theory which she had encouraged. What would they say now? This prospect so disturbed the young woman that she again touched the button, and again Hortense glided in.

"Hortense, tell Parkins to let me know the moment Mr. John comes in—and get me my blue tea-gown; I sha'n't go out to-day." This done she sank back on her pillows.

She was a slight little body, this Corinne—blue-eyed, fair-haired, with a saucy face and upturned nose. Jack thought when he first saw her that she looked like a wren with its tiny bill in the air—and Jack was not far out of the way. And yet she was a very methodical, level-headed little wren, with several positive convictions which dominated her life—one of them being that everybody about her ought to do, not as they, but as she, pleased. She had begun, and with pronounced success, on her mother as far back as she could remember, and had then tried her hand on her stepfather until it became evident that as her mother controlled that gentleman it was a waste of time to experiment further. All of which was a saving of stones without the loss of any birds.

Where she failed—and she certainly had failed, was with Jack, who though punctiliously polite was elusive and—never quite subdued. Yet the discovery made, she neither pouted nor lost her

temper, but merely bided her time. Sooner or later, she knew, of course, this boy, who had seen, nothing of city life and who was evidently dazed with all the magnificence of the stately home overlooking the Park, would find his happiest resting-place beneath the soft plumage of her little wing. And if by any chance he should fall in love with her—and what more natural; did not everybody fall in love with her?—would it not be wiser to let him think she returned it, especially if she saw any disposition on the young man's part to thwart her undisputed sway of the household?

For months she had played her little game, yet to her amazement none of the things she had anticipated had happened. Jack had treated her as he would any other young woman of his acquaintance—always with courtesy—always doing everything to oblige her, but never yielding to her sway. He would laugh sometimes at her pretensions, just as he would have laughed at similar self-assertiveness on the part of any one else with whom he must necessarily be thrown, but never by thought, word or deed had he ever given My Lady Wren the faintest suspicion that he considered her more beautiful, better dressed, or more entertaining, either in song, chirp, flight, or plumage, than the flock of other birds about her. Indeed, the Scribe knows it to be a fact that if Jack's inmate politeness had not forbidden, he would many times have told her truths, some of them mighty unpleasant ones, to which her ears had been strangers since her school-girl days.

This unstudied treatment, strange to say—the result really, of the boy's indifference—had of late absorbed her. What she could not have she generally longed for, and there was not the slightest question up to the present moment that Jack was still afield.

Again the girl pressed the button of the cord within reach of her hand, and for the third time Hortense entered.

"Have you told Parkins I want to know the very instant Mr. John comes in?"

"Yes, miss."

"And, Hortense, did you understand that Mr. John was to go out to meet the gentleman, or was the gentleman to come to his rooms?"

"To his rooms, I think, miss."

She was wearing her blue tea-gown, stretched out on the cushions of one of the big divans in the silent drawing-room, when she heard Jack's night-key touch the lock. Springing to her feet she ran toward him.

"Why, Jack, what's this I hear about your not coming to my dance? It isn't true, is it?" She was close to him now, her little head cocked on one side, her thin, silken draperies dripping about her slender figure.

"Who told you?"

"Parkins told Hortense."

"Leaky Parkins?" laughed Jack, tossing his hat on the hall table.

"But you are coming, aren't you, Jack? Please do!"

"Not to-night; you don't need me, Corinne." His voice told her at once that not only was the leash gone but that the collar was off as well.

"Yes, but I do."

"Then please excuse me, for I have an old gentleman coming to pay me a visit. The finest old gentleman, by the way, you ever saw! A regular thoroughbred, Corinne—who looks like a magnificent portrait!" he added in his effort to interest her.

"But let him come some other time," she coaxed, holding the lapel of his coat, her eyes searching his.

"What, turn to the wall a magnificent old portrait!" This came with a mock grimace, his body bent forward, his eyes brimming with laughter.

"Be serious, Jack, and tell me if you think it very nice in you to stay upstairs in your den when I am giving a dance? Everybody will know you are at home, and we haven't enough men as it is. Garry can't come, he writes me. He has to dine with some men at the club."

"I really am sorry, Corinne, but I can't this time." Jack had hold of her hand now; for a brief moment he was sorry he had not postponed Peter's visit until the next day; he hated to cause any woman a disappointment. "If it was anybody else I, might send

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him word to call another night, but you don't know Mr. Grayson; he isn't the kind of a man you can treat like that. He does me a great honor to come, anyhow. Just think of his coming to see a boy like me—and he so—

"Well, bring him downstairs, then." Her eyes began to flash; she had tried all the arts she knew—they were not many—but they had won heretofore. "Mother will take care of him. A good many of the girls' fathers come for them."

"Bring him downstairs to a dance!" Jack answered with a merry laugh. "He isn't that kind of an old gentleman,

either. Why, Corinne, you ought to see him! You might as well ask old Bishop Gooley to lead the german."

Jack's foot was now ready to mount the lower step of the stairs. Corinne bit her lip.

"You never do anything to please me!" she snapped back. She knew she was fibbing, but something must be done to check this new form of independence—and then, now that Garry couldn't come, she really needed him. "You don't want to come, that's it—" She was facing him now, her little nose high in the air, her cheeks flaming with anger.

"You must not say that, Corinne," he answered in a slightly indignant tone.

Corinne drew herself up to her full height—toes included; not very high, but all she could do—and said in a voice pitched to a high key, her finger within a few inches of his nose:

"It's true, and I will say it!"

The rustle of silk was heard overhead, and a plump, tightly-laced woman in voluminous furs, her head crowned by a picture hat piled high with plumes, was making her way down the stairs. Jack looked up and waved his hand to his aunt, and then stood at mock attention, like a corporal on guard, one hand

raised to salute her as she passed. The boy, with the thought of Peter coming, was very happy this afternoon.

"What are you two quarrelling about?" came the voice. Rather a soft voice with a thread of laziness running through it.

"Jack's too mean for anything, mother. He knows we haven't men enough without him for a cotillion, now that Garry has dropped out, and he's been just stupid enough to invite some old man to come and see him this evening."

The furs and picture had swept down

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and on, Jack standing at attention, hands clasping an imaginary musket his face drawn down to its severest lines, his cheeks puffed out to make him look the more solemn. When the wren got "real mad" he would often say she was the funniest thing alive.

"I'm a pig, I know, aunty" (here Jack completed his salute with a great flourish), "but Corinne does not really want me, and she knows it. She only wants to have her own way. They don't dance cotillions when they come here—at least they didn't last time, and I don't believe they will to-night. They sit around with each other in the corners and waltz with the fellows they've picked out—and it's all arranged between them, and has been for a week—ever since they heard Corinne was going to give a dance." The boy spoke with earnestness and a certain tone of conviction in his voice, although his face was still radiant.

"Well, can't you sit around, too, Jack?" remarked his aunt, pausing in her onward movement for an instant. "I'm sure there will be some lovely girls."

"Yes, but they don't want me. I've tried it too often, aunty—they've all got their own set."

"It's because you don't want to be polite to any of them," snapped Corinne with a twist of her body, so as to face him again.

"Now, Corinne, that isn't fair; I am never impolite to anybody in this house, but I'm tired of—"

"Well, Garry isn't tired." This last shot was fired at random.

Again the aunt poured oil: "Come, children, come! Don't let's talk any more about it. If Jack has made an engagement it can't be helped, I suppose, but don't spoil your party, my dear. Find Parkins, Jack, and send him to me. . . . Ah, Parkins—if any one calls say I'll be out until six o'clock."

"Yes, my lady." Parkins knew on which side his bread was buttered. She had reproved him at first, but his excuse was that she was so like his former mistress, Lady Colchester, that he sometimes forgot himself.

And again "my Lady" swept on, this time out of the door and into her waiting carriage.

(To be continued.)

How the Crop Stands.

In a Bulletin issued by the Census and Statistics Office, revised estimates are given of the areas sown to spring crops this year, and of their condition on June 30, as well as estimates of the acreages under the later-sown cereals and hoed crops, and of the numbers of farm live stock. The estimates are based upon returns collected from the crop-reporting correspondents of the office at the end of June. With regard to spring-sown crops, the estimates are fairly confirmatory of those issued a month previous, the areas of wheat, barley, mixed grains, and hay and clover, being, however, somewhat less, and of oats, rye, peas and alfalfa, somewhat more than the preliminary estimates published a month ago, when it was reported, as regards Eastern Canada, that seeding had been considerably delayed through the lateness of the spring. The area under wheat is now placed at 11,022,000 acres, or 7,000 acres more than in 1913. Spring wheat occupies 10,048,700 acres, as compared with 10,045,000 acres in 1913, and the area to be harvested of fall wheat is placed at 973,300 acres, as compared with 970,000 acres last year. The area under oats is placed at 10,814,500 acres, which is 380,500 acres more than in 1913, when the area sown was 468,000 acres more than in 1912. Barley is estimated to occupy 1,597,600 acres, as compared with 1,613,000 acres last year; rye 111,280 acres, as compared with 119,300 acres; peas 205,950 acres, as compared with 218,980 acres; mixed grains 463,300 acres, as compared with 473,800 acres; hay and clover 7,997,000 acres, as compared with 8,169,000 acres, and alfalfa 90,385 acres, as compared with 93,560 acres.

For the three Northwest Provinces of Manitoba, Saskatchewan and Alberta, the revised estimates of the wheat acreage is 10,063,500 acres, as compared with 10,036,000 acres last year; an increase being shown in Saskatchewan and

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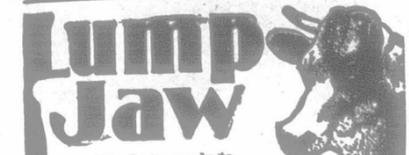
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Alberta, but a decrease in Manitoba. Oats in the three provinces occupy 6,106,000 acres, as compared with 5,792,000 acres in 1913, and barley 1,038,000 acres, as compared with 1,025,000 acres. The net increase in the three provinces for the three crops is: Wheat, 27,500; oats, 314,000, and barley, 13,000 acres; a total of 854,500 acres for the three crops. The largest increase of area in the three provinces is for oats, 314,000 acres, which apparently shows that increased attention is being given to mixed farming.

The acreages under the later-sown cereal crops of 1914 are estimated as follows: Buckwheat 354,000, as against 380,700 in 1913; flax 1,163,000, as against 1,552,800; corn for husking 256,000, against 278,000; beans 43,830, as against 46,200; potatoes 475,900, against 473,500; turnips, etc., 175,000, against 186,400; sugar beet 15,500, against 17,000, and corn for fodder 317,000, against 303,650. It will be noted that the area under flaxseed is 389,800 acres less than last year, the decrease being principally in Saskatchewan, where the area sown to flax is 1,030,000 acres, or 356,000 less than in 1913.

The condition of spring-sown crops at the end of June was, on the whole, fairly satisfactory, except in regard to hay and clover, which, having been affected by the prolonged drought, has a standard condition of 73.7, as compared with 90.2 a month ago. All the other crops have receded from the high figures of June 1, and at June 30 their condition in per cent. of the standard of 100, taken as representing the promise of a full crop, was as follows: Fall wheat, 78.2; spring wheat, 86.3; all wheat, 84.5; oats, 87.3; barley, 86.2; rye, 84.7; peas, 86.9; mixed grains, 87.3; alfalfa, 81.5, and pasture, 83.2. The condition of spring wheat is marked as high as 90 in Saskatchewan. Assuming the conditions between now and harvest will be equal to the average of the past six years, 1908-13, the percentages of the standard condition for wheat, rye, barley and oats, represent the promise of yields per acre superior to the six-year average in the case of spring wheat and barley by 3 per cent., and of rye by 1 per cent., equal to the average in the case of oats, and 1 per cent. inferior in the case of fall wheat.

Estimates compiled from the reports of correspondents as to the numbers of farm live stock at the end of June, result for all Canada as follows: Horses, 2,947,738; milch cows, 2,673,286; other cattle, 3,363,531; sheep, 2,058,045, and swine, 3,434,261. As compared with last year, these figures represent an increase in the case of horses, but a decrease for each of the other descriptions. In making their estimates this year, correspondents were requested to take specially into account the known large exportation to the United States of farm live-stock consequent upon the reduction of the United States tariff last October, and although many correspondents reported that the new breeding stock will largely make up for deficiencies caused by these increases in the exports, it is apparent that the diminutions shown were caused by such exports. Tabulation of the returns by provinces shows that the decrease is mainly in the eastern part of Canada, since satisfactory increases in the numbers of live stock are shown for the Northwest Provinces, especially Saskatchewan and Alberta.

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.

Veterinary. Re Stallion. Young stallion used some in stud masturbates after urinating; also during the night. C. J.

Ans.-All that can be done is give him regular exercise or light work, a reasonable amount of stud service, and wear a shield on him when in stable. Shields for this purpose can be gotten for you by your harnessmaker. V.

FIFTH ANNUAL Toronto Fat Stock Show Union Stock Yards, TORONTO Friday and Saturday, Dec. 11-12, 1914 ENLARGED PREMIUM LIST FOR CATTLE LAMBS SHEEP HOGS SPECIAL PRIZES FOR FARMERS. BOYS' HOG FEEDING COMPETITION. Write for premium list. C. F. TOPPING, Secretary, Union Stock Yards TORONTO, ONTARIO

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Getting Ready for the Shows.

The preparation of stock for exhibition at the fall shows is an important business. Little success in the show-ring can be expected, even with first-class stock, unless the animals have been taught to make the best of themselves when brought before the judges. An animal that has not learned to walk and stand well, or that is constantly fighting for his head or trying to break away, is likely to hide his best points, and present his weaknesses in prominent form. The desire of the exhibitor is obviously just the opposite to this. He wants his animal to make the most of his good points, and keep his faults as much in the background as possible. There is much that may be done to further this object without in any degree overstepping the line which divides fair exhibiting from dishonest faking.

SCHOOLING HORSES.

The training of a horse for show ought to start when he is a foal. The youngster can be halted and accustomed to being led about, walking and stopping as required. This early handling is half the battle, removing many of the difficulties of the further training. Later on the youngster can be taught to move at the walk, trot, or canter, as required, for it is important that he should promptly assume any desired pace when called upon in the ring. A heavy horse, of course, is not required to move at a fast pace, but it is essential that he should walk and trot in easy, well-balanced style, the action being smooth and true. When pulled up, the horse should be taught at once to assume an attractive pose, with the feet set well out before and behind, though without exaggeration. It looks much better if the animal naturally falls into this position than if it does so only after a lot of shifting about by the attendant. Action is important with all breeds, and is largely a matter of breeding, but it can be encouraged where deficient. There are various ways of teaching a horse to pick his feet up sharply, one being to use heavy shoes, and another to exercise in a heavy clay field. The greatest difficulty is experienced with a sluggard, whose tendency is to slouch along. Such a horse is best taken on a long lead, the groom running before, whilst the judicious application of the whip by a runner-up will induce a smarter action. An active, high-spirited animal, is much easier to show well, but he needs to be kept well in hand on a short lead.

TRAINING CATTLE.

The training of cattle for the show-ring consists chiefly of frequent exercise on the lead, so as to render them perfectly tractable. They must walk well and stand easily, without any attempt to break away from the attendant. A well-balanced walk is a natural trait, and is not likely to be produced by artificial means in an animal that is not evenly made, but a good deal can be done to make him show to the best advantage when standing before the judges. Some excellent cattle drop their backs when pulled up. This is very undesirable, as a level top goes far in the ring. Such an animal should be kept on the move as much as possible, and taught to hold his head low when at a standstill, as the defect then shows least. With cattle, a good coat is an important feature. This is induced by keeping in airy quarters, and by frequent use of currycomb and brush. With these useful implements, and a pail of water, the skilful cattleman puts the finishing touches to his charge before entering the ring, and he knows how to make the hair cover weaknesses of back and rump. A great point in showing off any animal to the judges is to know its weak points, and to manage it so that these assume the least possible prominence.

SHEEP AND PIGS.

The main care of the shepherd should be to teach his charges to lead well. This can be done only by early halting and frequent exercise on the lead. This also helps to keep the animal sound on his feet and straight on his legs, so that he walks well and stands square. It is by no means easy to regulate feeding and exercise so that a sheep goes well on his

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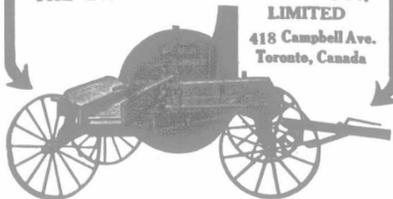
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feet whilst in high condition. Naturally the fleece comes in for much attention, and lends itself to the covering of faults of form, though these come out readily enough under the hand of the skilful judge. The shears must be used frequently on the fleece as it grows, right up to the eve of the show, as a smart appearance is expected.

Pigs lend themselves less to training for show than any other stock, but, fortunately, less is expected of them in this direction. They must be driven, for they can hardly be led. However, a good deal can be done to make them tractable to some degree by handling from an early age.—Farmer and Stock Breeder.

Questions and Answers. Miscellaneous.

Proud Flesh.

I have a mare that got cut in the front of her ankle of the hind leg. I got a veterinarian at once and gave the case to him, and he has cut out proud flesh twice. He tells me now to keep it clean and put nothing on it, so I am not satisfied with him. Kindly advise what to do for it. SUBSCRIBER.

Ans.—If proud flesh reappears, treat it by applying butter of antimony, put on with a feather, once daily until the flesh disappears. Dress it three times daily with carbolic acid one part and sweet oil twenty parts. In addition to this, keep it clean.

Drainage Law.

1. Can a man be assessed total benefit in a municipal drain 160 rods to nearest point?

2. How close can they run two municipal drains on the one lot?

SUBSCRIBER.

Ans.—1. It is not clear whether you mean a drain under the Ditches and Water-courses Act, or under the Municipal Drainage Act. The word "Municipal" would indicate the latter, but the reference to 160 rods would indicate the former. Under the Ditches and Water-courses Act, land cannot be assessed unless it lies within 150 rods from the sides or point of commencement of the drain. In the Municipal Drainage Act there is no limit, provided the land drains toward the ditch in question.

2. There is no limit as to the distance between municipal drains, or drains under the Ditches and Water-courses Act. They may be placed as close together as the proper drainage of the lands in question requires. W. H. D.

Ground Hogs Chewing Trees.

We have a nice young orchard set out, and we are having some difficulty with ground hogs gnawing the trees. Is there a poison that would prevent them, or what would be the better way to exterminate them? J. M. K.

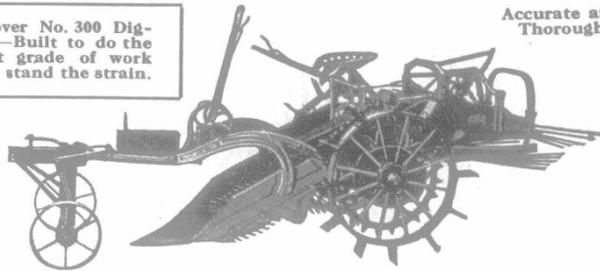
Ans.—This is not a common complaint, but anathemas, for other reasons, are frequently bestowed upon the ground-hog. Shooting, drowning, and poisoning, are all recommended, and one correspondent claims a fox terrier rid him of the pest. As a destroyer, carbon bisulphide is considered effective. It is a liquid, but when exposed to the air it is converted into a gas heavier than air. Both the liquid and gas are highly explosive, and should not come in contact with fire. Moisten a rag with the carbon bisulphide and put it well into the den, then close the outlet securely with sods and soil. If there is more than one hole to the den, close both. The gas will find its way to the bottom of the den and suffocate them. A lime-sulphur solution is sometimes effective when sprayed upon the trunks of the trees, in warding off rabbits, but we do not know that it will have the same effect on the ground-hog. A wire netting, costing about seven cents per tree, will protect the tree against anything, or basket veneering and building paper is useful. If the fox terrier and gun are as effective as is claimed, it might be the most practicable way.

One of the hundred or more poems about the Titanic disaster, received by the Kansas City Star, voices the refrain that there are "no icebergs in Heaven." It may be suggested that there are no icebergs in the Other Place, either.

HOOVER POTATO DIGGER

Hoover No. 300 Digger—Built to do the best grade of work and stand the strain.

Accurate and Thorough



STRONG CONSTRUCTION

Main frame is strongly constructed, and gives maximum strength with least amount of weight.

Shovel is of crucible steel, so shaped that it will properly scour, also gather the potatoes with the least possible loss.

DOES CLEAN WORK

Agitating rear rack and vine turner has a backward and forward motion, which sifts all dirt out and deposits the potatoes in a compact clean row, while the vines and trash are deposited at one side by the upper set of rods and vine forks. It can be relied upon to do first-class work always.

ROLLER BEARINGS

Main elevator shaft has roller bearings, 2 1/2 inches long, protected from the dirt and oiled by means of compression grease cups. All idlers over which elevator runs and the pitman shaft are provided with roller bearings.

TRUCK

Wheels of truck have nearly double the action of the pole, and permit the machine to be turned around at the end of the row to come back on the next one, or even shorter, if necessary.

Made in six-foot size for sandy land, and seven-foot size for heavy, sticky soils.

JOHN DEERE SHAKER POTATO DIGGER

Lasting qualities have been built into this digger. Strong but simple—steel beam—high natural temper steel blade.

Fore carriage, or double-gauge wheel which straddles row, insures steady running of the digger. Wheels have an up-and-down adjustment.

DOES HIGH-GRADE WORK

Has a perfectly flat blade and will not cut the potatoes.

Can be furnished with wings and wide grate.



The rod grating is hinged at the front and is given an up-and-down shaking motion by the sprocket wheel at the rear. This shakes the dirt from the tubers and leaves them clean and whole on the top of the ground.

The weed-fender attachment clears away weeds and vines, preparing the way for the blade.

JOHN DEERE SPREADER—THE SPREADER WITH THE BEATER ON THE AXLE

THE SIMPLEST SPREADER MADE.

All working parts of the John Deere Spreader are mounted on the rear axle. No independent studs or shafts to give trouble. No clutches or chains to get out of order. All strains are borne by the main axle, and are not transmitted to the side of the box or the frame of the spreader.

Power to drive beater is taken from the rear axle and operates through simple gears like those used on horse-powers mounted on the rear axle within the beater.

LIGHT DRAFT—FEW PARTS

There are two reasons why the John Deere Spreader is the lightest-draft spreader. One is that the beater runs on roller bearings. Another reason is that the John Deere Spreader has so few parts. It has about 150 less types of castings than the simplest spreader heretofore made. It is

NO CLUTCHES. NO CHAINS. only natural that the fewer parts a machine has the easier it will operate.

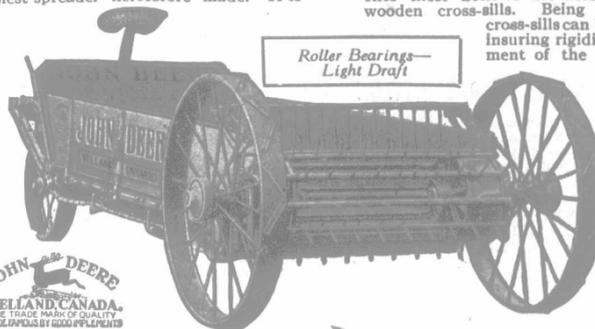
EASY TO LOAD

The John Deere Spreader is low down. It is only necessary to lift each forkful of manure three feet. Thus the hard work of loading is done away with. Besides, the person doing the loading can see inside the spreader at all times. Each forkful is placed exactly where it is needed.

It is thrown in gear by moving a heavy dog back until it engages a stop at the rear of the machine. No clutch used.

STRONG STEEL FRAME

Both the side sills in the John Deere Spreader are of high carbon channel steel, with the channels turned to the inside. Into these hollows are fitted four large wooden cross-sills. Being bolted these cross-sills can be kept tight, insuring rigidity and alignment of the frame at all times.



Roller Bearings—Light Draft

Easy to Load

Positive non-racing apron

JOHN DEERE PLOW COMPANY of Welland, Limited
77-79 Jarvis St., TORONTO, ONT.

Shorthorns and Clydesdales

We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested, write for catalogue of their breeding.

W. G. PETTIT & SONS, Freeman, Ont.
Burlington Junction, G. T. R. Bell 'Phone

100

SHORTHORNS IN OUR HERD

Our 1913 crop of 22 bulls are all sold, we have 20 extra bull calves coming on for the fall trade. For sale—25 heifers and young cows; those old enough are bred to Right Sort (imp.) or Raphael (imp.), both prize winners at Toronto last fall.

100

MITCHELL BROS. Farm 1/4 mile from Burlington Junction BURLINGTON, ONT.



SHORTHORNS

My herd was never as strong as now, the young bulls for this season's trade are the best lot I ever had and their breeding is unexcelled. I have also a big offering in heifers and young cows with calves at foot. A. J. HOWDEN & CO., COLUMBUS, ONT. MYRTLE, C. P. R., BROOKLIN, G. T. R.

SHORTHORNS and CLYDESDALES We have a nice bunch of bull calves that will be year old in 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.

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Write, wire, or telephone for prices and catalog.

**The General says:-**

Be sure you're **Certain-teed**—then go ahead. Roof every building on your farm—house, barn, silo, granary, machine shed—everything with

Certain-teed**ROOFING**

This 15-year-guarantee label is on every roll or crate—and the three biggest roofing mills in the world back up the guarantee. No roofing "test" proves anything. This label is your insurance.

Your dealer can furnish **Certain-teed** Roofing in rolls and shingles—made by the General Roofing Mfg. Co., world's largest roofing manufacturers, East St. Louis, Ill., Marseilles, Ill., York, Pa.

Woodbine Holsteins

Young bulls and bull calves, sired by Duke Beauty Pietertje; sire's dam's record 32.52 lbs. butter, and his two granddam's are each 30-lb. cows, with 30-lb. daughter, with 30-lb. granddaughter. 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.

Maple Grove Holsteins

Do you know that Tidy Abbekerk Prince is the only bull in the world that sired four 30-lb. cows in one small herd at less than 4 years old. He was bred at Maple Grove. There are just as good or better bred ones here now. If you are interested in this kind, and want to get one at a reasonable or live and let live price, come and see my herd, or write me for breeding and particulars.

H. BOLLERT, R. R. No. 1, Tavistock, Ont.

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

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. 4 ponies and 2 two-year-old Clydesdale stallions

R. M. HOLBY, R. R. No. 4, Port Perry, Ont.
Manchester and Myrtle Stations. Phone.

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.

Please mention "The Farmer's Advocate."

Questions and Answers.
Veterinary.**Sores on Colt.**

Colt three weeks old bites his legs above knees and hocks and has created sores.

A. W. G. C.

Ans.—There is some cause for the itchiness. It may be hen lice, if he has been kept near the chicken-roost. He must be kept away from it. Make a solution of corrosive sublimate 15 grains to a quart of water. Heat this and give the legs a thorough washing, and when dry apply oxide-of-zinc ointment. Apply the ointment three times daily afterwards. V

Dislocation of Patella.

Colt one year old became stifled last fall. My veterinarian blistered it frequently during the winter, but could not prevent dislocation. Can anything be done?

G. E. R.

Ans.—All that can be done is to keep the colt as quiet as possible in a roomy box stall, and blister the front and inside of the joint well once monthly. A perfect cure cannot be expected, but in most cases the patient will improve, and be reasonably serviceable for slow work. V.

Leucorrhoea.

Stuffer shows oestrus, but she has been passing whitish matter, more or less, all winter. Would it be wise to breed her?

A. C. D.

Ans.—This is called leucorrhoea, or whites. It is very hard to treat, and it will not be wise to breed her until cured. The womb should be flushed out every two or three days with about a gallon of a one-per-cent. solution of Creolin or other disinfectant, and she should be given 40 drops of carbolic acid in a pint of cold water as a drench three times daily until the discharge ceases, after which she should breed. V.

Stiff Cow.

Six weeks ago cow became stiff in limbs and neck. Sometimes she appears better for a day or two, and then bad again. She has failed in flesh.

R. L. A.

Ans.—The symptoms indicate rheumatism. Purge her with 1½ pints raw linseed oil, and follow up with 2 drams salicylic acid three times daily. Bathe the legs and neck well with hot water three times daily, and after bathing, rub all the joints well with hot, camphorated oil. Keep in dry, comfortable quarters. V.

Brain Trouble.

Seven-year-old dog in healthy condition, frequently takes spells of putting head to ground, rubbing and tearing at his ears, running around for a while, then stop, and then repeat the performance and yelp. After a few minutes he will be all right for a time.

J. H., Jr.

Ans.—This is an affection of the brain, and successful treatment is doubtful. Purge him with 1 dram jalap and 5 grains calomel, and follow up with 5 grains bromide of potassium three times daily. Feed on light, easily-digested food. V.

Hernia—Puff.

1. Colt two months old seems to be ruptured. Sometimes the scrotum is the normal size, and at other times as large as a man's fist. How can we fasten a truss?

2. Another foal has a puff on one fore fetlock.

J. F. F.

Ans.—1. Scrotal hernia cannot be treated with a truss. It is highly probable that this will result in a spontaneous cure before the patient is a year old. Unless it continues to become larger, leave it alone, but if it becomes gradually larger, get your veterinarian to operate. The operation is a critical one, and can be performed only by a good veterinarian.

2. Get a liniment made of 2 drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine, and rub a little well into the puff once daily. If it begins to blister, discontinue its use for a few days and then commence again. V.

**PURE BRED SIRE****THE LIVE STOCK BRANCH**

Dominion Department of Agriculture

WILL PURCHASE during 1914, a number of CANADIAN-BRED Stallions, Bulls, Boars and Rams.

Animals must be of right type, in good breeding condition and of the following ages:

Stallions, three to five years.
Bulls, not under one year.
Boars, not under six months.
Rams, not under six months.

All stallions will be purchased, subject to veterinary inspection and bulls subject to the tuberculin test.

Breeders in Eastern Canada having CANADIAN-BRED male animals for sale, filling the above requirements and registered or eligible for registration in the Canadian National Live Stock Records, are requested to communicate with the Live Stock Commissioner, Department of Agriculture, Ottawa.

The purchase of stallions and bulls will be made during the current spring months. The purchases of rams and bulls will be deferred until the autumn.

Communications must state age and breeding of animal offered and price asked.—60271.

LAKEVIEW HOLSTEINS

Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pietertje 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.

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 at them, and the greatest herd of Holsteins you ever saw over, or write me just what you want.

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

ELMDALE HOLSTEINS

Headed by Correct Change, by Changling Butter Boy, 50 A.R.O. daughters; he is by Pontiac Butter Boy, 56 A.R.O. daughters. Dam's record, 30.13-lbs., a grand dam of Tidy Abbekerk, 27.29-lb. His service for sale; also young females in calf to him. R. LAWLESS - Thorold, Ontario

HOLSTEINS We have a choice lot of bull calves with strong backing and from dams with records of 18 to 24 lbs. Just the kind you are looking for. Write for extended pedigree, or, still better, come to see us. Prices very reasonable. D. B. TRACY, Cobourg, Ont.



FOR SALE—TWO HOLSTEIN BULL CALVES
No. 1 born Dec. 20th, three parts white, nicely marked and a large, smooth, well-grown fellow. No. 2 born May 12, nearly all white, except tips of ears and forehead which are black and a few black spots about neck. He is a large straight and likely looking fellow. No. 1 is from R.O.M. dam and the dam of sires of both is also on the R.O.M. Photo on application. GRIESBACH BROS., Box 847, Collingwood, Ont.

WILLOWBANK'S HERD OF REGISTERED HOLSTEIN-FRIESIAN CATTLE
Herd headed by King Korndyke Inka De Kol whose sire Pontiac Korndyke (No. 25982), is the world's greatest dairy sire. Will offer a number of both sexes from this grandly bred young bull and from dam with official 7-day records from 16 to 25-lbs. butter in 7 days.
COLLVER V. ROBBINS, Riverbend, Ont., Welland County. Bell Phone.



BEAVER CREEK STOCK FARM
Holsteins—Present offering for quick sale: 4 cows due freshen this fall; one 2-year-old heifer due to calve in a month and two yearlings.
ALBERT MITTFELDT - WELLANDPORT, ONT.
Smithfield Sta., T. H. and B. R. R.

FOR SALE—HOLSTEIN BULL 12 months old, a good, large, well-shaped animal. Also one 9 months old; one 6 months old, and Calf 2 months; all from tested dams.

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A clip to hold the cow's tail while milking. Handy and easy to use. Saves the milkers many a nasty blow in the face from the cow's tail while milking. Sent post paid to any address, with full information as to how to use them, upon receipt of 50c. (fifty cents). Address:

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BEACONSFIELD, P. Q., CANADA.

A FEW
Pure-bred Ayrshire and Pure-bred French-Canadian Bulls for Sale.

Correspondence or visit solicited.
E. A. SHANAHAN, Secretary,
Merchants Bank Building, Montreal, Canada

City View Farm for Record of Performance Ayrshires. Present offering: Two choicely-bred young bulls. Will sell cows or heifers by personal inspection only.

James Begg & Son, R.R. 1, St. Thomas, Ont.

High-class Ayrshires—If you are wanting a richly-bred young bull out of a 59-lb.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy.

D. A. MACFARLANE, Kelso, Quebec.

FARNHAM FARM
The Oldest Oxford Downs Established Flock in America.

Our present offering is an imported 4-year-old ram, and a few first class yearlings for flockheaders; and also a beautiful lot of ram lambs, also 70 yearling ewes and a number of ewe lambs. All registered. Our prices reasonable.

HENRY ARKELL & SON
Phone Guelph 240 ring 2. Guelph, Route 2.

Alloway Lodge Stock Farm

Every man engaged in mixed farming should have a small flock of sheep. The Southdown is the ideal mutton breed, and is the hardiest and most adaptable to conditions in this country. Write for circular and descriptions to

ROBT. McEWEN Byron, Ont.
Near London.

Oxford Down Sheep Shorthorn Cattle, Yorkshire Hogs—Present offering: Lambs of either sex. Prices, etc., write to **John Cousins & Sons, "Buena Vista Farm," Harriston, Ont.**

Questions and Answers.
Miscellaneous.

Trouble Over Fence.
Kindly let me know how far from his neighbor's line fence a farmer should plant his corn? My neighbor has his corn planted a foot or so from the fence. My colts have been eating it, consequently trouble. Kindly advise.

A. M.
Ans.—If there is a lawful fence between you and your neighbor, you do not incur any liability through the colts eating the corn. Have the local fence-viewers inspect the fence, and if it be of lawful dimensions you are relieved of any obligations. It will be your neighbor's duty then to decide how close to the fence he cares to plant.

Absence of Oestrus.
As a reader of your valuable paper for a number of years, I will avail myself of the opportunity of asking a little advice. Of a herd of twenty milk cows, which all freshened before April 15th, there are six that have not yet been in heat. I salt them regularly every two days, and the pasture is fair. Could you give me any ideas that would be helpful towards hastening them, as I send my milk to a cheese factory in summer, and would like them to freshen as early as possible. Did you ever hear of using yeast for that purpose? If so, would you kindly tell me how to use it?

H. R.
Ans.—The yeast treatment is used where cows show oestrus but do not conceive when bred. This is another condition altogether, and always hard to explain or remedy. If the bull does not run with the cows, there is a possibility that some have been in heat unnoticed. However, if the bull could be allowed with the herd, it might tend to bring on the delayed oestrus. The only thing to do is to feed liberally on a well-balanced ration and wait, but many claim results from feeding 2 drams of nux vomica to each cow three times daily. It stimulates the nervous system and sometimes brings results.

Re Sheep Farming.
1. I would like to ask you a few questions regarding sheep-farming. I have a hundred-acre farm, all cleared but twelve acres of bush, leaving eighty-eight acres cleared and fenced. How many sheep could I keep to advantage on same, and grow ten acres or so of peas to feed the sheep through the winter, along with some hay and turnips.

2. The farm is a good loam, and some of the land a little rolling, with plenty of good well water. Would Shropshires or Cotswolds be best? I just intend going into grade sheep. Would count on selling lambs in January, when I could get best prices for fat ones. Could I make sheep-farming profitable on 100 acres? My idea was to do all the work myself, as sheep need very little care in summer, and less care any time than other stock.

3. Would you advise me going into same? **D. C.**

Ans.—1. One hundred breeding ewes should be the limit on such a place to insure a reasonable freedom from disease and afflictions common to sheep. There should be a small area each year under rape and cabbage, to carry the sheep over the autumn, when the pasture is usually dry. In addition to this, you should have ten acres of clover, five acres of turnips and peas. It would be wiser, we believe, to grow some oats in place of so many peas. Sheep pasture should be rotated the same as crops, else the soil becomes unfit for the sheep on account of disease and insects. This is an important factor in sheep-farming.

2. We fear you under-estimate the labor connected with successful sheep-farming, and advise that you start with twenty or twenty-five good ewes, and increase corresponding to your local possibilities. Success will not depend upon the breed. Either one you mention is good, and if you are a shepherd you must like one better than the other; get that kind. Grades will be all right, but use a good pure-bred ram.

3. If a man likes sheep, and will look after them properly, there is a good thing in them. They require care always, and constant care during the lambing season. However, with any degree of success, it should be a profitable method of farming. Many are finding it so.

90 % of gas engine trouble has always been due to faults of ignition

The "Alpha" Engine
"The gas engine without batteries"
Stops ignition trouble

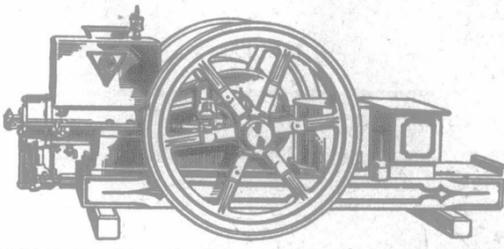
THE ALPHA IGNITION EQUIPMENT consists of a gear-driven, positively timed, built-in magneto, which we guarantee will last as long as the engine, and a simple, well built and positive igniter. A hot, fat spark is developed which quickly ignites the whole mixture in the cylinder and enables the production of maximum power from the minimum amount of fuel.

ALL ALPHA ENGINES NOT only operate but start on this magneto. It is hard to believe it until you see it done. In starting even the largest size Alpha Engine, only a partial turn of the fly-wheel is required and the engine goes right to work. No fussing or stewing over batteries, coils and spark plugs with which other engines are equipped.

THE ALPHA ENGINE IGNITION system is so much simpler that once you see it done you can do it yourself. No trick about it. If you have had any experience with gas engines you will readily appreciate the great advantage of the Alpha in this respect, and even if you don't know gas engines, an inspection of the Alpha Engine will certainly convince you of its simplicity of construction and the excellence of its material and workmanship.

THERE ARE A DOZEN OTHER points of superiority of the Alpha that are just as important as the advantages of its ignition system, and these the nearest Alpha agent will be glad to explain to you. If you don't know the name of the Alpha Engine agent in your locality, we will be glad to put you in touch with him, or if there is no Alpha agent in your neighborhood we will send one of our own representatives to see you, upon request.

IN ANY CASE, WE SHALL BE glad to send you the finest gas engine catalogue ever printed in Canada.



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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
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"La-Lo" Animal Spray

Protects Cattle and Horses From Flies

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NO OBJECTIONABLE FEATURES:
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Dealers wanted in every town: Exclusive territory given.

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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**

Don Jerseys Young bulls of breeding age, young cows and heifers, got by our richly bred stock bulls Fontaines Boyle and Eminent Royal Fern, and out of prize-winning and officially record dams. **David Duncan & Son, R.R. No. 1, Todmorden, Ontario**

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In official record, high testing Ayrshires, that have won scores of prizes, I can surely supply your wants, over 50 to select from. Young bulls of super breeding on record producing lines. Also the 3-year old stock bull, Imp., Whitehall Freetrader.

P. D. McARTHUR NORTH GEORGETOWN, QUEBEC

Ayrshires & Yorkshires—Bulls for service of different ages; females all ages. Calves of both sexes. All bred for production and Type. A few pigs of both sexes ready to ship.

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Sired by Adonis Imp. 57495, and out of ewes that have won many prizes at big and local shows. I have high-class flock headers and high-class ewe lambs, also shearlings, of both sexes. Yorkshires both sexes, any age.

J. A. Cerswell : R.R. No. 1 : Beeton, Ont.

Shropshires and Cotswolds I have now for sale 30 extra large well-covered shearing rams, 100 shearing ewes and a very fine lot of lambs from my imported ewes. Will be pleased to book orders for delivery later of any kind wanted.

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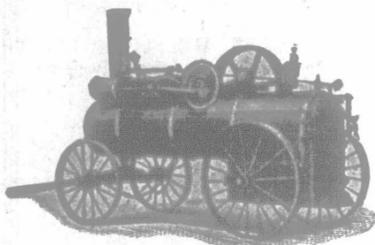
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Yorkshire sows for sale, some bred and some ready to breed. **A. WATSON & SONS, R. R. NO. 1, ST. THOMAS, ONT.** Phone Fingal via St. Thomas.

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My Berkshires for many years have won the leading prizes at Toronto, London, and Guelph. Highcleres and Sallys the best strain of the breed, both sexes, any age. **ADAM THOMPSON, R.R. NO. 1, STRATFORD, ONT.** SHAKESPEARE STATION G.T.R.

Newcastle Tamworths, Shorthorns, and Clydesdales. For sale at once:—Two choice sows in pig, 2 years old; one extra choice year-old sow bred; boar ready for service; sows bred and ready to breed; choice lot of pigs nearly ready to wean; all from the choicest stock on both sides. 3 choice young bulls 10 to 12 months old; several heifers bred to my present stock bull Broadlands; all from splendid milking dams. One registered 3-year-old filly; one 5-year-old and a 12-year-old Brood mare, all of splendid quality; prices right. **A. A. Colwill, Newcastle, Ont., L.-D. Phone.**

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Questions and Answers.

Miscellaneous.

Repairing Strop.

Would you tell me whether a razor strop could be fixed which has a cut sliced in it, but not through it? It is rather an expensive strop. **E. S.**

Ans.—You may be able to get some cementing material at your druggists. If not, we cannot be sure of any satisfactory repair.

Barnyard Grass.

Will you kindly tell me, through the columns of your paper, the name of the enclosed grass? **R. J. H.**

Ans.—This is commonly known as barnyard grass, and gardeners best know the persistent way in which it will remain. However, it is not considered one of the really bad weeds, but it gives trouble enough. Hoed crops are the most practicable way to meet it, and with thorough cultivation it will soon lose its foothold, so it will not be considered serious.

A Minor and Life Insurance.

1. Can a young school-teacher, a girl under twenty-one (21) years of age, be forced to stand by an agreement to insure her life, she being away from her legal guardian at the time, and from those whom she would have naturally consulted if she had not been over-persuaded by two agents?

2. Must she submit to it if she has signed the papers?

3. If not, what steps can be taken to free her from being annoyed by the agents? **W. M. Ontario.**

Ans.—1 and 2.—Yes.

Custom Spraying.

1. Do you think it would pay to buy a sprayer to do spraying for other people?

2. About what would be the right price to charge per tree for spraying, on the average, large and small?

3. Do you advise buying lime-sulphur solution ready mixed?

4. About what would be the cost per barrel of spray mixture ready mixed?

5. Which would give the best satisfaction, ready mixed or home mixed?

6. What kind of a sprayer would you advise for doing custom spraying on a small scale? **SUBSCRIBER.**

Ans.—1. We do not consider this a profitable venture. If you have an orchard of your own it will require most of your time, and if you have none, it would pay you to rent an orchard and look after it rather than spray for other people. We fear you will find it a very unsatisfactory enterprise.

2. We could not, under any conditions, recommend a price that will suit all circumstances. Trees vary so much in size that it would not be fair to set an arbitrary price. For full-grown trees, thorough spraying will require about seven gallons of the mixture for the first spray per tree, eight gallons of the mixture for the second, and nine for the third. Knowing the proportions to mix the concentrated lime-sulphur with water, it would be better to estimate after your spraying is done the price that each patron should pay you.

3. You may find it more convenient to use the ready mixed lime-sulphur solution.

4. The commercial mixture will cost you between sixteen and eighteen cents per gallon.

5. As far as results go, there may not be any appreciable difference between the commercial and homemade solution. There is a difference, however, in the ease with which it may be applied. There is sometimes trouble from nozzles clogging and sediment in the case of homemade lime-sulphur. However, it is very largely used.

6. If you are only doing spraying on a small scale, it would not be profitable to invest in a power sprayer. If you purchase a hand-pump, we fear you will not stay with the job very long unless you are of a persistent working nature. It is a hard enough job to do for one's self. A power sprayer requires considerable outlay and investment, which is liable to bring down your profits largely. The whole aspect of the affair has a very unfavorable complexion to us, and our advice is to leave it alone.

Put Your Money in a Real Silo Filler—The
"OHIO"

There is no reason why your silo filler should not go through season after season without breakages, trouble, delays and inferior work. It is simply a matter of selecting the *right* silo filler at first. The secret of the "Ohio's" powerful, almost unbreakable construction lies in its steady improvement for thirty-five years—ever since silo fillers came into use. You cannot realize the *speed and economy* possible in a silo filler until you know what the "Ohio" is doing. Almost *without exception* the men who operated "Ohio" silo fillers last year made the *greatest and most satisfactory profits*. They made the *most profits* because the "Ohio" did the *most work in the least time* and at the *least expense* for power and crew. The silage was *clean cut in uniform lengths*—free from shreds and leaves—every job was finished with the *least time lost* through delays or breakdowns. Why not operate such a machine this year? Write us—let us tell you how easily you can do it.

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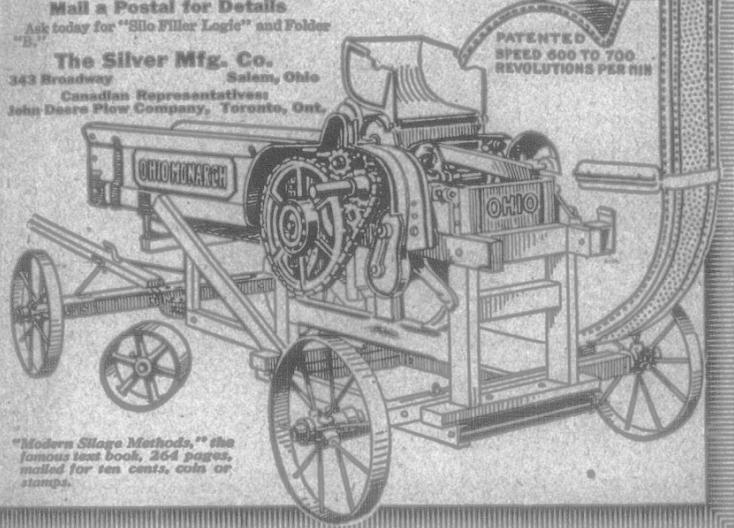
One lever, so sensitive that it operates under finger pressure, starts, stops or reverses the feed instantly. Five popular sizes. Blows to any height silo. Cuts all silage crops. Famous Direct Drive, with drive pulley, cutting cylinder and blower fan all on the main shaft. Suitable for pit silos. Easily converted into shredder.

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ON account of its distinctive construction the Kelsey Warm Air Generator saves 20 to 30% of coal bills.

A Kelsey has 61 square feet of radiating surface to one square foot of grate.

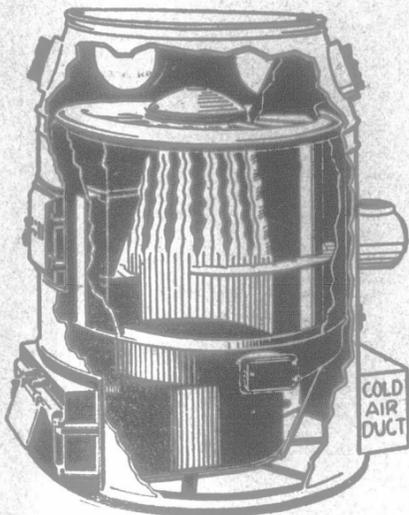
This large radiating surface is provided for in a battery of heavy, cast iron, Zig-Zag tubes that surround the fire grate.

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All the heat from the coal is concentrated in these Zig-Zag tubes, which are right up against the fire. And because of their immense weight they retain the heat for hours after the fire gets low, making constant "firing up" unnecessary.

That is why the Kelsey is the most economical of all heating systems. It saves from 20 to 30% of coal bills.

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Adapted for lifts from 30 to 125 feet. Altogether an ideal pump for any farm—easy to operate—will keep in good repair for years.

Send for free catalogue of pumps and water systems. If you are interested in farm engines, spraying outfits, lighting systems, power and hand tools, scales or mechanical goods of any kind, full particulars will be sent to you on request. Address Dept. 40

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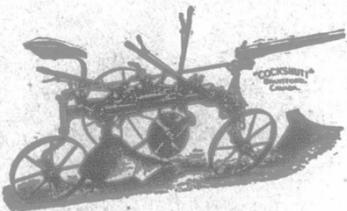
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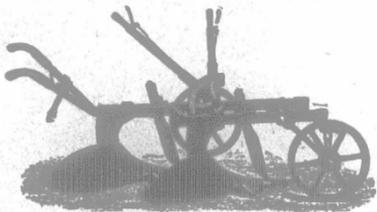
Now is the Time to Select Your COCKSHUTT PLOW for This Fall's Plowing



ONTARIO FOOTLIFT SULKY

THIS plow solves the hired help problem when you begin your fall plowing. As soon as your grain is off the field, your son on the Footlift Sulky can start the plowing while you finish up the harvest. Adjust this plow for depth of cut. After that the plowing is simply driving. The bottom raises instantly at a touch of the foot, or it lifts itself automatically at an obstruction and immediately goes back to work again. This feature saves broken share points.

We supply our Judy bottom, specially adapted to sod plowing, or our No. 21 bottom as shown above. We have made the Ontario Footlift frame exceptionally strong, with no superfluous weight. Every brace and casting is placed to do the most good. A Cockshutt Plow gets you full value to the last cent. Operators can do excellent work with this plow if they can drive.

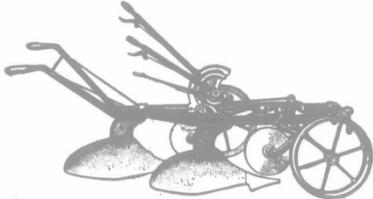


MAPLE LEAF GANG

THIS two or three horse walking gang is particularly suited to work in lighter soils. As a general-purpose plow for the man without help, this style is a great boon. With it he can do his work in just half the time required by a single-furrow plow, as well or perhaps a little better than with the single-furrow plow because this gang is steadier in the ground.

The steel frame bars on the Maple Leaf are adjustable, in or out, for different widths. They are marked for 8-inch, 9-inch and 10-inch work. To adjust the frame is only a moment's work.

A Maple Leaf gang means good plowing quickly done by one man.



CROWN GANG PLOW

THIS is built along similar lines to the Maple Leaf, but a little heavier and stronger. We recommend it particularly for stubble and heavy clay. It will soon repay, in time and labor saved, more than its original cost.

Strength is due to the frame, and the shape of mouldboards and points. The solid frame, of steel bars securely bolted together, gives the best support against plowing strains. The steering lever, directly in front of the operator, lines up the furrow wheel in a second. All levers are convenient and easily operated. Wheels have dust-proof boxes with generous roller bearings, thereby reducing draft and insuring long life to the plow. See a sample at your agent's warehouse.

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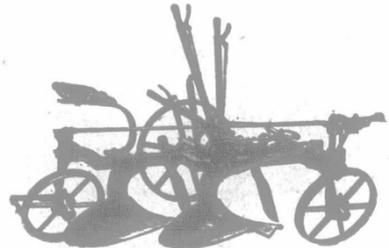
Sold in Eastern Ontario, Quebec and Maritime Provinces by
The FROST & WOOD CO., Limited,
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NO. 21 PLOW.

THIS represents one of our single furrow walking Plows for field and garden. It cuts a furrow 10 to 12 inches wide and 4 to 8 inches deep; handles nicely, and does excellent work. It is perhaps the most popular plow of its class on the market. Has plenty of strength for heavy work.

Most farms need more than one style of plow—at least a sod plow and a stubble or general purpose one. See our agent. Ask him to show you different styles of Cockshutt Plows.

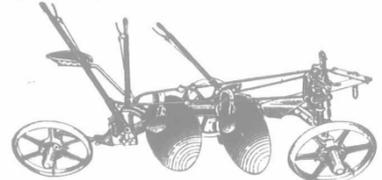


BEAVER GANG PLOW.

THIS three horse riding gang has the wheels so placed that the bottoms always cut to a uniform depth even on rough land, instead of having the front land and furrow wheels directly opposite each other. The Beaver is easily operated—all adjustments are conveniently made from the seat. A strong helper spring aids in raising the bottoms so a youth can operate the Beaver readily.

In buying the Beaver you have the choice of four bottoms; our "Judy" is narrow, cutting 7-ins. to 10-ins. wide and 5-ins. to 8-ins. deep; the "Nip" is wider, cutting 10-ins. to 12-ins. wide and 3-ins. to 8-ins. deep and turning an especially good furrow; and two "Kangaroo" bottoms—one wide and the other narrower. With such a variety you get equipment exactly suited to your own needs.

A plow like this saves wages and reduces your cost of plowing by a big fraction. A boy on a Beaver can do excellent work. It has effected big savings. The frame is high and gives plenty of clearance when working in stubble or dirty ground—no dragging of clods to make heavy draft. Bearings in the wheels are dust-proof and carry a large quantity of oil.



TWO FURROW "STEEL" DISC PLOW.

THIS all-steel plow in one to five furrow sizes, has great strength and stiffness. The Discs turn on large bearings properly protected from dust and grit, thereby insuring easy running and long life.

A Disc Plow handles hard, dry or sticky land that an ordinary mouldboard plow wouldn't touch. We do not advocate the use of a Disc Plow in any other kind of ground. The action of the discs is to break up the ground so it can absorb moisture for cultivation. If you have land that you cannot handle satisfactorily with your mouldboard plow try a Cockshutt Disc Plow and you'll get the work done properly.

The discs are highly polished and are kept clean by large adjustable scrapers which can be regulated to suit the exact conditions of plowing. Heavy coil springs assist in raising and lowering.

THE thoughtful farmer is learning the great value of specialization in his plowing, and how particular models of plows reduce the cost of plowing and time needed, while they bring much bigger harvests than plows not adapted to his land.

Not many years ago a man's farm was 100 acres big and only 5 inches deep. His living was made on that 5 inches of surface. Now-a-days he is mining 2, 3, 4 or 5 inches deeper, and bringing up a seed-bed of virgin soil gradually, that becomes more and more productive.

For this change in plowing practice, the Cockshutt organization is devising suitable plows. For reduction of plowing cost, suitable plows are being made. To meet the scarcity of hired help, other plows are designed that need no hired man.

For each farm in Canada, farmed under any methods, there are Cockshutt plows to suit the farm soil and conditions of operation. Use the right plow properly, and harvest profits will greatly increase. The plow for you is in our catalogue—it is a Cockshutt Plow—now is the time to select it.

Write To Us and tell your requirements. We know you can get the exact plow for your needs from our extensive line, and are anxious to give you all the information and assistance we can to enable you to buy to best advantage. Write us to-day on a post card—or see our agent.