

Volume XXVI.

Number 8

O.A.C. REVIEW

MAY



1914

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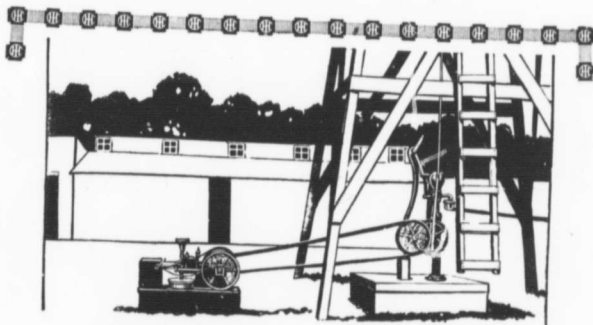
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THE EDITOR'S PAGE



If you are conservative, the July number of the O. A. C. Review may come somewhat as a shock to you, but we hope it will be a pleasant surprise. The truth is that during the summer when there is no one at the College and the Review Staff are scattered to the four winds of heaven, there is precious little to write about and what there is to write about is not written. The agricultural editor is found asleep behind a haycock with his duties forgotten in pleasant dreams, the college life editor may be engaged in digging ditches and have too many corns on his hands to put them to paper, while the Alumni editor is himself very likely one of the alumni and far above such mundane duties as seeking out the history and doings of his fellows.

This summer we are not going to attempt the impossible and to strive to get copy from editors on vacation, but instead we are going to bring out a Reference number. This July issue will contain condensed and tabulated information on a variety of farm questions. If your wife wants to make a mince pie let her refer to it, if your baby has colic or a pet horse appendicitis refer to it. There will be moral hints for advertisers, tables of proteid values, information on fertilizers, tips on turnips, reasons for rotations, lectures on legumes and portions on pigs. We want you to keep that number and to coerce your friends and acquaintances into buying a few—and paying for them.

You are all so busy with your spring work that I am quite sure you would not read my editorials even if I felt like writing any this month. I do not. I consider that affairs in Mexico and the elections are ample pabulum for minds wearied with Spring responsibilities and labors. There is only one remark that I would like to make and that is why not give the immigrant a little squarer deal than he usually gets. After all it is not his fault that he is not a Canadian and since the emigration pamphlets have done their mendacious best to get him here on a promise of perpetual and remunerative work, he does feel a little sore at getting five months hard labour and the Order of the Boot with the prospect of starvation in winter. A little better distribution of work on the farm would keep the good man where you want him. You have a duty towards your hired help in a greater degree than they have to you, for in you lies the greater intelligence. Opportunism should give place to morality and in so doing morality will be found to be in the end most opportune; for faithful grateful service is more valuable in dollars and cents than the grudging labours of embittered transients.

THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY

VOL. XXVI.

MAY, 1914

NO. 8

Preparing Wool For Market

BY T. REG. ARKELL, DOMINION LIVE STOCK BRANCH, OTTAWA.

THE time for shearing sheep must be regulated by the conditions under which they are maintained. On the ranch it will naturally be later than on the farm since, in the event of stormy and cold weather, shelter cannot be so readily provided them. April is the real wool harvest month for the small flockholder. Shearing, under any condition, should always be completed before the hot weather commences. Sheep bearing heavy fleeces in summer will not thrive or fatten; and, it is truly remarkable to note, at times, the rapid increase in weight they will make, if properly cared for, after the fleece is removed. Feeders for an early market have long recognized this fact, shearing their wethers in midwinter and confining them in a warm place. By this means they are able to get them in good condition for the Easter market.

Shearing should be done on a clean floor, never on the dirt. It should be the strict aim of the shearer to keep the fleece in as clean a condition as possible. Dung locks and tags must not be included. The fleece should be rolled up compactly from tail to neck with the bright surface outward. . If the wool is long a portion of the neck pieces can be twisted tightly to form a rope, and this taken for tying the fleece. Otherwise, paper twine

should be used, never the sisal or ordinary binder twine for this unravels. Long sisal fibres in a combing fleece will appear in the top, and, consequently, since the sisal does not take the dye readily its presence creates a defect in the cloth. For similar reasons, the wool should be packed only in closely-woven jute, hemp or paper-lined sacks.

Wool from the time it is clipped should be kept absolutely dry; nor should the sheep be shorn while wet. It is mistaken shrewdness to attempt to sell damp wool, for the increase in weight due to moisture is a most uncertain quantity and difficult to determine, and the dealer will naturally safeguard his own interest by making ample reduction, probably greater than is justifiable. Besides, dealers who recognize that farmers are making a constant practice of presenting damp wool for sale will soon become most chary of purchasing their wool at all. Such wool, if kept in sacks, will eventually assume a permanent yellowish stain, which limits its use to the manufacture of dark-colored fabrics. Again, with very wet wool, the gauntlet is not infrequently run of mildew attacking it. This may cause serious damage to the fibre.

Probably one of the worst defects of Canadian wools obtained from

sheep raised on the small farm is their dirty condition, due to the presence of excessive quantities of straw and chaff. If the straw be found only in the neck and belly the damage is not so great, since these can be skirted from the rest of the fleece and sold or used separately. However, not always is the straw confined to these parts, but is frequently included in the entire fleece. I regret to state that I have found several hundred fleeces on farms in this deplorable state, and in almost every instance the owner captiously bemoaned the low price he was receiving for his wool. In no way could he understand that the fault lay largely with himself. Of course, it must be admitted that few dealers encourage the sheep breeder to prepare his wool in a better condition. Wool in the past has been bought to a great extent at a flat rate. Dirty wool and clean wool, coarse wool and fine wool—all received virtually the same price, and that as low as possible unless competition amongst dealers, which was seldom extensive but usually local, was keen.

Wool well prepared, clean and honestly graded, will always find a ready market. It should be the purpose of every sheep raiser to have for sale an article that buyers recognize as possessing high merits, especially so far as cleanliness is concerned. All dealers will eagerly seek it then. Competition will be created and a higher price obtained. If wool can be gotten in a sufficiently large quantity, an advantageous price will be still more easily secured. Co-operative sale of the wool will attain this result.

Wool sold in this fashion had best be classified or graded and each grade sold separately. The grading consists merely of a division of the fleeces into three or four, or perhaps, if great dissimilarity exists, more lots, according to fineness and length of staple. The very dirty or black fleeces are thrown into one lot known as "rejection." A car-load (20,000 lbs.) of each grade will make it worth while for the manufacturers to bid upon it and it can be sold directly, thus bringing to the grower the entire profit.

Of course, it must always be remembered that, under the conditions of climate and soil in Canada, wool does not comprehend the main product from the sheep. Sheep raisers should aim directly towards the production of a first-class mutton sheep. Wool, however, must not be neglected, but it should never be the object to produce a fine delaine fleece, rather a medium quality, for always where fineness of fleece is emphasized, mutton characteristics cannot obtain the highest perfection. The feature upon which the greatest stress should be placed is cleanliness. Endeavor to keep it clean from such foreign material as straw, burrs and ticks. Earthy matter will scour out readily, straw will carbonize, but, although dead ticks may at times card out fairly well, yet they not infrequently cause serious trouble to the manufacturer. To obviate their presence, dip the sheep in some good, reliable material twice a year, in the fall before going into winter quarters and in the spring after shearing. Ticks are never helpful friends but always dangerous enemies.

Duck Raising

J. T. FRANCIS, '15.

DUCKS are different from chickens. They readily adapt themselves to intensive methods. They may be forced from the beginning and marketed before permanent feathering begins.

Any person wishing to go into duck-raising as a business, had better start in a small way and enlarge as experience and capital may justify for the raising of ducks on a large scale, like any other business, requires considerable capital and a great deal of experience in order to make it a profitable one.

Select Healthy Breeding Stock.

This is one of the most important essentials in the business, in order to produce ducklings which have strong vitality, and the ability to withstand forcing.

It is not advisable to keep the breeding stock for more than two years, and each time a renewal is made, new blood should be introduced. In-breeding is not encouraged and can only be done by close and careful selection.

It is not necessary to house the ducks in expensive buildings during the winter, an old shed with plenty of straw is all that is required. The object of such a building being to encourage the ducks to lay in here so that the eggs may be gathered in first-class condition.

Ration for Breeding Ducks

Vegetables, 10 parts (by measure.)

Green stuff 10 parts " "

Beef scrap, 10 parts " "

Low grade flour, 20 pts. " "

Bran, 20 parts " "

Cornmeal, 30 parts " "

Grit, 1 part " "

This should be mixed with water or sour skim-milk till it is crumbly, and fed twice per day, allowing about one pailful for every thirty ducks.

At noon they should be given a feed of whole corn, one quart for every thirty ducks.

On a large plant the young ducks are usually hatched artificially. For the first two weeks the temperature is kept at 102 degrees on the contact thermometer and for the last two weeks a temperature of 103 degrees is maintained. It is also necessary to moisten the eggs every morning with a damp cloth.

After the ducklings have hatched they should be left in the incubator for from twelve to thirty-six hours, so as to allow time for the yolk in the ducklings body to be absorbed, before any food is given, otherwise serious trouble may result.

For the first two days feed them equal parts of rolled oats and bread crumbs, and about five per cent. of sharp sand (for grit). After this cornmeal and bran may be added in equal parts. At the end of the first week the rolled oats may be replaced by low-grade flour. When the ducklings are ten days old beef scrap and green stuff may be added at the rate of two per cent. which is gradually increased till a maximum of ten per cent. of beef scraps is being used. The secret of profit is cheap food.

If the ducklings have been transferred from the incubator to a brooder, care should be taken not to overheat them, and be sure that plenty of fresh air is supplied to them at night. Foul air and too much heat will

throw them off their feet and cause leg-weakness.

If the weather is warm, the heat may be removed when they are about four weeks old. Make a wire run in front of the brooder and encourage them to run out of doors, and finally they will stay out of the brooder altogether.

Ducks do best in flocks of fifty or under. The only protection necessary is shade, during the hot weather, to prevent loss from sunstroke. If there are no shade trees present this can be supplied by putting a roof on four supports without any walls whatever.

All the ducks are raised together till they are about eight weeks old when those required for breeding, or not used for early market should be removed from the others during the last two weeks of the forcing process, and fed on lighter rations than those intended for early market.

Water is always used as drink for the ducks. It is not necessary that there should be a pond or stream of water for them to swim in, especially for those required for early market. Swimming develops muscle and the flesh is not so tender as on those which have not had access to water for swimming.

Zea Mais

TO grow corn successfully the farmer should start the year before. This refers to drainage, crop rotation and manuring. While under-drainage is necessary for all crops it is especially needed in case of corn, where a considerable growth is made in a short time and more moisture is required in the hot summer months. Again, a well-drained soil is warm earlier in the spring and the seed will germinate more quickly than in a cold, wet, sour field. Experience has shown that corn does best after clover, the following rotation giving the best results with us—fall wheat, clover, corn and spring grain. The legume not only supplies nitrogen, which is required in large quantity, but its deep roots penetrate into the subsoil and render the soil more porous and open. There is a difference of opinion as to whether the ground should be ploughed in fall or in early or late spring, and all have their advantages.

Fall ploughing can be done in a slack season of the year, it exposes the soil to the action of the frost and conserves moisture for next year's crop. However, it is difficult to get manure on the land in time but this can be overcome if ploughing be deferred till early spring, so the manure can be hauled out on the sleigh in winter. The early frosts in spring will be almost as effective as fall ploughing. The theory advanced in favor of late ploughing, say in May, is that the clover has started growing so its manure value is increased and the heat generated by the decaying clover is supposed to warm up the soil several degrees. This has some disadvantages and our experience has been that if it should happen to be a dry year the crop would suffer more from the drought than on the fall-ploughed land. This is particularly the case if manure has been ploughed down. Whatever system is followed, too much emphasis cannot be placed upon

the necessity of thoroughly working the land before planting or as some put it the best time to cultivate and weed the corn is before it is planted.

Seed.

After crop rotation and manuring good seed is the next item. The first requisite of seed corn is that it must grow. More money is lost every year in Ontario through sowing poor seed corn than farmers ever realize and 1914 will be no exception. Now, Ontario is in a rather peculiar position as regards corn growing, because the crop can be matured ordinarily

locality in which it is to be grown and that imported from the United States often gives very indifferent results until it has become acclimatized, and for this reason is not as good as Ontario-grown seed.

Buying Seed

Seed corn should always be bought in the ear, indeed as long as farmers continue to buy in any other way crop failures are sure to result. Variety is of some importance, that is in the more northern counties the early maturing flints will be best for ensilage, while along the lakes the dent varie-



On the Author's Farm. First Prize Corn.

only in the south western peninsula, which necessitates the buying of seed every year for growing ensilage corn. Until recently it was practically impossible to buy good, pure corn for seed. Six years ago the Ontario Corn Growers' Association was formed in Essex and Kent, and since that time more attention is being paid by farmers in that section to selecting and curing their corn. So far the members do not sell directly through the Association but dozens of them have reliable, guaranteed seed for sale. Seed should be suited to the

ties are better because of their greater yield. Wisconsin No. 7, White Cap Yellow Dent, and Early Leaming are the most popular dents. It is a good plan for a number of men in one locality to co-operate and place a large order with one man. In this way a better article can be secured and the price and freight charges will be lower if a quantity is taken. Generally speaking, corn that has received special care in curing, such as fire drying or curing in racks will be the safest to buy. Notwithstanding the guarantee of the grower, eastern

farmers should always buy direct from the grower. The seed should be carefully tested before planting.

Testing

Many different methods of testing for germination have been advocated. The best of all is the ear test, that is, to number each ear and test half a dozen kernels taken from different parts and those ears making a poor showing should be discarded. For ordinary purposes, however, where the crop is for ensilage it may be sufficient if, after removing the kernels from the butts and tips, all is shelled and thoroughly mixed, and a representative sample tested. If not less than 90 per cent. of the kernels show a strong germination it will be safe to use.

Planting

It is lost time to plant corn before the ground is well worked and dry and warm. Early planting results in slow, weak germination, and is a greater set back than if one waits until the weather, is warmer. The ordinary check row planter is the most economical machine. It drops in hills, three feet eight inches apart and the wheel compacts the dirt over the hill. It is safer to plant five kernels to the hill to allow for grub attacks, etc., and will require a bushel to four or five acres. In the corn section it is the practice to harrow the field three or four days after planting to break the crust and destroy the young weeds. When this is done the plants will be well up before the cultivating begins. Many men get good results from harrowing after the corn is three to six inches high, but this is often destructive, especially in very loose soil and cannot be recommended for all cases.

Fertilizers

There is no farm crop that responds more quickly to or shows better returns for the use of commercial fertilizers than corn. Though it is a gross feeder it is a poor forager for plant food especially at the first. The check row planters have an attachment for dropping the fertilizer in the hill where it is within easy reach of the young plant to give it a start until the roots have spread out and are able to get it from the humus and barnyard manure. Corn requires an abundance of phosphoric acid and potash—the following proportion is recommended: Sodium nitrate, 120 lbs.; acid phosphate, 340 lbs., and muriate of potash, 140 lbs.

Cultivation

The first cultivations are always deep and not too close to the rows. The shields on most two-horse cultivators are too short to keep the earth off the hills, but this can be remedied by riveting a piece of an old cross-cut saw at the back of each shield. By going lengthwise and crosswise of the field all the soil can be kept loose, but the time to get on with the cultivator is after a heavy rain, to prevent a crust forming and to make a dust mulch to conserve the moisture. As the plants grow and the roots spread out more, each cultivation should be shallower. Corn requires a great deal of moisture throughout the whole growing period, and many men make the mistake of stopping cultivating too soon. After it has become too high for the two-horse cultivator, the single cultivator should be used to keep the ground stirred almost up to time for cutting.

Hoing and Thinning

The scarcity of labor and the efficiency of the cultivator has almost

dispensed with hoeing. Thistles and ragweeds grow up in the hills and should be pulled out by hand. The old custom of hilling up corn has now been dispensed with and best results are got by keeping the earth level as a pile of dirt around the hill interferes with sending out the prop roots and keeps the air away from the roots of the plant. In thinning three or four stalks to the hill should be left—preferably the former.

Cutting

Feeding tests have shown that en-

silage corn should not be cut too early and now most farmers allow the kernels to be well dented and nearly mature before harvesting. For seed purposes the stalks should stand until the ears are thoroughly ripe and hard. Husking by hand is better than using the corn shredder, and all the soft ears and nubbins should be carefully sorted out before storing in the crib. Corn intended for seed should be thoroughly dried, early in the fall, and stowed in a dry, airy place.—J. W. Stark, '14.



Pleasant Illinois.

A Good Samaritan

ON the morning of August 9th, any visitors to one of the Kawartha Lakes summer resorts who happened to be out for a stroll before breakfast might have seen Tom Hardy, the son of a wealthy western railroad contractor, busily engaged preparing an outfit for a boating expedition. A large canoe was hauled up on the wharf; and the young man was busily engaged in packing into a rather limited space enough supplies to last for a week or more. A tent lay folded beside the boat along with a supply of fishing tackle and a small mast and sail, besides other articles used by the professional camper.

A path wound up among the trees and rocks from the wharf to a modest summer villa, almost hidden among the pines in the centre of the island. Although built among rather rough surroundings the owner has been careful to have a few luxuries installed in order that he would not be without all the conveniences to which he is accustomed in his city mansion. Here for the past few years it has been his custom to spend a few weeks with his family away from business cares and the hurry and scurry of city life.

Tom was graduated recently by an engineering college in the States, and was eagerly looking forward to entering the service of the Great Northern Railway Company in the autumn. Although fond of society when at home, he cared little or nothing for what he termed the "artificial gaiety," of the modern summer resort. He preferred when away on his vacations to rough it as much as possible; and

considered his father's summer cottage a little too "citified" to suit his ideas. Consequently he spent as much of his time as possible in his canoe, paddling around the lakes, camping where night overtook him, and living as near to nature as he could.

While busy at his task a visitor strolled leisurely down the path and stood looking at Tom for a moment without speaking. "Well, Tom, you old nomad," said he, "where are you heading for now?"

"Something must be going to happen, George, when you get up so early. Better go back and have it out," answered Tom, smiling. "Oh, I am going up to the east end of the lake for a few days. I am going to see that old hermit that we heard about last week and learn a little about his history. He must be an interesting old fellow from all accounts as he is almost worshipped by the whole native population of these parts. I want to find out why a man like him came to this forsaken spot to live."

"You mean the old quack doctor who puts up between those two hills about three miles inland from the head of the lake. I wonder where you will go next. If you visit all the old-timers around the lakes, you won't have much time at home with the rest of the company."

"Hang company! I am sick of hearing of bridge and winter fashions and such like fool talk. Any one would think people would forget such things for a few weeks. Better get another canoe and come along."

"Not much. Tom, its my candid

opinion you're an ass. The big regatta comes off on Monday, and there will be a big rush up here for the week end. A lot of your friends from Toronto are coming, and here you are going off to visit that old—"

"Can't be helped my dear boy. I'm going, that's all. If you weren't so beastly lazy you would come too. Here give me a lift to get this craft into the water and do something to earn your salt."

George good naturedly obeyed. He assisted in packing away the remainder of the stuff.

"Well, you are getting a good early start at all events," said he, as Tom dipped his paddle in the water and headed his canoe toward the corner of the island. "I hope you enjoy yourself. You are wise in taking your own provisions as I shouldn't wonder the old lad will dope you if you eat any of his. You had better keep an eye on him."

"No fear," answered Tom, as he bent his sturdy form to his work. In a few minutes he was out of sight around a bend in the shore line. The other went back to the villa at his usual easy gait as it was near breakfast time, and he was very careful not to miss any meals. He was one of those uncomfortable individuals who have nearly enough money to live on without working. In consequence, he had developed expensive tastes, and was a victim to the disease which some people describe as being "born tired." Mr. Hardy met him at the door and enquired what had become of Tom.

"He has gone hermit-hunting, and won't be back for nearly a week," answered George. "I tried to stop him; but you might as well talk to a

wooden man. He even wanted me to accompany him."

"Which was a little too much of a good thing to suit George Andrews, eh? Well, I don't blame you. What Tom sees in scouring the lakes the way he does is more than I can make out. He has only been home four nights since I came down. However, every man has his own tastes. He is his own master and may suit himself."

In the meantime Tom was wending his way among the small picturesque islands, enjoying the fresh morning air, and drinking in the beauties of the rocky ridges on the north side of the lake. The summer tourist who wishes to spend a vacation amidst pleasant surroundings should visit this chain of lakes that had such a charm for our friend Tom. They extend from Balsam Lake eastward to Stoney Lake. Situated in the Laurentian formation they are full of rocky inlets composed of huge boulders of red granite, with merely enough soil to support some scrub pine, birch, etc. The tourist traffic has good communication by boat and rail with the larger centres of population. Facilities for fishing, sailing, rowing, canoeing or motor-boating are as good as the average visitor could wish for. Numerous ideal camping grounds exist for those who prefer to rough it under canvas rather than stay at a summer hotel. Those who spend one season here usually make it their annual camping grounds.

Toward evening Tom pitched his camp about three miles from his destination, and being tired and weary after a strenuous day's paddling was soon in the "land of nod."

Rising early the next morning, he spent the day visiting various fishing

places in the near neighborhood. Toward evening he set out on a tramp to the old hermit's abode some three miles back among the hills. The old man was seated in front of his log house in the centre of a garden. Everything around the place gave one a feeling that this old, rough-looking structure was a real home even if the outside surroundings were of a forbidding nature.

Tom opened the gate and walked up the path.

"Well, young sir, what can I do for you?" asked the "doctor," as he was universally called.

"Nothing, sir, thank you. I was merely out for a walk from my camp on the lake and concluded to come your way."

"You are quite welcome. Come in."

He led the way into a large living-room, fitted up with home-made furniture. There were three or four book cases filled with volumes of all sizes, mostly dealing with surgery. Tom was surprised with the evidences of culture that were seen on all sides. "The old fellow is no quack," thought he, after a survey of the room. "Why on earth does he live in this desolate spot?"

After some time spent in conversation, Tom gradually led up to this question. The hermit looked thoughtful for a few minutes. "It is a question that I do not like to speak about, and which, until lately, I have seldom thought of. It is very painful for me to speak on this subject; but seeing that you are interested I will tell you a few things that have happened to me in my somewhat chequered career."

Tom lolled back in his easy chair, while his host spent a few minutes in earnest thought.

"When I was a boy," he began, "I had an intense longing to spend my life for the good of humanity. The healing profession always appealed strongly to me. I thought that it was the one kind of work in which I could wear myself out in the service of my fellowmen and accomplish the most good. It was one of the greatest delights of my young life when I managed to set a broken bone in the leg of a spaniel of my father's. It was my first surgical triumph. From that time onward nothing short of prison bars could have kept me out of the medical profession."

"The doctor in my old home village of Norfolk, England, was a close friend of my father's. He encouraged me in every way. I spent hours in his office, learning what I could about medicines and surgical instruments, now and again taking long drives with him to visit his various patients. He was a typical practitioner of the old school, whose methods of treating disease would be laughed at by medical men of to-day. At last the time came for me to enter college. I was like a young colt, full of life and vigor and eager to try my fortunes in the world of which I had heard so much and knew so little. I well remember my father accompanying me to the little old-fashioned station; and how I watched him as he stood on the platform as the train drew away to London. Reaching there in due time, I was soon enrolled, along with some hundreds of others, as a student of the London University.

"My career there was not very eventful. By faithful study and hard work I passed successfully all examinations. I secured my degree at the end of the course; and like many another young enthusiast launched

forth into the world with the idea that I could cure almost any known form of disease. I spent a year or two in a large hospital in Germany. Returning to England, I spent some years in social work among the slums of London and Manchester.

"Although this work was the hardest and meanest that a young surgeon could take up, it had a strange fascination for me. As I went about among these poor wretches, mere human driftwood on the tide of time, I commenced to wonder why such a state of things really existed. Up to this time, I had given little thought to these questions, having considered the slum as a necessary part of our civilization. I used to ponder long and earnestly, why on one hand we had the magnificent palaces of the great and rich side by side with the hovels of the paupers. The theories advanced by some of our leading economists as to the cause of the city slum did not appear very logical to me. Previous to this I had considered a man's being down and out to be his own fault. It never occurred to me that much of the suffering and misery was due to the fact that one class in the community had it in their power to take from the other classes a large proportion of their just earnings, simply because they had control of nature's resources that were intended for the use of all.

"But I am getting away from my topic. While at this work, my small estate upon which I partly depended for support, vanished. I was compelled to leave social work to start up a practice of my own. I moved to a small town near Leeds where, after some hard struggling, I succeeded in building up a respectable practice.

"While here I fell a prey to that

disease to which the genus homo is much subject—the passion of love. The object of my attraction was the daughter of a non-conformist clergyman. I need not stop to say much on the matter. The day for our wedding was near at hand, when, one evening, I received a hurried message stating that the brother of my wife-to-be was stricken with fever. I had several important cases on hand at the time. I had had only a couple of hours sleep in two days, and was about ready to drop. I hurried to the sick man's side, poorly equipped for the struggle with death that I felt was ahead of me, but grimly resolved to do my best.

"Here I made a mistake—the only one, I think I can say, that I ever made in my long career in the medical profession. It was one that the worst quack in the land should have avoided. I intended to administer quinine; instead I gave the deadly drug strychnine. I in my half stupid state, I got the two bottles mixed. You may know what happened. The patient died under my very eyes. For a time I could not realize what I had done; but, when the horrible truth flashed on me, I broke down utterly, and for a week or two was little more than a wreck. I recovered gradually. Upon asking for news of my sweetheart, I was told that the shock had broken her mother's delicate constitution. The whole family, in order to be away from the scene of their awful bereavement, had gone to the continent for an indefinite period. This news gave me a further set-back. For some weeks I lay in a half stupor. As soon as I could write I sent a few lines asking for forgiveness, but my letters always returned. The family seemed to have vanished from the earth.

"As soon as I was able to be around again, I decided to leave the old land for America, intending to seek out some place where I would be dead to civilization. I came here, and for some years I never spoke a dozen words to a human soul. About fifteen years ago we had a fearful winter in this part. The suffering of the people around here was intense. There seemed to be no one to relieve them, so I was forced to start back at my old work. I could not remain passive when I knew my skill in this case could work wonders. I have worked for these people as a sort of medical missionary ever since. My district extends for miles on all sides; and there is not one within a radius of twenty miles that I have not helped at different times. The love of healing is as strong in me now as it was in my boyhood days."

Just at this point a knock came to the door. "Come in," said Tom's host. Three or four ragged urchins came trooping in. One of them, running over to the old man, said, "One of the old people across the fen is very

sick, Doctor. You are needed.

Tom rose to go. "Good-bye," said the doctor, "I am very glad of your visit. I am sorry your stay has been so short, but I must go with these boys."

Tom Hardy looked back when on the road to see the hermit and his youthful conductors disappearing over the hill. "He reminds one of the good Samaritan," thought he as he wended his way slowly toward the lake. "Yes," said he to himself aloud, "I think he might be called the good Samaritan of the Blue Hills as his home is between the two hills of that name. He is one of the best examples I have seen of the man who finds his chief pleasure in living for others. My little excursion has taught me some lessons that I will not forget."

It was rather late that night when Tom reached his camp. The next morning he went on his way to some other points of interest, but the thoughts of his pleasant visit to the old doctor remain with him still.—Jack Canuck.

The Illinois Soil Survey

BY H. C. WHEELER.

THE soil survey is one means by which the Agricultural Experiment Station of the University of Illinois seeks to obtain definite information regarding the soils of the state. It is only a part of the work of systematic investigation through which it is hoped data will be obtained which will enable farmers to adopt systems of farming which will promote a permanent and prosperous agriculture. It is believed that a brief account of the methods of the

survey may prove of interest to readers of The Review.

The first soil survey work in Illinois was begun in the season of 1902, when the Experiment Station co-operated with the Bureau of Soils of the United States Department of Agriculture in mapping several counties selected because they were representative of great soil areas. After two season's work with the Bureau of Soils, it was decided that the character of the work was too general to

satisfy the need for specific information. Because of this, the University did not further co-operate with the Bureau of Soils, but in 1904 began survey work on a plan which seemed to best suit the needs of the investigation. Bulletin No. 123, published in 1908, contained a summary of the facts obtained during six years investigation and included the general soil survey map of Illinois.

The object of the general survey was to locate the great soil areas as determined by their chief characteristics. Previous investigations of the glaciations of the state by Frank Leverett, of the United States Geological Survey, proved to be a great aid to the work. The classification of this general survey was based on the general method of formation of a soil. By this classification each glaciation, though made up of many soil types as recognized in the detail survey, falls into one great group in the general survey. Other factors than glaciation also had to be taken into account. The unglaciated regions of the extreme southern and northwestern portions of the state form one great soil area, the deep loess soils another, and the river bottom and swamp lands two more. In all there are fifteen of these great soil areas.

Most of the soils of Illinois are of glacial origin but are not glacial still as might be supposed. They are loess which is believed to be a wind deposit. The presence of deep loess deposits near the bottom lands of the great rivers give rise to the supposition that this material was transported from some of the regions near the great streams, the result of peculiar conditions which prevailed during the Iowan glaciation. Near the Mississippi and Illinois river bottom lands

the layer or loess reaches a depth of 30 to 80 feet and is a fine sandy loam of vertical cleavage and uniform composition and structure. Over much of the state the loess is composed of finer particles such as fine silt loams and the depth of the layer may vary from 3 to 10 feet.



An Old Friend.

The first step in the detail survey is the preparation of an accurate base map of the county to be surveyed. Data is obtained from records of the original government survey. The Illinois system of land surveys, like that of all the newer states, provides for a known base line, for the division

of the country into ranges of townships six miles square and for the subdivision of these townships into sections of one square mile each. Section lines are shown upon the base maps on which a scale of one mile to the inch is used. In addition it is necessary to obtain the most reliable published road map of the county. This map, though inaccurate, will indicate the locations of streams and roads and these are lightly traced upon the base map to serve as a guide in planning field work. The exact locations of streams and roads are determined in the field.

Printed base maps are ruled and cut into townships and each township mounted upon cloth. Ruling consists in the division of the sections into forty-acre plots on the map. The division lines are made with a pencil because they are only for use in the field. In a county where a regular system survey is used fences are almost always found on these "eighty rod lines" and roads follow them except in a hilly country where conditions make this impossible.

The usual soil survey party is composed of four men. Two of these men have had several seasons of varied experience in the field but are best acquainted with the great soil areas in which they are to work. One of the experienced men is given charge of the party and directs its work. The men of less experience are often students who are specializing in soil work. These men should be careful, painstaking, and possessed with the power of observation. Though well prepared, the new men will have many sorry experiences before they are able to do efficient mapping. Soil mapping cannot be taught in the laboratory. It comes only through ex-

perience. Almost every locality holds new conditions so that men of long service seldom possess the jaunty self-confidence of some new men.

The field men work in pairs. Each pair selects a township for mapping and drives to it from the town used as headquarters. Work is begun at a definite, known location where the man in charge outlines the plans for the day's work. The usual method is for each man to map an area one-half mile wide and as long as can be covered in the time allotted. Where a road follows a line, the man having the horse and buggy maps for one-fourth mile on each side and the other "stunts" an area farther back from the road. The road man must cover his area thoroughly so that the horse and buggy usually prove to be as much of a hindrance as a help. Each man follows the eighty rod lines, always counting his paces to keep location. Of course he must leave the lines to determine soil boundaries. The buggy is provided with an odometer which records distances.

Long distances must be travelled where all manner of obstructions block the way. Because of this, the surveyor must be lightly dressed in strong, rough clothing and should carry only the necessary tools for his work. The base map of the township in which he is working is tacked to a light bit of board. Soil augers now used by the men are made of one inch bits to which a stem and handle are welded and jointed until the whole is forty inches long. An auger of this type enables the surveyor to examine the surface, subsurface and subsoil. A compass for determining directions and a number of pencils for drawing and coloring complete the surveyor's outfit.

Since the soil type is the unit of the survey, the effort of the field man is directed to keeping an accurate account of his location and to the observation of the factors which enable him to classify and separate the soil types. Some of the factors to be noticed in the field are: (1) the geological origin of the soil; (2) the topography; (3) the soil structure; (4) the physical or mechanical composition of the different strata composing the soil; (5) the texture; (6) the color; (7) the natural drainage; (8) agricultural value; (9) native vegetation.

Soil areas as small as two or three acres in extent are outlined and located on the map. All this mapping requires that the field man learn to express the lines of separation between soil types with corresponding lines on the map. In addition, he must locate all streams, lakes, roads, railroads and the borough limits of all towns and cities. His soil boundary lines must match those of his partner or the work in question is investigated by both men to determine the cause of difference. After the day's field work, all pencil lines are inked and the areas of each soil type indicated by a distinct color.

The regular visits of the man in charge of the state survey make uniform mapping possible. These visits are necessary for accurate classification and correlation. By this means

the field men are able to correct errors and to determine the relative importance of the factors which shall influence classification in the unworked field. Since forty-seven per cent. of the state has been covered by the detail survey, some of the most difficult problems of classification have been solved.

Lunch time is the social hour of the survey. A well-filled basket and genial companions help to make the day one of pleasant memories. One tells how he paused to talk with some man who was earnestly seeking information in order that he might farm better or how some curious fellow had followed him and plied him with an idler's questions. The other responds with an account of the appearance and movements of a new bird or of the form of a plant growth which he had observed and so both come to know each other and lasting friendship is the result.

But, whether or not the soil survey men form lasting friendships, they are united in a common purpose; there is the feeling of responsibility to the state, there is the hope of things to be accomplished and there is the knowledge of work already done for the farmer. It shall be the purpose of the next article to briefly state what of practical value has been accomplished by the soil investigation work, of which the soil survey is a part.

Ponies

BY W. J. BELL, '15.

“OH, it's only a pony!” How often have we heard this remark indicating the speaker's contempt for a small horse! But the undersized horse is not a pony and it is the pony or miniature horse we wish to describe.

Geologists have learned that during prehistoric times the horse did not exceed a height of eleven hands and horsemen of to-day, who display an antipathy for a “pony,” apparently forget that our modern breeds of horses have all, primarily, sprung from this ancient type. Lovers of the thoroughbred should remember that the Arabian of the Levant is writ large in his history; yet, the Arabian was a pony, few of the breed being over fourteen and a half hands high. This Eastern bantam possessed a greater amount of intelligence and a more docile temperament than many of our modern thoroughbreds. Our Clydesdales, Shires, Standardbreds, in fact, all our modern breeds of horses, have been developed from the races of ponies which for centuries have subsisted on the scanty fare provided by the mountains of the British Isles or from the more refined Arab; while the endurance of many of the modern breeds has undoubtedly been transmitted from their hardy ancestors. So it will be seen how very important has been the pony, not only in forming a basis for types of horses, but for crossing with types to improve them.

The pony has always had its position assured for certain purposes, but never has its status been so important as at the present time in the world

of sport which is quite apart from what may be termed the “business of life.” Ponies may be used for a variety of purposes, the smaller types being exceedingly valuable for children, either in harness or under the saddle, while the more modern types such as the Hackney, Polo and Wilson ponies, are more adapted for the sport and pleasure of men. The larger, natural types, such as the Welsh, Connemara and Exmoor, are suitable for light delivery, and can be economically employed by the grocer, butcher, etc., as they are intelligent, trustworthy, strong and possess wonderful powers of endurance. This characteristic of enduring power can be advantageously used in crossing the hardy, sure-footed, mountain ponies (preferably the Welsh) with the Thoroughbred, producing a saddle horse of great value in time of war as they make the best light cavalry horses that can be obtained on account of their ability to subsist on a very meagre ration, their activity, “staying powers,” and intelligence. The excellencies of such a horse were exemplified during the South African war. Some years previous to the war, the Boers secretly purchased in England large numbers of Thoroughbred colts of an inferior quality. These they bred to their Basuto ponies, a type which had been slightly improved by the introduction of Arabian blood; but, beyond the fact that they combined the qualities of strength, endurance and good action, they had little else to recommend them. They proved wonderfully prolific as the Boers had a suffi-

cient number of these little active horses to last them through a three years' campaign.

England, Scotland, Ireland and Wales have each produced some valuable types of ponies. In England, the Dartmoor, Exmoor and Cumberland have flourished for many centuries. Ireland has produced a pony of excellence, the Connemara. On the rugged hills of Scotland the almost extinct Highland pony had its home, while in the adjacent islands of Shetland is to be found that handsome little fellow, the Shetland, the child's pony par excellence. Pony fanciers in all the British Isles have, in recent years, by careful selection and crossing the different types of ponies with thoroughbred and hackney stock, been successful in producing the two modern types of ponies, the Polo and Hackney, the former being a miniature hunter, while the latter resembles his prototype, the English Hackney. Russia, Iceland and Norway have their mountain ponies, all of which are hardy, but very few possess beauty of action or conformation. From Arabia, Barbary and other eastern countries have come those aristocrats the Arab and Barb.

Shetland Ponies.

Shetland, the original home of the ponies of that name, is the most northerly portion of the British Isles, and forms a group of no fewer than twenty-eight inhabited islands, about seventy smaller ones, used for the grazing, besides a large number of waste, rocky islets. Its area is about 37,000 acres which supports a population of less than 30,000. The country, owing to its wind-swept position, is entirely destitute of trees. The sides of the hills are thinly covered with soil, supporting only heather and

wiry grass; but there are a few fertile valleys and a fringe of good pasture along the seashore. The climate is moist and stormy, but, owing to the influence of the Gulf stream, is equable.

Shetland ponies are said to have lived on these islands in Celtic times, and were employed by the native crofters. In 1850 they were first introduced into the north of England where they were used in the coal pits, their size making them valuable in thin seams where larger ponies could not be of service. So popular did they become in the collieries that as high as \$150 was paid for mature animals. But this commercial demand threatened not only the deterioration of the breed, but its actual extinction. Fortunately for the Shetland pony, the Marquis of Londonderry realized the danger and, with commendable foresight and energy, conceived the idea of breeding them in the island, and established the famous Londonderry stud on the islands of Bressay and Noss. Such remarkable progress was made in the conservation of this prince of pets that in 1890 the Shetland Pony Stud book contained four hundred and eighty mares and forty-eight stallions. Of the latter, the Marquis of Londonderry contributed five, "Jack" (16), "Laird of Noss" (20), "Lord of the Isles" (26), "Odin" (32), and "Prince of Thule" (36), and taking the British show records, there is scarcely a prominent winner which is not descended from one of these.

The effect on the breed of the policy of Lord Londonderry was most marked. There was no senseless coddling of the stock, but there was no starvation during the winter months, especially with the young

stock and pregnant mares. In consequence, the mares were more prolific and the young stock grew up more shapely, with greater bone and substance, and the "cow hocks" at one time so characteristic of the breed, were entirely eliminated. Many had prophesied that the small size of the pony could never be maintained under this generous treatment, but the average height of the ponies was greatly reduced under the Bressay regime, while at the same time, the stock was conspicuous for increased bone, better sprung ribs and improved quarters.

In 1901, circumstances compelled the Marquis to disperse the stud. Over two hundred were sold to buyers from different parts of the British Isles, and, as a result, many studs have sprung up in the mother-land. About a dozen of these Londonderry ponies found their way back to Shetland.

It is almost incredible the work a Shetland pony will perform. Pit ponies will easily travel three thousand miles in a year and move as many tons. It is, however, as a child's pony that they excel. The fact that he is docile and practically free from any vicious tendency, makes him the ideal pony for a child. A boy or girl can get more fun, physical development and ruddy health to the square inch out of a Shetland pony than in any other way and more real, unalloyed happiness than he or she is apt to get out of a fortune in after life.

Then much may be claimed for this little fellow as a general utility pony, as he is of great value either to those who can afford nothing else or to the owner of a comfortable farm home. With a minimum of care and

attention, he is always ready for any odd job and is never "sick or sorry." He makes no mean harness pony, being able to go his eight or ten miles an hour. As any one can drive him, the Sheltic is turned out whenever there is an errand to run. He can lighten the burdens of his boon companion, the small boy, by being harnessed to the lawn mower, or by pumping all the water required around the farm buildings by means of a tread-mill.

The prospects for the Shetland pony were never brighter than at present; the demand for pedigreed ponies largely exceeds the supply and no one need fear getting a ready market at remunerative prices. Two small importations were recently made to Canada of pedigreed stock of the recognized height, viz.: less than ten and a half hands. These were sold at Grand's Repository, Toronto, where the lowest figure obtained was \$225, the highest being almost double that amount, a price which compares favorably with the sums realized for our common breeds of horses. The cost of rearing one of these dainty, little animals is quite small, as they require very little food or attention.

Welsh Ponies.

Our modern Welsh pony is descended from the mountain pony which for generations roamed over the mountains of Wales. Early in the eighteenth century there was a small race-horse, called Merlin, purchased to breed to the Welsh mountain ponies and this made a great improvement in this class of ponies. Two centuries since, pony hunting used to be a favorite amusement of the Welsh farmers and many stories are recorded relating to such expeditions.

This little, native horse survived years—almost centuries—of neglect

and starvation. The breed is so intense in its vitality to have remained in a fixed condition; in fact, they are the living personification of the survival of the fittest, as they are still the same little animals that can live their lives where cattle and sheep can only die.

Too great credit cannot be given the Welsh Pony and Cob Society in their undertaking to preserve the old breeds in their integrity as well as settling speculations as to what constituted the correct types of this breed. This society divided its standard of points into Sections A, B, C and D, and then again into Parts I. and II.

Ponies in Section A must not exceed twelve hands; Section B includes those from twelve hands one inch to thirteen hands; Section C embraces those from thirteen hands one inch to fourteen hands two inches, while in Section D there is no height limit.

Ponies in Part I. of each Section must partake of the Thoroughbred type while those of Part II. must be more Cobby in their conformation.

A typical Welsh pony has a small, clean-cut head, wide between the eyes, and the muzzle should taper so that it becomes free from bluntness. A narrow muzzle is the correct type in this and every other variety of pony and the nostrils ought to be full and thin in their cartilage. Small, well-placed ears, carried close and erect, together with full eyes, constitute points of beauty in the region of the head.

The set-on and carriage of the head is equally important. The Thoroughbred type of neck is better than one too short and too thick.

A short-coupled back and loins with long and compact quarters, a deep

girth and fine, sloping shoulders, are features requisite to the Welsh pony or cob.

The action of Welsh ponies is generally good. The forearm should be well muscled and the knee square and clean as well as the canon.

The correct conformation of hocks are those that are clean in their outline and broad in all proportions. Free hock and knee action are essential to a valuable pony.

The best ponies are built on hunter lines and a Welsh cob that can carry a man of 160 pounds, if of quality in other respects, will sell at a good figure. Welsh cobs are practically the same as the pony in conformation, the only difference being one of height. No rules are laid down as to color, but bay, brown and black predominate.

Welsh ponies are combination ponies. Those of the cobby type make really good saddle horses, having an abundance of grit and stamina, being remarkably sure-footed and they go well in harness. Those of the Thoroughbred type, owing to their size, are more suitable for children, making a very stylish pony in harness on account of their good action, as well as being perfectly at home under the saddle. The Welsh pony has recently come into prominence as a producer of the finest class of polo ponies. Polo ponies with Welsh dams and small, Thoroughbred sires are much sought for by lovers of this modern sport. Ponies of this breeding, not possessing the degree of excellence demanded by polo players, are very valuable as light cavalry and saddle horses.

Polo Ponies.

There is no doubt that polo constitutes one of the finest pastimes and

that it teaches men horsemanship unacquirable through any other channel. Its popularity has increased by leaps and bounds and as a form of sport, it offers a brilliant future. To play the game successfully and with satisfaction, a player must possess a mount bred in conformity with Stud Book lines and there ought to be a lucrative employment for men who are competent to train their young stock in the tactics of the game.

The correct height of a polo pony is fourteen hands two inches and both brood mares and stallions must not exceed this height. Connemara, Dartmoor, Exmoor, Fell, Highland, New Forest and Welsh pony mares and stallions of the riding type can all be registered, if they are of three-quarters pony blood.

Very high prices have been paid for ponies brilliant at the game, and fashionable pedigree has frequently had nothing to do with the ruling of the price. What is absolutely indispensable in a polo pony is bone, muscle and substance, combined with the highest degree of intelligence and activity, and the bending exercises in which these ponies are schooled, is an essential part of their existence. Oblique shoulders, a neat, small head, strong arms and forearms, strong back and loins, gracefully sloping quarters, broad-jointed, clean hocks, broad knees and canons along with clean, oblique pasterns of medium length are typical of the polo pony. A polo player describes this new English breed of horses as follows:

"The polo pony is the riding pony of the future; as he is large enough to carry weight while he is not so large as to be unwieldy. The best and most typical ponies are so beautifully balanced, that they turn as quickly as

need be without difficulty or danger. They have most admirable tempers, and I can say that while I have seen most of the polo-bred ponies as colts and as four-year-olds and have ridden many of them, I never came across a hard puller or a quick-tempered one."

The effective combination of Thoroughbred and native pony blood produces a pony with the temper, pace and activity necessary for a first-rate polo pony. Time, selection and scientific breeding have each had their place in producing this valuable little horse. Authorities were quick to detect that the introduction of too much Thoroughbred blood had a pernicious influence in the perpetuation of the polo pony and the result was that native pony blood was largely used when breeding for polo purposes. To these two, the Thoroughbred and the Welsh, along with the Arab, we are mainly indebted for this useful pony.

The Hackney Pony.

Very few will dispute that the Hackney pony stands pre-eminent among our pony breeds. Upon no class of pony has so much attention been bestowed towards its improvement. There has not been the same difficulty confronting breeders of Hackney ponies as in other varieties, as the breed had its prototype which could be used as a model for others to work up to. Once the standard of the breed became fixed, the animals reproduced in conformity with this standard. There is now no difficulty in working out breeding operations, it being only a matter of careful selection.

As a sire, the Hackney pony has no equal and it is almost impossible to misapply the services of such, hence pony breeders are anxious to secure

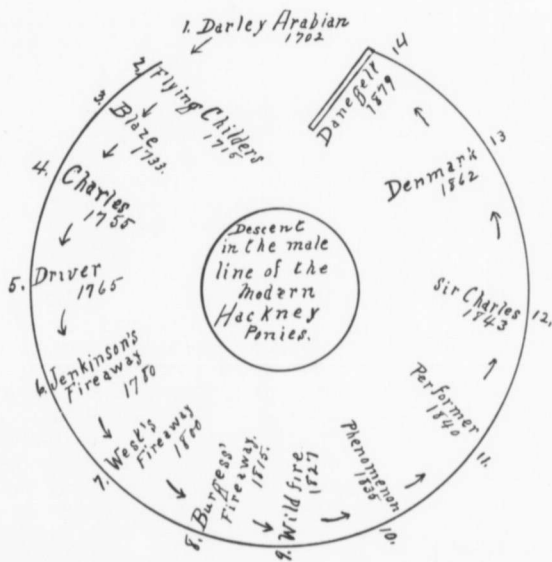
the services of this class of pony to serve their brood mares.

The utility of the Hackney pony for both saddle and harness purposes is indisputable though it must concede points to other breeds where smallness of size, surety of foot and hardihood are necessary features. A Hackney pony will starve where many mountain ponies will thrive and be unable to perform the remarkable feats of endurance characteristic of some of these animals.

The action of the Hackney pony has been cultivated from one generation to another, till, to-day, he possesses brilliant action. He has perfect freedom of movement and every step is made with rythmical precision. There is an irresistible charm in the movements of a high-class Hackney

pony which must appeal to anyone who has the slightest love for a horse.

The Hackney has been derived from horses of eastern blood, the Arab and Barb, but the foundation stone was laid by "Darley Arabian," a horse imported to England early in the reign of Queen Anne. The success of this horse was phenomenal. He was foaled in 1702. Leedes Arabian, a contemporary of "Darley Arabian," also assisted in the founding of the Hackney. "Betty Leedes," a mare owned by a Mr. Childers and descended from "Leedes Arabian," was bred to "Darley Arabian" and produced a colt, "Flying Childers," which was second in the male line of the Hackney. The following table gives, concisely, the descent in the male line of the Hackney pony:



In the making of the Hackney pony within recent years, the following five sires stand preeminent. "Sir George," "Little Ruby," "Sir Horace," "Cassins" and "Pick Up."

A typical Hackney pony should have a small, finely-chiseled head, free from thickness at its junction with the neck. Angularity is one of the characteristic features of the head of a high-class Hackney pony. Wide nostrils, full eyes, and small, closely-set ears, thin in their edges and tips are all features of importance. The facial expression should be indicative of dash, endurance and pluck.

The neck should be of medium length—never short and never long. The crest is generally better developed in geldings than mares. The descent of the neck into the shoulders and withers should not be abrupt or the former are too bulky, and the latter too coarse. The oblique shoulder is the correct type. In continuing the top line, the back should be short and nearly straight, the loin long and broad and descending into a beautifully turned croup, a region in which the Hackney certainly excels.

The body should be compact and neat, having a deep girth with a corresponding depth of rib towards the flank. Narrow loins, a tucked-up belly and sloping quarters are decidedly faulty.

The thigh should be of good length but not so broad as to give a rolling motion. The gaskin must be long and clean.

The forearm should be of medium length, wide and thick. The canons must be broad and proportionate in length to the bones of the forearm. The junction of the knee and hock with the bones of the forearm and

canon ought to have plenty of width so that the whole structures combine a clean, well-developed, strong joint, free from blemishes, allowing of free action and displaying beauty of conformation.

Clean, oblique and fairly long pasterns are necessarily points of good conformation. They should not incline inwards or outwards.

The feet ought to be of proportionate size and sound. Feet that are upright, contracted or turn "in" or "out," are not fit to be on a good Hackney pony.

To give perfect balance to the body the arm should line in a plane with the set-on of the head. If the hind limbs are set too far backward they do not take their due share of the body weight and the propelling power is diminished. If too far under the body they have to bear an excess of the weight which is equally objectionable.

Most ponies of this class are chestnut, brown or bay, but both strawberry and blue roans are sometimes produced.

Speed maniacs have continued to predict, during recent years, that the automobile would rapidly replace our harness and saddle horses, but the entries at our best horse shows has not appreciably diminished while the quality of the horses exhibited is rapidly attaining a high standard of excellence. Many have been anticipating a diminishing demand for our draft horses owing to the introduction of motor trucks into our cities, yet prices for heavy horses never were better. No, the horse is not to be so easily dethroned. He has always been and will continue to be, "Man's Best Friend," and with him will remain the small, but not less

useful horse, the pony. As our Canadian cities increase in population and wealth the demand for this handsome useful, stylish little fellow will increase. The Shetland and Welsh ponies will continue to be the playmates of the small boy or girl, teaching them horsemanship, kindness to animals, and, above all, habits of industry, for it is a commendable training for a child to have full charge of the feeding and grooming of his pet.

Polo ponies will soon be numerous. They will be popular, not only with

polo players, but with all who appreciate a reliable saddle horse. It is, however, the equine bantam, our modern Hackney pony, that is attracting the attention of all who admire style, action and beauty of conformation in a horse. Judging by the important place he is taking at our leading horse shows and by the admiration he receives when he so frequently appears on our cities' streets, no mere machine will ever be able to take the place of this little living beauty.

The Swarming Impulse

BY MORLEY PETTIT, PROVINCIAL APIARIST

THE unit of the apiary is the colony or swarm. The home of the colony is the hive. The ruler of the home is "the spirit of the hive,"—that common consent by which the inmates regulate their work. The inmates, the atoms which constitute the colony, are held together by a common force, the love of home. It is a force which, like the law of gravitation, never ceases to operate, drawing the errant worker back from the farthest field: until another force arises and over-powers it causing the unit colony to break up into two, three, four and sometimes even five separate and complete but smaller units, each with its own home, home love, and ruling "spirit of the hive." This other force is called the "swarming impulse."

If you ask me why bees swarm I shall ask you why human families usually break up into separate unit homes at a certain period in their development. It is the natural method of increasing the number of colonies,

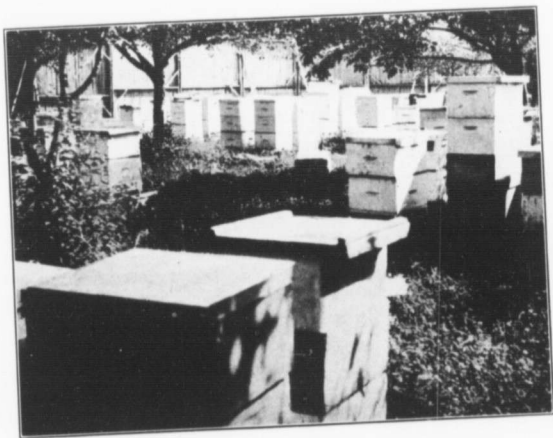
but is regulated by local circumstance. Some families of bees are more inclined to swarm than others. Bees with an old or failing queen are more inclined to swarm. They often swarm when superseding an old queen; when the brood nest is crowded with brood or "honey bound"; when supers are crowded with honey or poorly ventilated or over heated for want of shade. Weather conditions, such as excessive heat and humidity or a long slow honey flow tend to increase swarming. Some seasons they swarm anyway without any apparent reason other than pure cussedness.

The modern business beekeeper is doing all in his power to prevent the natural swarming of his bees. If he cannot control this impulse to swarm, he must either spend a great deal of time watching for and hiving the swarms as they occur, or else lose enough swarms to take the profit from his business. In order to control this impulse to swarm, he must make a careful study of bee nature

just as the horseman studies the horse. From week to week and from day to day if possible, he examines each colony to note progress and give necessary treatment. Before opening or even smoking the hive, he "reads the entrance" to see by the flight or clustering of bees whether the colony is strong or weak, working or loafing, whether robbers are about, etc., etc. He learns to judge internal conditions by outside appearances in a way which he cannot explain. He

fort is to get a large working force of bees in the hive by uncapping or feeding, and turning all honey into brood. At the same time, room and ventilation are given to prevent any chance of swarming impulse. As the strength of the colony increases, the entrance is gradually increased until about the beginning of the clover flow when all except weaklings are given an entrance the full width of the hive and an inch and a quarter deep.

Every colony that is found to have



In Victoria County.

just knows from the looks of them what they are at.

For this, the weather and the progress of the honey flow is taken carefully into account. For instance, a colony will need different treatment at the beginning of the honey flow from what it would need for the same condition later on. The clover honey flow usually begins in earnest about ten days after the first white clover blossom is noticed by the observant beekeeper. Up to that time the ef-

its brood chamber crowded with bees before the clover flow is given an extra set of worker combs without an excluder, so the queen may have free range in this double brood chamber. It is very important to give the queen this extra room before swarming impulse starts. At the commencement of the clover flow the queen is again confined to one brood chamber by means of a queen excluder. Every colony should then have at least one super above an excluder and when

that is half filled with honey another placed between it and the brood chamber.

There are two things one must learn in order to prevent natural swarming. First — The conditions which usually cause it. These must be carefully studied and as far as pos-



Queen in Cage.

sible removed. Second—The preparations the colony generally makes before it swarms. When these are known in every state the apiarist must know at whatever stage he finds them in the hive, what to do to stop them and keep the colony from swarming. We have mentioned some of the causes of swarming. The preparations made for swarming are as

follows, and in the order named: First—Drone brood started. Second—Queen-cell cups built along the lower edges of the combs. Third—Eggs in some of the cell-cups. Fourth—Larvae in some of the cell-cups. Fifth — Capped queen-cells. The swarm comes almost immediately after that. Removing any of these preparations, such as destroying queen-cells, will not check the swarming impulse to any extent, unless the causes are removed.

A colony with a young, vigorous queen is much less inclined to swarm than one having a queen that is beginning to fail. The swarming instinct is stronger in some strains of bees than in others. These two points have to be carefully observed in swarm prevention; the former by requeening where queens are failing, the latter by rearing queens from non-swarming stock. Some of our most successful beekeepers requeen each colony every year towards the end of the honey flow. For this they keep a supply of young queens on hand to replace those that are found to be failing from time to time. In either case, the careful beekeeper will rear his queens from good stock that does not show an inclination to swarm. One authority after taking ordinary precautions to prevent swarming, kills every queen that takes out a swarm and requeens with non-swarming stock.

The method of management to prevent natural swarming consists in judiciously from week to week studying the condition of each hive, as a doctor studies each individual patient, and letting alone or giving treatment as the case requires. When causes of swarming are discovered they are removed or counteracted; queen-cells

with eggs or larvae must be destroyed. The essentials for swarm control are room, ventilation and shade, given in time; also good young queens of a non-swarmling strain. These all may be given in various ways.

Many beginners have objected to swarm prevention, because they wished to make increase and did not know of any other method than the natural one. The following method of making a nucleus, as the artificial beginning of a new colony is called, will be found helpful to all such. When the main honey flow has well begun, place two or more combs of brood mostly capped and a comb having plenty of honey in the super of a strong colony. At the next visit, a week later, bring queens that have been purchased from a reliable queen breeder, or good ripe cells of your own rearing, and proceed as follows:—First examine the two combs of brood and destroy any queen cells that may have been started because of the ex-

cluder separation from the brood chamber. Do this carefully so as not to drive the bees down out of the super. If the brood is from a good colony and good cells are built, it is as well to leave the best of these as to destroy them and introduce others.

You now have in this super a proper nucleus, with hatching brood and young bees which will not return to the parent hive, and which will easily accept a strange queen, and because of the week's separation from the queen, there is no open brood to perish from neglect. Now set the whole super gently off on a bottom board, contract the entrance to about two inches, introduce the queen or cell, and carry this new hive to its own stand wherever desired. Nuclei should be made as early as possible and not as a rule later than the middle of July. The safest way of introducing a new queen is to a nucleus, and the safest way to requeen a strong colony is to unite with a nucleus.

Notes on Dairy Shorthorns Imported by the Ontario Agricultura College

BULLS

1. **Darlington Major**, born June 25, 1912 (white). The dam of Darlington Major, Darlington Cranford 50th, gave 8,000 lbs. of milk in 11 months with her first calf.

The grand dam, Darlington Cranford 15th, has a record of 10,942 lbs. of milk in 12 months.

The great grand dam is Darlington Cranford 6th, who produced 62,467 lbs. of milk in five consecutive years, or an average of 12,493 lbs. milk per year, and her dam averaged 11,270 lbs of milk for five consecutive years.

The sire of Darlington Major is Proud Waterloo (109785) who comes from high-class dairy stock, and his grand sire is Salmon's Freemason (100526), a remarkably high-class bull used successfully by G. Taylor.

2. **Barrington Record**, born Aug. 11, 1912, (red).

The dam of Barrington Record is Barrington Duchess, who won second prize Inspection London Dairy Show, 1912, and V. H. C. and awarded D. S. A. certificate of Merit Oxford Show, 1913.

The grand dam, Barrington Cran-

ford 14th, has a record of 7,169 lbs. of milk in 12 months, testing 5.4 per cent. butter fat. She won second prize Royal Lancashire Show, second prize Cheshire Show, and Reserve (Inspection) London Dairy Show, in 1909.

The great grand dam, Barrington Duchess 31st, won first in the milking trials, the Shorthorn Society's prize, and a silver medal at the London Dairy Show in 1906. In 1909 she won first prize at Oxford and second at the Royal Dublin Show. In 1906 she gave 10,460 lbs. of milk; in 1908, 10,040 lbs. and 1909, 9,170 lbs.

The sire of Barrington Record is Oxford Record (106450), an excellent individual with the following yearly milk records in his ancestry:

On sire's side: Dam (with first calf) 7,420 lbs.; g. dam, 10,000 lbs.; g. g. dam, 9,460 lbs.; g. g. g. dam (with first calf), 7,940 lbs.; g. g. g. g. dam, 10,040 lbs.; g. g. g. g. g. dam, 9,420 lbs.

On dam's side: dam, 10,270 lbs.; g. dam, 10,000 lbs.

The grand sire of Barrington Record is Dunstan 21st, (95032) whose dam gave 11,437 lbs. of milk in 1908.

FEMALES.

1. **Iford Waterloo Baroness**, born Jan. 8, 1910. With her first calf she gave 7,929 lbs. of milk from the time of calving up to the time she was shipped, and was still milking 16 lbs. per day at the time of shipment.

2. **Iford Fairy Duchess 7th**, born Nov. 11, 1910, is out of Fairy Duchess 20th, who has a record of 9,020 lbs. of milk in 11 months. Iford Fairy Duchess 7th is by Rupert (100506) whose dam gave 21,180 lbs. of milk

from Sept. 30, 1906, to Sept. 26th, 1908.

3. **Puddington Solo**, born Jan. 18, 1911, winner of second prize for Dairy Shorthorn heifers under three years old at the Oxfordshire Show in 1913, where she gave 25½ lbs. of milk in the show ring. Her sire is Dunstan 21st, whose dam has a record of 11,437 lbs. of milk in twelve months.

Note—In English milking trials, the cows are milked out clean at 6 p.m. the day before they are shown. In the morning they are milked in the presence of the judges, who weigh the milk.

4. **Welbeck Princess Darlington**, born Oct. 11, 1910, a daughter of Princess Darlington who has a milk record close to 10,000 lbs. and who sold at public auction for \$1,300. The dam of Princess Darlington was Darlington Cranford 6th, whose average annual milk record for five consecutive years was 12,493 lbs., and whose dam averaged 11,270 lbs. for five consecutive years.

5. **Welbeck Darlington 3rd**, born Oct. 30th, 1912, is also a grand daughter of Darlington Cranford 6th, noted above.

6. **Lady Maud**, born March 20, 1908. This cow has a record of 10,532 lbs. of milk in 14 months, and 8,980 lbs. in 10 months.

7. **Golden Rose**, born Jan. 26, 1908.

8. **Aughton Barrington**, born March 29, 1912.

9. **Barrington Duchess**, born May 8th, 1912.

Regarding the last three females mentioned, we have as yet no available records, though they are bred strictly along dairy lines.

Story Telling and Its Revival

BY JACQUETTA GARDINER.

THE art of story telling is a very old and beautiful one. Some time ago, a writer in speaking of the antiquity of children's toys, went on to say:—"As it is with the toys, so it is with stories. There is no calculating the distance through which they have come to us, the languages through which they have been filtered, or the countries through which they have passed. The same tales, almost in their present form have been told for thousands of years since to little copper-colored Sanscrit children, as they played under the palm trees on the banks of the yellow Jumna with their mother—their Brahmin mother who softly narrated them through the ring in her nose. The northern Vikings heard these same tales as they lay on their shields on deck, and the Arabs underneath the stars on the Syrian plains, when their flocks had been gathered in and the mares were picketed by the tents. In a word—there is no end to the antiquity of these tales."

At one time it was the chiefest of the arts of entertainment, and perhaps never, since the really old days, has there been such a revival of the ancient art as now. That delightful occupation which was the pastime of motherhood in days before the lives of children were hemmed in by so many outside interests, has now become a serious and impressive vocation, to be followed not only by mothers, but by teachers, librarians, specialists and all those who love the child heart and want to understand it.

This is due to a fresh appreciation of childhood which is one of the out-

standing features of our generation—a revival of interest in the literature on which the childhood of all nations has been nourished.

The interest in this work has been so great that a Story-Tellers' League was organized some years ago in Tennessee. This started in a very small way at the University of that state, when a few of the students met at twilight on the campus to tell each other the stories they liked best, and to discover the best stories in the world's literature, in order that they might tell them with love and sympathy to the children, who will always love the charm of "Once upon a time."

In many countries the professional story-teller may still be found plying his art. Peasants flock to the market place and live again in the old wonder tales. They listen entranced to the tales of the achievements of the hero, and the lady whose beauty is so great that men swoon at the sight of her; they tremble at their adventures, admire their constancy, and give a great sigh of relief when the veracious story-teller assures them that the hero and heroine lived happy ever after.

The Athenians who voted prizes to their best orators, were not a reading people. They listened for hours to orations that would bore us to the verge of distraction, but they were more sensitive to the spoken word than we. We all love to listen to the personal reminiscences of a traveller or explorer, while a lecture on the same subject would, in all probability be most uninteresting. It is very human to long for the personal ex-

periences, and that longing is more noticeable in children.

Our own national epics, the Germanic myths, the Celtic folklore, and Asiatic wonder tales are not merely the results of some fertile mind; but if we study them they portray to us the needs and desires, the hopes and aspirations of mankind all through the years. And because the human heart is very much the same heart it was in the beginning, we have seized on these rich glowing stories, and taken them for our very own. It is fortunate indeed that these have been slowly shaped into their present form by the raconteur, else we would never have had them, because long before writing, there was only oral tradition.

The story is then a language of the feelings, a means of communication between the past and the present. There is a personal element in it, too, because in order to tell a story one must know it and appreciate it, so that the listener may get the story plus your appreciation of it.

The more we meditate on the reasons a child gives for liking a certain kind of story, the more clearly we realize that he likes the story because he first liked the people or things set forth in it. We can understand this too, for we have our favorite authors and books. Isn't it because we have certain standards and ideals, and if the people in the books have qualities we admire and do the things we approve of, we say we like the book, and we like the author because he makes the people to suit us.

And stories are so real to a child. To some, the Bible tales, Ruth and David, Mowgli, Rikki-tikki-tavi, the wonderful mongoose, the elephant's child, and Field's calico cat are as familiar to them as their playmates.

Knights in armor do their great deeds right before them; there the princess languishes in her casement window, waiting for the knight to come and rescue her; and over in the dark woods yonder, the awful gnomes and dragons may be indistinctly seen, waiting to clutch at him as he passes.

Robert Louis Stevenson seems to understand this when he says in his *Land of Story-books*:

"At evening when the lamp is lit,
Around the fire my parents sit;
They sit at home and talk and sing,
And do not play at anything.

"Now, with my little gun, I crawl
All in the dark along the wall,
And follow round the forest track
Away behind the sofa back.

"There, in the night, where none can
spy,
All in my hunter's camp I lie,
And play at books that I have read
Till it is time to go to bed.

"These are the hills, these are the
woods,
These are my starry solitudes;
And there the river by whose brink
The roaring lions come to drink.

"I see the other far away
As if in firelit camp they lay,
And I, like to an Indian scout,
Around their party prowled about.

"So, when my nurse comes in for me,
Home I return across the sea,
And go to bed with backward looks
At my dear land of *Story-books*."

To realize this fully, one must tell a story and watch every emotion on the face or in the voice of the storyteller mirrored on the countenance of

the child. At this age he is unconsciously forming his ideals and desires from his environment. The knowledge of this fact has led to much discussion regarding the providing of suitable companionship for the child. It is inevitable that he must mingle with more or less undesirable children unless he is to be raised under glass. He must get out and hold his own, if he is ever going to have any self-reliance and strength but, at an age when he is getting his impressions so quickly and so indelibly, a good antidote can be found, in the shape of a story. One writer has put it in this way, "Let your boy escape for a time from the bully across the street. Let him roam the woods with Hiawatha, sail the seas with Sinbad; let him build stockades with Crusoe and play at football with Tom Brown; let him know the Chevalier Bayard and King Arthur, and he will scorn bullies forever." These are companions who are not rude, and from whom he will learn to be brave, self-reliant and true, when sometimes many admonitions and pleadings have failed. The child is so essentially dramatic, that these impressions will last long after the companions of childhood are forgotten. Through hearing of the difficulties and achievements of others, the sorrows and joys, the sympathy and unfair dealings, he will learn to take attitudes, and mentally make decisions that will unconsciously shape his later life. No longer will any weak goody-goody book do for him. To-day, it is recognized for what it is, a mental danger unfitting the child for real life with its crises and demands.

In telling a story, many beautiful old tales may be adapted to suit the age of the listener, that would other-

wise be lost. For instance, Ruskin's "King of the Golden River," or Hawthorne's "Great Stone Face"; in these there are several thousand words given to description alone, and they are too long for many children to read. But if told, all unnecessary detail may be left out, and the youngest child can understand and appreciate them.

In primitive life, the function of the story is more clearly defined. By it all beliefs, religion, morals, customs and traditions are conveyed to the child. It makes one wonder if there is not among primitive peoples, a sensitiveness and response to words, which is lacking in us. Is our education responsible for this? Is it possible that we as a people, take so much pleasure from other sources, including books, that the faculty of expressing oneself in well-chosen words is blunted? Has the cinematograph of to-day lessened our desire for the printed word as well as the spoken? The people who get pleasure from these, ask no words at all. Does this show that the spoken words are losing for us, if not their meaning, at least their emotional power?

Every child starts life with a primitive sensibility to spoken words. It is his birthright. How else is it that we can remember so distinctly through the years, the stories told, and the songs sung at bedtime, when the lights were low? How else is it that a child can learn so quickly and so perfectly, long poems and stories and songs told at the mother's knee, when one finds it so difficult later on to memorize even short selections without considerable time and effort? The fact that these are remembered so well by the child, is another reason why they should be told. Constantly

in later life one meets with such phrases as "sly as a fox," "cruel as a wolf," the "ugly duckling" and so on. To some, these instantly convey the meaning intended, while to others, the allusions mean nothing. He may look up their meaning and be richer by a fact or two, but there isn't the answering thrill of recognition in him, that there is in the one who has heard these stories in childhood.

Is this old art of story-telling declining? We hope not. In fact, it cannot, when people all over the country are awakening to its possibilities. Through it, the story literature of the world should become more accessible and better adapted to the child, and it is even possible that the professional story-teller may flourish again as in the old days, before books and the multitudes of other interests robbed him of his art.

ALUMNI

T. Reg. Arkell: a True Autobiography

BORN at Arkell, Ont., March, 1888. Loafed through the public school at Arkell and Guelph; and high school, Guelph. Entered O. A. College, 1904. Having enjoyed every description of fine G. C. C. is capable of imposing, graduated, in spite of nature study, four years later. First job after receiving a B. S. A.—whatever that means—which supplied sufficient salary to go to a "movie" and get a ham sandwich comprehended the agricultural editorship of Ottawa Citizen. Six months afterwards migrated to the Canadian Farm as Assistant Editor. Fortunately for the Canadian Farm, was appointed a few weeks later head of the Department of Animal Husbandry at New Hampshire College and Agricultural Experiment Station. Specialized so far as experiment station work was concerned, in genetics, investigating the inheritance of characters in sheep in relation to mendelian theory. Results are recorded in several incomprehensible bulletins which were pub-

lished by New Hampshire station; also several papers in science and a B. A. magazine. Joined the Federal Live Stock Branch of Canada, as sheep expert, June, 1912, and since then have been spending most of my time dodging typhoid germs in Ottawa—the city wherein even ministers of the Gospel buy drinks.

J. H. Hare, B.S.A.

J. H. Hare, B.S.A., was born and reared on a farm in close proximity to Cobourg, in the County of Northumberland. After a course in the public school of Cobourg and the Collegiate Institute, he entered the O. A. College with the Freshmen Class, 1904, and graduated in 1908.

For two months after graduation he was employed on the drainage work under Professor W. H. Day. In August of the same year, he received the appointment of District Representative for Ontario County.

This position he ably filled and his work in establishing egg circles and promoting better market conditions

was recognized by his appointment to the Poultry Division of the Live Stock Branch of the Dominion Department of Agriculture.

W. A. Brown, B. S. A.

W. A. Brown, B.S.A., of the Live Stock Branch, Ottawa, attended the O. A. College for four years, graduated in 1908. He was for two months assistant to Professor Graham in the Poultry Department at Guelph.

During the next three years he was in charge of the Poultry Department at the State Agricultural College, Orono, Maine.

From Maine he went to Ottawa and held the position as Poultry expert in the Live Stock Branch until the poultry division was created a year ago.

Miss N. C. Goldie

Miss N. C. Goldie, a graduate of Macdonald Institute, has gone to Woking, England, as principal of the Women's Training School, established by Hon. Rupert Guinness, M. P. The aim of the school is to train women who are coming to Canada. The course is along the line of housework, cooking and the work that is done on Canadian farms.

ATHLETICS

Macdonald College vs. O. A. C.

On Saturday morning the rival baseball teams of the two Colleges met, and in a game that was close and exciting all the way through, the home team proved victorious by 17-16. It was not a case of good play winning, but rather it was one of loose play losing. The Ontario boys took an apparently safe lead at the start, and then grew a trifle careless, with the result that our Eastern friends who had taken advantage of our miscues, soon had the game on ice. In the last innings the O. A. C. made a determined stand and with only one run needed to tie the score and a man on third finally succumbed. For the O. A. C. Rowland's fielding featured, he making two beautiful catches of line drives. Pete Forsythe pitched good ball throughout and it was not his fault we lost. For the

home team Evans twirled a good game, and was ably assisted by his catcher. Following is the teams and score by innings:

O. A. C.—Burrows, 1st base; Ferguson, right field; Rowland, left field; Forsythe, pitcher; Neelands, left, s. s.; Duff, 3rd base; Hare, catcher; Bryden, right, s. s.; Seitz, 2nd base.

Macdonald—Ricker, 1st base; Hay, 3rd base; Huestis, catcher; Drayton, left field; Jones, right, s. s.; Hodge, left, s. s.; Cook, right field; Roy, 2nd base; Evans, pitcher.

Macdonald 0 4 1 0 3 6 0 3 x—17
O. A. C. 5 0 2 4 1 0 0 1 3—16

Umpires—Prof. Barton, Macdonald
A. W. Baker, B.S.A., O. A. C.

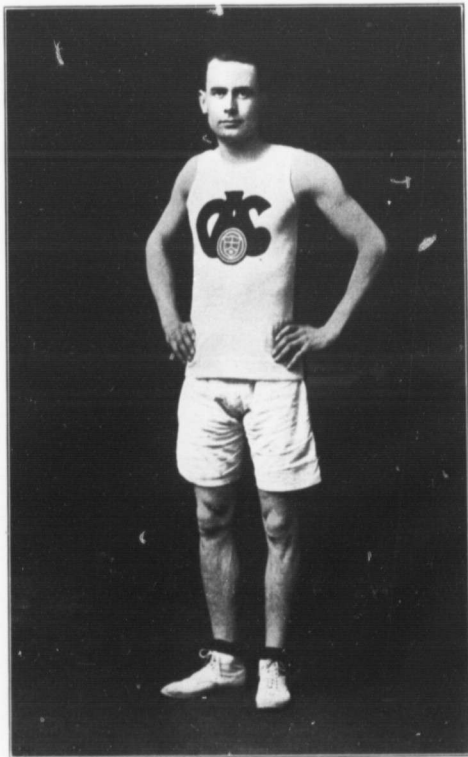
In our athletic annals perhaps no more remarkable record has been achieved than that made by J. C. Pope, of Regina. As he is now in his final year it seems appropriate to take

note briefly of some of his achievements.

Jim as he is familiarly known has won the indoor sports championship each year of his college career and

has ably represented O. A. College on our track team at Toronto.

He is also a boxer of ability, but has taken little active part in this sport since coming here, owing we



J. C. POPE.
Indoor Athletic Champion.

has five indoor records to his credit. He was out-door champion once three years ago, and the following year bid fair to duplicate his success but was prevented by the breaking of his ankle. He demonstrated his ability as track manager in 1911, and each year

suppose to the pressure of other duties.

His record is all the more remarkable considering the fact that he never trains systematically. Jim is a born athlete.

Indoor Meet.

The meet this year proved to be one of the most interesting and exciting athletic contests that has been held in the gym. for a long time. A large number of ladies from the Hall graced the occasion and by their enthusiasm urged the contestants to out-do themselves. The enthusiasm though did not reach a fever heat till the final event, when the relay race was pulled off. The '16 team, which lowered the record in 1913, was expected to win this, but '14 and '15 teams were too strong.

Pope, of the Fourth year, was easily the grand champion. He won the championship with seven firsts and one second—a total of 38 points. Puleston and White, both of the Second year, tied for second place, with a total of 14 each. Pope also broke the record for three standing jumps. White was responsible for breaking two other records—60-yards potato race and running high dive. Fitzpatrick, of the First year, broke the record for running high jump.

Following are the events and winners:

15-yd. dash—1, Puleston, '16; 2, Pope, '14; 3, White, '16. Time, 2¾ seconds.

60-yd. potato race—1, Bryden, '16; 2, White, '16; 3, Burnam, '17.

440-yd. potato race—1, White, '16; 2, Foley, '17; 3, Robb, '15. Time, 1:41 1-5; record by 5 2-5 secs.

Hitch and kick—1, Evans, '17; 2, Curran, '16. Height, 8 ft. 3½ ins.

Standing high jump—1, Pope, '14; 2, Bryden, '16; 3, Fitzpatrick, '17. Height, 4 ft. 6¼ ins.

Shot Put—1, Pope, '14; 2, Forsyth, '14; 3, Fitzpatrick. Distance, 36 ft 9½ in.

Running high jump—1, Fitzpatrick, '17; 2, Lee, '17; 3, Puleston, '16. Height 5 ft. 3½ in., old record by ½ inch.

Rope climb—1, Puleston, '16; 2, Cowan, '17; 3, Lord, '16. Time, 12 2-5 seconds.

Running high dive—1, White, '16; 2, Fitzpatrick, '17; 3, Cowan, '16. Height 5 ft. 5 in., record by ¾ in.

Fence vault—1, Pope, '14; 2, Cowan; 3, Bryden, '16. Height, 6 ft. ½ in.

Standing broad jump—1, Pope, '14; 2, Smith, '15; 3, Bryden, '16. Distance, 9 ft. 11 ins.

Chinning bar—1, Welton, '16; 2, White, '15 and Puleston, '16, tied. 18 times.

Three standing jumps—1, Pope, '14; 2, Bryden, '16; 3, Cowan, '17. Distance 30 ft. 10½ ins., record by 1¾ inches.

Standing hop, step and jump—1, Pope, '14; 2, Evans, '17; 3, Cowan, '17. Distance, 28 ft. 5½ ins.

Rope vault—1, Wilson, '16; 2, Altenburg, '16; 3, Cowan, '17.

Pole vault—1, Pope, '14; 2, Cowan, '17; 3, Evans, '17. Height 8 ft. 4 ins.

Relay race—1, Fourth year, composed of Good, Pope, Nixon and Nourse; 2, Third year, composed of Amos, White, Hall and McLaren.



QUERIES

Rockwood, Ont.

Query Editor:

Dear Sir,—Is the pacing gait in horses a natural or acquired characteristic in horses?

Horseman.

Ans.—Doubtless, pacing is an acquired characteristic. The ancestors of the American pacers were from England in the majority of cases, where trotting and running were the requirements of a road horse. Some horses over-reach when trotting, due probably to shortness of body and by adopting the pacing gait can overcome the difficulty. Many natural trotters are made to pace by the use of hobbles. It may or may not be transmitted. Jay-Eye-See could pace a mile in 2:06¼ and trot the same in 2:10.

Belleville, Canada.

Query Editor:

Dear Sir,—I am confronted and greatly puzzled by a problem whose magnitude and importance has led me to rely on you for an authoritative answer, my knowledge not being sufficient to propound even a hypothesis on its solution. It is this:

In calculating the profits from my farm should I include among the list of expenditures or liabilities a certain percentage on the capital invested? If so what should the percentage be?

H. K. M.

Ans.—After making very careful and exhaustive researches, and after consulting all the learned and wise men of the land we have come to the conclusion that you should charge as

expenditures the current interest rate on your capital invested. It would be unfair not to do so as you could receive, without any work whatever, an income from your capital by lending it at current rates, say five to six per cent.

Query Editor:

Dear Sir,—I am sending to your address to-day a small box of turnips. I would like them examined. This year about five per cent. of the crop is affected, and some years I have had about 25 or 30 per cent. of the crop affected. It starts with a small spot, as you will see, on one of the turnips, and keeps on until the turnip is all rotten. Kindly send me a report at your earliest convenience, and oblige.

Ans.—We have just received the consignment of diseased turnips which you forwarded to us. The disease from which they are suffering is the bacterial soft rot, a disease which is liable to attack most vegetables, particularly cabbage, cauliflower, turnips and carrots. The germ which causes the disease is liable to live over in the soil from one season to another, especially if diseased specimens of vegetables are allowed to remain on the land and are worked into it. There are millions of these germs in each diseased specimen. They get into the growing crop from the soil through wounds made with the hoe or cultivator, and the disease, when once it gets into a vegetable develops rapidly if the season is wet, but more slowly if the season is

dry. Sometimes the vegetable will get the better of the disease. In harvesting a crop, all diseased specimens should be carefully put on one side and either buried in a deep hole or burned. They should not be left on the land, else as before stated, this will ensure the disease being

prevalent the following season. Care should be taken not to put any of the diseased specimens amongst those which are pitted or put into the cellar, as frequently under such circumstances, the disease will pass through the entire mass.

LOCALS

The heights by great men reached
and kept

Were not attained by sudden flight,
But they, while their companions
slept,

Were toiling upward in the night.
—The Ladder of St. Augustine.

Fame comes only when deserved,
and then is as inevitable as destiny,
for it is destiny.—Hyperion.

It Pays to Advertise.

When a duck lays an egg, she just
waddles off as if nothing had hap-
pened.

When a hen lays an egg there's a
whale of a noise.

The hen advertises.

Hence the demand for hen's eggs
instead of duck's.

Traveling Through the World.

The man who fails is the man who
quails

When he sees Dame Trouble appear
And foolishly frets and weakly lets
Her lead him around by the ear.

The man who wins kicks Fate on the
shins,

Whenever she gets in his way,
Flings woe from the track and never
turns back

To hear what she has to say.
—S. E. Kiser.

To Peren

(Air—"The Rosary.")

The hours I spend with thee, old
sport,

Are more than all the girls to me,
I count the price for which thou must
have bought
Thy hosiery.

Each day we meet, each day a pair
More bright than yesterday's I see.
Thy suits thou wearest to the end;
but ne'er
Thy hosiery.

O brilliant stripes that flame and
burn,
O lurid cheeks and striking clocks.
I shut my eyes and strive at last to
learn

To bear thy socks.

—H. W.

Live, Laugh and Love

A little life, a little love,
 A little time to stay,
 A few short years of smiles and tears
 And then we go away;
 Enjoy the laughter, songs and wine,
 There's none to say you shan't.
 Live, laugh and love your fill, until,
 The time comes when you can't.

For what's Life worth, if not with
 mirth

To crowd each blessed hour?
 No merit lies in frightened eyes
 And faces sad and sour.
 The smile's the thing the laugh whose
 ring

Wakes joy in ev-ry heart,
 And knows that life is only sad
 When good friends have to part.

So love your life, so live your life,
 When reveille shall come
 You smiling go as one who'd know
 What moves above the sun;
 For 'neath the sun, the race you've
 run

Since first your life began;
 Lived, laughed and loved your fill, un-
 til,
 You met Death like a man.

We read in the papers the other day of a farmer in a neighboring county who attempted to play a joke on a tall, gaunt Jersey heifer by milking her on the wrong side. The Jersey has no sense of humor whatever and on this occasion she promptly introduced the milkee to the evergreen shore by stepping on the side of his head and flattening it out like a palm leaf fan. No doubt the deceased was one of those farmers who went broke in the grocery business and finally graduated to the farm. We would rather slide into a hornet's nest in

a pair of linen pants than try to pail an inascible milch cow on the wrong side. The man who doesn't know which side of a cow to milk on better move back to town and hire out to the street commissioner. Poets like to sing about "the mild-faced Jersey standing knee deep in June," et cetera, but if you ever snuggle up to a Jersey on the off side and try to induce her to come across, she will land on you with so much emphasis that you will have to be put together by a plumber.

Where *Melilotus Alba* Blooms
 (How a year at O. A. C. affected the poet.)

Come from forth your stuffy rooms,
 Used-up air and septic glooms!
 Gas of acid carbon drains
 Half your strength and all your
 brains.
 Microbes find their ready dooms
 Where *melilotus alba* blooms.

Dolichonyx (right, I think!
 'Tis the happy bobolink)

Welcomes us with lively tunes.
Hyllocichla gaily sings,
Hymenoptera spread their wings,
 After sleeping six long moons.
 On the stream the rana booms,
 Astride the white nymphoea blooms.

So, as college course is o'er,
 We will wander as before,
 Bush and river to explore.

On the H₂O will we
 Set our birchbark floating free.
 Gee! How sweet the shadow looms
 Where *melilotus alba* blooms!

—Advena Hearle

Mr. Reek (to Second year)—Take for example the high milking cow that Elgie raised a few moments ago.

A Few Things You Cannot Do.

You can't stand at the side of a room with both your feet lengthwise touching the wainscoting.

Can you stand for five minutes without moving, when you are blindfolded? You think you can? Try it.

You can't get out of a chair without bending your body forward or putting your feet under it; that is if you are sitting squarely on the chair, and not on the edge of it.

You can't break a match, if it is laid across the nail of the middle finger of either hand and passed under the first and third fingers, although it seems so easy at first sight.

You can't stand with your heels against the wall and pick up something from the floor.

Don't try to rub your ear with your elbow, for it will be a failure.

It takes a nimble person to stand up, when placed two feet from the wall with his hands behind behind his back and his head against the wall.
—The Metropolitan.

What has become of the old-fashioned farm wife and mother who used to get up at 5 o'clock Sunday morning, get the work out of the way, dress herself and the children and pack the whole family six miles to church, rain or shine? Well, she is with us yet, but now the family goes in an auto and doesn't have to leave home until the first bell has rung. We remember a faithful old mother in Israel who used to drive in from the farm with her little brood every Sunday morning and evening, sometimes over roads that it seemed as if nobody could get over except a sand hill crane. Meanwhile, a lot of the members who lived within two blocks of the church never could get there when it rained for

fear they would get their feet wet. If the recording angel keeps track of the faithful farm people who are loyal to the little church in the "settlement," in sunshine, and storm, they will have a seat mighty close up to the throne.

There are only two ways to make profitable use of skim-milk. One is to feed it to near-sighted pigs who are not particular about their diet, and the other is to sell it to some neighbor who doesn't keep a cow. Some people drink skim-milk and try to look as if they liked it, but that only shows that they never led their appetite up to a bowl of the real article from a three-quarter Jersey three weeks on grass.

R. R. Graham—You see fellows, the ventilators in the new dairy stable are the same style as the ones in this room. The air goes up, up, up, and then down on the animals' heads.

Several of our Mac friends have taken to fancy skating this winter. Some of them can stand on one skate for a considerable time now.

Is it true that Neff has handed in his application to take the Associate Homemaker Course, next year?

Britton and Co.,
Seedsman,

Market Gardeners (in the making)

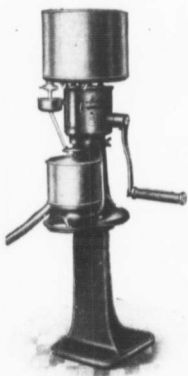
Orders taken for Britton's Special Bonehead (?) Cabbage Seed.

Prices:—One pound, \$9.00, f.o.b.;

Five pounds, \$50.00, f.o.b. Larger orders not solicited, as the desire of the above Company is not to retire rich, but to benefit humanity.

Sign here for orders:

Name Quantity. Name Quantity



Increases the butter yield 25 per cent besides improving the quality.

Saves time and labour, space and utensils.

A MILLION IN USE

You Can't Afford to be Without a "MELOTTE"

THE "MELOTTE" BOWL

Unlike the top-heavy bowl in other makes the "Melotte" bowl hangs free on a ball-bearing spindle, hence the easy running of the machine and its consequent long life.



Write for Catalogue "O"

R. A. LISTER & CO., Limited

50-60 Stewart St.,
TORONTO.

WINNIPEG.
ST. JOHN, N.B.

HOW TO BECOME POPULAR

The desire to stand well among one's fellows is natural, and when properly regulated, profitable. The extent of a man's popularity often depends on some natural endowment; but no man need be unpopular and no special natural endowment is necessary for a man to make himself extremely popular.

If you would be popular do not try to be. Forget all about yourself for four years and you may wake up to find yourself popular.

Deserve popularity and you generally get it.

Respect is the highest form of popularity. Don't confuse it with toleration.

Popularity means power—power means responsibility.

Popularity is never founded on mental or moral weakness.

Charity, cheerfulness, sympathy, unselfishness, good sense and action are some of the ingredients of popularity.

See and respect the good points in all other men.

To the best of your ability, as opportunity offers, help everyone of your fellows into a clearer understanding of the possibilities of his own life.

Let the best interests of your friends, your class, and your university take possession of your life.

Don't continually thrust yourself before other men's eyes, but make a place for yourself in their hearts.

It is better to be right than popular—but unpopularity is far from a sure sign of being right.

"Not in the Curriculum."

Please mention the O. A. C. REVIEW when answering advertisements.

The Vest Pocket Kodak

"As right as a watch."



Actual Size

SO small and smooth that it is pocketed without annoyance; is instantly ready for business without focusing. Fitted with Kodak Ball Bearing shutter, Auto-time scale, reversible finder. Loads in daylight with Kodak film cartridges of eight exposures. Pictures 1 5-8 x 2 1-2 inches.

So accurate is this little camera that enlargements can be made from the negatives to any reasonable size, and at small cost—to the post card size (3 1-4 x 5 1-2), for instance, at sixteen cents.

Furnished with three different lens equipments:

Vest Pocket Kodak, with meniscus achromatic lens'	\$ 7.00
Do., with Kodak Anastigmat lens, Speed f.8,	13.50
Do., with Zeiss-Kodak Anastigmat lens. Speed f.6.9,	22.50

CANADIAN KODAK CO., Limited

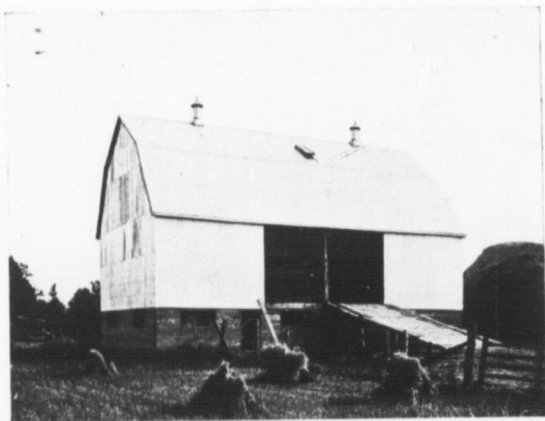
TORONTO.

Kodak catalogue free at your dealers, or by mail.

Please mention the O. A. C. REVIEW when answering advertisements.

STEEL TRUSS BARN

(PATENTED)



Barn of Wm. Reid, Preston, Ontario, which is entirely covered with metal. Note the barn is fitted with Acorn lift roof lights and Acorn Swing side lights. The eaves are covered with Acorn cornices and the doors are covered with Acorn Quality corrugated Iron and flashing. There is not a square inch of wood exposed on the entire outside of the building, which makes it fire and lightning proof. This man has a barn which will give him longer service than any other type, and at the same time cost no more than the old wooden structure.

The exterior of this barn is our patented Steel Truss type—which does away with all interior cross timbre and upright center posts. We cannot tell you about the construction in this small space, so we want you to send for our booklet, "The Steel Truss Barn." It's Free.

WE RECOMMEND

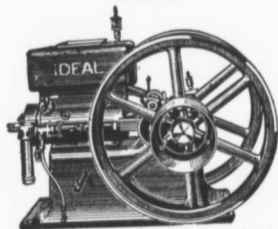
as the proper covering for a barn Safe Lock Shingles for the roof and Acorn Quality Corrugated Iron for the sides. Let us tell you how you can make your building fireproof and Save Insurance. Our little booklet, mentioned above, will give you full information. A card to us will bring a copy.

The Metal Shingle & Siding Co. Ltd.

Preston Toronto Winnipeg Montreal Saskatoon Calgary

Brantford Gasoline Engines

We manufacture the most complete and up-to-date line 1½ to 50 H.P. Stationary, Portable and Traction

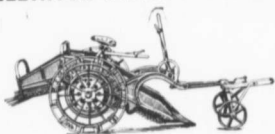


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Power Spraying Outfits, etc.
GOOLD, SHAPLEY & MUIR CO.,
Limited
Brantford, Canada.

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STRONGLY BUILT.

Digs all the Potatoes

A Two-horse Machine

ASPINWALL MFG. CO.

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*World's Oldest and Largest
Makers of Potato Machinery*

A HIGH GRADE ESTABLISHMENT
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Are YOU Going Abroad?

If so, you are necessarily interested in knowing how to carry your funds.

There are different ways—but they are not all safe—nor are they all convenient.

You want both safety and convenience.

It will be in your interest therefore to fill in and mail the coupon furnished below, on receipt of which we will be pleased to send you full particulars regarding

Dominion Express Travellers Cheques

the best medium for carrying funds when travelling in any part of the world.

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DOMINION EXPRESS CO.,
32 Front St., West, Toronto.

Please send particulars of your Travellers' Cheques.

Name

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O.A.C.



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The Underwood is used more extensively in Canada than all other makes of typewriters combined.

550 Underwoods are sold every day. The Underwood is the "aristocrat" of the typewriter world.

United Typewriter Co., Limited

EVERYWHERE IN CANADA.

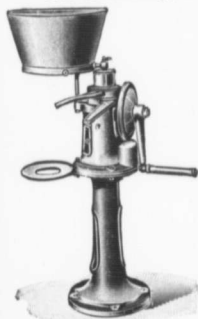
Head Office, Toronto.



THE PREMIER

Tens of Thousands in Daily Use.

The Efficiency, Durability, and Simplicity of the PREMIER



Winnipeg

make it the best investment on the market for the Farmer who is Dairying for Profit. The many advantages of the Premier over its competitors, including the self-balancing bowl, machine-cut square gearing, aluminium discs, etc., are fully explained in our Catalogue "B" which will be sent free on receipt of a postal card addressed to

The Premier Cream Separator Co.

TORONTO

St. John, N.B.

Keep Hammering Away

At your trade, but make every blow count. Well-directed pieces of well-executed printing are regular sledge hammers for shaping successful business. Our equipment includes a generous supply of **Dollar-Getting Ideas** as well as modern type and up-to-date presses.

ATTRACTIVE PRINTING

EFFECTIVE PRINTING

ON-TIME PRINTING

That's Us

Advertiser Job Printing Co., Ltd.

PHONE 3670

LONDON, ONTARIO.

LOOK AT THIS OFFER

THE "1900" GASOLINE MOTOR WASHER is now at work in thousands of homes. It is doing the work formerly done by women, at a cost of 2 cents a week for gasoline! Saving thousands upon thousands of dollars in wash bills! Saving worlds of wash-day troubles! Leaving the women free to do other work while the machine is doing the washing!

A Self-Working Wringer Free with Motor Washer!

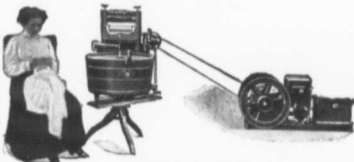
The motor runs Washer and Wringer. We guarantee the perfect working of both. No extra charge for Wringer, which is one of the finest made.

The outfit consists of the famous 1900 Washer ready to connect with an ordinary Gasoline Engine. You simply turn on the power and back and forth goes the tub, washing the clothes for dear life. And it's all so simple and easy that it is mere child's play to run it.

Anybody can have one of these washers on free trial, freight prepaid, just by writing for it. Why not write TODAY? Washes a Tubful in Two to Six Minutes — Handles Everything from Heavy Blankets to Dainty Laces.



Wringing by Power.



Washing by Power.

Send for **FREE WASHER BOOK** and **30 Days' FREE TRIAL OFFER!**

Don't doubt! Don't say it can't be done! The free book proves that it can. But we do not ask you to take our word for it. We offer to send the "1900" Gasoline Motor Washer on absolute Free Trial for an entire month to any responsible person. Not a cent of security—nor a promise to buy. Just your word that you will give it a test. We even agree to pay the freight, and will take it back if it fails to do all we claim for it. The "1900" Washers are in successful operation in thousands of the best homes in every part of the country, giving universal satisfaction.

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Makes Fireproof, Sanitary Walls
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Don't think of Linabestos as just another building board! It is something entirely different! There is no paper about it—no fibre board—no tar or asphalt compounds. It is made of Portland Cement and Asbestos, in solid, compact sheets 3-16 inch thick, 42 inches wide, and 4 or 8 feet long.

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Linabestos is particularly desirable for kitchens, bathrooms and finished basements, where, with a coat of paint, it gives a perfectly sanitary finish—and ceilings that will never crack nor fall. It is well suited, too, for offices, halls and dining rooms, where a panelled finish is most effective.

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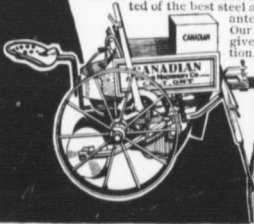
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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. **REPERVES ALL CAUTERY OR FIRING.** Impossible to produce scar or blemish.

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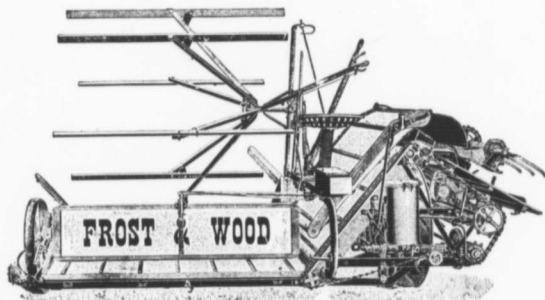
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Crops harvested with "FROST & WOOD" Binders cost least to reap and bind. No straw or grain wasted—all crop brought to the table. Reel arms pick up the down and tangled stuff in fine shape.



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The Massey-Harris Separator Gives Satisfaction

Satisfaction follows the use of this Separator

These
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Reasons
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It saves more of the cream at all temperatures than any others.

It is easy to fill—easy to turn—easy to clean.

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It is a neat, symmetrical, nicely finished machine—one you will take pride in having and using.

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At the Canadian Government Spraying Contest, Grimsby, Ont., eleven Spraying machines were entered. **Spramotor** was an easy first, and completely outclassed all others. After that event, **every other maker** gave up the spraying-machine business, leaving us the only Company in the field for ten years.

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NEW LIMITED TRAINS

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WESTBOUND DAILY EASTERN TIME.		EASTBOUND DAILY CENTRAL TIME.	
Leave Montreal (Windsor St.)	8.45 a.m.	Leave Chicago (Central Station)	9.30 a.m.
Depot	5.40 p.m.	Arrive Detroit (Michigan Central)	3.55 p.m.
Arrive Toronto	6.10 p.m.	Depot	
Leave Toronto	9.33 p.m.	EASTERN TIME.	
Leave London	12.35 a.m.	Leave Detroit (Michigan Central)	5.05 p.m.
Arrive Detroit (Michigan Central)	11.55 p.m.	Depot	8.03 p.m.
Depot		Leave London	11.20 p.m.
CENTRAL TIME.		Arrive Toronto	11.40 p.m.
Leave Detroit (Michigan Central)	7.45 a.m.	Leave Toronto (Windsor St.)	8.55 a.m.
Depot		Arrive Montreal (Windsor St.)	
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Solid Electric-lighted Trains with Buffet-Library-Compartment-Observation Cars, Standard and Tourist Sleepers and First-class Coaches between Montreal and Chicago in each direction. Standard Sleeping Cars will also be operated between Montreal, Toronto, Detroit and Chicago via Canadian Pacific and Michigan Central Railroads through Michigan Central Tunnel via Windsor on Trains No. 21 Westbound and No. 20 Eastbound.

Particulars from Canadian Pacific Agents or write M. G. Murphy D. P. A., J. Hefferman, C.P. and T.A., 32 Wyndham St., Guelph. Toronto.

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are used exclusively by
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IT MEANS A DIFFERENCE OF several thousand dollars a year whether a De Laval or some other make of separator is used in a creamery.

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THERE CAN BE NO BETTER RECOMMENDATION for the De Laval than the fact that the men who make the separation of milk a **business** use the De Laval to the practical exclusion of all other makes of cream separators.

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