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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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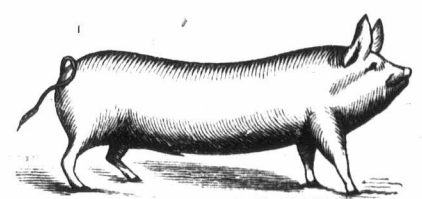
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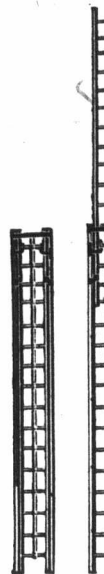
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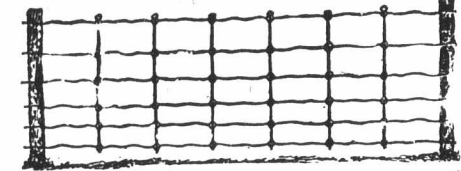
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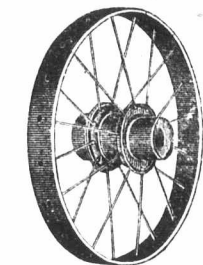
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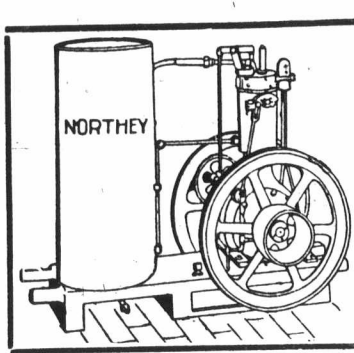
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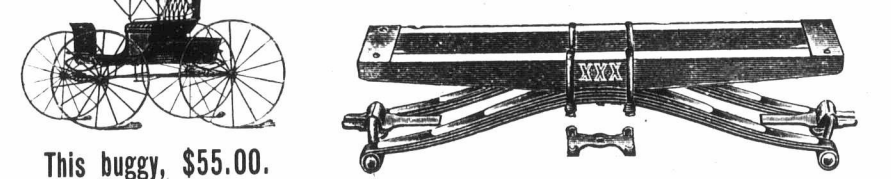
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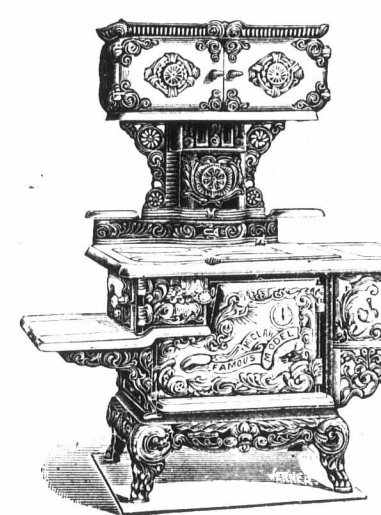
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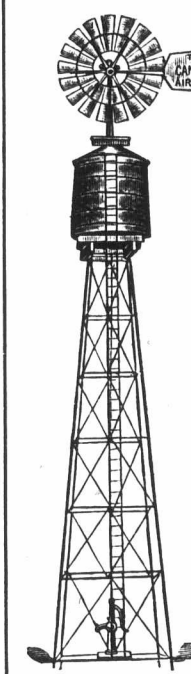
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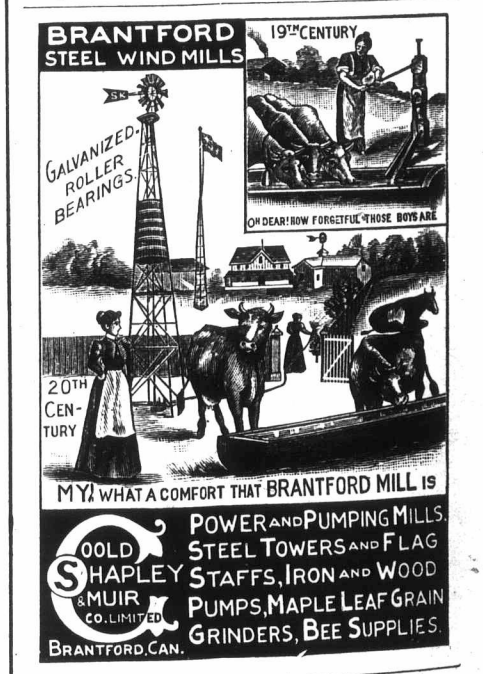
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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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VOL. XXXV.

LONDON, ONT., AND WINNIPEG, MAN., AUGUST 1, 1900.

No. 507

EDITORIAL.

Cultivation for Winter Wheat.

It will be noticed that considerable space is given in this issue of the ADVOCATE to the discussion of the subject of fall wheat and its cultivation. This is in accordance with our aim and rule to furnish as far as possible information that may be helpful to farmers, and at a seasonable time. We know no better way of doing this than by presenting to our readers the opinions and methods of experienced and successful farmers as described in their own words, and we believe the batch of brief letters on this subject published elsewhere in this issue contain the soundest and safest information available. As we have frequently stated, the price of wheat prevailing and probable is not such as to warrant farmers in attempting to grow it on a large scale in the older provinces of Canada, and especially on land unsuited, by reason of insufficient drainage, lack of fertility or imperfect preparation, to the production of a reasonable return for the seed and the labor expended upon it. But experience has proven that even in the oldest sections, where winter wheat was once the principal crop, it can yet be successfully and profitably grown in the average of years. It is only two years since in many sections of Ontario yields of 30 to 40 bushels per acre were reaped, and in the harvest just gathered this year we have seen many fields which had every appearance of being good for the former yield. When it is a success, there is no more satisfactory crop grown. It is a thing of beauty and a joy to harvest, and we do not wonder at the farmers' partiality to it, nor would we for a moment discourage its production. What we plead for is a proper preparation for a reasonable hope of a good crop. There is no satisfaction nor money in half a crop, and we believe that in nine cases out of ten, in ordinary seasons, failure is due to imperfect preparation rather than to weather or climatic conditions, and we can offer no better advice in this connection than that a careful study be given the short letters from practical men of experience which we publish. The chapter on winter wheat growing in Kansas will also be read with interest at this juncture.

The ideal preparation for winter wheat is no doubt the summer-fallow, well manured and worked, but its day for general adoption seems to have passed, since it means two years for one crop; though in special cases it may be time well spent if it cleans a field of noxious weeds. The next, if not the first, favorite appears to be a clover or pasture sod plowed six weeks before seeding time, promptly rolled, and frequently harrowed and cultivated, especially and preferably after rains. Following peas that have been grown on inverted sod, fair crops of wheat are generally obtained, but whether the land in this case should be plowed or not depends much upon the character and condition of the soil. If the land is tolerably clean and is sufficiently moist to admit of its being well worked with the cultivator, it may be better not to plow. If it be necessary to plow, free use of the roller, harrows and cultivator must follow, in order to reduce the soil to a fine tilth and to firm the seed-bed. Barley stubble land, when it is rich in fertility, may in a favorable season be made suitable for wheat by plowing as early as possible after the harvest, following closely with the roller and harrow, and cultivating to the bottom of the plowing to bring up any lumps that may be in the furrows, and applying the roller and harrows again to these. The advocacy of surface cultivation may be misleading if it simply means fining two or three inches of soil on top, while below lumps of clay are left, which will form anything but a congenial feeding ground for the rootlets of the wheat. The secret of success is evidently to have the land in good heart and the seed-bed fine, firm, and moist,

the latter condition being obtained by surface cultivation after each shower that falls. These conditions favor a strong and healthy growth from the start and give the plants a grasp of the ground, which imparts strength and stamina to carry them safely through the rigors of winter weather and spring frosts, and power to resist, outlive and overcome the attacks of insect enemies.

Wanted, a New Winter Wheat.

From various quarters the FARMER'S ADVOCATE has received increasingly loud complaints in regard to the milling qualities of the more commonly grown varieties of Ontario winter or fall wheat. We have interviewed a number of London and other millers, and find them practically of one mind upon this subject. The Goldie Milling Co., of Ayr, whose letter we publish elsewhere, puts that view of the case quite strongly, as do also Bramm Bros., another milling firm. Speaking of varieties, a local miller states that the most objectionable of all was the Dawson's Golden Chaff sort, which has topped for so long the Ontario Agricultural College list as a yielder, being also hardy and having a good straw. The Red Clawson was some better; Manchester was not so bad either, and the Democrat still better, though very little of it could now be got, and the old Scott variety, which had gone out entirely, had been the best of them all. The trouble is, he said, these wheats lack in gluten. They are starchy, and without mixing with Manitoba wheat good flour cannot be made. The millers became desperate and determined upon importing Kansas seed in order to try to effect an improvement. Another miller said the Dawson's Golden Chaff, which made up the bulk of the wheat now coming to market, had neither strength nor color. The flour had a dull yellowish cast, which the most careful milling could not eliminate. He was of opinion if a hard winter variety could be successfully grown, farmers would be entitled to more for it, as it would take the place largely of the high-priced Manitoba No. 1 hard. Our soft winter wheats, there was not a sufficient market of that sort to consume the Ontario crop, and for export a high-grade flour was necessary. Providing a sort could be got that would succeed as well generally as the Dawson Golden Chaff and combine the necessary strength, it would prove a very great boon. This is, of course, a crucial point, something akin to that which cropped up during the evolution of the bacon hog, some of the earlier types of which the farmer did not take kindly to, as they were regarded as being harder to feed and did not command a higher price than the more cheaply fattened lard variety. Representative millers have had the matter under serious consideration for more than a year past, and being satisfied with the result of some trials in Waterloo County, particulars of which we give elsewhere in this issue, decided to import some fifteen or twenty carloads of what is called Kansas Turkey Red, to be sold at enough to cover the cost at different points throughout Western Ontario. It is very desirable that the seed should be scattered over a considerable area, so that its practical merits will be determined under a variety of conditions, from the standpoint of the farmer as well as the miller, before embarking in it too largely, and to accomplish that the price should not be set very far above the current Ontario market quotations.

The following from the last issue of the weekly edition of a pretentious Canadian city newspaper is a fair sample of the valuable information dished up by a class of sheets that make a fad of imparting agricultural instruction: "Since the habits of the Hessian fly are better understood, farmers have learned how to make it much more destructive than it was when first introduced." It would be interesting to know who the farmers are that have been trying to make the Hessian fly more destructive than it was on making its first appearance.

Politics and Newspaper Postage.

The FARMER'S ADVOCATE never has and does not now object to a fair and equitably levied rate of newspaper postage. Being business enterprises, it is no more than right that publications should pay for the service which the government renders in carrying them from one portion of the country to another, though there is room for fair argument that they should be encouraged rather than discouraged, on the ground that the public is advantaged by the spread of knowledge. We believe that the public business of this country should be conducted upon business principles, and it would greatly simplify and lessen the cost of the conduct of public affairs if governments would not only do that, but curtail rather than expand their functions, which latter seems to be the patronage-creating fad of the present day. Prior to July 1st, 1899, papers had been carried free through the Canadian mails for a considerable period of time. With their increasing circulation and the increasing bulk of a good many newspapers, in imitation of the ponderous and trashy Sunday "yellow" journals of the United States, the burden upon the postal department at last became simply intolerable, and the Postmaster General of the present Canadian Government (Hon. Wm. Mulock) undertook to deal with the subject, and the result was a bill whereby papers were recharged $\frac{1}{4}$ of a cent per pound for the first six months of last year, and thereafter $\frac{1}{2}$ a cent per pound, except those circulating within a twenty-mile radius of the office of publication, which go free. In case of papers located upon a lake, their zone was measured 40 miles on one side of the office. This absurd zone system, making fish of one and flesh of another, was a sop to the country weeklies and the unfortunate political price paid for getting the measure through Parliament, because we believe the original intention must have been to treat all alike. It involved taxing the journals of greatest merit, circulation and influence, for the benefit of the little organ of the country M. P.; and further, while a protective system was continued by the administration for large numbers of enterprises, United States sheets, big and little, good, bad and indifferent, had the free run of the country. To the FARMER'S ADVOCATE the 20-mile zone exemption is a mere flea bite, and no relief from the unjust imposition of the bill. Edited for the improvement of all branches of agriculture, being practical in its teaching and of superior merit, its circulation extends, naturally, not only into every part of the Province of Ontario, but throughout Quebec, the Maritime Provinces, Manitoba, the Northwest, and British Columbia; also very generally through Michigan, Dakota, Minnesota, Wisconsin, Illinois, Iowa, Ohio, New York, Maine and many other States; and Great Britain, Australia, New Zealand, and India, as well as several European countries; in fact, hardly a country can be named where farming is successfully carried on by people who understand the English language, that the FARMER'S ADVOCATE is not received and highly prized for its helpfulness. So far as Canada is concerned, for 34 years the paper has steadily associated itself with the advancement of this great industry, and if the whole truth were told there is no doubt that its work and the knowledge and stimulus imparted to the public have done more for the real progress of the farmer than all the Government institutions and projects that have ever been set afloat; and this can be said without in any way reflecting on the excellence and usefulness of much that scientific research, experimental work and demonstration has accomplished. To the outside world the pages of the FARMER'S ADVOCATE have been a constant reminder of the splendid achievements of agriculture in Canada, and yet this publication is discredited against in favor of the purveyor of local gossip and politics, while from Ottawa great quantities of political lit-

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED BY

THE WILLIAM WELD COMPANY (LIMITED).

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MCINTYRE BLOCK, MAIN STREET, WINNIPEG, MAN.

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Strand London, W. C., England.

JOHN WELD, MANAGER.

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erature is "franked" at the public expense, doubtless on the ground that it contains information for the public.

The ½ cent per pound rate having been protested against as onerous, the Postmaster General at the session of Parliament just over introduced an amendment to reduce the postage on newspapers within the provinces in which they are published to ¼ of a cent per pound, while still charging half a cent per pound on those going from one province to another or out of the Dominion, and as we understand it, leaving the 20-mile zone still free, so that the ADVOCATE would have had the small free area, the provincial ¼ of a cent per pound rate, and beyond that the ½ cent rate—variety enough, in all conscience. The House of Commons passed the bill, but it was thrown out by the Senate bodily, for they could not modify it, it being held that an amendment would be one affecting revenue. If they have not the power to amend, they should have roused themselves a year earlier and thrown out the original measure. As a result the old injustice is still perpetuated.

It is lamentable that the postal administration that has shown such commendable energy in many directions, and has to its credit the introduction of the two-cent letter rate boon and Imperial penny postage, should be marred by a retrograde and petty newspaper postage policy.

The closer a journal or newspaper gets down to its constituency the more valuable is that paper to advertisers as well as to readers. The paper that merely attracts a glance at headlines or at pictures, or artistic effects, without winning personal interest and attention, followed by reading and careful reference or examination time after time, is of very little profit to advertisers, though the circulation may run into hundreds of thousands.

STOCK.

Our Scottish Letter.

The transition stage in Scottish agriculture through which we are at present passing is trying many usages and methods which had become hoary and venerable. The keenness of competition is driving the poetry out of agricultural life, and amongst the time-honored institutions about to pass away is the milkmaid. In the south the milkmaid is unknown, and the milkman has taken her place, but in not a few districts both milkman and milkmaid are awaiting. In this stress, men's eyes are naturally being turned to mechanical milkers, and several of these are on the market. Two were on trial at the recent show of the Royal at York, but the jurors declared that neither had sufficiency of merit to warrant an award being made. This is much to be regretted, as both are ingenious, and one patented by Mr. Wm. Murchland, Kilmarnock, is in constant use on farms in the west and southwest of Scotland. It extracts the milk from the teat by steady suction, and is thus devoid of the pulsating movement which accompanies the operations of the calf. This machine was awarded first prize a few years ago after an exhaustive trial by the Highland and Agricultural Society, and there can be no doubt in the mind of anyone who reads the reports of the jurors that relatively the decision was sound. Whether the absence of an award at the Royal, York, contradicts this is not known, but I should think it does not, for this reason: Awordedly, the Highland award was a decision on the relative merits of the competing machines, whereas the award at the Royal appears to have proceeded on the assumption that the judges were to make an award based, not on relative, but on absolute merit. The competing machines both in the Highland and the Royal trials had an extremely ingenious pulsating motion in the teat-cup which gives very much the same result as the intermittent suckling of the calf. Unfortunately, to obtain this motion somewhat intricate machinery is necessary, and while this is ingeniously contrived, it also makes it difficult to thoroughly clean the milking apparatus and tubes, and consequently the milk drawn by this pulsating machine was found to be of indifferent keeping quality. What really condemns these machines is the difficulty of keeping the mechanism clean, and although they embody an idea, until this difficulty be overcome they are not likely to prove an unqualified success.

Sheep-shearing by machinery has been fairly well established as a feasible idea, and there were two trials of such machinery at York. Both awards went to one house, the classification being for machines wrought by hand or foot and machines wrought by mechanical power. Such mechanism is likely to be pretty well known in Canada, and need not be written about in detail. So far no one has succeeded in applying the new electric-motive power to purposes of agriculture. Judging by what was seen at York, this is largely due to the fact that too many things are being attempted at first, and consequently the machines are frightfully clumsy. One such was on show at York, but it was so ungainly and unwieldy that it is far removed from the arena of commercial success. After all, there is no pressing need for undue haste in the application of electric-motive power to purposes of agriculture. The motor-car is very far from being a commercial success, and while no doubt the day is coming when the quick-acting economical motive power of electricity will be everywhere employed, the slower-going men who wait until they are able to see such power spelling success in a commercial sense will be the first to give it undivided support. A fatal blunder has been made by several agricultural engineers in placing new machines on the market embodying excellent ideas, but by no means matured, and so they have greatly retarded the genuine triumph of such inventions. There is luck in leisure here, as well as elsewhere, and the wise man hastens slowly.

Sheep breeders from all quarters held an international conference in York during the show. They consulted regarding many points of interest to their calling, their great idea being to do something to prevent fraud in connection with the sale and exportation of sheep. Some foreign and colonial speakers indicated a fear that a buyer did not always get the animal he purchased, and the problem was to discover some way in which fraud of this kind might be prevented. This is equivalent to the old search for an honest man, and the goal may be as difficult of attainment as in the other case. Sheep are not like horses; they cannot be described by specific natural marks, and yet it is beyond question that in quite a number of cases the horse buyer who came last may not have got the animal described in his certificate. How to prevent a similar course of substitution with rams is a much more difficult question, and the conference did not throw much light upon it. The best solution of the difficulty is to raise the moral tone of those engaged in this business so that without any external compulsion no man would dream of substituting one ram for another. Some may say that's the parson's job; and so it is, but it is everybody's job as well, and in this way alone lies hope of complete success in the cause upon which the Flockmasters' Federation is embarked.

"SCOTLAND YET."

Economical Horse Raising for Farmers.

The economic farmer who has sufficient work to do to justify him in keeping horses for that purpose is the man who can raise horses most economically, and with him the colt is a by-product, a net profit in the transaction. If a farmer has work for four horses, he can afford to keep five mares; or for two, he can keep three. Let them be good useful animals, of whatever breed, free from inheritable blemishes, and of good disposition. He should mate these with the best sires of the same breed in the vicinity, and should go to the trouble in connection with his neighbors of securing, either by forming a horse company or some other way, the services of a suitable horse in that neighborhood. He can use his mares right up to the time of foaling, provided they are put at ordinary farm work. They are then entitled to a couple of weeks' rest and can then be used during the summer at ordinary farm work, and with proper care he can grow the kind of a horse that farmers require. If any one fails to produce a colt in the spring, he can breed her for a fall colt, and in this way soon stock and overstock his farm with the kind of horses which the markets require. A good colt, well bred and well cared for, is salable at any time.

There are other farmers who are willing to buy these colts and grow them, for the very good reason that they can buy them cheaper than they can produce them. These are farmers that have a large amount of pasture, especially blue grass pasture, and are better prepared for grazing colts than growing them.

When the colt is coming three years old it should be sold, under ordinary circumstances, to the farmer who is mainly engaged in growing grain or for any reason wants young horses to work. These men keep them until they are ready to go to the city market, and can sell them at considerable advance on their cost.

The economical breeding and growing of horses is, therefore, the work of three or four different men. One man raises them as a by-product of his mares, another grows them for the consumption of his waste pasture, and the work is finished by the man who has light work for them to do and thus gets a profit on his work horses by reason of the advance in the price. This is the way horses are grown in France, to a great extent in Great Britain, and, in fact, in every other country. It is the way the business naturally develops—a sort of division of labor.

If any of our more wealthy readers see great profits in keeping brood mares for the sole profit of raising a colt, we ask them to do a little figuring. They can make their own figures, only they must not allow their imagination to run away with them. Make their figures honestly and they will soon convince themselves that we have in the above pointed out the only economic way of breeding and growing horses.—*Drovers' Journal.*

Swinelets.

The time to think about protecting pigs from a cannibalistic mother is a couple of months before they are born.

The pig is not half so filthy in his habits as man thinks it is, and to that fact the filthiness so often seen is largely due.

The too handy corn crib, with its abundant and cheap contents, often makes the sow so fond of her pigs that she devours them.

The properly fed sow is nearly always healthy, barring contagion or epidemic disease, and the healthy sow has no appetite for her own pigs.

If pigs were lost through any mistake or neglect last spring, recall the circumstance with a view to avoiding the mistake next spring.

The pig is a slow, sluggish, quiet fellow, and should not be hurried; not even in his eating, by reason of the very uncomfortable quarters he has to eat in.

What to feed, and how to feed, are important questions, but when to feed is equally important, and the when should be at the very same hour every day.

Foul, stagnant water, the leakings from stable or hog yards are sources of worms in hogs. The purer the water given them the less worms in hogs.

Mildly laxative, cooling, soothing, non-fattening foods given to the brood sow before the arrival of her little ones will make her love them enough so that she will not desire to eat them.

The man who thinks the hog the nastiest is generally the one who changes its bed the most seldom. The clean horse must have a fresh bed every day; the dirty hog often has to be thankful if it gets a clean bed once a month.

It will pay to save all the pigs possible in the spring, and to do that care well for the mothers a month or two before the little fellows arrive. Give the mothers milk-producing, not fattening, food; shorts made into a thick mush with clover-hay tea, occasionally ground oats prepared the same way, some roots cut up and a little oil meal scattered on them, is also good.

It is a question with some Canadian farmers whether they can raise a bushel of wheat cheaper than they can three pounds of butter. The writer has not had much experience in wheat raising, but he is of the opinion that it will cost more to produce a bushel of wheat than four pounds of butter; and of one thing they can rest assured, their land from which they raised the butter will be worth more at the end of twenty years than it will after they have taken off twenty crops of wheat.

Work for Farmers.

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How to Raise a Skim Milk Calf.

Nature's way of raising a calf by allowing it to run with the cow produces a good one—the kind feeders want; and the dairyman must provide, as nearly as possible, the same conditions for the calf as it has when with its mother, and he, too, will produce the calf demanded by the feeder.

The cow feeds the calf often, and milk that is blood warm, sweet, and free from germs. Leave the calf with the cow until her udder gets in good condition and her milk all right. This gives the calf the same treatment at the start that he gets if he is to stay with the cow all the time until weaning. If the cow's udder is hard and feverish, rubbing it by the calf's baby head in his attempt to get food reduces the swelling and softens the udder. For about two weeks after the calf is taken from the cow, the best results are obtained by feeding warm whole milk three times a day—two quarts in the morning, one quart at noon, and two quarts at night. After this the calf will do well if fed only twice a day, morning and night, at regular hours. At the end of three weeks, begin to get the calf on skim milk, but do this gradually. The first time take out half a pint of whole milk and put in its place half a pint of skim milk; the second feed use a pint of skim milk and take out a pint of whole milk. This method takes ten days to change from whole milk to skim milk. Increase the amount of skim milk fed slowly as the calf can take it; remembering that ten quarts of skim milk is a full feed for a calf five to six months old.

The cow supplies the milk to the calf blood warm. Feed both whole milk and skim milk at this temperature. We feed all skim milk warm, even when the calf is five or six months old.

The cow's milk contains all the materials needed for the health and growth of the calf in just the right proportions. Skim milk is without the cream or fat, and must be balanced up. Feeding trials have shown that starch in food takes the place of fat, and serves the same purpose when eaten. It is the dairyman's business, then, to take high-priced butter-fat from the milk, sell it, and supply in its place to the calf a cheap food, rich in starch. Corn is good for this purpose; Kaffir corn grain is better. Calves fed skim milk have a strong tendency to scour; Kaffir corn is rich in starch, and is our most constipating grain. It seems to be adapted by nature to be fed with skim milk, the two together producing the natural condition of the bowels. We feed Kaffir corn finely ground to calves, and always feed it dry, separately from the milk. More skim milk calves are probably stunted or killed outright in Kansas by mixing the grain with the milk than by any other means.

Calves need starchy grains to take the place of the butter-fat taken out of the milk. Starch cannot be used to support life until it has been changed to sugar. The saliva of the mouth has the power to change starch to sugar, and the more slowly and thoroughly the grain is masticated the better it will be mixed with the saliva and the greater the proportion of starch that will be changed to sugar. Feed dry Kaffir-corn meal or other grain to the baby calf and it will chew and chew for a long time on a small quantity of the grain, getting the starch thoroughly mixed with the saliva. Mix the grain with the milk and it is quickly eaten and swallowed, little saliva is mixed with it, and but little starch is changed so that it can be used by the body. The rest not only does the calf no good, but irritates the system, bringing on indigestion and scours and stunting the calf. Feed grain dry.

Keep the calves separated after feeding milk until their mouths become dry, so that they will not suck each other's ears. Where a number are fed, this is most easily and cheaply done by light stanchions, which can be made out of fence boards and set up in the feed yard or pasture, or other convenient place.

The calf will begin to eat grain and hay when ten days to two weeks old. These feeds should be given fresh twice a day.

A supply of fresh-clean water should be kept within reach of the calves all the time. The most convenient way of providing this is with a hog waterer, attached to a barrel. Have salt where the calves can eat what they want of it.

The greatest difficulty in raising skim-milk calves comes from scouring. Prevention is easier than cure. The chief causes are overfeeding, feeding cold or sour milk, feeding grain with the milk, and dirty pails and feed boxes. Careful watching will usually prevent any serious trouble from this dis-

ease. At first indications, immediately cut down the feed. Milk pails and cans should be washed and scalded, the same as if the milk was intended for the table. For scouring, give one to two ounces of castor oil, or, if the case is bad, ten to fifteen drops of laudanum a day, until the trouble is checked. Change feeds very slowly, as a sudden change often causes scours.

Finally, remember that the calf is a baby, and give it the kindness and care due every baby. The better a calf likes you the more it will gain. Pet it. Keep its pen and yard dry and comfortable; keep it warm in cold weather and give it cool shade in summer. We like a shed open on all sides for summer shade, as this will protect from the sun and allow the air to blow through freely. The College has a large stone barn with basement, but we found that the calves thrived better in a common board shed than they did in this barn. The basement was not as well lighted and ventilated as the shed.

Flies often annoy calves so that they do not gain well. The department of horticulture and entomology of this Station furnished us a formula that we used on the calves in this experiment at a cost of one-fourth to one-half cent a day and kept the flies off. It is as follows: Pulverized resin, 2 parts, by measure; soap shavings, 1 part; water, 3 parts; fish oil, 1 part; oil of tar, 1 part; kerosene, 1 part; water, 3 parts. Place the resin, soap shavings, 1 part of water and fish oil together in a receptacle and boil till the resin is dissolved; then add the 3 parts of water, following with the oil of tar mixed with the kerosene. Stir the mixture well and allow it to boil for fifteen minutes. When cool, the mixture is ready for use, and should be stirred frequently while being applied.

From one-eighth to one-half pint is sufficient for one application. To apply the mixture a brush is



SKIM-MILK SCRUB-BRED STEERS. AVERAGE WEIGHT, 724 POUNDS, AT ONE YEAR OLD.

Fed according to the system recommended by the Kansas Agricultural College in Bulletin No. 97.

used. We find nothing more satisfactory than a large painter's brush. At first it is well to make an application for two or three days in succession. Afterwards an application every other day will suffice. It is often more economical not to attempt to protect the entire animal, but only those parts not reached by the head or tail. It is perfectly safe and in no case has it appeared detrimental to the health of the calf.

Farmers often object to the expense of handling calves in the way we have indicated. It does not take much time. Two hours a day was all the time needed to feed the calves in this experiment, and part of this time was used for taking weights and making records. At the time of writing this bulletin we are feeding forty-five young calves, divided into five lots, and each lot fed a different way. It takes five hours a day, while if they were all fed alike, and each feed did not have to be weighed, much less time would be needed. It does not take much more time to feed a skim-milk calf so that he will gain two pounds a day than it does to feed him so that he will become a runt, but it does take thinking, patience and careful attention to the little things.

This experiment shows that calves can be easily raised on skim milk and fed and handled so that they will be thrifty, gain well, and be in good condition for the breeder or feeder. From Bulletin No. 97, Kansas State Agr. College.

More and more as the years go by experience is teaching the farmers of Canada that stock raising and the feeding of stock is the secret of success in their vocation. Only by this means can the fertility of the land be restored and maintained.

Summer Treatment of Young and Breeding Horses.

A DAY ON A NOTED HORSE FARM.

To know how young horses are cared for at such noted studs as that of Messrs. D. & O. Sorby, Guelph, Ont., where an indifferent animal is the very great exception, and the finest class of stock the rule, is valuable information to anyone attempting to rear horse stock. During a recent visit to the home of this firm, we observed many points that are worthy at least of consideration, if not emulation. First of all, we observed that all the horses, whether mares and foals, yearlings or horses of other classes, were housed during the daytime away from the sun and flies. This is commenced as early in the summer as the flies begin to torment the animals. They are all brought in before the heat of the day commences and again turned out into roomy and rich pastures about six o'clock in the evening. They are not tied in single stalls, as is done on many farms, but each animal has an airy, light, well-bedded brick box stall about 15 feet square or larger. The fact is, there is not a single horse stall on the farm, the three substantial roomy ranges each consisting of two rows of box stalls with a wide passage (10 or 12 feet) between. Each stall has a water box supplied from a spring well by a windmill, besides necessary mangers for feed. Whatever the season of year, these are the quarters in which the stock is housed, and seldom a day passes at any season when the animals, young or old, are not given their liberty in a field or roomy fenced plot. At this season, two of the stallions have access to these plots during the nights, and the third stallion takes his exercise a few hours during the mornings and evenings. As all well-informed stockmen understand, plenty of

regular exercise is one of the chief factors in keeping especially well-fed animals in perfect health, both in body and limbs, and not only that, but it keeps their digestive systems in such vigorous condition that they can be heavily fed if desired, which, with the constant exercise, will produce firm muscle instead of flabby fat. To this end, however, plain food is an important accompaniment.

Whether for mares and foals, growing stock or breeding stallions, the food given is alike in kind to all, and consists of crushed oats and bran mixed, two parts oats to one of bran, and these mixed with about twice their bulk of cut hay, timothy and clover of good quality, fed dry. The mares and foals run loose, so that what the foal eats is from its dam's manger. Mr. Sorby considers it might be well under some circumstances to tie the mare, so that the foal could have a separate box to eat from, but he seldom, if ever, practices this because of the danger of the foal becoming entangled in the mare's halter shank. As a rule, a mare that is well fed and not working gives

sufficient milk to keep her foal in as high flesh as it should be for its future welfare. The mares get three feeds a day of the above mixture, which includes about two quarts of oat chop. The yearling stock receive similar feeding, a little less in bulk, and the stallions get four feeds each per day during the breeding season. They each get a fair allowance of such green feed as is in season, which was, at the time of our visit, green corn about five feet high. We noticed that each manger had a good supply of salt in the corner in separate compartment, and the horses could drink from the basins in the stalls whenever they felt disposed. The stalls are cleaned out every few days, so that the air is kept pure and wholesome, aided by the very efficient ventilation provided.

All the team work done on the 300-acre farm is accomplished by the brood mares and 3-year-old fillies. They are worked up till near the foaling and again after the foals are weaned. On the day of our visit the in-foal mares, Diana McKay and Venice, were hauling up hay with the horse-fork, with which they took off large loads in four forkfuls. As is the experience of all extensive horse breeders, the mares of this stud are not always easy to get in foal. The most certain time seems to be on the ninth day after foaling. A mare in good health served by a sure horse on that day is very likely to become pregnant, whereas if she is allowed to go till a later oestrus, the chances of "catching" are less favorable. Mr. Sorby also considers a heavy grain diet as liable to militate against a mare's chances of becoming pregnant. Moderate work and laxative, plain food should be provided a dry mare that is inclined to take service repeatedly.

When horses have nightly runs on pasture and

clean roomy stalls during the day, their skins require but little attention, and their feet go far towards taking care of themselves, but during the seasons of more constant housing the horses are groomed frequently, if not daily, and their hoofs are dressed in natural, level form, as their condition requires. The object from beginning to end, as it should be with all breeders of live stock, but perhaps more especially with pure-bred stock, is to treat every animal every day in such a way as to develop the very best that is in it, which is accomplished only by a close observation of the laws of breeding and feeding, systematically followed with intelligent earnestness.

Winnipeg Industrial Exhibition.

SPECIAL BY WIRE FROM WINNIPEG.

The tenth annual show of the Winnipeg Industrial Exhibition Association opened here on Monday, July 23. The appearance of the grounds has much improved, owing to the erection of many additional buildings, chief among which are the large additions to the grand stand and the magnificent new British Columbia building, built entirely of timber from the Coast Province and devoted to the display of products of that Province. His Excellency the Governor-General, accompanied by Lady Minto, formally opened the Exhibition, which is declared a success, the attendance the second day being over 18,000 and the weather perfect. The entries of live stock exceeds the accommodation. This is particularly true of horses, there being over 60 in excess of the exhibits of last year, and a number have had to be stabled in the sheep pens. Clydesdales are especially strong in the breeding sections, in which class the male championship was awarded to the stallion Pilgrith 7020, owned by J. A. S. Macmillan, of Brandon, and the female sweepstakes to Lady Overlaw, owned by John E. Smith, of Brandon. Draft, General Purpose and Standard-bred are strong, the latter especially so in stallions, the sweepstakes in this class going to Sharper. Roadsters were good and harness classes surprisingly strong. In carriage stallions, Knight of the Vale, the victor for five years, was this time turned down by the German Coacher Sasha. Thoroughbred stallions were strong, and saddle horses a very desirable lot, the get of Disturbance predominating in the young sections. In the horse classes the judge, Prof. J. A. Craig, of Iowa Agricultural College, overturned many previous decisions.

In cattle there were 389 entries, as against 316 in 1899, and a greater percentage were well fitted. The Shorthorn exhibit is the largest and best ever shown here. The male championship went to Hon. Thos. Greenway's yearling Sittyton Hero 7th, and the female sweepstakes to the 2-year-old Matchless 24th, of the same herd. Mr. Greenway captured the 1st and 2nd prizes for herd and 1st for young herd. The first prize for a herd bred by the exhibitor went to J. G. Barron, of Carberry. Judge John Davidson, of Ashburn, Ont., gave general satisfaction. The other beef breeds were well represented, and particulars of prizes will appear in next issue.

Dairy cattle were in numbers and quality about as usual, the Ayrshires, in which Mr. Greenway was chief winner, being above the average seen here. In Jerseys, W. V. Edwards, Souris, was the chief winner. The judge, Mr. A. C. Hallman, New Dundee, Ont., gave good satisfaction.

The swine exhibit is, as usual, a good one in nearly all classes, and the judge, Mr. Thomas Teasdale, Concord, Ont., who also judges the sheep, which are much above the average, is winning golden opinions by his careful and consistent adjudications. The judging was not completed when our dispatch was wired.

Preparing for Drought.

The necessity, on the part of dairymen especially, of regularly making provision for a supply of green fodder to supplement the pasture in the periods of drought which almost certainly come in some sections of the country each year is well set forth by a correspondent of the *Jersey Bulletin* in the following sentences:

To-day the owner of dairy cows who has not provided food to meet from sixty to ninety days of drought is almost as unwise as was the man who provided only the strawstack and shuck pile for winter maintenance of his dry cattle. The drought is every bit as sure to come as the winter. Like winter, it is variable in its severity. In some particulars its effects are more disastrous than the effects of winter, because cattle can withstand cold better than heat and hunger.

The shrinkage of milk consequent on the drought entails a direct loss of daily income, which is apt to be regarded as the prime injury, but it is not. The effect of a shrinkage of milk from the drought is gradual, but permanent. It continues not only during the current period of lactation, but the milking capacity of the cow is never afterward what it would have been. This effect is especially injurious upon heifers in the first period of lactation. It tends to shorten their milking time, and the practice thus begun under necessity tends to become a confirmed habit, lasting through life.

The effect of the annually recurring drought in retarding the development of whole herds of cows is far greater than their owners usually understand. Every year there is more or less of drought throughout the country, and even in the few favored regions where the dry spell does not reach into a drought, the pastures get so dry that cows can with

difficulty satisfy themselves. The regions are so limited, and the years so few that are not drought-affected, that it is the part of wisdom to prepare for it with the same regularity that we prepare for winter.

It is not too late in some regions to make the preparation if it has not already been done. What to do is easy to tell, and how to do it not difficult. Set apart a liberal allowance of land, regulated by the number of cattle, old and young, to be fed. Prepare the seed-bed as thoroughly as you know how and sow as best you can large sweet corn, field corn, oats and peas, sorghum, cow peas, millet, Hungarian grass or any other crop that will mature in time and furnish a large supply of palatable and nutritious succulence to take the place of the drought-stricken grass. Calculate for ninety days of drought. If it does not last so long, nothing will be lost. The hay mow or the silo will take care of all the extra food left over. Remember that every day brings the drought twenty-four hours nearer, and lessens by twenty-four hours your time for meeting the relentless enemy.

A Good Quality in a Boar, Size Without Coarseness.

One of the most important points to be arrived at in the selection of a boar is that he shall have as much size as it is possible to obtain without any tendency to coarseness. It is not always easy to secure an ideal sire in this respect, because as hogs increase in size they are much disposed to the development of a certain amount of coarseness, especially in the head and shoulders. The special aim of the breeder should be to correct this, because the most valuable parts of the pig lie to the back of its shoulders, and the better proportioned a pig is "behind the saddle" the more fully will he comply with the present-day requirements of bacon curers, and the better price he and his progeny will fetch when sent to market. While it is essential to have a comparatively small head in the case of a boar, care must be taken to avoid effeminacy in this direction, as there is nothing more indicative of inbreeding or lack of constitution than a thin, narrow head with a weak snout.—*Farmers' Gazette.*

FARM.

The Government Whitewash.

The enduring whitewash used in all departments of the United States Government where such a preparation is needed is thus made:

Take a half bushel of unslaked lime, slake it with boiling water, cover during the process to keep in steam, strain the liquid through a fine sieve or strainer, and add to it a peck of salt, previously dissolved in warm water; three pounds of ground rice boiled to a thin paste and stirred in while hot; half a pound Spanish whiting and one pound of glue, previously dissolved by soaking in cold water, and then hanging over in a small pot hung in a larger one filled with water. Add five gallons of hot water to the mixture, stir well and let it stand a few days covered from dirt. It should be applied hot, for which purpose it can be kept in a portable furnace.

The east end of the President's house in Washington is embellished by this brilliant whitewash, and it is used by the Government to whitewash lighthouses. A pint of this mixture, if properly applied, will cover a square yard, and will be almost as serviceable as paint for wood, brick or stone, and is much cheaper than the cheapest paint.

Buckwheat --- Quantity of Seed and Time to Sow.

To the Editor FARMER'S ADVOCATE:

SIR,—Some time ago I noticed an enquiry regarding the growing and management of buckwheat, and your answer quite differs with our experience in this section. We find that we have better success on the average sowing the last week in June, and one very successful grower says he would not sow his buckwheat before the 4th July if his ground was ready ever so long before. Another difference, we sow only two pecks to the acre if our ground is in good condition. We find that ground plowed in the fall, in the spring harrowed and disked, plowed, harrowed and again disked, again well plowed to kill all quack and thistles, thoroughly and fine harrowed, gives the proper tilth for a successful crop. The straw we throw loosely on the barnyard to be tramped into manure during the early winter, quite a quantity of forage being taken out of it by the cattle. We sold ours two seasons ago at 42c., and the past season it was worth 50c. We get usually 20 to 30 bushels to the acre, but know of those who have had returns of 50 bushels per acre from 2 pecks sowing.

Addington Co., Ont.

W. J. SHANNON.

Cattle Brand Law.

A cattle-brand law is wanted in Ontario similar to the law in the Northwest Territories.

The registered brands of the Northwest is one of the best protections against cattle thieves. The different brands that stockmen use, if registered, soon become known for quite a wide circle by the craft. The protection that a good brand affords was well illustrated at this (Mt. Elgin Industrial Institution) a few years ago. It has been the custom here for

years to brand all cattle purchased or raised here with a large heart-shaped brand on the right hip. Now, this brand has become widely known. It is also known that we only dispose of stock in large numbers for shipment, seldom less than a carload at a time, to go out of the country. So when one was taken out of our herd out of the pasture and offered for sale, bearing this brand, it was immediately suspected that the animal was stolen. We were soon acquainted with the fact, and an arrest and trial followed.

We have also been accustomed to stamp all tools, implements and such parts of machinery and harness and other things as could be easily removed, putting the stamp on the metal so that it could not be effaced.

Hoping that my thought may be developed in the near future, I am,
Mt. Elgin Institute, Muncey, Ont.

W. W. SHEPHERD.

How Wheat is Grown in Kansas.

The State of Kansas has a big fall wheat crop this year, averaging from 25 to 30 bushels per acre, and selling at from 65 to 70 cents per bushel. C. B. Hoffman, who for nearly thirty years has been in Dickinson County, east-central Kansas, an extensive grower of wheat, besides interested largely in making flour for domestic and foreign markets, writes to Secretary F. D. Coburn, of the Kansas Board of Agriculture, some very valuable and timely facts about wheats and wheat culture, particularly from the Kansas standpoint. He says in part:

"Neglecting to plow early, so that the soil will get thoroughly settled and compact, is perhaps the cause of more complete failures than almost any other. Sometimes it is impossible, on account of lack of moisture, to plow the ground soon after harvest. Where this is the case, I would rather drill the wheat into unplowed stubble, if fairly free from weeds and insects, than plow late. Plowing can usually be finished by the 1st of August, giving one and a half to two and a half months before seeding.

"As to time of sowing, no definite rule can be given. All depends upon the condition of the soil and the presence of insects. If the field has been plowed in July, sow the last week in September or the first two weeks in October. If sown earlier, there is danger from insects or from wheat getting too rank (if enough moisture) or sickly (if not enough moisture). The wheat plant should not be stunted too long by standing in the hot, dry autumn sun and wind. There should be a continuous growth from the time the seed drops into the ground until it goes into winter quarters; and then again from the time the sun's warm rays and the spring showers awaken it to life and growth until the heavy heads of well-filled grain nod towards a rich and blessed harvest.

"In western Kansas frequently the grain drops into dry soil and remains in that condition until the spring rains cause it to sprout. Sometimes large crops are raised under these conditions, for the plant has more vitality than if it had sprouted in the fall but had not sufficient moisture to root and stool. I have been unable to detect any material effect upon the grade and quality of the wheat which did not start to grow until spring, although continued spring sowing would no doubt deteriorate the quality, and call for a change of seed more frequently.

"The next great factors in wheat culture are the kinds of wheat and the quality and purity of seed to be sown. There are four great divisions of wheat in the United States—the spring wheats, the hard winter wheats, the soft winter wheats, and the California white wheat. Each of these divides and subdivides into many kinds and varieties. Among the spring wheats is the northern hard, chiefly grown in the Dakotas. The softer varieties grow in Wisconsin, Michigan, Nebraska, and to a limited extent in Kansas. The soft or red winter varieties are numerous, and are grown in every winter-wheat growing State. Virginia, New York, Pennsylvania, Kentucky and Ohio grow a superior quality. Michigan, Wisconsin and Illinois winter wheats are not good. The California white wheat is a spring wheat, and is grown almost exclusively in all the mountain States of the West, extending down to the tropics on the cool mountain plateaus of Mexico. It is a white wheat, makes a light flour deficient in strength, but excellent for Graham.

"Kansas grows both hard and soft winter wheat and a very limited quantity of a few varieties of spring wheat. Kansas is the only State that grows hard winter wheat in quantities worth mentioning. This is unique, and deserves consideration. In fact, upon this, I think, depends the supremacy which Kansas holds over all other States, and will continue to hold in the production of wheat.

"Russian wheat, as it is commonly called, although it has several other names in different localities, as Turkey, Hard Wheat, Hungarian, etc., was first brought to Kansas by the Russian Mennonites, who came to the State in large numbers 20 or 25 years ago. For years after its introduction it was disparaged by millers and grain buyers, but its hardness and almost unvarying yield caused it to be grown in ever-increasing areas in spite of the lower price it commanded. Finally, about 16 years ago, some of the progressive millers discovered the superior qualities of this much-despised wheat, and adapted their machinery, which required a general remodeling of their entire plants, and began the manufacture of Kansas hard-wheat flours, since become noted in the world's markets as superior to

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other grades manufactured in the United States, and equal to the world-famous Hungarian flours, made from the choicest wheats grown in Hungary and Bohemia. The best variety of hard winter wheat is the Crimean.

"Many varieties of soft or red winter wheat are cultivated in the central and eastern portions of the State. Among these, the Fultz, Early May, Large May, Golden Cross and Fulcaster are probably the best-known and most valuable varieties. Western white wheats brought from Colorado, Oregon or California do not thrive. It is even difficult to get a crop that will produce wheat that will grow. Nor do the soft white varieties of Michigan succeed. Soft wheats grown in Kansas have a tendency to become richer in gluten, while the hard varieties do not seem to grow harder.

"What kind of seed shall I sow?" is a question the importance of which is underrated by many farmers. Seed wheat should be pure—that is, of one variety. It should be well matured, full-grown, and free from smut or other parasitic or fungoid growths. It should also be free from weed seeds, especially chess ("cheat"), which, being exceedingly hardy and prolific, will take the field if it has half a chance, and is exceedingly difficult to eradicate when once it has infested a neighborhood. Poor, shrivelled wheat, if sufficiently matured to sprout, will, under favorable conditions, produce a good crop, but will surely cause the variety to "run out" in a very few years, if continued sowing of inferior stuff is indulged in. A farmer should have a seed patch on which he grows wheat for seed. This he should give the best care, should plow deep and early, keep it free from weeds, use the best varieties and the purest seed, and from the products of this sow his larger fields. He might, with much advantage, plant different varieties and sow his general fields only with such as have proven themselves suited to that locality. He could, at a comparatively small cost, exchange seed with other farmers from time to time, and in that manner grow the very best quality and largest quantity.

"Changing seed from one locality to another is desirable, even from one neighborhood to another; still better from distant parts. Usually from northern localities to southern is better than from southern to more northern."

THE MILLERS' IMPORTATION OF KANSAS SEED WHEAT.

The William Weld Co., London, Ont.

DEAR SIR,—Your favor of 19th is duly received, and we are very much pleased to give you all the information we can in regard to the new seed wheat which we are bringing in.

To begin with, we may say that it has been a matter of comment at every millers' meeting for some years that our Ontario wheat was gradually becoming poorer and poorer in milling and baking qualities, and consequently of less value. The millers who have been exporting flour find that their product brings less money than any other flour shipped to the British market; while at home it has been necessary to bring in for mixing purposes a larger proportion of strong Manitoba wheat year after year, as even our own farmers refuse to take flour made from their own wheat alone. Indeed, during the past year we find a large number of farmers selling their wheat and buying a pure Manitoba flour.

The reason of the deterioration in Ontario wheat has been that the good old sorts ran out, as all varieties will through time, and the new varieties introduced—often with the recommendation of the O. A. C. authorities—have been selected merely with reference to yield, straw and such qualities, without taking the quality of the grain into account at all, and the result has been as stated above.

To try to improve this state of matters, Mr. Peter Shirk (Waterloo Co.) two years ago purchased a car of wheat which he saw in Kansas and thought should be experimented with here. The car took a very long time on the way, and the seeding time was almost past before it arrived, so that only a small quantity was sown that season. What was sown, however, stood the winter well, yielded well, and in other respects turned out satisfactorily. All that was then grown was sown last year again in the vicinity of Bridgeport and Waterloo, and it again stood the winter well, none of it being killed, and it promises to yield better than any other grown in the neighborhood.

On the strength of this experience, a number of millers have now arranged to bring in from Kansas, where the crop is very fine this year, about 20 carloads of this variety, which is known as Kansas Turkey Red, and sell to the farmers at cost price. We enclose you a list of the parties who will handle this wheat, and will be pleased if, through the FARMER'S ADVOCATE, you arouse the farmers' interest in this matter and encourage them to give this a fair trial, for we have every reason to believe that it will prove a great benefit to the Province.

We are trying to get the Government to rebate the duty on this wheat, and if they agree to this, we should be able to sell at not over a dollar per

bushel. The freight comes higher than we expected to have to pay, although we have worked the railroads from both ends.

The following are the names of the parties having Kansas Turkey Red for sale: The James Goldie Co., Guelph; John Irving, Milton; Wm. Snider, Waterloo; Shirk & Snider, Bridgeport; E. W. B. Snider, St. Jacob's; S. J. Cherry, Preston; The Goldie Milling Co., Ayr; The Goldie Milling Co., Galt; Wolverton Milling Co., Wolverton; The Tillson Co., Tilsonburg; Wood Bros., St. George; Brant Milling Co., Brantford; Hodd & Cullen, Stratford; N. McCahill & Co., Forest; G. Carter, Son & Co., St. Mary's; I. M. Clemons, New Hamburg; A. McFall, Bolton; John Campbell, St. Thomas; The T. H. Taylor Co., Chatham; The Goldie Milling Co., Highgate. This list may be extended, as orders for carloads are still coming in. The first cars are already shipped, and we expect all will be here in good time for seeding.

THE GOLDIE MILLING CO.

Ayr, Ont., July 21st, 1900.

P. S.—We are sending you a sample of this wheat, from which you will see that it is as hard as No. 1 Manitoba.—G. M. Co.

[EDITORIAL NOTE.—The sample of Turkey Red Kansas wheat referred to above has come to hand, and somewhat resembles good Manitoba Red Fyfe wheat, though not quite so flinty as what is called "No. 1 Hard." It does not appear to have been specially cleaned, as it contains a number of smallish-sized grains, but would doubtless be regarded as a first-rate milling wheat. We notice that in the Ontario Agricultural College report issued in 1899 Turkish Red for hardness ranked on a two-year average 100 (greatest pressure), Pride of Genesee 91½, Dawson's Golden Chaff 63½. In the five-year average, Dawson's Golden Chaff shows 83



GOLDEN MEASURE = 26057 = (72615).
IMPORTED SHORTHORN BULL AT HEAD OF THE HERD OF JOHN E. SMITH, BRANDON, MAN.

per cent. standing, Turkish Red 56; weight per measured bushel—Dawson's Golden Chaff 59.7 lbs., Turkish Red 61.5; yield—Dawson's Golden Chaff 52.6 bushels per acre, Turkey Red 36.8 bushels.]

SOFT ONTARIO WHEATS SEVERELY CONDEMNED.

To the Editor FARMER'S ADVOCATE:

SIR,—The millers present at the meeting held in Galt on 13th inst. ordered fourteen cars (9,800 bush.) of Turkey Red, or Kansas fall, wheat, for their own use, to be sold to farmers for seed. [NOTE.—The Goldie letter above indicates that a larger quantity has been ordered by the millers.—Ed.] The variety (Kansas Turkey Red) was grown by Mr. Moses Betzner, Waterloo Co., last year. It turned out better than any other of the Ontario varieties. It yielded 20 bushels to the acre, and this year, he informed me, it will yield from 30 to 40 bushels to the acre. It is a hard, small-grained wheat, stands the winter well, stools well, but not very stiff straw. We have never milled any, but would judge it to be nearly equal to Manitoba spring for milling, and far superior to the soft, mushy varieties as encouraged by the Guelph Agricultural College, of which the inside of the kernel is all wool, but not a yard wide, and it would be to the interests of the millers in this country if the College would close down, than to raise and encourage the farmers to raise such trash of soft wheats. The best variety of fall wheat we have here at present is the Michigan Amber, provided it has not run out. To be good, it should be of dark brown color and flinty, and if well filled, weighs 63 to 64 pounds per bushel. Turkey Red, or Kansas, weighed 61 to 65 pounds last year.

BRAMM BROS. (Millers).

Waterloo Co., Ont.

AN EXPERIENCE WITH KANSAS TURKEY RED WHEAT.

To the Editor FARMER'S ADVOCATE:

SIR,—Two years ago we brought in a carload of hard Turkey wheat from Kansas, but it came so late there was only a small quantity sown. The balance I ground in my mill, and found it a good strong flour, much better for bread than any other variety of fall wheat we have in this country would make. If this wheat will be raised in Ontario, it will require much less Manitoba wheat to be brought in here. Although not quite as strong as Manitoba hard, it will help a great deal, and I consider it worth a great deal to this Province if we can use the wheat raised here for home consumption.

From enquiries, and what I have seen myself, I believe it will on an average yield fully as well as other varieties, if not better. Both last year and this year it has proved that way. All that has been raised here will be wanted for seed in this neighborhood, and we may possibly import some yet.

Waterloo Co., Ont. Wm. SNIDER (Miller).

EARLY RED CLAWSON DOES BETTER THAN THE KANSAS SORT.

To the Editor FARMER'S ADVOCATE:

SIR,—As regards the Kansas, or Longberry Red, winter wheat, my neighbor, Mr. E. D. Hoelcher, sowed a small piece of new land alongside of the Early Red Clawson with the Kansas wheat last fall, and the Clawson is by far ahead.

TILMAN E. BOWMAN.

Waterloo Co.

THE WHEAT THAT THE MILLERS WANT.

We, with several other millers, got one carload of Red Turkey wheat from Kansas in the fall of 1898, but the car was disabled and detained, so that it came in very late, and only a few farmers sowed it. It barely got sprouted, and formed a very small plant. We all know what a severe winter that of 1898-1899 was on winter wheat, and it stood that winter best of any variety of wheat in this section. We did not see one sample that did not test 64 pounds to the bushel, and last fall there were quite a few farmers sowed it, and it has again proven very satisfactory, and I myself have about 5 acres. One patch of three acres, cut, has 40 shocks to the acre, and it is well filled, and the other not finished yet will be fully better. It is a hardy wheat. The grain in size and shape much resembles spring wheat, and is about as hard and glutenous as hard Fyfe spring wheat. Our farmers should go hand-in-hand with the millers to have it grown here. All the millers reading the *Milling Journal* will have noted that this wheat is often bought by the Minneapolis Mills from Kansas and used instead of their Minnesota No. 1 hard spring wheat, and no baker or flour inspector can tell the difference in the flour, and as the spring wheat or hard Fyfe spring wheat cannot now be grown here, this is the wheat we want to grow instead. As it is a hardy wheat to stand the winter, and as good a yielder as any other variety of wheat known, and grows on all kinds of soil, there is surely no risk to the farmer to grow it, as one of our neighbor farmers, Mr. Moses Betzner, of Berlin, has about 10 acres of it, and I am told he expects 45 bushels to the acre of it. He has had it now sown two years, and says the same as I do of it. In the fall and spring, the plants look very small and not much of a show, but they stool out wonderfully, and he says will have two ears to one of other varieties of wheat. The straw is thin in stalk and rather soft, but do not know that it is much worse to lodge than many of the other kinds of wheat do. Now, of late years, our farmers have got in the habit of sowing nearly all soft wheat recommended to them as great or best yielders, etc. Well, they have gone so far that they don't want the flour of their own grown wheat for their bread on the table, and we must get Manitoba wheat to mix to make a satisfactory flour. This can only be remedied by this wheat grown by them. I was in Kansas last October, and there no wheat outside of this is grown, and the mills all brand their flour Minnesota, and it goes through inspection and passes as such, and the bread made of it surpasses all other winter wheats that I know of. And not only have we trouble with our own farmers and local trade through the soft varieties of wheats grown, but our export trade in flour suffers as well from the same cause, and we hope the farmers will be encouraged to go growing hard wheats instead of those soft wheats, that our Lower Province trade, as well as our export flour trade, will work back to its former reputation which Ontario used to have, and has gone either to the United States or to our own Northwest on account of the superior strength of their hard wheats.

PETER SHIRK.

Bridgeport, Ont. (Shirk & Snider, Millers.)

The letters and articles on wheat-growing and silo building in this issue will be of special interest to many readers, being especially practical and timely, and are worthy of more than passing notice.

Growing Winter Wheat for Best Results.

- 1st.—Following what crop?
- 2nd.—With what method of sowing and quantity of seed per acre?
- 3rd.—With what tillage before and after sowing?
- 4th.—With what manuring?
- 5th.—With what variety or varieties?
- 6th.—What means can be adopted to successfully combat the ravages of the Hessian fly and other insect pests, and winter-killing?

30 TO 35 BUSHEL YIELDS THIS YEAR.

This method is now adopted by very many, and the yield has been from 25 to 45 bushels per acre. There is quite a large number who have wheat that will average 30 to 35 bushels this year where the lands were thoroughly cultivated and underdrained or have natural drainage.

1. Hay or pasture lands plowed early and well cultivated till seeding time.
2. With drill, $1\frac{1}{2}$ bushels per acre.
3. Plow the manure under; roll and harrow; cultivate until near seed time—if you did not plow manure down, then top dress with manure; get your land firm, not dusty. Plowing down manure and top-dressing has been tried in some fields, and the former gave best results.
4. Barnyard manure.
5. Dawson's Golden Chaff is first.
6. Sowing from 12th to 15th September, and having land well drained and natural wheat land is the only preventive for Hessian fly. Top-dressing with coarse, light manure in winter will prevent winter-killing.

C. M. SIMMONS.

Middlesex Co., Ont.

HAS TRIED ARTIFICIAL MANURES.

1. We have had best results after clover.
2. By drill, with seven to eight pecks per acre.
3. Plow well to cover second growth of clover, as shallow as possible to make good work; harrow, roll, and cultivate with spring-tooth to secure a firm, solid seed-bed with a loose, friable surface.
4. Seldom manure. Have tried artificial manures, but without beneficial results.
5. Dawson's Golden Chaff has been very satisfactory. Gold Coin has done the best this season, and I think it will take the place of Dawson's Golden Chaff.

RICHARD GIBSON.

Middlesex Co., Ont.

DRAINAGE AND TILLAGE IMPORTANT.

1. Crops to follow—1st choice clover sod after one crop has been taken off; 2nd, after peas. With the clover sod, plow shallow shortly after haying, roll and harrow so that the sod will decay enough to allow the cultivator to work. Cultivate about eight inches deep and as often as required to kill all weed growth; harrow well before sowing. With the pea land, cultivating will be sufficient; harrow once before sowing. If manure is used, plow shallow and harrow in both cases just before sowing.
2. Sow with a seed drill, $1\frac{1}{2}$ bushels per acre, the last week in August or the first week in September.
3. Tillage, as stated above. After sowing, if no grass or clover seed is sown with the wheat, when the grain is six inches high, on sandy land use the Breed Weeder, on clay land use the tilting harrow sufficient to loosen the soil and kill small weeds.
4. Barnyard manure, 10 to 12 tons per acre on clover sod or pea land.
5. Dawson's Golden Chaff, Hungarian, Genesee Giant.
6. Winter-killing. Plow in ridges 24 feet wide, and clean out all furrows to allow the water to run off. Select a sheltered field. Soil, heavy sandy loam, with a free, deep or porous subsoil, or clay loam very well drained. All the above applies to fall rye as well as wheat.

JOHN FIXTER.

Central Experimental Farm, Ottawa.

TOP-DRESS FALL WHEAT IN WINTER.

1. Following peas or barley that has been sown on root ground of the previous year.
2. Always sow with drill, from $1\frac{1}{2}$ bushels to $1\frac{3}{4}$, according to condition of land; rich land requires the smaller quantity.
3. One good shallow plowing as soon as possible after harvest, followed by frequent cultivation until time to sow. Have never done anything after sowing.
4. Manure with barnyard manure if available, keeping manure as near the surface as possible, also top-dress during winter if the ground is bare.
5. "Dawson's Golden Chaff" and "Early Arcadian."
6. Cannot say much about Hessian fly, as both early and late sown fields are affected in this vicinity. I think the varieties with white chaff are damaged most.

R. S. STEVENSON.

Wentworth Co., Ont.

FALL WHEAT GROWING AT THE O. A. C.

1. Our fall wheat invariably follows the pea crop.
2. We sow with a drill. On rich soil, when the seed is good, about 5 pecks of seed per acre is sown.
3. The land is manured before the peas are sown, either during the winter or in the spring. After the peas are removed, the land is usually gang-plowed, harrowed, and then gone over with a

grubber to loosen the soil more deeply than the gang plow could.

4. We use farm-yard manure and apply from 12 to 15 loads per acre before sowing peas.
5. Dawson's Golden Chaff and Early Genesee Giant have proved the most satisfactory varieties in this locality, with the advantage somewhat in favor of the former.
6. We have had practically no difficulty with the Hessian fly, and so have not adopted any special means for its prevention. We usually sow during first week of September.

G. E. DAY.

Ontario Agricultural College, Guelph.

COMBATING THE HESSIAN FLY.

1. Following wheat crop, peas, barley.
2. One and three-quarter bushels per acre put in with drill, and shallow.
3. The land should be thoroughly manured before the preceding crop, plowed as soon as possible after the crop is off, and kept well worked to secure a fine, moist seed-bed.
4. Barnyard manure, if possible, and no more land than can be well manured. One acre well done is better than two half done, not only for the crop of wheat, but on account of securing a catch of grass.
5. Dawson's Golden Chaff has done as well as any. The Golden Giant looks well this year.
6. The only means I know of to combat the Hessian fly is to thoroughly prepare the ground to ensure a rapid and healthy growth, and delay sowing till about the 10th of Sept.

I think a great mistake is made by many in sowing too early, sowing too much, sowing land not in proper tith, and also in sowing too late.

Wentworth Co., Ont.

JOHN JACKSON.

FALL WHEAT FOLLOWING PEAS OR JULY-PLOWED SOD.

1. Following a crop of peas, and I have had good results from sod plowed in July, and fair crop on barley stubble.
2. In all cases the land must be thoroughly cultivated, harrowed and rolled—never plowed.
3. The seed to be put in with the drill, from $1\frac{1}{2}$ to 2 bushels per acre.
4. Top-dress with well-rotted manure.
5. Dawson's Golden Chaff. The Red Clawson has done very well. Genesee Giant only gave me one real good crop in several years' testing. We have a new variety I got from Mr. Rennie last fall, called the Banner, nearly like the Dawson's Golden Chaff that has done well this year.
6. Have not been much troubled with the Hessian fly, but would never sow earlier than the 30th or 31st of Aug., prefer the 4th or 5th of Sept.

N. B.—If corn could be cut into the silo in time to clear the land by the 15th or even the 20th of Sept., the land will be in the best condition for fall wheat, or cultivated well in the spring it gives the best results with goose (spring) wheat.

Peel Co., Ont.

J. PICKERING.

GREEN MANURING.

We, as a rule, follow clover with winter wheat, spreading what manure we have immediately after haying and plow and keep thoroughly worked until sowing time. We do not follow the practice of having a summer-fallow or bare fallow, the nearest we come to it perhaps is by occasionally plowing the sod in the fall and seeding with oats in the spring, plowing under the oat crop about the 1st of July, and surface-working well until seeding. This method we use on a field that is more or less weedy and find it more effective than any other plan we have used. In both cases we roll after plowing to pack the soil and stop any air chambers that may be under the sod, cultivate with spring-tooth cultivator and harrow. After sowing we harrow, if needed, first, then roll and harrow again; we never like to leave the surface rolled. We find the Red Clawson very satisfactory, sow about 6 pks. per acre. As to the insect pests, we are never troubled enough with them in our wheat to think of means of combating them. I don't know whether it is our light land, our methods of sowing, or something else, we are not troubled with the worms or flies to any great extent.

F. C. E.

Huron Co., Ont.

AN OXFORD CO. WHEAT-GROWER'S EXPERIENCE.

Perhaps we have had most success with fall wheat on clover sod. Cut the hay as early as possible, and if there are a few showers to start the aftermath, all the better; if it can be left until six or eight inches and then plowed, not very deep. Roll after plowing and harrow often. Cultivate or disk harrow after rains; the ground should be stirred about twice a week. Sometimes we plow sod in the spring and sow peas, and then manure and plow lightly and sow fall wheat, but in any case the ground should be plowed several weeks before sowing time, and harrowed and cultivated several times before sowing. It is almost impossible to harrow and cultivate too much. We sow about $1\frac{1}{2}$ bushels per acre by the drill. Even a very little manure before or after sowing makes a great difference to the crop. Find that it is a good practice to, as it were, mend up the knolls and thin places with a little manure if we have not enough to go all over. We have a very good crop this year of Dawson's Golden Chaff, but, generally speaking, the same wheat should not be re-sown too often on the

same farm, but the seed should be changed every few years, as it generally runs out.

We think that it is a great mistake to sow too early. Some years ago many farmers used to sow in the end of August, and I have seen wheat green on the first of September. I think this is a mistake; perhaps about the middle of September is early enough, and I have had a good crop sown after the 20th. It is said that sowing early encourages the production of the Hessian fly. But be that as it may, I do not like to sow too early. I have had good crops of rye sown in October.

In brief, fall wheat should be sown on manured, well-prepared ground of a fine tith, damp enough to germinate the seed at once. We sometimes, when necessary, roll the ground just before sowing, but never after, as we do in the case of spring grain. We sow the best seed we can get, and see that the grain has been got into the barn dry, because if it has been taken in slightly damp, or a little too soon, before it was ready, and allowed to heat a little, the germinating power of the seed will be just so much weaker.

D. LAWRENCE.

Oxford Co., Ont.

WHEAT AFTER PEAS, BARLEY AND CORN.

1. We find best results when the wheat crop follows peas or barley, and seldom have had it a success following oats. We do not manure for wheat, all our manure goes on root and corn ground.
2. We always sow with a drill and put about $1\frac{1}{2}$ bushels per acre.
3. We plow once immediately after crop is off the field, then work thoroughly on top until sown, harrowing after the drill.
4. We have never used any other than stable manure on the farm, and do not use any kind with the wheat crop.
5. We have the largest and most satisfactory yields from Deihl, Eureka, Red Clawson and Dawson's Golden Chaff. Very little other than Dawson's Golden Chaff has been sown for two or three years in this vicinity.
6. We sowed on Sept. 1st, 1899, and the last after corn on 16th Sept., and have very little Hessian fly, while other fields I have seen, which were sown about the same time, are very badly affected. But I would take my chances with wheat sown on clean, well-cultivated ground in "good heart" and sown the first week in September. Occasionally a good crop can be grown when sown about the middle of September, or later, on corn stubble, but wheat is not a sufficiently valuable crop to take the chances.

I believe the farmer who has no regular rotation of crops, but who goes haphazard, wheat after wheat, or any other way outside of a reasonable rotation, will have more Hessian fly or other pests that may be on hand at the time.

North Middlesex, Ont.

A. W. SMITH.

FALL WHEAT AFTER MEADOW IN MICHIGAN.

I prefer meadow land for wheat; hay crop cut the last week in June, manured with stable manure, plow and cultivate until seed time; sow from 1st to 10th of September. I sow $1\frac{1}{2}$ bushels of seed to the acre, with drill. Dawson's Golden Chaff takes the lead in this locality. We prefer not to harrow after drill. Have not been much troubled with insect pests.

Sanilac Co., Mich.

HENRY JACKSON.

EARLY SOWING ESSENTIAL.

1. Barley, peas or clover. A practice growing in favor is to plow sod in spring for peas, after harvest manure, and plow under with very light furrow, working thoroughly on the surface. If the manure is rough and coarse, it had better be applied before plowing the sod in spring. Another very successful method is to cut the clover meadow early, then spread the manure, allow the second crop to grow up fairly well, and then plow all under with a light furrow.
2. Drilling 6 to 8 pecks of seed per acre, depending on soil.
3. Underdraining, light plowing, and very thorough surface cultivation before sowing. The drill should be the last implement on the field in the fall.
4. Short barnyard manure. If the manure is coarse, it should be applied to the previous crop.
5. Dawson's Golden Chaff, Democrat, and on very strong land the Manchester.
6. I cannot speak from experience concerning insects, but would certainly not advise late sowing. Would rather abandon the culture. Unless the conditions are exceptionally favorable, wheat to succeed in this district should be sown not later than September 10th; preferably about September 1st.

Huron Co., Ont.

A. P. KETCHEN.

THREE METHODS—SUMMER-FALLOW, AFTER PEAS AND CLOVER SOD.

1. There are three methods practised here—summer-fallowing, following a pea crop sown on sod, and plowing down a clover sod. The summer-fallow gives the best results if properly cultivated and manured. After a pea crop sown on clover sod is the more usual method, and the results are generally satisfactory if the land is in good condition; if not, it should be top-dressed. Plowing down a clover sod some seasons does well; this season I see fine crops on clover sod.

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half per acre, if sown in good time; if not, a little more seed should be used.

3. Summer-fallow, of course, a good seed-bed. Pea stubble gang or twin plowed about 3 inches deep as soon as the pea crop is off, then harrowed well and plowed with single plow, not too deep; harrowed until fine, then sown. Clover sod should be plowed a month or six weeks before sowing, and a seed-bed made with disk harrow, cultivator, or lightly gang-plowed.

4. As far as manuring is concerned, would say that for success at this day manuring is necessary. I think the reason of many of the failures is that the land is not rich enough. So far as manuring goes, if manure is well rotted it should be used as a top-dressing; if not, should be plowed under.

5. Here, Dawson's Golden Chaff and Early Red Clawson are the varieties mostly sown and which give the best results.

6. Cannot give any suggestion regarding insect pests. Hessian fly has not here done any serious damage as yet. Of course, we suffer from winter-killing—sometimes cause too much snow, at others not enough; mostly the former, though.

7. As a usual thing the early sown the last week of August and the first week in September does best
Bruce Co., Ont. J. TOLTON.

AN OHIO AGRICULTURIST ON GROWING A CROP OF WINTER WHEAT.

In Ohio a considerable share of the wheat crop is grown after oats, some following corn. Only a very small proportion of the wheat crop put out is put upon ground that has produced a crop of clover immediately preceding the plowing for wheat, yet there is perhaps no other one crop which leaves the ground in better condition for producing a maximum crop of wheat than the leguminous crop we call clover.

Early plowing, with frequent after-cultivation to preserve moisture, is essential to the highest returns in bushels per acre. If possible, a top-dressing of yard manure well spread over the surface and harrowed in will not only increase the stand of wheat, but will aid in giving winter protection, as well as giving a stronger growth to the timothy and clover in seeding down to grass. When yard manure is exhausted, supplement with a complete fertilizer rather than with one containing phosphoric acid only.

We have secured better results by drilling wheat than by broadcastng. This has not been true of each year taken separately, but the better average results are reached by drilling.

On strong ground like first and second bottom, or rich alluvial soil, our experiments have shown the highest average yields from seeding at the rate of five and six pecks per acre, but on thinner clay and lighter soils we have had better average yields per acre as the seed was increased up to nine and ten pecks per acre.

The quality of the grain produced in all cases has been best where the amount of seed sown was sufficient to give the maximum crop on the soil under experiment, or, in other words, where the ground was occupied to its full capacity to produce.

For rich, strong soils, a variety of wheat known as Valley has shown itself a superior yielder. Penquit's Velvet Chaff seems to have done better than any other variety on black soils, and for a series of years Poole has been the favorite for uplands and clay soils. A new variety called Mealy is at present a close competitor for first place as an upland wheat. This variety has, within the last two years, made considerable of a reputation on account of its being less injured by fly than most other varieties. It is not fly proof, but is evidently not considered by the fly as good a host as some of the softer-strawed varieties.

It is claimed by entomologists that late sowing will escape the ravages of the fly, and while I heartily concur in that opinion, I frankly confess that late seeding upon the thinner soils of the State will not give sufficient start and stand to undergo the rigors of our severe and sometimes almost snowless winters, unless we fit and stimulate our soils by higher feeding. Experiments thus far confirm the above statement, and show that the earlier seeding has given higher yields than the later seeding, though the first are attacked by the fly.

A strong fall growth is essential to a good yield per acre, and can be most nearly reached by early plowing, frequent cultivation, conservation of moisture, supplying plenty of food in the form of yard manure and commercial fertilizers, seeding in good time to get a strong growth and using good seed, preferably some variety least subject to the depredations of the fly.

J. FREEMONT HICKMAN,
Agriculturist.
Ohio Agricultural Experiment Station.

Dr. Saunders, Director of the Canadian Experimental Farms, has gone to Paris to examine the horticultural exhibits as to their fitness for the Glasgow Exhibition next year. He will also, by invitation, represent Canada at the British Association meeting at Bradford in September, and take the opportunity to visit experimental stations in Great Britain and France, with which he has long been in correspondence since his appointment, but has not visited for fourteen years.

DAIRY.

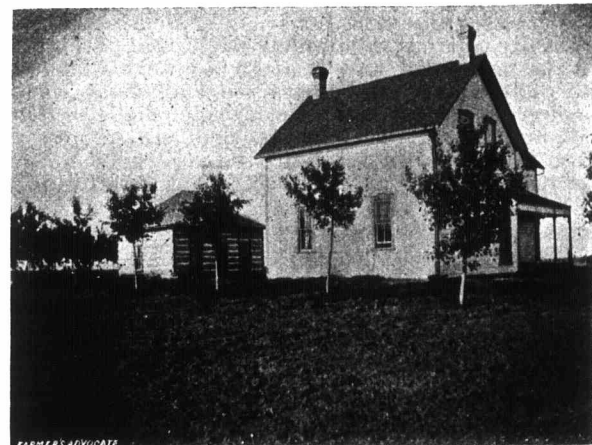
Some Good Milk Yields.

A correspondent writes the FARMER'S ADVOCATE: "I see by the prize list of one of the Danish fairs that a cow there which took first prize had given 14,645 lbs. of milk and made 527 lbs. of butter. You must remember that the Danish pound is 10% larger than the English, which means 580 lbs. English."

Our correspondent does not state that the above record covers a year, but we infer that it does. If so, it is very good work, but it has been heavily discounted by the record of some Canadian cows. In the issue of the ADVOCATE for July 15th, 1899, we published the report of the yearly record of the cows in the herd of Mr. E. D. Tillson, of Tilsonburg, Ont., which showed that ten of his cows gave an average of 15,083 lbs. of milk within a year and three days, and his best cow gave in twelve months and fifteen days, 20,134 lbs. of milk, testing an average of 3 1/2% butter-fat, which he figured, according to the usual rule, as equal to making 822 lbs. of butter. This cow is half Holstein and half Shorthorn, and Mr. Tillson's dairy herd is composed of nearly, if not quite, all Holsteins and Holstein grades. There are records of cows in America, both Jersey and Holstein, having made over 1,000 lbs. of butter in a year.

Cream for Great Britain.

The Ontario Department of Agriculture is in receipt of communication from England making enquiries as to whether any creameries have shipped cream instead of butter to England, or whether they are in a position to do so? The enquiry is made by a gentleman who supplies foreign material to English butter factories. If the Canadian cream could be laid down in good shape at the English factory the presumption is that it would there be made into good English butter. Cream could, no doubt, be carried across in cold storage, but whether it would pay to ship the cream rather than the butter is very doubtful, as the freight for the bulkier material would be greater, as well as the risk of



THE OLD AND THE NEW HOME OF PETER THOMPSON, MIAMI, MAN.

deterioration in the butter made from such stale cream, and, besides that, can butter be made as cheaply in England as in Canada? If any of our creamery proprietors are disposed to look into the question, they might communicate with Mr. Harrison Watson, of the Imperial Institute, London, Eng., who will place them in communication with the English importer.

Mr. Ruddick at Montreal.

Mr. J. A. M. Ruddick, assistant to the Dairy Commissioner, has gone from Ottawa to Montreal to take up the work of watching the condition of cheese and butter in which through shipments go from the railway cars to the steamships, and also to report upon the loading of cheese on steamships. It is proposed also to engage three men to superintend the unloading of Canadian products in the Old Country. While in Montreal Mr. Ruddick will act as official referee on cheese and butter in disputes as to quality.

Jerseys as Butter Producers.

In the annual report of the English Jersey Cattle Society for last year, just published, an interesting summary is given of the results of the butter tests made at the leading shows under the auspices of the Society during the season. The returns given show that the average yield of milk per cow of the 136 animals publicly tested during the year worked out to 31 lbs. 2 1/2 ozs., at an average of 106 days in milk, or a fraction over 3 gallons per day. The average daily yield of butter per cow was 1 lb. 11 ozs., so that the butter ratio for the 136 cows tested worked out to 1 lb. of butter for every 18.22 lbs. of milk. The best daily yield of butter given by any of the cows tested during the year was 3 lbs. 6 3/4 ozs., which was produced by the cow Sundew 4th, the property of Lord Braybrooke, at the great annual butter tests held in conjunction with the Triang Agricultural Society's Show. Another cow at the same show gave a yield of 3 lbs. 1 1/2 ozs. of butter in the 24 hours over which the test extended.

Milk Yields of Dairy Cows.

Though most people hold that a dairy cow, in order to be worth being given a place in a herd, should be capable of yielding 600 gallons of milk in the year, or rather in ten months, over which the period of lactation usually extends, it is very much to be feared that if reliable statistics regarding the quantity of milk produced by cows throughout the country were forthcoming, the average yield would work out to a figure far short of that stated. There are some districts and some farms which are specially noted for their fine strains of dairy cows, and on which yields of 600 gallons per cow would not be at all out of the question; but taking one part of the country with another, we are very much afraid that the average yield per cow would work out to a figure much nearer 400 than 600 gallons of milk in the year. As a standard of not only 600, but even over 700 gallons of milk in the year is well within range of possibility in the case of well-kept dairy cows, these figures show how great a margin there is for the improvement of the dairy cattle of the country. As with the milk, so with the butter. It is usually held that a good dairy cow should produce 250 lbs. of butter in the year. It is very much to be feared that the average for the whole country falls very far short indeed of this figure.—Farmers' Gazette.

POULTRY.

Seasonable Poultry Hints.

Now that hot weather is again upon us, and the hatching season, with its many cares and duties, about over, we have time and it is well to look about us and see if everything has been done that we can do to make our fowls—both young and old—as comfortable as possible during the heated term, which is likely to continue for some time. And, while there is danger that I may be accused of harping too constantly on one subject, I must suggest that, if not already done, one of the first things to be considered is that of a thorough cleaning up and disinfecting of the poultry quarters. The season is now at hand when lice and vermin of all kinds will multiply by the million and surely get in their work on the flock to great disadvantage thereof, unless preventive measures are adopted and a continual warfare waged against them in all possible ways. Fowls, to be profitable, must be made comfortable; and how can they be so, when the houses, nests, perches and everything is infested with these parasites. It is not a question of comfort only, but of health and vigor as well. Everyone wants his or her fowls to show all the signs of health, but this is impossible where the fowls and premises are not kept clear of these pests. They are not only a continual annoyance to the fowls, depriving them of their needed rest, but they sap the very life of the fowl by continually sucking the life blood of the victims.

Much has been said and written about the diseases of poultry, their cause and remedy; but let me go on record right here by stating that I firmly believe that fully three-fourths of all the diseases commonly known among poultry originate in and are caused by filth and vermin. While there is undoubtedly such a disease as cholera, for instance, I firmly believe that nine out of every ten cases of so-called cholera is nothing but a case of simple—yes, I will say it—lice; just common everyday lice. Go to work and get rid of them, and the cholera will suddenly disappear.

Another thing to look after at this time of year is to see that the fowls, both young and old, have plenty of good, clean, fresh water. The drinking vessels ought, by all means, to be thoroughly washed out and scalded at least once each week during hot weather, and pure, fresh water should be given two or three times each day, or oftener if convenient. Fowls should not be compelled nor allowed to drink warm, stagnant water. This is a point to be specially looked after in the case of young chicks. A third item of great importance during hot weather is to provide some kind of shade. An orchard is an ideal place for the poultry in summer, and if things can be so arranged, there will be a double advantage, as the poultry will destroy many insects that prey upon the trees and greatly injure either them or their fruit. In any case, provide some kind of shade, if it is only some boards or a strip of burlap stretched on stakes driven in the ground.

Now is a good time also to begin to cull out all the flocks and to dispose of all not intended to be kept for breeding next year. Hens will now soon stop laying and begin to moult, becoming unproductive and hence unprofitable. Kill them off or send them to market and make room for the young stock coming on. A good many of the early-hatched chicks ought to be getting large enough to market now too. Pick out what is needed for next year and send the rest to market as fast as ready. Better prices can be obtained now than later on.—C. B. Tuttle, in St. Louis Journal of Agriculture.

After the first ten days of their existence, ducklings are much more easily reared and far less troublesome than chickens, though if anything they are the more delicate of the two during the first eight or ten days. At this stage of their existence they are very liable to suffer from cramp, especially if exposed to cold or wet.

ENTOMOLOGY.

The Evils of Overcrowding.

One of the greatest evils associated with poultry-keeping is that of keeping too many birds upon a certain area of ground. For a time a large number of birds may do fairly well, even when confined to a restricted run, but after a time disease is sure to break out, and the losses then incurred will more than counterbalance any advantage that may have been gained by keeping a larger number of fowls in the first instance. There is no more fruitful cause of failure at poultry-keeping among amateurs than the very common practice of overcrowding the birds in confined runs.

Oats as a Food for Fowls.

In Sussex, and in some of the other districts of England in which a specialty is made of cramming chickens for market, ground oats is very largely employed for feeding purposes. Of all foods, it and ground barley are found to give the best results; in addition to producing meat of a nice, crisp texture and good flavor, these foods are found to lend to the flesh the desirable whiteness of color, which is so much thought of on the London market. Mixed with milk which has gone slightly sour, both oats and barley, properly ground, form, perhaps, the best of all foods for the production of the best class of table chickens.

Separation of Sexes in Chicken Rearing.

Though there is a difference of opinion as to whether hens lay better in the presence or in the absence of male birds, most breeders are agreed that in the rearing of chickens it is much better to separate the cockerels from the pullets after they reach the age of nine or ten weeks than to allow both sexes to run together. Not only do the birds seem to thrive better when so separated according to sex, but much of the trouble and annoyance so often experienced with birds of a naturally pugnacious disposition is avoided, because, as is well known, cockerels are never so much given to fighting among themselves as when they are allowed to run about in the company of pullets.

Scaly Legs in Fowls.

This trouble is usually caused by the chicks or fowls sleeping in filthy quarters. It is also caused by a small parasite which works underneath the scale of the leg. I have seen fowls with scaly legs that were twice their natural size. If the legs of each fowl were anointed once each month with equal parts of sweet oil, kerosene oil, and alcohol, they would never become scaly, but would remain in a fine healthy condition. A good remedy is lard and kerosene oil, equal parts; add enough pulverized sulphur to make a paste, then apply this to the legs and bandage them, leaving the bandage on for a week. If at this time the scales are not all healed off, repeat the application of the same ointment, as it is a sure cure. The bandage may be sewed on, so that it cannot be scratched off by the patient.
Moose Jaw. H. B. S.

Whitewashing Poultry Houses.

The whitewashing brush is not nearly so freely used in poultry houses as it should be. If this useful appliance were more largely availed of by those who keep fowls, we should hear less from time to time of the destructive disease outbreaks which occasionally decimate poultry yards in many parts of the country. Lice and other parasites would also be less prevalent than they are if the insides of poultry houses were more regularly treated to a coating of freshly-slacked lime. Before washing with lime it is a good plan to give the walls, and especially the out-of-the-way corners, of poultry houses a thorough saturation with a strong solution of carbolic acid. There is no better destroyer of insect pests and none more effective in preventing fresh attacks of such pests. All poultry houses should get at least one good going over in this way every year, preferably in the spring, and if a second cleansing is given in the autumn, so much the better.

Poultry Raising.

Here in our pleasant country home, we are awakened in the early morning by the cheerful singing of the birds, chirping of the chickens, and the crowing of the roosters.

Our feathered family is increasing, though not so fast as we expected, for the eggs did not hatch as well as usual this spring. However, we have sixty-four now and more on the way, just how many we don't know, for one should never count their chickens before they are hatched. Two hens, set on thirteen eggs each, brought out twenty chicks; one set on eleven eggs, nine; and a small hen, set on ten eggs, seven: all smart, sturdy little youngsters. That was very good, but the others did not turn out so well.

We set a hen on ten duck eggs and she only brought out five. But they don't care about their foster mother at all. They don't understand her language—that is why they don't come when she calls them, I suppose. But they are strong and smart, and look as though they could make a living all right without following an old hen around. I admire their independence. Our first brood of chickens was hatched early in April. They are ready for market now. I intend to sell the roosters, and keep the pullets, for they lay better in the

winter than old hens. We have only lost three or four chickens since the first of May; but, of course, we looked after them well.

We feed the hens and chickens regularly and always keep plenty of clean water before them. Sometimes we give them a dish of milk. The hens are fed twice a day, the chickens four times while they are young. Hard-boiled eggs, oatmeal and bread crumbs are good for the little chicks at first.

We give the hens wheat, bran, potatoes, and sometimes corn meal or oats, for they need a variety. Ours laid well all winter; they are not laying quite so well now, but we can't expect them, to lay well all the time. Now is the best time for them to take a vacation, when eggs are cheap.

It is a good plan to kill off some of the old hens in the fall. Pullets lay much better. One should keep a few old hens for setting. It is best to select tame, gentle hens, for they bring out more chickens and make better mothers than the fidgety, fussy, bad-tempered ones, for these often break the eggs before they are hatched, or else tramp on the little chicks when they are coming out of the shell. It is better to set a small-sized hen than a large one.

I usually set two or three hens about the same time and when they are hatched give them all to one hen, and let the others go about their business, which is to get ready to lay again as soon as possible. But I hate to do this. After the mother has sat patiently for three weeks, scarcely leaving the nest long enough to obtain food, after she has listened so eagerly for the first sound of the little one breaking the shell and talking so lovingly as if to encourage the tender chick—after all this, to rob the devoted mother of her beloved children and give them to another seems to me a very cruel thing to do. We put the hens and chickens in coops until the youngsters are three weeks old, then we give them their liberty. They have a good range and are growing well. We dust them with insect powder sometimes and keep their sleeping rooms clean. There is a pile of shore sand under the willow trees near the henhouse, and nearly every day last winter the hens went down to get a sand bath. How they do enjoy it! I like to stand and watch them make the sand fly. We have only a few Plymouth Rocks, the rest are White Leghorns and Wyandottes. It is getting rather late in the season to set any more hens, although late chickens generally turn out to be pullets. I think about eighty young hens well looked after pay very well. Of course, in winter they must have some meat, warm food, grain and ground bone or oyster shells, or they will not lay. But when the eggs are twenty to twenty-five cents a dozen it pays to be good to our egg producers.
P. E. Island. MRS. ANNIE RODD.

VETERINARY.

The New Cure for Milk Fever.

It may interest you to hear of the good results with which I have just made use of the new iodide of potash treatment for milk fever which you lately recommended in the *Gazette* and for which information I feel deeply thankful.

The cow in this case is one of our best milkers; she is about 10 years of age, and she belongs to the Ayrshire breed. She calved on the 17th inst., and seemed quite well up to the morning of the 19th, when the herdsmen found her suffering from milk fever and at once reported the case to me. I saw her about 8 a.m., and then found her exhibiting the worst symptoms of the disease—lying down in her stall, kicking vigorously about, frothing from the mouth, grinding the teeth and knocking her head against the wall.

On seeing her condition, I at once decided on putting to test the remedy which you reported as having been tried with such success at Glasnevin, and towards this end I first injected into the udder about a wineglass of diluted Condy's fluid and followed this up with the nitrate of potassium prepared as recommended—i. e., 2 drams diluted in a quart of boiling water. After cooling this to blood heat, one fourth of the quart was injected into each teat, and a man was kept continually rubbing the udder with the hand.

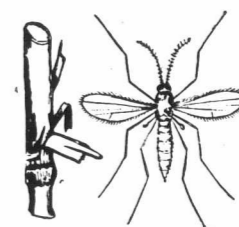
I may add that when I first saw the cow her milk was quite gone. Soon after giving the injection there were signs of improvement, and in about an hour and a half the milk came back and the attendant took about a gallon from her. At one o'clock she seemed not so well and the milk had again disappeared, although all had not been taken at the time of last milking. I then gave another injection of the Condy's fluid and potassium as before, the only difference being that I used half the quantity of potassium in the quart of water.

In addition to this, I gave a purgative composed of 1½ ozs. Barbadoes aloes, a glass of sweet spirits of nitre, and a pint of treacle in hot water. At this time there was no milk in the udder, but at 5 o'clock she was again on her legs, and an hour afterwards her milk came back and I had about a gallon taken from her. She got no food during the day, with the exception of small drinks of chilled water with a little treacle added. I am very pleased to be in a position to report that she is now going on splendidly. J. H. Smith, Finstown House, in *Farmers Gazette*.

The Hessian Fly Again.

Reports are coming in from many parts of the Province that this serious pest of the wheat field has done very extensive injury, to the extent of destroying many hundreds of acres of fall wheat, which until a few weeks ago gave every promise of a very abundant harvest. Much has been said and written on the best methods of dealing with this pest, and perhaps what I have to say will contain nothing new on the subject, but as many farmers who have lost heavily this season may not be disposed to sow as large an acreage as usual, a knowledge of the best methods to adopt in the preparation of their fields may tempt them again with the hope that they will have better luck next time.

The winged fly which lays the eggs from which the maggots emerge is a minute creature, not more than a quarter of an inch across the wings.



HESSIAN FLY—(a) larva; (b) pupa; (c) injured stem.

It appears in August and remains until the middle of September. During this period the females lay their small, scarlet colored eggs on the upper sides of the leaves of the young wheat plant, if any can be found, otherwise on the leaves of certain grasses. The young maggots on escaping from the eggs make

their way down the shoot between the shoot and the sheath of the leaf to the base of the plant. There they imbed themselves in the shoot, with the result that a small gall or enlargement is produced, just above the roots and a short distance below the surface of the ground. There the maggot grows and feeds, thus sapping the vitality of the young plant.

By the time winter comes on the maggot has reached full size, and assumes the well-known "flax-seed" condition. The effect on the plant is to weaken and dwarf the shoot so much that the frosts of winter kill it outright. As the main stem has been badly weakened, it is not in a condition to send out lateral tillers which will survive the winter and bear heads the next season.

In the spring the next stage of the insect is entered upon, viz., the pupa, which, however, it soon leaves to become the adult two-winged fly again. The flies of this spring brood appear in May and June, and lay their eggs on the upper surface of the leaves. Maggots again emerge from the eggs, and as in the case of the fall brood, make their way down the stalk between it and the sheath of the leaf, but usually not so far down. They come to rest at one of the lower joints, where they pierce the stalk and encase themselves in a kind of gall-like enlargement. It is these maggots that do the harm at the time of the ripening of the crop. The straw becomes so weakened that it topples over and never ripens the heads, which of course are never filled.

The Hessian fly passes the summer in the "flax-seed" stage in the stubble, although occasionally the "flax seeds" are to be found imbedded in the straw at a height sufficient to be carried away on the straw on the removal of the crop from the field.

Preventive Measures and Remedies.—1. From a study of the life-history of the Hessian fly it is evident that only by intelligent application of preventive measures such as are at once suggested to every wide-awake farmer can it be held in check. The fact that the eggs are laid during the latter half of August and the first three weeks of September suggests the practicable measure of late seeding in regions which are subject to almost annual attacks of the fly. If the seeding is delayed until the female flies have laid their eggs and have perished, then the maggots must make their appearance in plants on which the eggs are laid. In this way the wheat plants escape.

2. When it is impossible or impracticable from some cause or other to seed late—during the last week in September—it is possible to destroy many of the eggs or maggots on early-sown fields of wheat by pasturing the field with sheep. Inasmuch, however, as the eggs liberate the maggots in four or five days after they are deposited on the leaves, the supply of food for the sheep will be somewhat limited. This method can be used with good results if the farmer is an observant man, and can tell when the flies are laying their eggs.

3. Several authorities advocate the burning of the stubble. This treatment is one which has been practised for over a century, and has produced good results. By the burning of the stubble after harvest the "flax seeds" are destroyed. Sometimes this treatment is impracticable, as, for example, when the field is seeded to clover.

4. Mention has already been made of the fact that the "flax seeds" are frequently found higher than usual on the stem, and that they are carried to the barn in the straw. During the threshing of the grain the "flax seeds" are separated in the chaff and screenings. The desirability for the burning or early feeding of the chaff and other rubbish will be readily conceded by all.

5. A device which has not been adopted to any extent by farmers is the one of sowing narrow

strips at the usual time of seeding, to act as decoys or traps. Such strips will attract many flies to lay their eggs, which may be readily destroyed by plowing the young wheat plants under. It is not contended that all the eggs of the summer brood of flies will be destroyed, but undoubtedly much serious injury will be avoided. These decoy strips should be sown about the last of August or the first week of September, and should not be allowed to stand more than three weeks.

6. A very important point in combating the pest would be, if it were at all possible, a uniformity in the time of seeding by all the farmers of an infested section. Such a practice would, according to Prof. Webster, of Ohio, "serve to scatter the fly over so large an area that, though numerous, they would work less injury than if confined to a few fields."

7. A well-established system of rotation of crops will do much to lessen the extent of the injury by the Hessian fly. The flies are thus compelled to go in search of the new fields, and run a risk of being destroyed in so doing. Prof. Webster says that after thirteen years of study of the Hessian fly in Indiana and Ohio, he is satisfied that four-fifths of its injuries may be prevented by a good system of agriculture. He says: "For years I have seen wheat grown on one side of a division fence without the loss of a bushel by the attack of this pest, while on the other side the crop was almost invariably more or less injured. No effect of climate, meteorological conditions, or natural enemies could have brought about such a contrast of results. The whole secret was in the management of the soil and the seeding."

It is not the purpose of this article to explain what Prof. Webster means by a proper management of the soil and the seeding beyond stating that the field should be plowed early, and kept in a good state of tilth by getting a well-pulverized, compact soil. When the time comes (after the flies have laid their eggs) to sow, then sow the best seed that can be procured. A rich soil will, of course, bring forth stronger, sturdier plants than a poor soil, with the additional result that the plant, even if attacked, will winter better also.

In conclusion, it ought to be borne in mind that there is no known remedy for the spring brood of flies, and, therefore, it is all the more incumbent on the farmer to attend to the fall brood and make the conditions as favorable as possible for the wheat crop and as unfavorable as possible for the pest. It is not likely that the adoption of any of the methods of treatment I have outlined above will exterminate the fly, but it is claimed that the fly can be held very perceptibly in check by an intelligent combination of two or more of these measures, according to the conditions, which are likely to be somewhat different in different localities.

It is but fair to say that there are many peculiar circumstances in connection with the appearance of the Hessian fly which entomologists have not yet been able to explain, and that many more careful observations will have to be made before the full life-history of the pest is known.

W. LOCHHEAD.

Ontario Agricultural College.

APIARY.

The Care of Honey.

BY MORLEY PETTIT.

Everyone aims, or should aim, at excellence in whatever he or she undertakes. The adage, "There is always room at the top," is true in every trade and profession. To this rule agriculture is no exception, and those devoted to the production of honey will excel by supplying the very best comb and extracted on the market. Extracted honey is judged by color, flavor, and specific gravity, or "thickness." In saying color, we might say lack of color or transparency. This may be maintained by carefully excluding all darker varieties from the white, as described in our last article. The other two qualities are secured by leaving it with the bees as long as possible or convenient. Some of our best men do not extract until the close of the honey flow; but tier up supers as in the case of comb honey. By this, however, basswood and clover are not separated, and in opening hives after the close of the honey flow, there is danger to the inexperienced, of robbing.

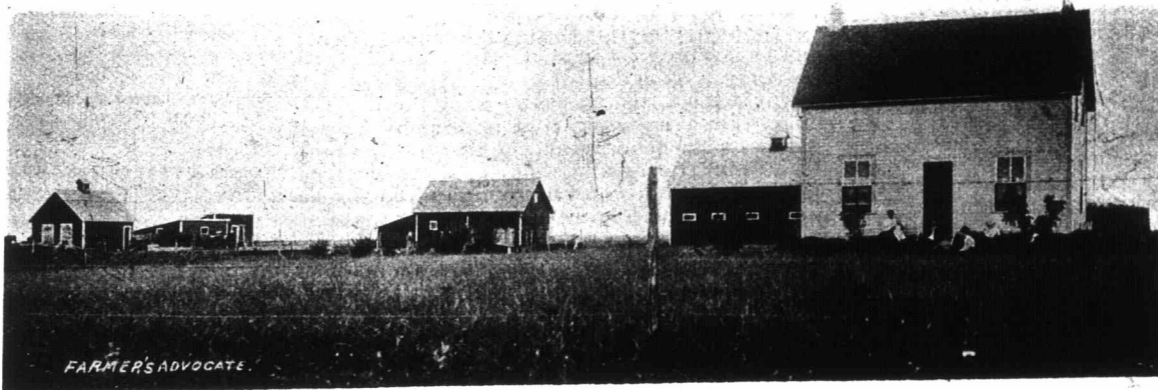
As soon as possible after extracting put up the honey in the packages in which it is to be sold, leaving it exposed to the air as little as possible. Not that it will "work" or spoil, but it has great affinity for water, and the exposed surface soon becomes quite thin from contact with atmospheric moisture. Then, if left in a deep tin, holding, say 400 or 500 lbs., the thicker portions sink and thinner rise until it becomes graded from very thick at bottom to quite thin on top, and is difficult to secure a uniform sample without a great deal of stirring.

Stirring, again, hastens candying, and candied honey, altogether quite as good as and by many preferred to the liquid article, will not pour and is much more difficult to dip into vessels for sale.

There is even yet some doubt among the uninitiated about the question of candied honey, many regarding it with suspicion. Impress on all buyers the fact that candying, or becoming white and solid similar to lard, in cool or changeable weather, is a proof of purity, although in rare cases the best extracted honey, in its natural state, does not candy even under these conditions. To relify, set the can on wooden blocks in water over a slow fire. Remember that honey that has been slightly overheated has a burnt taste, is darkened in color, and will not candy again. On the other hand, if the granules are not all melted it candies again very soon. This suggests a point, in the case of extracting-combs, bearing on the subject. Before they are stored for winter have them thoroughly cleaned by the bees so there may be no adhering honey to granulate and set next season's honey candying early.

For the very reason that all honey becomes hard in cold weather, the best package for retailing is one having a wide open top, to allow the honey to be dug out, and that may be heated in water if it is to be liquefied. Glass makes a very attractive package, as it shows up the transparency of the contents to good advantage. Although not quite the handsomest shapes, fruit sealers are the best sellers, as every housekeeper has used for them when empty. Less expensive and more convenient vessels are tin pails of 3-lb., 5-lb. and 10-lb. capacity. They may be secured with slip covers for the home market or self-sealing covers for shipment. The most popular package for shipping large quantities is the 60-lb. tin, crated singly. It is about the right weight for one man to handle, and being square, does not waste space. Have a supply of labels which are distinctly your own and not like those of everybody else, and put them like a trade-mark on every package of first-class honey. Do not injure your reputation by selling dark honey with your label on it, for many will not understand that it is not your best.

With comb honey, carefully scrape all wax or stain from the sections, leaving the wood smooth and white. Grade the sections into two or three



A COMFORTABLE HOMESTEAD. A. WRIGHT, PLUM COULEE, MAN.

classes, according to whiteness of capping and honey, and extent to which the sections are filled and capped. Do not spoil the market with poorly-filled or uncapped sections, but extract them and give to the bees next season. They will be filled much more quickly than sections containing foundation. Very neat and attractive showcases of whitewood with glass front may be obtained from dealers in beekeepers' supplies.

Now, as to the best way of disposing of honey, I would say do not be in a hurry to sell at a low figure. Stimulate the home market in every way. Supply your grocers and get them to work up a good trade among their customers. Many never buy honey because it is not brought before their notice. Invite any friends who call to sample your honey and get them to bring their neighbors and buy. After you have sold all you can at home, sell to those whose business it is to find larger markets elsewhere.

Dividing Swarms.

DEAR SIR,—My experience with two swarms that entered into a combine may be worth relating for the benefit of those of your readers that keep bees. The problem was to break up the combine, each of the swarms being large enough to take care of itself in a separate hive. The plan adopted was as follows: I took from a working hive a frame containing young brood. This I put into an empty hive, filling up with frames of foundation comb, and into it, so prepared, a reasonable proportion of the combined swarm was induced to enter. It was then removed to its stand. The same course was then followed with a second hive. The next day, the two hives being side by side on the stand, and one being evidently considerably the stronger, they were shifted, the one being made to take the place of the other, since which everything seems to be going on harmoniously in both hives. This is the first time I ever succeeded in effecting a forced dissolution of such a partnership concern. What happened to the rival queens I do not know. As each swarm was made practically independent by the possession of young brood, from which it might supply itself with a queen if lacking, it is not of much importance anyway.

W. O. E.

Ontario Co., Ont.

GARDEN AND ORCHARD.

Fruit in Central Ontario.

As the season for gathering the fruit draws near, we can make a fairly good calculation what the prospects are for yield, and I feel safe in believing that the apple crop, as a whole, will be an extra one in this district, and, what is better, the samples will undoubtedly be ahead of former years. Our own orchard was never so far advanced in size as at present; both early and late varieties are splendid and clean. I have been looking over them to-day, and did not find a scab, fungus or wormy apple; nor did we have a caterpillar nest in our entire orchard this season. I have sprayed all four times and some five times, and both fruit and foliage are fine. The same can be said of many varieties of pears: Bartlett, Kieffers, Clapps, Howell and many others heavily loaded, while D'Anjou has scarcely a sample.

Farm crops are all looking good, except old meadows, some of which will be light; the late rains freshened up the pasture, and cattle are looking sleek; and roots of all kinds are growing rapidly, and the prospects for the year are very promising.

Ontario Co.

R. L. HUGGARD.

Death of Mr. H. Dale.

The thousands of FARMER'S ADVOCATE readers, lovers of flowers and floriculture who knew him personally or by reputation, will regret to learn of the death of Harry Dale, on July 15th, from blood poisoning, in his 49th year, at his beautiful home at Brampton, Ontario. He was by common consent the king of Canadian florists, his leading specialty being roses, for which he had a large and increasing demand not only from the leading cities of the Dominion, but from Chicago, New York and other United States cities where his fame had reached and his productions were appreciated. His conservatories, commenced in a small way a few years ago, had grown in extent till over six acres were covered with glass, a small army of men were employed, and over 900 tons of coal were required annually to heat

the buildings, while improvements in progress at the time of his death, estimated to cost over \$20,000, made it probably the greatest establishment of the kind on the continent. Mr. Dale was a plain, modest and unassuming man, but he knew his business thoroughly and was passionately fond of flowers. Only a few months previous to his death his heart and home were saddened by the loss of his amiable wife, a true helpmeet in his life work, and now the children are doubly bereaved by the loss of father and mother.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

RINGBONES.

A. J. M., Glengarry Co., Ont.:—"I have a valuable mare, eight years old. About four years ago small lumps began to make their appearance on her hind fetlock joints. These lumps grew to resemble small ringbones. On the right foot it grows on both sides of the joint, but on the left foot it is on the inside only. The lumps are hard, and do not seem to be sore when touched or rubbed. She was never lame. Would tramping on herself cause the blemish? Kindly state probable cause, and give advice as to treatment, in next issue of your useful paper."

[Your mare has ringbones. In some cases, as in yours, the enlargements show only on one or both sides and not in front: they are called ringbones just the same as though the enlargement extended all around. Also, in some cases, the enlargements appear in the center, or near the center, of the bone, not involving a joint and not causing lameness. The enlargements consist in an increase of bone, caused by ossification (turning into bone) of an exudate that was thrown out during the inflammatory stage of the disease. This enlargement becomes as hard as bone—in fact, is bone (the true bone becoming diseased before the exudate is thrown out). When the inflammatory stage is passed, pain ceases, and unless a joint is involved there is seldom lameness even during this stage. The enlargement cannot be removed. When lameness exists, we consider we have effected a cure if we cure the lameness, and do not expect to remove the enlargement. When no lameness is present we do not treat. You had better let your mare alone. There is no lameness to cure and you cannot remove the lumps. J. H. REED, V. S.]

HORSE THAT WILL NOT FATTEN—CHOPPED PEAS AND OATS.

A READER, Wellington Co., Ont.:—"I have a horse, ten years old, which I cannot get up in condition. He is a good driver and a splendid worker on the farm. I feed him pretty heavily all the year 'round, and he seems to digest his food well. I generally feed chopped oats mixed with cut hay. He is always thin and a great eater. Can you or some of your readers tell me what is likely the matter with him and what to do for him?"

"2. Will a few peas chopped mixed with the oats hurt a horse?"

[Your horse is evidently one of the lean kind. Some horses are congenitally lean; others, while they consume sufficient food, do not thoroughly masticate it, and hence do not lay on flesh; while others eat too much. From your letter I infer that your horse has good health. I would advise you to have your veterinarian examine his teeth—they may and probably do require attention. If necessary, have them dressed, then feed only moderate quantities of hay. A horse should never be given more hay than he will eat in, at longest, 1½ hours; feed grain liberally, and it would be better if you fed four times daily. Give, in addition to his grain, two or three feeds of bran, with a cupful of linseed meal each week. It may be he has worms; if so, his coat will be dry, and while he shows no symptoms, he will be generally unthrifty and lack tone, and it is probable he will be noticed to pass worms occasionally. If you suspect worms, give one of the following powders night and morning in boiled oats: Powdered sulphate of iron, 1½ ozs.; powdered tartar emetic, 1½ ozs.; powdered calomel, 1½ ozs. Mix and make into 12 powders. After the last powder has been taken, give nothing to eat for about 8 hours and then administer a purgative of, say, 8 drams Barbadoes aloes and 3 drams ginger, given either as a ball or drench shaken up with a pint of cold water; then feed bran only until purgation commences. If he be troubled with worms this will remove them, and it will act well and probably do him good anyway. Do not give drugs that have a tendency to cause him to lay on flesh, as they injure the constitution.]

J. H. REED.

2. A horse may safely get 4 parts oats and 1 part peas, fed ground, but of no greater weight should be given than a full feed of oats alone. He should get bran along with the mixture, and be allowed work or liberal exercise.]

LAME FILLY.

F. B., Dauphin, Man.:—"I have a mare colt two years old; gone very lame in the off hind leg; got sliver in foot on side of frog near the heel; drew the sliver out; washed the wound. Leg badly swollen up on inside cord. No sign of any of sliver remaining in the foot; no sign of injury in any other way. Has had bad cough for some time, but is now entirely free of it. Have been bathing the leg with hot water three or four times a day, and poulticing the foot with hot bran. Feeding hay and oats and hot bran; has a good appetite. Please state trouble and give remedy."

[There may be pus imprisoned in the foot. Pare the sole and frog well away at and around the point where the splinter entered. If pus is found, enlarge the opening so that it shall have free exit. Cut away all parts of the horny sole and frog that have become detached from the sensitive parts. Dress twice daily by syringing with the following lotion: Perchloride of mercury, one dram; muriatic acid, two drams; water, one quart; and then apply a powder of equal parts of iodoform and boracic acid. Cover the sole with a thick layer of cotton batting, and protect with a covering of strong canvas.]

W. A. DUNBAR, V. S., Winnipeg.]

Miscellaneous.

HORSE STALL FLOORS.

SUBSCRIBER, Kent Co., Ont.:—"Will you please inform me through your valuable paper whether cement gives entire satisfaction for horse-stable floors, or whether it would be better covered with boards where the horses stand? Some object to the cement on account of it being cold."

[When horse stalls are well bedded, as they should be, and usually are, there is little, if any, objection to cement floors on account of them being cold. A more general objection, however, is found in the fact that unless they are built up to the surface with smooth stones where the horses stand, the constant pounding, especially in fly time, will very soon cut and break up the surface. There are other objections to purely cement floors, and there is a general inclination to favor a layer of 2-inch plank over the cement. The floor for each stall should be in halves, so that it can be easily removed and cleaned when so desired.]

DEHORNING.

SUBSCRIBER, Carlyle, Assa.:—"Would you kindly let me know at what age are cattle too old to be dehorned, and the best time of the year for dehorning?"

[Like the old adage, "Never too old to learn," it may be said of cattle that they are never too old to dehorn. Any time after they are two years old, when the horn has fairly developed, is generally considered most satisfactory. The operation may be performed at almost any season of the year, but it is well to avoid very hot or very cold weather, or when there is danger from flies.]

H. P. OF TREAD POWER.

J. H. C., Cumberland Co., N. S.:—"Would you please tell me in your column, how can I find out the approximate H. P. of a two-horse treadmill?"

[The power developed on the tread power varies, first, according to the weight of the horses; second, according to the elevation of the tread power, and, third, according to the make of the machine. It is a very prevalent idea that one tread power is about as good as another, but this is erroneous, as there is as much difference in the quantity of power that can be developed in the different makes of tread powers as there are different qualities in any of the other machines manufactured. From this you can see that it would be difficult to apply any general rule to the different tread powers. Where tread powers are compared, the general and easiest way to compare them is to see which tread power will do a certain specified work with the least elevation and with the same horses.]

Terrebonne, Que. M. MOODY & SONS.]

THE USES OF THE HARROW.

NEW FARMER, Peterboro Co., Ont.:—"What are the chief uses of the modern iron harrow in old land?"

[The harrow, even more than the plow, is one of the tools that calls for good judgment in its use. There are some soils that are in such mechanical condition, and that may be plowed in so timely a way with respect to the moisture, that they turn over under the plow and fall apart with scarcely a clod. Harrowing is simply a question of smoothing the surface, and a tool that will do this, leaving the ground lumpy and full of holes between the furrow slices, and a mere scratching and levelling of the surface, is by no means sufficient. The proper treatment in such a case must consist in breaking up the clods and cutting the furrows slices to a depth to settle the soil and make it a smooth, compact seed-bed, through which the wind will not blow and evaporate all the moisture, and which will present to the roots finely comminuted soil from which they may extract available nutriment. Two farmers, whose soils represent these opposite conditions, scarcely understand each other when they talk about harrowing. An implement that satisfies all the requirements of the one is of little or no use to another. The task of making a mellow, well-pulverized seed-bed sufficiently deep to take the seed at an even depth, and give its roots a chance to spread themselves without drying out the open spaces between the clods, is not only a very important one, but becomes largely a question of good harrowing, and plenty of it, with a tool adapted to the faults to be overcome. The harrowing that is done by way of cultivation, on the other hand, is quite another matter. It is very necessary, but it is the surface-stirring, weed-killing, smoothing, moisture-conserving, and with an entirely different kind of tool.]

GADFLY

(*Tabanus*).

W. P. P., Rainy River District, Ont.:—"Give name of enclosed fly, known here as 'Bull Dog.' Give short account of its life-history. Is it any relation to the 'Bots' found in Eastern Ontario? Give, if possible, an application for stock, that will destroy it. It will not follow stock into the dark stable, but is very troublesome to them outside. Answer through your paper."

[The three specimens sent us evidently represent two species of the *Tabanus* family, known as horn-flies or gadflies. There are several species of the family which are troublesome alike to horses and cattle. The two species represented are probably *Tabanus cinctus* and *Tabanus lineola*. The former is chiefly black in color, except the first three rings of the hind body, which are dark orange. These are about five-eighths of an inch in length, having wide heads almost entirely taken up with the eyes. The latter sort are somewhat smaller and have whitish lines along the top of the hind body. These bloodthirsty insects begin to appear towards the end of June, and continue through the summer. Their proboscis, though not usually very long, is armed with six stiff and exceedingly sharp needles, wherewith they easily pierce through the toughest hide. A peculiar feature of this insect is, that it is only the females that molest stock; the males gaining their sustenance from pollen and honey from flowers. Their life habits are only partially known, but their eggs are supposed to be deposited and hatched adjacent to streams or ponds of water. It is claimed that they will not molest an animal that has been well washed or sprayed with a strong decoction of walnut leaves. We have no hesitation in believing that any of the preparations that have recently been recommended in our columns for horn-flies would be equally effective in repelling gadflies from stock. The gadfly has no connection whatever with the horse botfly (*Gastrophilus equi*) or the ox warble fly (*Hypoderma bovis*.)

BUTTER-AND-EGGS.

W. G., Renfrew Co.:—"Kindly identify enclosed specimen, give its history and methods of eradication."

[In the absence of Prof. Lochhead, I may say that this weed is what is commonly known as butter-and-eggs, or toad-flax (*Linaria vulgaris*). It is a perennial, and propagates itself without limit by its underground stems. Of late years it has increased greatly in numbers throughout the Province, and promises to become a fairly troublesome weed.]

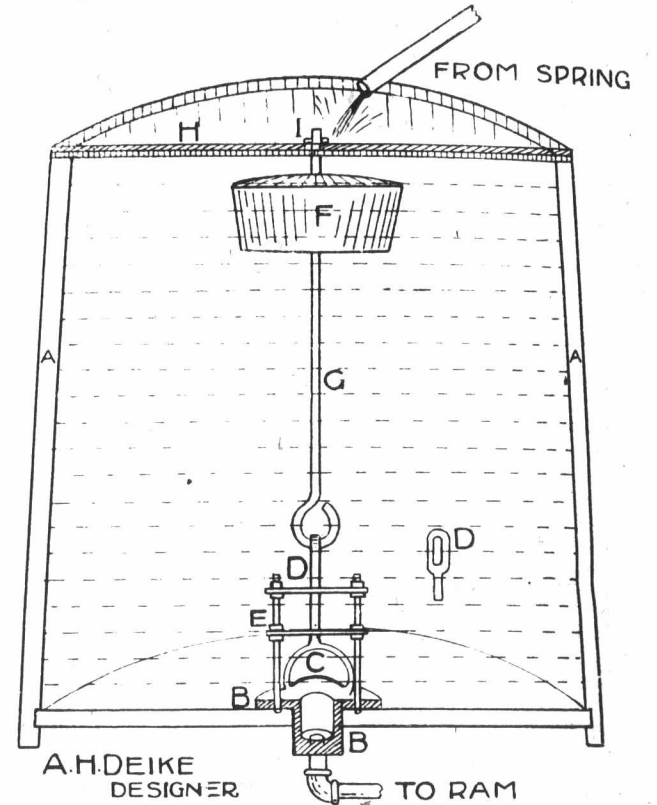
I would advise shallow plowing during a dry spell in August; cultivate twice or three times; and late in the fall, rib up as you would for turnips.

Leave the land in this condition over winter, and next year I would follow with a hoed crop, preferably rape, or with a heavy crop of buckwheat. The object of this last treatment would be to smother out the pest. With careful cultivation for a short time this weed will be entirely exterminated.]

M. W. DOHERTY.]

HYDRAULIC RAM WITH SMALL WATER SUPPLY.

W. T., Wellington Co., Ont.:—"Could you give me any information how to utilize a small spring where there is lots of fall to work a ram, but hardly enough of water. Could a tank be placed, say, half way down the slope to collect the water for, say, an hour, and then be released automatically and work the ram while the supply lasted, then shut itself off and collect as before. I have seen a description of such device, but cannot say where."



PLAN FOR STORING WATER FROM A SMALL SPRING, THE FLOW FROM WHICH IS NOT SUFFICIENT TO WORK THE RAM CONTINUOUSLY. THE SCHEME IS AUTOMATIC.

- A—A tank or cistern for the water to collect in.
- B—A thimble put through bottom of A, having its upper face turned true.
- C—A hollow cup made of aluminum, turned to fit down close into B.
- D—A shank fitted into C, with a slot in upper end.
- E—A frame to guide and keep in place C.
- F—A hollow vessel to act as a float.
- G—A pull-rod from F to D.
- H—A guide bar across top of A through which G passes.
- I—A pin through G to prevent G from lowering too much.

The mode of operation is this wise: When there is no water in the cistern, the cup C will rest on the thimble B and prevent the incoming water from passing out to the ram. When the cistern is nearly full, the float will pull up cup C, allowing water to rush to ram. The cup C being hollow and light, will remain up until water is nearly all out; it will then settle down and be held firm in place by the pressure of water and of air above it.

Top of cistern should be closed to prevent frogs or other things from getting in, as these might get under the cup C and prevent it from closing tight.

Re dimensions of hydraulic ram attachments, I beg to report as follows: Cistern—5 feet diameter and 5½ feet deep. Float—Made of sheet brass ¼ inch thickness, the float to be 1 foot diameter and 1½ feet deep, cylindrical.

Pull-rod—A brass rod or tube about ½ inch diameter, extending up through the float to the guide-bar, and below the float about 2 feet 9 inches. This pull-rod should be fitted with a swivel to adjust the height in the tank at which the float comes into action. Shank—A brass tube or sheet brass rolled into a tube 9 inches long, 1 inch diameter, ¼ inch thickness. The slot at the upper end of the shank should be about 3 inches long so as to give play to the float and the cup. Cup—Made of very thin sheet brass, ¼ inch hemispherical, the bottom 2 inches diameter. (Aluminum may not be easily obtainable in this size and thickness.) Thimble—A tube 1 in. diameter, and brass of this size and 1 1/4 in. thickness.

Base of thimble, true. The tube of the thimble, 2 in. diameter, to a brass plate 2½ inches, ground to fit. Tube of thimble, 1 in. diameter, connects with the iron pipe running to the ram.

J. B. REYNOLDS.

Ontario Agricultural College.

LAME GESE.

M. F. B., Cumberland Co., N. S.:—"I have a large flock of young geese. Several of them lately have taken lame and refused to eat, and have died in two or three days. They have a large range of dry pasture and a running brook of good water."

over winter, and hoed crop, prefer- ent would be to careful cultivation be entirely exte- W. DOHERTY.]

WATER SUPPLY.—“Could you give size a small spring work a ram, but a tank be placed, collect the water used automatically supply lasted, then re. I have seen a mnot say where.”



TO RAM
ALL SPRING, THE FLOW TO WORK THE RAM IS AUTOMATIC.

collect in. A, having its upper face turned to fit down close upper end. C.

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s wise: When there cup C will rest on coming water from the cistern is nearly , allowing water to hollow and light, early all out; it will rm in place by the ve it.

sed to prevent frogs as these might get from closing tight. ram attachments, 1 5 feet diameter of sheet brass 1/2 inch float to be 1 foot 1/2 feet deep, cylin- rod - A brass rod t 1/2 inch diameter, through the float to and below the float inches. This pull- fitted with a swivel height in the tank float comes into k-A brass tube or lled into a tube 9 inch diameter, 1/2 inch slot at the upper ank should be about so as to give play to the cup. Cup-Made sheet brass, 1/2 inch, the bottom 2

er. (Aluminum may obtainable in this ass of this size and float). Thimble-A inch diameter, fitted be 2 1/2 inches, ground the of the thimble the iron pipe run-

J. B. REYNOLDS.

N. S.:—“I have a eral of them lately eat, and have died e a large range of ook of good water.

The young geese are nearly as large as the old ones, being hatched in April. They are nearly all feathered out, and are nice and fat.”

[It is hard to say from the information given what is the exact trouble. Geese are natural grazers, the same as cattle, and require very little, if any, grain when they have a grass range and plenty of water. The symptoms given would indicate apoplexy, caused by overfeeding, the geese becoming very fat. I have known ducks to go lame where there was a lack of grit in the food, especially when they were being well fed for market purposes. Fowls must have a liberal supply of grit, either mica crystal or the ordinary gravel, in order to properly digest their food. W. R. GRAHAM. O. A. C., Guelph.

NOTE.—Mr. Chas. F. Newman, of Hongens, Staten Island, N. Y., who is an extensive breeder of geese, says: “Geese are easier to raise than any other fowl. There is no mortality among the young stock from disease. Lameness is the only ailment with which I have had to contend. It is caused by too close confinement, unwholesome food, too warm housing, and close quarters in the fall. Let your geese lay out under a shed with some litter under them in the harshest winter weather, and they will be more vigorous than those closely housed. To treat lameness, proceed as follows: If you notice one that is rather bad, put it by itself in a dry place and give light food (stale bread) and water. If it shows signs of fever and diarrhoea, give a tablespoonful of castor oil by holding its beak open and working it down its throat. Repeat second day if bird is no better.”—Ed.]

BLOWERS FILL SILO.

SUBSCRIBER, Huron Co.:—“I had intended getting a blower attached to my cutting box to fill my silo, but I am told that the attached blowers will not elevate corn. If you would allow the space to be used, would some of those who have tried putting corn into high silos at the rate of about ten tons per hour let me know through the ADVOCATE if they will work well?”

[We have used the blowers with entire satisfaction in filling a silo 26 feet high, the cutting box standing on the ground, and a portable threshing steam engine being used, but hardly at the rate of ten tons an hour. If the short cut is used (half-inch cut), we should say there is no doubt of the success of the blowers, and we are not sure that they would not do the work well with an inch cut; but our experience is that it pays to use the shorter cut, as the ensilage packs closer and keeps better, and is more easily and closely eaten by the stock.]

FALL PASTURE FOR COWS.

I. C. B., Middlesex Co., Ont.:—“Will you tell me what, in your opinion, is the best thing to sow on wheat stubble for fall pasture for milk cows, clover catch having failed?”

[We do not know of anything that would be more useful in this case than rye. If sown now or early in August, it will, if weather conditions are favorable, give considerable pasture this fall, and also in early spring if left over for that purpose, and could be plowed down in a preparation for peas in May or for rape in June next year. The rye might be pastured this fall and left for a crop next year, and the land seeded to timothy in the fall and clover in the spring.]

UNTHRIFTY BULL.

W. J. C., Kent Co., Ont.:—“I have a Shorthorn bull, 2 years old, has not been hurt by over service, and has been falling away in flesh; weighs about 1,500 lbs. Have been feeding him 3 quarts whole oats and 2 quarts bran, mixed, twice a day, with plenty of timothy hay. Recently changed grain to 2 quarts chop corn and 3 of bran, but still falling. Hair is dry. Tied on ground floor, with some exercise once a day. Please answer as to trouble and remedy.”

[It would be well to examine the bull's mouth and teeth to see if there is anything wrong in that department. We would recommend green fodder if it is on hand, such as rape or corn. Would have the oats ground, and add a little coarse-ground oil cake (nutted size). The mastication of this will induce the flow of saliva and help digestion. Do not let him drink largely of water at any time; a little and often is better. We have not much faith in medicines in such a case. If constipated, a dose of salts, 1 1/2 lbs. with 1 oz. ginger in a quart of warm water, may be given, but there is always some risk in drenching an animal. If he refuses to swallow, there is danger that the medicine may get into the bronchial tubes and lungs and cause inflammation and death. It is well to give a bottle of cold water first to accustom to swallowing. The drench should be given slowly.]

STERILE BULL.

SUBSCRIBER, Glengarry Co., Ont.:—“I bought an Ayrshire bull, 3 years old in April last, and commenced to breed my cows on the 12th of May. The bull served two or three cows a week, as they came in heat. I have twelve cows, and all came in heat the second time and were bred again. The first two came in heat again last week for the third time. The bull seems to serve right. Do you think anything can be done for him so that he will be surer, or is it better to send him to the block. The bull is kept in a good roomy stall, and is fed four pounds of ground oats a day.”

[We have known cases where bulls that have been removed to a distance from their former home have been unsure for two or three months, and quite sure afterwards, but do not know how to account for it. It may have been owing to being

overheated by travelling and the system being disarranged, or it may be the result of excitement or of home sickness on account of the change of surroundings. We can offer no suggestion as to treatment likely to improve matters, but would say that if the bull is in good condition he will bring a good price now from the butcher, and it might be wisdom to sell him and buy a young one, as it would seem to be unwise to wait for improvement which is so uncertain, if it is an object to have the cows bred to calve in the spring next year.]

PERENNIAL VETCH.

J. E., Huron Co., Ont.:—“What is the best way to destroy wild peas (a sample of which I enclose), as I have a field badly infested with the same? What is the nature of this weed? Does it grow from the root one year after another, or does it just grow from the seed, and does the seed adhere to the ground for any length of time? Does it go by any other name?”

[The plant which you sent is known as the perennial vetch (*Vicia cracca*). As regards its eradication, I would advise him to gang-plow immediately after harvest, cultivate two or three times, and late in the fall rib up in drills as he would for turnips. Allow it to remain in this condition over winter, thus exposing many of the roots to the influence of frost. The next year it would be well to follow with a hoed crop of some kind. Care should always be taken not to break up and scatter the root stocks. The same persistent effort which is needed to eradicate Canada thistle is advisable in this case, and the same methods will prove effective. M. W. DOHERTY, B. S. A., Assistant. Biological Dept., O. A. C., Guelph.]

PEDIGREE—BITTING AND SHOEING.

SUBSCRIBER, V. S., Lanark Co., Ont.:—“1. What is the difference in the breeding of a mustang and a broncho?”

“2. Can you give me description of all the latest appliances how to bit, shoe, and any other thing that is required to teach a horse to have good knee and hock action?”

[I am not aware that it requires any particular line of breeding to produce a broncho or a mustang. Both are essentially the native horse of the Western prairies, and lay no claim to beauty or family tree, having a pedigree of doubtful origin and a tenacity of life that is astonishing. They are undersized horses, usually rough coated, sleepy eyed, square headed, and hard to handle; when subdued, or broken (this is a case where it may be correct to use the term broken instead of educated), are usually very sure-footed and make serviceable saddlers, or even harness horses for light work—but lay no claim to either style or speed. It is claimed by some that the whole race of the undersized horse on the Western prairies originated from the small Spanish horse used by De Soto and other of his countrymen on their early expeditions in the New World. Whether this be a fact, or whether they are as much a native of this continent as the now almost extinct buffalo, is not essential. Ranchers are and have been endeavoring, with greater or less success, to improve the horses by introducing into the herds thoroughbred sires, and either destroying or castrating the native stallions. This manner of breeding produces an animal that can, strictly speaking, not be called either a broncho or mustang, but a half-breed.

2. In your second question you ask a great deal—more, I think, than any man can answer; at least, I acknowledge my inability to enumerate all the appliances, etc., that are being used for the purposes you mention. Some would-be horsemen think they can make an actor out of almost any horse if they get sufficient iron in his mouth and on his feet and use the whip and curb sufficiently. Such ideas are false. In order that any horse may become an actor, he must have natural predisposition and conformation, and the man who undertakes to educate him must simply aim at perfecting the style of going for which his breeding and predisposition especially fitted him. While the desirable knee and hock action at present demanded in the carriage horse cannot be forced or drilled into an animal to whom such action is foreign, at the same time, where such action is in accordance with the animal's predisposition, careful and intelligent handling will perfect and intensify it. Take the Hackney, for instance, the type of the carriage horse, and the animal to whom excessive action may be said to be natural, yet an uneducated Hackney, while showing more action than an uneducated animal of other breeds, has not, by any means, the finished and excessive action of the educated Hackney. The education of the Hackney for show purposes on the leading rein is, we might say, a business by itself, and as I have had no experience in this line of education, I do not feel competent to give details. I presume what you want to know is the easiest manner to teach a horse to act in harness. In the first place, the horse must have a good mouth, and be taught to respond promptly to the rein. If he be not thus far educated, a dumb jockey and lunging rein should be used for a couple of weeks. He should then be driven with a Liverpool bit; the amount of curb will depend upon the force he puts on the lines; but, by all means, avoid teaching him to pull hard. As a rule, a horse that is possessed of natural predisposition to go high will not require a check rein—he has sufficient ambition and life to hold his head sufficiently high without, and if he hold his nose out, this should be remedied by the use of the dumb jockey before he is hitched. As to

shoeing, it will be found that no set rules can be laid down as to the weight of shoe, some going higher with very heavy shoes, and some better with lighter ones; but, as a rule, a horse will act better with rather heavy shoes. The trainer will have to determine this by actual experience—that is, by having him shod with shoes of different weight, until he ascertain what weight acts best, but he must be given a fair chance with each weight, as a horse that has been driven with light shoes, and they are exchanged for those much heavier, will in all probability not act well at once. The change is so violent it takes some time for him to become accustomed to them. I have known horses that acted well in shoes of two pounds or over, but as a rule such weight is not desirable, as the excessive weight is apt to give clumsy action. Usually the hind shoes are considerably lighter than the fore. Whatever weight is used, the shoes should be flat, rounded at the toe and thicker at the heels both fore and aft. The want of the calkins and the fact that the toe is rounded on the ground surface, giving a rolling motion, enables him to pick up his feet more quickly, hence going higher and more sprightly, and the weight of shoe has a tendency to give greater length of stride; the same behind gives higher hock action and greater stride. In slippery weather, when he cannot go without calkins, have short calkins on heels, but none on toe, and have the toe rounded as in warm weather. Having him properly shod and harnessed, with bit as mentioned, his education as an actor may be said to commence. He should, for considerable time, be driven slowly, but always up to attention. A spring-topped whip with a good lash should be used. If he be inclined to loaf, he should be sharply touched on the shoulder with the whip, and at the same time held so as to prevent him going fast. A carriage horse must go high at all gaits. Some horses will go high when going fast, but when jogging go quite low. This is not tolerated in a carriage horse. He must go high at all trotting gaits. Care must be taken to not teach him to pull—a puller is a very undesirable horse, either in a carriage horse, roadster or saddler. When he has been taught to go properly at a slow gait, he may be allowed to go faster, but this must be done gradually. Under no circumstances should he be allowed to go so fast as to hitch and shuffle; of course, the faster he can go and at the same time maintain the quality, squareness and apparent ease and style of action, the better; but the carriage horse is not necessarily a fast mover. It is recommended by some to force him to travel through deep straw or over sticks of various heights. This, of course, must be done on the lunging rein. I do not approve of this method, because, as a rule, he will go high only when under those conditions. It takes considerable patience and skill to get the very best out of a horse that is naturally an actor, while it may be said to be next to impossible to make an actor out of a horse that is not bred that way. There are, of course, exceptions to this, but they are rare. J. H. REED, V.S.]

LIGHTNING-ROD CONNECTIONS.

SUBSCRIBER, Perth Co., Ont.:—“Is there a company in London known as the Ontario Lightning Rod Co.? A man came here last fall, claiming to represent that Co., and put rods on one of my barns and made only one ground connection. Now another man comes along and says there is no such Co. in existence, and that rods should have two ground connections. He wants to rod another barn. What is your opinion on the ground connections—should there be one or two?”

[After considerable inquiry, we cannot learn of any such firm doing business in London as the Ontario Lightning Rod Co. In our volume for 1897, we made several references to a cheap form of homemade lightning rod that has been proved to do effective work in conducting electric currents from the clouds to the earth. It was referred to in the issues of August 2nd, September 1st, and September 15th. The rod is made of nine strands of No. 8 galvanized wire, twisted together. The ground connection is made by inserting the end of the twisted cable eight feet into the ground. The hole is made by a two-inch well auger. It is attached to the building by three-cornered cedar blocks about three inches across, nailed to the building. These are notched and the cable is stapled into the notches. Sufficient blocks are used to keep the cables from touching the building, and each rod is brought in as straight a course to the ground as possible.

The points are on the ridge of the barn about twenty feet apart, and ten feet high. They are stayed with light cedar poles. Each point (except one which was spliced to the rod leading from another point) has separate ground connection. This wire rod was constructed and attached to a barn by Mr. Thos. Baty, Middlesex Co., Ont. He and his man took a little less than a day and a half to make and put up 240 feet of rod. About ten ounces of wire were used per foot of cable, which cost less than two cents per foot. This form of lightning rod is pronounced by experts to be correct in principle, and as it is much cheaper than the sort agents sell, a man who wants his barn rodged can do it cheaply and well with No. 8 galvanized wire. It is the opinion of some authorities that the cedar-block attachments mentioned are unnecessary, and that the rod might just as well be stapled to the building, as the lightning would not be likely to leave so good a conductor as this rod to take to a wooden or brick wall.]

BINDWEED (Convolvulus arvensis)—CHICORY (Cichorium Intybus).

READER, Middlesex Co., Ont.—“I enclose you specimens of two varieties of weeds that are rather common and troublesome in this district. No. 1, as you will notice, is over three feet high, has a round, smooth stem, it has sky-blue flowers in pairs on the sides of rather long neckish branches. There is a small leaf at the base of each pair of flowers. The plant I send you was cut in a timothy meadow where several other similar plants grew. What is the name, also the nature of the plant, and how can it be eradicated?

“No. 2, as you will notice, is a fine climbing vine closely resembling a morning glory, but much smaller. The specimen I send is tightly wound round an alsike clover plant from near the root to the top of the plant.”

[No. 1, chicory or succory (Cichorium Intybus), is a rather common weed in some districts. It is a biennial, producing seed and dying the next year of its growth. Its first year it comes up having rather fleshy leaves resembling in form those of dandelion, but larger. It sends down a strong taproot, which lives over winter and sends up the stalky seed-bearing plant the second year. Its habits are therefore similar to those of the burdock, and it should therefore be dealt with in much the same way. In cultivated fields, it is not likely to get much headway, as the plants produced from seed are destroyed the same year before they produce seed. When stray plants put in an appearance in a field that is not desired to be broken up the same season, they should be spudded off below the crown, which will surely destroy them. In permanent pastures and other uncultivated positions, any plan that will prevent the plants from maturing seed will destroy them. When cut with a scythe it should be done very close to the ground, or the plant will send out side shoots and produce seed. When an arable field has become infested, it is well to break it up and grow a hoed crop, or cultivate the ground so as to cause the seeds to germinate, when they can be destroyed by further cultivation.

No. 2 is a specimen of bindweed (Convolvulus arvensis). It came to us tightly clasping a stem of alsike clover, winding around it from end to end. The clover was in head and the bindweed bearing white flowers, and leaves similar to those of the morning glory, but smaller. It is a creeping perennial, with a trailing habit of growth. It usually grows to the length of three or more feet. Its leaves are heart-shaped. Its vines are fine and tough, and its roots are larger, forming a network in the soil very difficult to exterminate. It begins to grow with the early vegetation of spring and continues till frost comes in autumn. It grows in various crops, but is most troublesome in grain, climbing and twining around the stalks, binding them together and gradually drawing them down towards the ground. It is propagated by means of seeds and by root-stock, which it numerously possesses. Bindweed is a difficult weed to eradicate. It is well to drop grain crops, in infested fields, out of the rotation until they have been subjected to cleaning process. Plow infested fields immediately after harvest and cultivate or plow them sufficiently often thereafter to keep the plants from living above ground until the period of growth ceases. The plowing should be shallow, but thorough. In the spring proceed in the same way as in the autumn cultivation; that is, keep the soil well stirred until it is time to plant a hoed crop. Give this careful culture throughout the growing season. Persistence is needed to get rid of this troublesome weed. It may be necessary to grow two hoed crops in succession, or follow a summer-fallow with a well-worked hoed crop.]

SHOWS AND SHOWING.

The Toronto Exhibition.

The Toronto Exhibition of 1900 will not perhaps in many ways be greatly distinguished from its predecessors, but it will be marked by an increased amount given for prizes and by a greater variety of classes. It will also be singularized by conditions that will make such mishaps as occurred among the Jersey cattle last year practically impossible. In short, everything that ripe judgment and experience can prompt to make the last exhibition that will be held in Toronto this century successful, and that will take place from August 27th to September 8th, will be done. Some required improvements to the buildings and the grounds will be made, but the great effort will be reserved for next year, when some \$200,000 is to be expended on new and absolutely necessary buildings. The accommodation for dairy products will be increased by taking in a part of the implement building, and some improvement will be found in the sanitary arrangements. Something is also to be done to give additional convenience to excursion parties. Manager Hill has been to Paris and to the Royal Agricultural Show, and has picked up many ideas, to which he will endeavor to give effect. The Association has chosen for its motto this year the words: “Aggressive and progressive; educational and entertaining,” and we are persuaded it will live up to them. The usual reduced rates will be given on all lines of travel, and the customary excursions will be run. Altogether, it is undoubted that at Toronto Exhibition the people receive as much for their money as at any place in the world.

Special Notice.—All entries must be made on the printed forms accompanying the prize list. These forms are to be filled up, signed by the exhibitor, and sent to the Secretary of the Association at Toronto, on or before the following dates: For Live Stock, Dairy Products, Ladies' Work, Fine Arts, Honey, and all classes of Manufactures, Saturday, August 11th. Grain, Field, Roots and Horticultural Products, Saturday, August 11th. Poultry, Wednesday, August 15th. Dogs, Saturday, August 18th. The entrance fee must in all cases be forwarded with the entry.

The \$25,000 the Toronto Exhibition gives in premiums for exhibits exceeds the aggregate amount given by any other fair on this continent, and three-fourths of it goes to the live-stock classes.

Fairs of 1900.

CANADA.

Table listing various Canadian fairs from Stanstead, Que. to Bradford, including dates and locations.

UNITED STATES.

Table listing various United States fairs from Des Moines, Iowa to Milwaukee, Wisconsin, including dates and locations.

Western Fair Prospects.

Secretary J. A. Nelles, London, Ont., reports prospects looking for the Western Fair, Sept. 6th to 15th. The improvements now under way will make the grounds much more beautiful and convenient than ever before, and both the Dundas and King street entrances will present a park-like appearance, and much greater attention will be given to decorative features by the use of new flags, etc.; while the entire interior of the Palace is being handsomely whitened and otherwise improved. A large number of specially fine exhibits for the main building are coming this season from eastern points. A large sheep and swine building has been built, giving an increased area of 156 by 40 feet. There is now room for 900 head of that stock. In the immense horse barn, which is 100 feet in length, all the single stalls have been turned into box stalls, and are being taken to provide for increased exhibits in the various departments and for the comfort of visitors. A great array of attractions are being arranged, among the fireworks features being an attack of an armored train on a Boer stronghold.

The Ottawa Exhibition.

Amongst the leading agriculture and arts exhibitions in the Dominion, none is more popular with exhibitors and the public than the Canada Central Exhibition, annually held in the Capital City. The officers and directors are wide-awake, energetic, considerate of the comfort and convenience of exhibitors and visitors, and spare no pains or reasonable expense to make their fair a success and a source and season of pleasurable enjoyment. Their buildings and grounds are comfortable, handsome, and pleasantly situated. The stock buildings are admittedly among the best in America for the comfort of the animals and the satisfaction of visitors who wish to inspect them. The best of judges are secured, and exhibitors are almost invariably satisfied with the awards, believing that fair play and no favor is the rule all round. The special attractions before the grand stand are usually of an attractive and high-class order. Cheap excursion rates from east and west are always secured from the various railways, and there is no more pleasant and interesting city to visit than Ottawa. It is an education to farmers and farmers' sons and daughters to visit the Capital, and as many as possible should avail themselves of the opportunity of taking in the city and the show when it can be done at very moderate expense. The capable, courteous and kindly Secretary, Mr. E. McMahon, will gladly supply prize lists and information, and will promptly answer enquiries addressed to him at Ottawa. The date of the Exhibition this year is Sept. 11th to 22nd. We may add that in addition to the liberal prizes offered by the association, no fewer than 25 gold medals are offered as special prizes by citizens of Ottawa and surrounding counties, principally for live stock and agricultural products, besides a large number of cash specials of \$25 to \$100.

Provincial Winter Fair Building.

It is announced that work has been begun on the foundation for the Winter Fair Building to be erected at Guelph. The building will occupy about 40,000 square feet, on the Market Square, and will be in keeping to a certain extent with the substantial Town Hall building, which it adjoins. It is expected it will be finished in time for the holding of the Fat Stock, Dairy and Poultry Show in December. It is hoped that Canadian stock feeders will prepare a good display of typical animals for competition for the very liberal prizes which are offered, and that the different breeds of dairy cows will be well represented. The poultry department will be sure to be well filled, as Canada is well to the front in this industry. Since writing the above we learn from the daily press that citizens who objected to the erection of the building on Market Square have applied for an injunction to stop the work. They have some queer people in Guelph—kind of twisted.

At the Kamloops, B. C., Exhibition, Sept. 26-28, \$10,000 are offered in prizes. A vigorous youngster, this.

MARKETS.

FARM GOSSIP.

Nova Scotia Crops.

Crop reports for the Province received at Halifax are on the whole fairly satisfactory. Seeding this year was from one to three weeks later than usual, owing to cold weather and heavy rains throughout May, and some sections of the Province, notably the eastern counties of Cape Breton, in the early part of June were dry and cold. Reports from some counties, therefore, indicate crops as under the average, while a large number of reports give a full average crop. But taking the Province as a whole, hay, potatoes and roots, as well as oats and other grains, will fall little short of an average crop.

There is a general increase in dairy and beef cattle, as well as sheep, in many parts of the Province, and a fair prospect of an abundant crop of fruit.

Huron County.

Since spring we have suffered for lack of rain, but the last few weeks (middle of July) the most of the county has received more or less. The root crop will be under the average, mangels especially. When the seed did not germinate, many plowed up the crop; others planted turnips between. The recent showers are making a vast improvement visible. Corn is doing well. Hay is mostly harvested; the crop is perhaps under the average, but well cured, owing to the dry weather. Fall wheat is very good, though we hear complaints of it breaking down at the joints. It will, however, be a good sample. Springs grains will be short. The rains came too late to help the peas materially. Though the oats will lengthen out, there appears to be more smut in them than usual. Spring-seeded clover has not done very well; it came up all right, but the hot, dry weather scorched it. Owing to the poor prospects for hay, many put in millet or some other forage crop. In the fruit line everything has been rather light up to the present time. The prices have been extra good. Cherries, which are usually a heavy crop here, were under the half. Plums will be a very light crop. Peas will be above the average, as also will be apples, providing they do not continue dropping, as they have of late weeks. Buyers are talking of from 40 to 50 cents per barrel. Of course, we don't expect them to get as wild as they did last season. With the remembrance of last year's experience, they will hardly be as anxious for the fruit, but ought to pay a fair price, with some expectation of a gain. F. C. E.

Oxford Co., Ont.

The hay was mostly all in the barn last week, and has been a better crop than was expected. We had about 13 loads on a field of about 6 acres. I think hay would be at least average 1 1/2 tons or perhaps a little more. The weather has been showery; and even some heavy rains, but there was not much hay very badly spoiled, as it did not generally turn out very hot after the rain, and then the hay tedder is a grand invention, as a considerable quantity can be shook out in a very short time. In some single seasons the hay tedder will half pay for itself on a large farm. The fall wheat is now mostly in stock. Some have just made a commencement to draw in. Where it was not winter-killed, it is a fairly good crop, but ours was more killed out than we expected before we began to cut. If ours had not been killed out any, I think the indications are that it would have gone at least 30 bushels per acre or perhaps more. But I am afraid that it will not much exceed 25 bushels. The grain seems to be plump and nice. Roots and corn are doing well. Our corn and mangels have done so well that we had to stop cultivating about 10 days ago. We will yet go through the potatoes and turnips again. After we finished cultivating corn and mangels we cultivated the headland with spring-tooth cultivator and drilled and sowed Graystone turnips, which are now up. The fine rains we have had have kept the pasture fresh and green, and cows are milking fairly well. Cheese is keeping up. Our Junes averaged 93, and if we had pooled the proceeds would have given 75 cents per hundred pounds of milk to the patron, but we pay by the result of the Babcock test plus 2 per cent, so that some got more and some less. Our tests ranged from 3.25 to 3.85. Only a few patrons being at those extremes, the greater number being near the average, viz., 3.55. The butter-fat plus 2 per cent, was worth 13.67 cents per pound. There are not many hogs ready now, but we believe they are worth about \$5.75. Butter has taken a rise, and is now worth about 18 cents. The trade in horses is still brisk, and they are fetching a good price. One of our dealers is leaving next month with a load of heavy horses for Ireland and others have sent a great many to Africa.

I think there is every indication that we will have a good crop of apples, even above the average. Barley, which is mostly cut, has not generally turned out very well. Some of us tried the beardless barley, and it has not done well. Oats are not generally very heavy; very little of the crop will be lodged, but, as a rule, a fine equal standing crop, and I think ought to be well filled. The earlier fields are now beginning to turn. D. L.

P. E. Island.

The season here is backward. June was cold and rather dry, but since July came in we have had fine rains. Haying is just about to commence. The hay crop will not be up to the average, though it has improved greatly during the last two weeks. There is a thick bottom of white clover in the new meadows which will bulk up considerably. Grain crops are looking well, and will be heavy in straw where early sown on good land, but harvest will be late. We will not have an early grain harvest till the 1st of September. As yet the crop is free from blight or aphid, but it is too early to estimate what will be. Potatoes have the best appearance of a big crop that we have seen for some years, and there are very few bugs yet. The prospect for a heavy root crop is excellent. Apples will be a full crop; cherries and plums fair. Pastures are excellent, well covered with white clover just now—and all kinds of stock are in good condition. Horn fly is not so plentiful as a few years ago. The dairy business is booming. Factories, many of which have been enlarged, are still taxed to their utmost capacity to handle the milk. Kensington Dairy Association is considering the building of another cheese factory on their territory in order to handle the ever-increasing supply of milk. Cheese sales for the first half of July average about 93 cents, and are mostly sold.

The P. E. Island Farmers' and Dairymen's Association held their annual meeting in Charlottetown July 17th. Lieutenant-Governor McIntyre was present and gave an address on agriculture. A resolution was passed at this meeting asking the Minister of Agriculture to allow Prof. and Mrs. Gilbert to visit the Island this fall in the interests of the poultry business, and show the farmers how to dress and prepare poultry for shipment to the British markets. The officers of the Association for this year are: President, Walter Simpson, Bay View; Vice-President, W. J. Gibson, Marshfield; Secretary-Treasurer, J. D. McInnis, St. Peter's Bay.

F. W. Hodson, Dominion Live Stock Commissioner, and a delegation from the Maritime Stock Breeders' Association, will visit the Island on the last days of July and will look around among the farmers and stockmen for a few days, with a view to ascertaining the condition of the stock interests here. He will be met by prominent farmers from all over the Island. This is Mr. Hodson's first visit, and we look for good results from it. July 21st. W. S.

Dominion Census Commissioner.

Mr. Arch. Blue, of Toronto, Chief of the Ontario Bureau of Mines, and the organizer and for some years Secretary of the Ontario Bureau of Industries (statistical) has just been appointed Dominion Census Commissioner, which will begin in 1901 and occupy three years in completion. The Minister of Agriculture has made an excellent choice of a man to direct this important work.

Toronto Markets.

Trade at the Western Cattle Market is very dull, the supply light and prices easy, stock being carried over from each market day. The export demand is slow, and all the late shipments have lost money. Receipts at the Western Cattle Market for the week ending July 21st are: Cattle, 2,835; sheep, 4,075; hogs, 3,503. Receipts on Tuesday were 701 cattle, 491 hogs, 1,140 sheep, and about 30 calves.

Export Cattle.—Export trade practically at a standstill; the Old Country markets dull and prices very low. This, coupled with heavy freight, has caused dealers to lose money on every shipment of late.

Prices were considerably easier all round. Best choice exporters were quoted at \$5.10 per cwt.

Two loads of extra choice cattle, prime exporters, were held at \$5.12 per cwt. without offers. Light exporters sold at \$4.80 to \$4.90 per cwt.

Mr. I. Dunn bought one load of exporters, average 1,250 lbs., at \$4.90 per cwt.

Butchers' Cattle.—Traded dull and prices easier on choice cattle equal in quality to export; 1,000 to 1,100 lbs. average were quoted at \$4.65 to \$4.85 per cwt.

Loads of good butchers' and exporters, mixed, at \$4.40 to \$4.60 per cwt. Good butchers' cattle sold at \$4.35 to \$4.60 per cwt.; medium mixed cows, heifers and steers, at \$1.10 to \$1.25 per cwt.; common butchers' cows sold at \$3.30 to \$3.60 per cwt.

Messrs. Yapp and Hanley, of Brantford, refused prices offered at this market, and re-shipped to Brantford one car of butchers' cattle. These were very choice cattle, but the demand was slow.

Bulls.—Demand weak; prices easier, at from \$4.40 to \$4.60 per cwt. For ordinary stock bulls, prices easy, at \$3.50 to \$3.90 per cwt. Several export bulls, choice quality, bought by Mr. W. Leveck at \$4.60 per cwt.

Feeders.—Light feeders in demand by farmers; very few on offer, at from \$3.75 to \$4.50 per cwt.

Mr. I. L. Rowntree bought six steers, 1,100 lbs. average, at \$4.10, short keeps to finish on grass.

Stockers.—A very moderate demand; only a small supply; prices weaker, at from \$2.75 to \$3 per cwt. Heifers, black and white, sold at \$2.25 per cwt.

Sheep.—Deliveries 1,140; prices steadier, at \$3.75 to \$4 per cwt. for ewes, and at from \$2.75 to \$3 per cwt. for bucks.

Lambs.—Spring lambs sold at from \$2.50 to \$4.25 per head. Mr. Robt. Lynn sold 47 lambs at \$3.50 each. Mr. L. I. Hamilton sold 22 lambs at \$3.50 to Mr. West Dunn.

Calfes.—In good demand; only thirty on offer; sold at \$3 to \$10 per head. Mr. P. Henry sold one calf at \$11, the top price of the day.

Milk Cows.—Sixteen milk cows, poor quality, at from \$25 to \$45 per head. Mr. P. Holland bought two milk cows at \$45 per head.

Hogs.—At a meeting of the stockholders of the Harrison Packing House, it was resolved that the 1,000 limit per week should not be exceeded.

The run moderate; prices a little firmer, at \$6.25 to choice singers, 160 to 200 lbs., off cars, unfed or watered; thick fat and light, \$5.25 per cwt. Dealers complain that it is hard to reach the top price, but it pays. Corn-fed at \$5.37 per cwt.; sows, \$5.75; stags, \$2 per cwt.

The drovers report short supply of hogs; very few ready to come out. As foretold in my last report, hogs will advance a Yorker (22c.) next week for best choice singers, 160 to 200 lbs., unfed or watered. A good many sore heads are coming on the market who find that other packing houses sell just as close and with rather greater harshness than is done on this market. They all complain of the newspaper correspondents keeping the farmer too well posted on prices and prospects, this paper in particular. We have taken out a life policy for fear of consequences.

Comparative prices to-day and two weeks ago:

Table with columns for July 27, 1900, and July 13, 1900. Rows include Export cattle, Butchers' cattle, Feeders, Stockers, Sheep, Hogs, Lambs, Milk cows, Hides, Wool, Wheat, Oats, Hay, and Straw.

Hides.—In sympathy with the fall in live stock, hides fell 1 cent per lb., and are now quoted at: No. 1 green, per bushel, 74c.; No. 1 steers, per lb., 84c.; No. 2 steers, per lb., 74c.; No. 1 cows, per lb., 64c.; cured, per lb., 4c.; calfskins, per lb., 3c.; sheepskins, each, 30c. to \$1.00; lambskins, each, 30c. to 35c. Pelts, 25c. Wool, fleece, 16c.; wool, fleece, extra, 2c.

Wool.—The offerings of fleece wool are liberal, but demand slow and no business doing. Washed fleece at 16c., unwashed, 10c.; pulled wool, 20c.; super, 18c.

Wheat Market.—Receipts of farm produce on this market are very light. Only 150 bushels of grain, 20 loads of hay, one load of straw.

Wheat.—One load of goose wheat sold at 72c. per bushel. Four hundred bushels sold at 33c. to 34c. per bushel.

Oats.—Twenty loads on each market day, selling at \$12.00 to \$14.00 per ton for old, and new at from \$9.00 to \$10.00 per ton.

Straw.—One load on offer at \$9.50 per ton. Private demand keeps straw off from this market.

Dressed Hogs.—Mr. Wm. Harris, Jr., St. Lawrence Market, now takes all dressed hogs offered. Average for best bright stock, \$7.69 per cwt. One choice lot brought \$7.75 per cwt.

Butter.—Deliveries of choice butter on this market scarce. For choice gilt-edge, 17c. to 20c. per lb.

Eggs are in good supply; demand good for storage, at from 12c. to 15c. per dozen. One firm has met with market success in selling guaranteed dated eggs, and advertise: "Eggs laid while you wait."

Cheese.—There is a weaker feeling in the Old Country market. Manchester reports that the stocks are accumulating, as the following report indicates: June, 1895, 58,997 boxes; June, 1896, 53,207 boxes; June, 1897, 40,666 boxes; June, 1898, 50,849 boxes; June, 1899, 40,761 boxes; June, 1900, 47,451 boxes. Many buyers who usually take American have gone on to the home market. The production is large, and good value is to be had at 11d. to 5d. per lb., equal to 11c. per lb. Top grades of Canadian are offered at 49s. per cwt., 112 lbs., equal to 10 1/2c. per lb.

The condition of the fat cattle market is very satisfactory at present. The demand is good from all sources, especially on export account, and sales during the past week have been as high as any time within six weeks. Cattle are coming good in quality, which adds considerably to their salability. Exporters are buying at \$5.20 to \$5.40.

The *Provincer's Journal* special cablegram from London quotes market slow. Sales 12c. to 13c., against 12c. to 13c. last week and 11c. to 11c. a year ago, dressed weight.

It is feared that the dry weather out West will force in a good many cattle and sheep before they are ready for market. Western sheep are pouring in quite freely, and are selling low—\$3 to \$4.15—compared with cattle and hogs.

The first Western range cattle of the season arrived recently. Their selling was watched with much interest, because they were to be used as a sort of an index to what were to follow. They were hardly up to the standard in quality, and did not sell up to expectations—mainly at \$1.40 to \$1.75. Feeding cattle are selling slowly and at low prices. The lack of water in some sections is responsible for some dullness in the market.

The lamb trade declined \$1 per hundred, being the biggest drop in one week since the demoralized days of 1894. Lambs are now at the low point of the year.

Hogs seem to sell very irregularly, and the market is sensitive to the rise and fall in provisions. Packers are not good buyers, but a fair shipping demand prevails, which is really the buoyant factor in the business.

The following order has just been issued by the Department of Agriculture: "It is hereby ordered that Canadian cattle may be imported into the United States for exhibition purposes at the International Live Stock Exposition to be held from December 1st to 8th, 1900, at Chicago, without being subjected to the tuberculin test, provided they are accompanied by a certificate issued by a Canadian official veterinarian, stating that such cattle are free from contagious diseases, and provided further that they are returned immediately to Canada at the close of the Exposition. All Canadian cattle, sheep and swine intended for this Exposition must be shipped directly to the Exposition grounds and not unloaded in any public stock yards."

MISCELLANEOUS.

Building the Stave Silo.

As the live stock of the country increase in number and improve in quality, more and more interest is taken in the preservation of sufficient food for their consumption during the winter. In many parts of Canada the cheapest crop for such a purpose is Indian corn (*Zea mays*), and so the question of silos and silo building is becoming more and more important.

Many letters have been received, asking for directions for constructing silos, and enquiring as to the relative economy of the numerous forms in use.

The most common objection advanced to the still more general use of the silo is the considerable initial expenditure necessary to erect such a large air-tight chamber, as well as the subsequent expense of maintaining in repair and the apparent short life of the silo commonly constructed.

From extensive observation and study of silos and silo construction, and from experience here with a number of different silos, it would appear that the stave silo is the one that, for various reasons, is most worthy of recommendation. It combines simplicity and cheapness of construction with the ability to preserve the ensilage in the very best condition for feeding.

No data are as yet available as to the longevity of such structures. The probable life of the tub silo depends, however, upon the quality of the material used and the proper construction of the foundation and sides.

The first point to decide when preparing to build is the amount of ensilage to be stored and the size of silo required for such an amount. A good average daily ration for a cow being from 35 lbs. to 40 lbs., the amount required for a given number of cattle during a certain period may be easily estimated. By referring to the following table, the capacity of different sized tub silos may be ascertained.

Table giving the capacity of tub silos for well-matured corn silage, in tons:

Table with columns for Depth (Feet) and Inside Diameter (Feet). Rows show capacity in tons for diameters from 15 to 24 feet.

In all silo construction, a most important point is to build as high as possible, since each foot added in height increases by so much the chance of success and gives a more than proportionate increase in capacity, due to the greater pressure.

The silo may be built inside the barn or adjacent to it, as convenient. If built outside it may be expected to prove as satisfactory as if built under cover, though scarcely so long-lived, while in the case of the unprotected tub silo, a small amount of ensilage may be frozen to the sides, especially on that side exposed to the prevailing winter wind. This may be mixed as it falls, with the rest of the ensilage, and may be expected to have no injurious effects.

Probably the general method of building may be explained most clearly by going into the details of construction of a silo of particular size.

For a tub silo 20 feet in diameter, a circular trench 18 inches to 2 feet wide, and with an outer diameter of 22 ft., is dug about 2 ft. deep, or below the frost line. The surface soil over the whole included area, and for 2 feet outside, is removed to a depth of 10 inches or 12 inches at the same time. The

trench is then filled to the level of the interior with stone well pounded down, and the surface stone being broken quite small, and thin cement (1 of cement to 4 of sand) poured over, well worked in and left for a few days. This is followed by a coat of a cement (1 of cement to 3 of sand), care being taken to have the surface level and smooth. Pure cement sprinkled on dry shortly after the last coat and worked in with a trowel will make a superior finish. Ample drainage should be provided, whether the silo be built inside the barn or outside. This is essential to the preservation of both the silo and the ensilage. If any fear of rats be entertained they may be guarded against by spreading a thin coat of grouting over the interior area. The above is to be preferred to solid cement floor, because more economical and equally serviceable.

A stone wall might take the place of the above described foundation, but it would be necessary to line the inside with cement wherever the ensilage might be expected to touch it. The top of the wall would also require a coat of cement.

The circular line to mark the position of the staves might be drawn by means of some hard-pointed article attached to a bit of string half the length of the diameter of the proposed silo. A spike driven in the center might serve as a pivot.

Any of our common soft woods may be used for staves. Hemlock, pine and spruce seem to be equally serviceable. The staves may be from 1 1/2 to 3 inches thick by from 5 to 9 inches wide. The smaller the silo, the less must be the width of the staves. The best is probably 6 by 2 inches, dressed on the inside and sized square on the edge. By using a tongue and shallow groove, the staves might be expected to be more easily kept in place.

In any case, great care must be taken to have lumber well sized and with no loose knots or shaky spots. It will be found impossible to get staves much over 20 feet long, and so, for a 30-foot silo, it will be necessary to make up each stave from two or more pieces. These must be of exactly the same size. The ends should be carefully squared, and it is generally advisable to insert a bit of heavy hoop-iron. This is not absolutely necessary, but where the parts of the stave are not connected in some way it will be necessary to insure the joint coming under a loop.

ERECTING THE SILO.

When built under cover, it will usually be found easy to erect scaffolding for use in setting up the silo. Where the silo is built outside and over 20 feet high, the erection of scaffolding becomes rather more difficult. One method is to erect four posts 6 by 6, the desired height and equidistant from each other, on, or 2 inches outside, the circle traced on the cement. If placed on the circle, they will take the place of clips for the hoops, which may be made in two or four parts, as preferred, and tightened on the posts. If the posts are used and the scaffolding erected outside the silo, it will be necessary to erect four other temporary posts of 2 by 4 material. A better, though somewhat more expensive plan, is to erect scaffolding inside the silo. Three circular platforms of the exact diameter of the silo are constructed. One is placed on the foundation, one near the splicing lines of the staves, and one near the top. The staves may then be quickly and easily placed, toe nailed, hooped, and the doors cut.

The doors should not be cut out till the silo is hooped, but preparation should be made for the cutting by selecting a stave which it is decided shall form part of the door, and making saw cuts 2 or three inches deep along one edge at the top and bottom of each door. The door should be about four staves wide and about 18 inches high, or just large enough to admit a man. The top and bottom should be sawn with a slant, in such a way as to cause the tightening of the joint by the pressure of the ensilage. The greater the slant, the better. The parts of the door may be held in place by a 6-inch bar, cut to fit the curve, and to which each part is firmly bolted. Round or flat hoops may be used. Round hoops in 2, 3, or 4 sections are the most easily handled. They may be joined by means of metal or wooden clips, so bored as to admit of putting a nut on the exerted end of the rod, or by passing through the uprights. They may be held in place by wire fencing staples driven in at intervals. When the silo is exposed to the weather, care should be taken that each stave is attached to two or more hoops. It will be found necessary to give the proper curve to the hoop before attempting to put it in place. This may be most easily done by using a tire-bending machine, such as may be found in any carriage or repair shop. Round iron or steel, three-quarters of an inch through, will be found strong enough for a 20-foot silo. The hoops should be nearer together at the bottom and further apart towards the top. The first hoop should not be over 1 inch from the foundation; the second about 18 inches from the first; and the third 2 feet higher. The space between hoops may gradually increase to 4 1/2 feet at the top.

Where the silo is built outside it will be found necessary to roof it in most parts of Canada. When posts form part of the silo wall they may be utilized as supports for the roof. In cases where posts have not been used, it will be found necessary to erect two or more, or construct a framework from 2x4 scantling to carry the roof. Care must be taken to allow an opening for filling. J. H. GRISDALE, Central Experimental Farm, Agriculturist.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:—

Table with columns for Beef cattle, Hogs, Sheep, and various grades. Rows show prices for different weights and grades, comparing current prices with 1899 and 1898 prices.

Commissioner. The Ontario Bureau of Agriculture has just been appointed to direct the work of the department. It will begin in 1901 and the Minister of Agriculture will direct this important

ps. Corn is doing well. Perhaps under the average, mangels planted, many plowed up. The recent showers are doing well. Fall wheat is breaking down at a fair prospect of a good crop. The recent showers are doing well. Perhaps under the average, mangels planted, many plowed up. The recent showers are doing well.

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Four Feet on the Fender.

(A Workingman's Rhyme.)

I work 'mid grime and steam and noise,
Ten hours, hard and steady;
I hold my end with any man,
They count me rough and ready.
It gives me heart all day to think
Of Mary sweet and slender,
And how we'll sit and talk at night
With four feet on the fender.

My home's a flat, and none too good,
I wish it were more sunny;
I fret and plan and conjure up
How I can earn more money.
But Mary says it's like sunshine
To watch the grate's red splendor;
And so I think when we two sit
With four feet on the fender.

I love my children, prouder walks
No father in the city;
And every night I have a romp
With boy and girl so pretty.
But when within their cribs they're tucked,
I hold more dearly tender
The hour I and their mother sit
With four feet on the fender.

And Mary's day is hard as mine,
There's washing, sweeping, cooking;
She takes the babies out for air
To keep them rosy-looking;
She's maid and mistress, laundress, nurse,
Dressmaker, stocking-mender—
She says the tiredness drops off
With four feet on the fender.

Some days with threatening of strikes
The air seems full of thunder,
With labor unions and combines
What's best to do I wonder;
Somehow the business sky clears up
When Mary help can render;
I'm always sure there's some way out
With four feet on the fender.

So many fellows float around,
And never cast an anchor;
I pity them, for soon or late
For Satan's haunts they hanker;
And every night in the saloon,
Their manhood they surrender;
No wife to counsel as they sit
With four feet on the fender.

Though for my birds I'd like to build
God bless them!—gilded cages,
I won't complain of wages,
I won't complain of grinds,
While hand in hand I fond can sit
With Mary sweet and slender,
And live my courting days again
With four feet on the fender.

THE BIRD ON ITS JOURNEY.

BY BEATRICE HARRADEN.

(Continued from page 47.)

"Ah, but you shall see the other room," the old peasant woman said; and she led them into a small apartment which was evidently intended for a study. It bore evidences of unusual taste and care, and one could see that some loving hand had been trying to make it a real sanctum of refinement. There was even a small piano. A carved book-rack was fastened to the wall.

The old dame did not speak at first; she gave her guests time to recover from the astonishment which she felt they must be experiencing; then she pointed proudly to the piano.

"I bought that for my daughters," she said, with a strange mixture of sadness and triumph. "I wanted to keep them at home with me, and I saved and saved, and got enough money to buy the piano. They had always wanted to have one, and I thought they would then stay with me. They liked music and books, and I knew they would be glad to have a room of their own where they might read and play and study; and so I gave them this corner."

"Well, mother," asked the little girl, "and where are they this afternoon?"

"Ah," she answered, sadly, "they did not care to stay; but it was natural enough, and I was foolish to grieve. Besides, they come to see me."

"And then they play to you?" asked the little girl, gently.

"They say the piano is out of tune," the old dame said. "I don't know. Perhaps you can tell."

The little girl sat down to the piano, and struck a few chords.

"Yes," she said; "it is badly out of tune. Give me the tuning hammer. I am sorry," she added, smiling at Oswald Everard, "but I cannot neglect my duty. Don't wait for me."

"I will wait for you," he said, sullenly; and he went into the balcony and smoked his pipe, and tried to possess his soul in patience.

When she had faithfully done her work she played a few simple melodies, such as she knew the old woman would love and understand; and she turned away when she saw that the listener's eyes were moist.

"Play once again," the old woman whispered. "I am dreaming of beautiful things."

So the little tuner touched the keys again with all the tenderness of an angel.

"Tell your daughters," she said, as she rose to say good-bye, "that the piano is now in good tune. Then they will play to you the next time they come."

"I shall always remember you, mademoiselle," the old woman said; and, almost unconsciously, she too took the childish fare and kissed it.

Oswald Everard was waiting in the hay-field for his companion; and when she apologized to him for this little professional intermezzo, as she called it, he recovered from his sulkingness and readjusted his nerves, which the noise of the tuning had somewhat disturbed.

"It was very good of you to tune the old dame's piano," he said, looking at her with renewed interest.

"Someone had to do it, of course," she answered, brightly, "and I am glad the chance fell to me. What a comfort it is to

think that the next time those daughters come to see her they will play to her and make her very happy! Poor old dear!"

"You puzzle me greatly," he said. "I cannot for the life of me think what made you choose your calling. You must have many gifts; anyone who talks with you must see that at once. And you play quite nicely, too."

"I am sorry that my profession sticks in your throat," she answered. "Do be thankful that I am nothing worse than a tuner. For I might be something worse—a snob, for instance."

And, so speaking, she dashed after a butterfly, and left him to recover from her words. He was conscious of having deserved a reproof; and when at last he overtook her he said as much, and asked for her kind indulgence.

"I forgive you," she said, laughing. "You and I are not looking at things from the same point of view; but we have had a splendid morning together, and I have enjoyed every minute of it. And to-morrow I go on my way."

"And to-morrow you go," he repeated. "Can it not be the day after to-morrow?"

"I am a bird of passage," she said, shaking her head. "You must not seek to detain me. I have taken my rest, and off I go to other climes."

They had arrived at the hotel, and Oswald Everard saw no more of his companion until the evening, when she came down rather late for *table d'hôte*. She hurried over her dinner and went into the salon. She closed the door, and sat down to the piano, and lingered there without touching the keys; once or twice she raised her hands, and then she let them fall on the notes, and, half unconsciously, they began to move and make sweet music; and then they drifted into Schumann's "Abendlied," and then the little girl played some of his "Kinderscenen," and some of his "Fantasie Stucke," and some of his songs.

Her touch and feeling were exquisite, and her phrasing betrayed the true musician. The strains of music reached the dining-room, and, one by one, the guests came creeping in, moved by the music and anxious to see the musician.

The little girl did not look up; she was in a Schumann mood that evening, and only the players of Schumann know what entralling possession he takes of their very spirit. All the passion and pathos and wildness and longing had found an inspired interpreter; and those who listened to her were held by the magic which was her own secret, and which had won for her such honor as comes only to the few. She understood Schumann's music, and was at her best with him.

Had she, perhaps, chosen to play his music this evening because she wished to be at her best? Or was she merely being impelled by an overwhelming force within her? Perhaps it was something of both.

Was she wishing to humiliate these people who had received her so coldly? This little girl was only human; perhaps there was something of that feeling too. Who can tell? But she played as she had never played in London, or Paris, or Berlin, or New York, or Philadelphia.

At last she arrived at the "Carnival," and those who heard her declared afterward that they had never listened to a more magnificent rendering. The tenderness was so restrained; the vigor was so refined. When the last notes of that spirited "Marche des Davidbinder contre les Philistins" had died away, she glanced at Oswald Everard, who was standing near her, almost dazed.

"And now my favorite piece of all," she said; and she at once began the "Second Nocturne," the finest of the eight, but seldom played in public.

What can one say of the wild rush of the leading theme and the pathetic longing of the intermezzo!

The murmuring dying notes,
That fall as soft as snow on the sea;
and
The passionate strain that, deeply going,
Refines the bosom it trembles through.

What can one say of those vague aspirations and finest thoughts which possess the very dulcist among us when such music as that which the little girl had chosen catches us and keeps us, if only for a passing moment, but that moment of the rarest worth and loveliness in our unlovely lives?

What can one say of the highest music except that, like death, it is the great leveller: it gathers us all to its tender keeping—and we rest.

The little girl ceased playing. There was not a sound to be heard; the magic was still holding her listeners. When at last they had freed themselves with a sigh, they pressed forward to greet her.

"There is only one person who can play like that," cried the major, with sudden inspiration—"she is Miss Thyra Flowerdew."

The little girl smiled.

"That is my name," she said, simply; and she slipped out of the room.

The next morning, at an early hour, the bird of passage took her flight onward, but she was not destined to go off unobserved. Oswald Everard saw the little figure swinging along the road, and he overtook her.

"You little wild bird!" he said. "And so this was your great idea—to have your fun out of us all, and then play to us and make us feel I don't know how, and then to go."

"You said the company wanted stirring up," she answered, "and I rather fancy I have stirred them up."

"And what do you suppose you have done for me?" he asked.

"I hope I have proved to you that the bellows-blower and the organist are sometimes identical," she answered.

But he shook his head.

"Little wild bird," he said, "you have given me a good idea, and I will tell you what it is: to *tune you*. So good-bye for the present."

"Good-bye," she said. "But wild birds are not so easily tamed."

Then she waved her hand over her head, and went on her way singing.

A Little Mistake.

"Well, no one can say I have not made good use of my time," said a large, white mushroom to a daisy that grew in the turf close by.

"You certainly have grown surprisingly fast," said the daisy, thoughtfully.

"Yes, and I've done it all since you folded your petals and went to sleep. I daresay, now, you are wondering where I was last night."

"No," said the daisy, "I wasn't. To tell the truth, I was wondering where you would be to-morrow night."

A story illustrating the reticence of the Scots is credited to Ian MacLaren. A train was at a station, when a porter put his head into a carriage and called out: "Any one for Doun? Change for Doun! Any one for Doun?" No one moved, and in a few minutes the train was speeding along, not to stop again for nearly an hour. Then an old Scotsman turned to a lady sitting near her and said: "I'm for Doun, but I'd no tell that man so."



(Address all letters to Cousin Dorothy, Box 92, Newcastle, Ont.)

The Lookout Regiment.

Our Regiment covers quite a lot of ground now. We have soldiers in Ontario, Quebec, Manitoba, and the Northwest Territory.

Names of new recruits are: E. A. Todd, Monie Cowan, Mary Beman, Albert E. Wood, Florence M. Craig, George Bowen, Laura Chilton, Nelson D. Huddleston, Bruce Johnstone.

I want to thank you all for your nice letters. I am not a letter-box, you know, but a real person, who takes a deep interest in you all. One of the soldiers writes: "I will try to keep the two rules mentioned. I hope the army will increase and help to strengthen God's cause." Another says she has "read with pleasure of the Lookout Regiment, and hopes that it may be a great success." Another says, "I will do my best to follow the two rules. I think this is a good thing, and will help it on all I can."

I have no room to quote from all the letters, but wish to thank Florence Craig especially for hers, which she has asked me not to publish.

Don't forget that all letters for the first Prize Competition must be posted before the end of August. Good-bye, friends and comrades.

COUSIN DOROTHY.

The Vain Chipmunk.

A gay young chipmunk sat on a rail,
Eating a nut and switching his tail,
With a saucy, impudent air,
With keen, bright eye and perked-up ear.
He said to a fox who then drew near,
"Come and catch me now if you dare!"

Now, the fox was old and passing sly,
He knew the chipmunk was quick and spry,
And could whisk away if he chose.
So he said, with a bow and a smile polite,
"How well you look this beautiful night,
And how sleek and bright are your clothes!"

"Your brown-striped coat and your curly tail
Are sure to make other chipmunks pale
And hide them afar from sight,
No doubt your beauties I don't see clear—
Alas! alas, if you'll only come near,
For my eyes are near-sighted quite!"

Whereupon the poor chipmunk, vain with praise,
Jumped quickly down to let the fox gaze
Upon his beautiful tail.
A grab and a squeal! The fox on the ground
Seized the chipmunk with one great bound—
And this is the end of the tale.

Making Sunshine.

I was sitting in my room looking out upon the dreary landscape. The day was a dark, cloudy one, and the sun was entirely hidden from sight. If that had only been shining, it would not have seemed so dreary. I really felt downhearted and wished that the clouds would pass away and the sun shine out again.

I was startled a little by a quick rap at the door, and as I opened it a little girl stepped in with something wrapped up carefully in her hands.

"Why, Kitty, where did you come from this dark, stormy day?" I asked as I caught a glimpse of the child's face.

"Right from home, and I brought you a blossom from the geranium that you thought was so pretty," she answered. She gave me the bright, sweet flower, and as I stooped to kiss the fair face before me I asked:

"How could you bear to pluck the flower, when it would have remained fresh and sweet so much longer upon the green stem?"

"There are more flowers upon my geranium, and they made the room so bright and cheerful that I thought I could spare one at least—" And then she suddenly stopped while I added:

"To make my room bright also."

"Yes." And then my little visitor turned away, leaving behind something brighter than sunlight.

I did not feel lonely after she went away.

The place seemed full of sunlight all the day, although the clouds became thicker and darker and the storm more severe. It was not the little flower so much that made the sunlight, as the kindly deed of the sweet child. Surely a little deed of thoughtfulness will often carry sunlight to the soul.

Sir Edwin Landseer's dog, as the story was told by the artist to Mrs. Ritchie, was so used to being taken for a walk at four o'clock in the afternoon, when Sir Edwin was in the habit of ceasing work for the day, that he knew when the hour was approaching and would crouch as near his master as possible, suggesting by thumps of his tail on the floor that it was time to go out. One day Sir Edwin was so absorbed in his work that at five o'clock he was still before his easel. Somebody having opened the studio door, the dog went out into the hall and shortly returned carrying his master's hat, which he laid at his feet as a strong hint that it was high time they went for their usual exercise.

THE QUIET HOUR.

Ruling the Tongue.

"Thou must be true thyself. If thou the truth wouldst teach. Thy soul must overflow, if thou Another's soul wouldst reach. It needs the overflow of heart To give the lips true speech. Think truly, and thy thoughts Shall the world's famine feed. Speak truly, and each word of thine Shall be a fruitful seed. Live truly, and thy life shall be A great and noble deed."

We all know that the tongue is an unruly member, very hard to control. We have found that out by sad experience only too often. Perhaps that was one reason why people who were trying to lead holy lives used to run away from society altogether, fancying they were safe from temptation if they never had anyone to speak to. Living a hermit life in a cave may be one way of keeping the tongue out of mischief. But it is rather an unsatisfactory way. Besides, it is not open to most of us, even if we cared to adopt it.

St. James says that every kind of beast, bird, serpent and fish can be tamed, "but the tongue can no man tame." This is certainly discouraging, especially as he has already stated that any man who seems to be religious is only deceiving himself unless he succeeds in bridling his tongue. He seems to think that if any person is able to perform this almost impossible task, he will be able to control all the rest of his body: "If any man offend not in word, the same is a perfect man, and able also to bridle the whole body." If this is a proof of perfection, then we are very far indeed from being perfect. How seldom does a day pass without our saying something which would have been better left unsaid. Often and often we would gladly recall the words as soon as they are spoken, but that is impossible.

"Boys flying kites haul in their white-winged birds: You can't do that way when you're flying words. 'Careful with fire' is good advice, we know: 'Careful with words' is ten times doubly so. Thoughts unexpressed may sometimes fall back dead. But God Himself can't kill them when they're said."

Think of all the quarrels you have heard of, or have been mixed up with. Have not nine-tenths of them, at least, been caused by words? One person has said foolish, spiteful or unkind things about another, behind his back, and some kind friend has taken the trouble to repeat these words to the injured party. And, just here, I should like to remark that if tale-bearers were only sat upon as decidedly by grown-up people as they are by school-boys, the world would get on much more comfortably than it does.

"Behold, how great a matter a little fire kindleth!" Fires of anger and hatred, which rage for many years, are generally started by words, and fresh fuel is constantly being heaped on the conflagration by more words. What about ourselves? Are we always perfectly blameless in such cases? If we don't start the blaze, do we never add a few sticks when we are discussing the matter? We know well enough that such discussion seldom does anything but harm, and we don't want to do harm. Why, then, are we always so eager to discuss irritating subjects?

Do you know, I believe when we try to control our tongues we generally make the great mistake of beginning at the wrong end. The tongue is a sort of indicator of disease within. When a doctor looks at a man's tongue, and finds it foul and unclean, he doesn't go to work with cleansing washes to purify it. If he could cleanse it in that superficial fashion, the patient would not be helped very much. The hidden trouble would be as bad as ever, and presently the tongue would again reveal it. You might keep constant watch over the tongue, so that it could never get coated or furred, and that would be as sensible as binding and gagging the sentry at the door of your castle so that he might not be able to disturb you by giving warning of danger. I think one reason St. James lays so much stress on the necessity of keeping the tongue under control is because language is a very important outward sign of the condition of the heart within. We can't see what a man's thoughts are like, but his words will, sooner or later, reveal the purity or impurity of the fountain from which they flow. "Out of the abundance of the heart the mouth speaketh."

The tongue is a pretty safe index of both body and soul. By looking at it, one may judge of a man's physical condition, and by listening to the words it utters, one may judge of his spiritual condition. If the tongue is constantly uttering spiteful, malicious or unkind words, it is very plain that the fountain of the heart is tainted. If we loved

others, we should not wish to speak evil of them. What is the use of cleansing the tongue, if the darkness and corruption within are allowed to grow worse and worse? So, I say, we are apt to begin at the wrong end, when we try to control our words rather than our thoughts. Watch must be kept over the door of our lips, of course, but if all our thoughts were brought into subjection to Christ, words would fall into line naturally and easily. God's great gift of love should be earnestly prayed for, and striven for, every day. Watching our words alone will never cure the evil. You can't grow grapes on thorns, or figs on thistles, although you might be able to tie them on so cleverly that the world would be deceived for a time. But God can never be deceived. He looks at the heart, and will not be satisfied with disciples who say unto Him, "Lord, Lord," but bring forth no fruit of love, joy and peace. We have need, then, to be careful with words, for they are sharp-edged tools, and may do terrible mischief if they are carelessly handled. But we have more need to be watchful over thoughts, for they are the material from which words are made. "Keep thy heart with all diligence; for out of it are the issues of life." Evil within is sure to come to the surface sometimes, therefore one whose words are always perfect must be holy in thought as well as in act. Only one man was ever perfectly sinless, and even his enemies saw the outward sign of this holiness, saying, "Never man spake like this Man." When a paralyzed man was lowered to the feet of the Good Physician, He was not satisfied with healing the bodily disease only, which was an effect rather than a cause, but went to the root of the matter. He first healed the soul, saying, "Thy sins be forgiven thee"; then, that all might see the outward and visible proof of that invisible healing, He said,



"SKETCHING FROM NATURE."

"Arise, and take up thy bed." So it is with this disease of evil-speaking,—it is an effect rather than a cause. When the soul is healed and cleansed, the tongue will soon bear witness of the fact. Very truly has the wise man said, "As he thinketh in his heart, so is he." We may try to conceal our real character, but it cannot be hidden long. As Emerson says, "Use what language you will, you can never say anything but what you are." Hope.

"Sketching from Nature."

The clever painter, A. Weisz, has here given us a charming picture. The easy attitude of the youthful artist as she carefully measures with eye and pencil the scene to be copied, is very natural and graceful, and the earnest face and simple dress are in perfect harmony with the whole surroundings. That faithful dog, too, keeping guard over his dear young mistress, is a striking figure, and we can notice the mingling of patience and watchfulness in his face and posture. The broad expanse of sea, with just a tiny vessel in sight; the beach and cliffs, and the shadowy background, all speak of vastness and loneliness, yet of a restful calm that sort of majestic calm which nature alone can portray.

Spread of the English Language.

Writing on the decline of the French language, M. Jean Finot points out that at the end of the last century French was the language spoken by the greatest number of civilized people, whereas now it stands fourth. English is spoken by 116,000,000, Russian by 85,000,000, German by 80,000,000, and French by 58,000,000.

Travelling Notes.

THE VOYAGE HOME.

We feel that it is only polite to the Pacific Ocean to say that its conduct was so admirable on our return voyage that we could scarcely believe it really was the same turbulent and utterly demoralizing element we traversed last December, so we take our abuse back, and we won't do it again. After the first few days, during which one generally feels a little—little—rocky—(may we say? We don't mean slang, of course—but everyone must see that the term is eminently appropriate)—and also you have to get acquainted with your fellow passengers, and, as it were, shake down into your places. There is usually enough shaking! Well, after these preliminaries, we certainly had a delightful few weeks. All sorts of fun went on—games, prizes, etc. An imaginary birthday was instituted, with congratulations and everything in order, the ship presenting the honored lady with a magnificent cake, grandly iced, and filled with silver bits, nutmegs, thimble, buttons, etc. Then we had a mock trial. The prisoner at the dock (the only unmarried lady amongst the passengers) was accused of "riotous behavior, with intent to seize the ship!" Out of this an inexhaustible fund of amusement was obtained. The men worked all day over the case, and the examination of the witnesses was killingly funny, the counsel for the defense being especially clever. Also we had a judge in wig and gown, which made the whole thing most realistic. With these diversions, accompanied by the loveliest weather, the weeks slipped by, and then we had a day at Honolulu, which seemed even more perfect in beauty and climate than when we were there before. Certainly Honolulu is aptly termed "the Paradise of the Pacific."

Again we walked and again we drove and shopped, and again we were astonished at the state of entire up-to-dateness to which this comparatively small and new city has arrived—and all this civilization amidst such a glory of tropical luxuriance! The three chief hotels—the Royal Hawaiian Hotel, the Eagle House, and the Arlington—are run on the American plan, and have every convenience, and, if the traveller prefers, cottages can be hired on the grounds of the first mentioned, and one has still the privilege of enjoying the hotel verandas and listening to the nightly band concerts. A traveller remarks, "One difference between these hotels and those of New York and other cities is, that the lovely palms, plants and flowers grow in the yard instead of in the corridors and office." Well, one might linger and linger (with tropical tardiness) over this most fascinating island, but we must remember that we have written a little about it before and so beware of possible repetition. We were fortunate to be able to land at all this time, for there has had to be such strict quarantine in consequence of the Bubonic plague, which is, however, now stamped out. We had to be examined four different times (tongues and pulses) during our return voyage. Tourists who have been going round the world have been terribly disappointed at not landing in so important and lovely a spot, but the law of quarantine was strictly adhered to. Upon returning to our ship, which was now covered with garlands, we found our passenger list had been considerably augmented, and chiefly with a Minstrel Troupe of about twenty-five members, which was a most exhilarating diversion. They had a brass band and a stringed orchestra, and were good enough to give us an evening's entertainment of songs, dances (including a genuine cake-walk), and, in fact, all the amusing features of a good variety show. A collection was taken up for a poor widow with eight children in the steerage, and amounted to over \$50.

Incidentally it might be mentioned that anyone, especially ladies, taking a tour of this kind, has to be provided not only with an almost unlimited stock of clothing, but of various grades. For instance, we left Australia in the short-day, chilly season, glad to put on some warm underclothing. In a few days the heat was so intense that the very lightest clothes were all one could stand, and white dresses pervaded the decks, cabins and saloons (gentlemen and ship's officers also in white); and everyone was groaning with the heat. Then it got quite cold as we neared Cape Flattery, soon becoming warm again. Personally, we would rather groan with the heat than the cold, although we mean no disrespect to our own dear "Lady of the Snows," as Kipling so wickedly called us!

After Honolulu, the voyage seemed very near its end. All things go by comparison, so the voyage of ten days, which used to sound rather long, seems quite short when it simply winds up a month of sea—sea—sea, the only change, or, rather, addition, to the view being an occasional whale, flying fish, loon, albatross or other bird. The break of the landing at Honolulu becomes doubly

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Dorothy, Box 92
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delightful under these circumstances. Another few hours ashore was allowed us at Victoria, and what a rush did we make for the fresh fruit, strawberries, cherries, etc. Some of the men said they just longed to lie down on the grass and have a regular good roll, so delightful did it look after the long voyage. This was, of course, our first footing on home soil, although only for a few hours. Soon now would most of us separate and be whirled away to the four winds. Our genial fellow-travelers were from all parts—England, Ireland, Scotland, Spain, etc.—some going round the world, others simply bound for certain points. All were looking forward to a pleasant few days in Vancouver, but, alas! it rained all the time. We had the opportunity, though, of entertaining them, and sorry indeed were we all when the inevitable "good-byes" had to be said. To meet with clever, travelled and genial companions is truly an education which, added to the travel itself, makes one's mind feel of a very different size. It is a mystery how anyone who has travelled, and thus seen Nature's glories and met with cultivated, intelligent people, can be vain. However, we are not going to moralize now, for again are we on our own shores—far away yet, but still CANADA!

"Breathes there a man with soul so dead,
Who never to himself hath said,
"This is my own, my native land!"
Whose heart hath ne'er within him burned,
As home his footsteps he hath turned
From wandering on a foreign strand?"

Whew! But the Wind Blew.

A writer of thrilling sea-stories, who spends his leisure hours on Long Island, has contributed this tale of the dangers of the deep to the *New York Sun*:

James W. Eaton and a party of friends had a thrilling thirty-six hours' experience on the ice-cold waters of Long Island coast. The party left the wharf at Babylon at 7 a. m., in the new launch Clip, en route for New York. The boat worked well until after the little craft was well out on the ocean and headed due west for New York. Then the valves of one of the engines began to show signs of giving out.

Every effort was made at once to repair the delicate mechanism, but to no avail.

It was impossible to drive the craft faster than a snail's pace.

Born of a determination not to turn back, the brave crew refused to believe that they were in imminent danger, and remarked to each other that they would be in the harbor before night.

The tiny craft with her crippled engines continued to make slower and slower progress against the rapidly increasing wind, which was beginning to blow a gale.

Darkness soon came on and the boat had long ere this drifted out of sight of land.

By this time the gravity of the situation dawned at once upon the entire company, and instead of joking with each other, each one began to condole with the other.

The wind by this time was blowing almost a hurricane and the seas were running very high.

The thermometer was falling rapidly and the ice-cold blasts well-nigh froze the lost mariners.

The cabin windows were buttoned down and the company began to wait and watch for what they feared was the end.

The wind continued to blow and the Clip began to pitch and rock like a cork.

The seas broke over her constantly. Sleep was impossible, even had the cold not made dozing a dangerous pastime.

As the hours began to grow shorter the spirits of the company sank lower and lower.

Finally day dawned and an observation was taken. It was found that they had spent the night on Romer Shoal, between Coney Island and Sandy Hook.

As soon as it was light the anchor was again hoisted and an effort made to start the craft on its journey into the port. The wind was seemingly blowing harder each moment and the seas continued running mountains high.

The engine for a time refused to work at all, but finally the break was temporarily repaired and the Clip once more began to make real, but slow, progress.

The trip into the harbor was very slow, but the point of destination was finally reached.

Tug men and heavy weather sailors to whom the incidents of the trip were related could scarcely believe the story, and when confronted with the facts regarded the escape of the party as nothing less than a miracle.

Birdies' Lullaby.

Rock-a-by robins, the dew-drops are falling,
The field mouse is tucking her babies in bed.
Up in the treetops, the katydids, calling,
Chide wakeful birdies. The west clouds gleam red!
Under the trees the shadows come creeping,
Out from the marshes the frogs croak "Good-night!"
All the wee babies in wee cradles are sleeping,
Rock-a-by robins! The moon is in sight!
Softly a breeze sets the cradle a-swinging,
A curious owl takes a peep in the nest.
Slyly, the bats, their moonlit way winging,
Watch the old bird hush the robins to rest.

"I know why little black boys is so happy,"
said five-year-old Willie.

"Why?" asked his mother.
"Cause their mothers can't tell when their
hands are dirty."

Recipes.

PEACH.

Use one part very sour apple juice to two parts peach juice, and make like other jellies. The skins of blood peaches makes a delicious jelly.

WILD BLACKBERRIES.

These make a nice jelly if taken when quite a proportion of the seeds are red. Heat, crush and strain, and use a pound of sugar to a pint of juice.

CURRENTS.

A very nice jelly is made by using half red and half white currant juice. Remove the defective fruit and leaves; heat slowly, crush and strain. If a small quantity is strained, the bag may be squeezed without detriment to the product, but should be washed often. Heat the sugar; use pint for pint, and treat as directed for rhubarb jelly, boiling twenty minutes before the sugar is added. Currant jelly should be made on a sunny day.

TUTTI-FRUTTI JELLY.

Mix together equal quantities of ripe fruit—currants, cherries, white, black and red raspberries; heat, squeeze well; add two pounds of sugar to each pint of juice, and finish like other jelly, but with a little less boiling.

CHERRY DAINTIES.

Stone a quart of ripe cherries. Wash a cupful of pearl tapioca, cover it with cold water, and let it stand over night in the top of a double boiler. In the morning add a pint of boiling water, and simmer until the tapioca is clear. Sweeten to taste, and add the quart of stoned cherries; turn into a mould to set, and when perfectly cold, remove and serve with whipped cream. Strawberries or other fruit may be used instead of cherries.

STEAMED CHERRY PUDDING.

To one pound of stoned cherries add a table-spoonful of sugar and two of water. Cover with a crust as for a steamed pudding, pat into shape, and steam an hour. Serve on a deep platter with rich sauce. Whipped-egg sauce may be used.

RASPBERRY VINEGAR.

To 4 qts. red raspberries, put enough vinegar to cover, and let stand 24 hours. Scald and strain it. Add a pound of sugar to one pint of juice, boil it 20 minutes and bottle.

SPICED CURRANT ROLLS.

Dissolve a yeast cake in a pint of scalded and cooled milk, add flour for a sponge; when light, add 3 eggs, $\frac{1}{2}$ cup each of sugar and butter, a tea-spoonful of salt, and flour to knead; when light, roll into a thin sheet, brush with butter, dredge with sugar and cinnamon, sprinkle with currants, roll, cut into rounds, and bake about 20 minutes.

CURRANT WINE.

Have the currants quite ripe, weigh and to each pound of fruit use half a pound of sugar. Mash and strain the juice, adding half a pint of water to one quart of currants. Put into a clean keg, and let ferment for six weeks (filling daily), then seal up.

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

March, May and June, and even dull November, all win from the poets a passing song, but August rarely gains a word of praise. Yet she is fair as any of her sisters, and crowned by Mother Nature with many gifts—truly an *august* month. Then we may see the bounteous fields of golden waving grain, joyously unconscious of the approach of the keen-bladed reaper; or the "shocks" already garnered, and again the bright green aftermath where so lately the mowers made merry. A blaze of golden-rod lights up every neglected corner of the old rail fence; the orchards already tempt us with Pomona's first fair gifts, and all about us rests a balmy haze. The calm river moves indolently along, as if unwilling to leave the peaceful scene; or perchance it but lingers to make love to the snowy lilies that nestle so confidently on its placid bosom. The boy of the house, free from the cares of school, leaves footprints, unmarred by shoe leather, along the dusty road as, armed with fishing-rod, he wends his way, for he knows (as all boys do) the place the finny beauties love to hide. If unsuccessful in the angler's art, he finds ample recompense by having a delightful plunge in the cool water.

He is somewhat of a philosopher, this tow-headed country urchin, a living sermon on the benefits of contentment, fittingly exemplifying Spenser's words:

"Some that hath abundance at his will
Hath not enough, but wants in greatest store,
And other, that hath little, asks no more,
But in that little is both rich and wise,
For wisdom is most riches."

There are no blessings that can be compared to contentment and cheerfulness. We may have health, wealth and talents, and, lacking those blessings, be miserable; while if we possess them, we may easily dispense with much the world considers essential to happiness. Some wise writer tells us that "Age without cheerfulness is like a Lapland winter without a sun," and exhorts us to encourage a cheerful spirit in youth, saying, "Time makes a generous wine more mellow, but it will turn that which is early on the fret to vinegar." For our own comfort then, if for no nobler reason, we should strive to be contented and cheerful, for the world is

constructed largely on the looking-glass principle, and reflects to each individual much of his own personality; if that be pleasant, the world greets pleasantly; if morose and solemn, it wears a similar aspect. Smiles are as cheap as frowns, and much lighter to carry, so we should keep a large stock on hand to brighten our own lots and be a blessing to those about us.

"Laugh, and the world laughs with you;
Weep, and you weep alone,
For this grand old earth must borrow its mirth,
It has sorrow enough of its own."

Your loving— UNCLE TOM.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c; 3rd, 50c.

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1—CONUNDRUM.

How does an engaged lady resemble a violin? IKE ICICLE.

2—ANAGRAM.

A marshy level, spreading wide,
Where plashy pools and sluices hide,
By rushes fringed on every side,
And cat-tails velvet brown,
There is no hill or forest nigh,
No need to lift an upward eye,
Unless you lift it to the sky;
The landscape is ALL DOWN.

To yonder pond—perhaps a rood—
The wild duck leads her fluffy brood,
As if in suicidal mood,
They all intend to drown;
But every palmed will float
As lightly as a fairy boat,
And like the scenery, you may note,
Those ducklings are ALL DOWN.

3—CONUNDRUM.

With what malady may a girl who is deeply in love with a fellow named William be said to be afflicted? IKE ICICLE.

4—DIAMOND.

1, a letter; 2, a color; 3, belonging to ships; 4, to catch; 5, a letter. FLO.

5—CENTRAL DELETION.

When the central letter is dropped.

- 1—From a hard substance it becomes a repast.
- 2—From an animal it becomes stockings.
- 3—From royal it becomes actual.
- 4—From punishable it becomes a chime.
- 5—From a giver it becomes an entrance.
- 6—From pertaining to a duke it becomes double.
- 7—From bend it becomes stay.
- 8—From animal it becomes first-rate.
- 9—From lament it becomes early day.
- 10—From delay it becomes an animal.
- 11—From reefs it becomes a mineral.
- 12—From necessary to life it becomes a small bottle. F. L. S.

6—DELETION.

My whole is found on the wide blue sea
Where a rock or shoal may chance to be.
Its value never can be told,
For it has oft saved many a soul,
Guiding the captain on the deep
While the twinkling stars are fast asleep.
The total is a simple word
That, if deleted, is oft times heard
When parents speak of a happy home
E'er their noble son to the war did roam. NOTA BENE.

7—SQUARE.

1, a novelist and poet; 2, a peninsular country of Asia; 3, a musical instrument; 4, effect and emblem of sorrow; 5, a plant. F. L. S.

Answers to July 2nd Puzzles.

1—Apple, wild cherry, maple, pine, oak, elm, sycamore, ash, beech, birch.
2—Dears talking—deer stalking.
3—Pardenberg.
4—Dominique, anthobian, view, Irene, dross, hornet, astatic, rialto, undercroft, mat—David Harum, E. N. Westcott.

5— f o e
a n n
c r a t e r s 6—Atheist, theist.
o n t a r i o
w h e r e o n 7—River.
t i n
d o e

8—Beal, deal, heal, meal, peal, real, seal, veal, weal, zeal.

SOLVERS TO JULY 2ND PUZZLES.

"Sartor," "Diana," Mrs. Annie Rodd, Edna McKinnon, "Grace," Moses R. Martin, Minnie E. Sears.

ADDITIONAL SOLVERS TO JUNE 15TH PUZZLES.

"Sartor," Edna McKinnon.

COUSINLY CHAT.

"Rolly," "Diana" wishes to know if you use Collins' Globe Dictionary. You do not come to see us so often of late.
"Grace"—We welcome you as a clever solver. Why did you not start earlier in the race?
M. R. M.—Your work was all right, but we do not give prizes to everyone who answers, but only to those who send the most during a stated time.
M. E. S.—You are very welcome, American cousin. I have some real cousins living in your State. I hope you will come often.
"Ike Icicle."—Do not send large form puzzles. Conundrums, charades, etc., take up less room and are more acceptable. A. A.

GRATEFUL JOE.

BY GRANT ALLEN.

It was very close quarters for Joe in the larder. He had to bend himself up half double under the shelf, behind the big brown bread-jar, and sit still as a mouse from eight o'clock when he first crept in, till the family retired altogether for the evening. However, there was plenty to eat—that was one comfort—and he was used to crouching. He had helped himself to a couple of sardines from an open tin, and a slice of cold mutton, and some apricot jam, and bread at discretion. He had dipped one dirty finger into the Russian caviare, and had licked it experimentally, with the result that he didn't put much stock in that; then nobs do go in for such nasty messes. He had also investigated the jellied remains of the pigeon-pie, and formed a low opinion of Gorgona anchovies. But now, he was doubled up just as close as he could squat, arms clenched around knees, and head bent into the gloom of the shadow at the corner.

He crouched with a beating heart, for danger threatened. Twice the cook had come in during the course of the evening without ever perceiving him; but now it was locking-up time, and he heard strange voices just outside in the kitchen. They were not the voices of the cook and the parlor-maid, with which two hours' acquaintance had made him quite familiar. These people talked like nobs—or as we others would say, they had the accent of gentfolk. If once they mounded off, these coast would be clear, and Joe might explore the whereabouts of the plate-basket.

He was not a burglar by trade—not a trained, deliberate, scientific burglar. He was the merest amateur—a common street arab, a simple wait and stray, who finding the back door left open by pure cat-like instinct for the larder. But once he had entered there, it would surely go ill with him if he couldn't pick up just a stray silver spoon or two.

It was always Dick Agnew's way to "lock up" in person. and on this particular night, Clarissa went with him. As he paused to turn the key in the larder door—a manoeuvre which Joe had never anticipated—mere anxiety made the crouching little wretch within give a nervous push to the big brown bread-jar, and so betray himself.

Clarissa seized her husband's arm convulsively. "Why, Dick!" she cried, aghast, "there's somebody in the larder!" Joe listened and trembled. "Rats, rats, dear," he answered. "But Dick only laughed. "If you mean to insinuate, Dick, Clarissa drew herself up. "If you mean to insinuate, Dick, you think I'd allow a rat in my establishment, why all I can say is—oh Dick, listen there again! It's a burglar! He's moving!"

Dick opened the door, and, candle in hand, stepped into the larder. Joe crouched closer than ever. Dick glanced around the place with the casual glance of masculine scepticism. "Not a burglar in sight," he said. "Hi! Stop! What's this? Well, I do declare! By Jove! there is somebody."

It was not in Joe's nature to reason, but to act. Swift as lightning, he had made up his mind what was the only thing to do in so dire an emergency. It was neck or nothing. Blow down the candle at once, rise straightway to his feet, give the nob a good "un well below the belt, and fly straight for the back door before the enemy'd recovered his breath and his senses.

No sooner thought than done! Before Clarissa had time to give one good loud scream, Joe had started from his hiding, placed, made short work of the candle, and left them in darkness. Dick found himself face to face with an unseen antagonist. He lunged forward savagely for that good "un below the belt. With all his force, he planted his little fist straight in the middle of Dick Agnew's waistcoat. To his immense surprise, instead of vaguely conscious of a terrible blow and the certainty of capture. No chance for it now. "Reformatory, by jingo!" he cried. "Bring a light," Dick Agnew said. "The burglar has knocked clumsily against my galvanic belt, and I'm afraid he's hurt himself."

Clarissa brought a lamp from the passage, white-faced. There lay poor Joe dirt, rags, and tatters, wofully bleeding from the back of his head, the unhappiest young ruffian in all Surrey that evening.

Dick looked at him ruefully. "He's a wicked little beggar," he said. "He did mean to hurt me. We must take him upstairs, and sponge this ugly wound for him."

Joe let himself be taken. He was resigned to the reformatory. Such Dick carried him in his arms with no little loathing. Such filth! such tatters! But humanity is humanly. They sponged him on the wound with warm water, and gave him some necessary further examination. Dick thought it would not be necessary to call in a doctor, at least that evening. Clarissa, more practical, suggested a policeman. But Dick wouldn't hear of it. Burglar or no burglar, the boy was badly hurt; they must keep him till morning, and then see what could be done with him.

Joe listened and wondered. What! leave him in bed alone! Why, he could creep out in the night and get back to his pals. My eye, wot larks! Such a fool as that there nob he had never yet come across.

But, oh, the marvels that ensued! A warm bath, a night-dress, a comfortable bed, dry lint, cosy bandages! Joe's contentment for "that there nob" grew deeper and deeper each moment. With a very good grace he tumbled off to sleep, determined when he waked to resume his rags, and make away to his old haunts again.

He didn't wake, however, till broad daylight. And even then he couldn't stir; he was weak and ill. He lay in three days in the room at the nob's before he could get up again. In the course of those three days he learnt very soon that Dick and Clarissa had two different policies. Clarissa's idea was that Dick owed it as a duty to society to give Joe in charge for attempted burglary. Dick's idea was that a boy of twelve who crept into a house and helped himself to food to keep him from starving should be given another chance, and made into a respectable member of society.

At the end of the three days, Joe was certain of two things: first, that the nob was the biggest fool in England; and second, that he himself would lay down his life for him. Kindness, gentleness, human treatment were novelties to Joe. He had never yet met with them. He could see the nob was such a "pettickler" fool that, having caught a burglar who red-handed in the act, he refused to prosecute him. But he could see the nob was all tenderness as well—such tenderness as Joe had never yet conceived possible.

II.

In the end it was Dick who had his way. Joe stopped on indefinitely. He didn't live nowhere, he said, and hadn't got nobody as he called his father. Mother was in prison six months for chickens. He didn't have nowhere as he could go to sleep; slept mostly under hay-ricks. Didn't know nothing about schools and such; could a great deal liefer stop here and about schools and such; here else and earn good wages.

So on Joe stopped. He wasn't a servant, because he couldn't do anything. His duties were light, and his pay magnificent. He cleaned the knives, and blacked the boots, and polished the silver in the cook's way, and obstructed the housemaid in the performance of her duties. He did what he was told as well as he could, which was always badly. And he exasperated Clarissa. He was profusely grateful to Dick; he fawned on him like a spaniel. He cringed when Dick spoke, out of pure love and reverence. He worshipped Dick's shadow. He lied, he stole, he used bad language; he couldn't be cured of helping himself with his fingers from dishes in the larder. He possessed every vice human nature wots of. He grovelled with shame

when Dick told him of his sins, and solemnly declared he would never, never, as long as he lived, behave so. And straightway he went and did the same thing over again. In short, he was incorrigible. He loved and adored Dick, and utterly ignored the Ten Commandments.

Clarissa led a life of it. She was urging Dick forever to send Joe to "The Colonies." The Colonies, it is well known, can put up with the profoundest moral delinquencies. She would come in three times a week with a very long face, and exclaim: "Oh, Dick, what do you think that boy of yours has been up to now? He's eaten the sponge-cake, or 'he's drunk up the whole of the claret that was left from dinner,' or 'he's walked right across my beautiful bed of *lilium auratum*.' But Dick was imperturbable. He maintained that in time the lad would come all right; he had lots of good feeling; all that he needed was a vigorous course of kindly treatment. And he certainly got it.

One evening, about three months after Joe's first appearance in the family, an old gentleman dropped in for an hour's conversation. Joe had seen him before—in fact, knew him familiarly. He was the rummy old cove wot come round to talk with Dick about shabby, battered bits of rusty money they were both so crazy over. Dick had a whole lot of them locked up in drawers, to which he somehow attached a most ridiculous importance. On this particular evening, Joe was hidden behind the curtains, in pursuance of a design to "give the parlor-maid a turn" when she brought in the lamp and shut the windows. The rummy old cove was intensely excited over his last new find; and so was Dick Agnew. "Look at that!" the rummy old cove remarked with joy, drawing something invisible from his waistcoat pocket, and slowly unfolding two layers of tissue paper. "There's a beautiful Cunobelin for you! A finer Cunobelin than anything they've got in the British Museum! Not a doubt about its genuineness! I bought it direct from the navy who found it. Don't it make your mouth water?"

Dick looked at it longingly, lingeringly, lovingly. That was a Cunobelin! The finest gold coin of the pre-Roman period ever found in Britain. All the rest of that evening they talked over nothing but Cunobelins. Joe hadn't the remotest conception what their talk was about, and he cordially despised these shabby moneys of Dick's, which a fellow wouldn't have taken at a stall in the street for a couple of oranges. The nob was such to go! but there—Joe would die for him! And it was perfectly clear the nob wanted that old coin. Well, if so, Joe thought he knew the way to gratify him.

He was a grateful boy, was Joe, and he loved his benefactor. By and by, the rummy old cove got up to go. At the self-same moment, Joe, noiseless and stealthy, rose up from his ambush behind the half-closed curtain, and slipped out of the window. He knew which road the rummy old cove went home by; he had watched through the chink exactly where he placed what they called the Cunobelin in his waistcoat pocket. He chuckled in anticipation. Three minutes later, the rummy old cove came puffing round a corner. He was suddenly aware of a human hand rammed violently against the most vulnerable portion of his ample waistcoat. He drew himself in and caught his breath. But before he could recover himself, the owner of the hand had plunged one felonious hand into his pocket, and was off at full speed with his ill-gotten booty.

Purse and watch were all safe; but where, oh where, was the rummy old cove? Hot and panting with excitement, Joe burst back into Dick's room. He extended one open palm towards his employer. "Ere it is!" he exclaimed in a loud voice of triumph. "You take it, and keep it, nob! Ere it is—the Kew Nubbling!"

Dick gazed at it in horror. "Why, Joe," he cried, "how did you get it?" Joe's face beamed with pride. "Seed the old cove comin' round the nex' corner," he answered, all breathless. "Run my head agin 'is belt, and cleared off with the swag afore he knewed me. I was listenin' behind the curtains, and I saw as you wanted it. So I went for 'im, and grabbed it. Ere it is! you keep it!" His smile was radiant.

Dick clasped his hands to his head, and sank in his easy chair. "Clarissa," he cried, "this is awful! What a terrible position! Suppose Parker comes back! He'll think I sent the boy to steal it. I must go round with it at once, and explain and apologize."

Joe popped in turn into a chair with his hands on his knees. "Well, I never!" he said slowly. "Wy, talk about sprititude! You're just about the ongratefulest, meanest, spitest covey I ever did come across. A chap can't manage to do you a good turn nobow."

Regret to say that Joe is now on his way to swell the population of our Australian empire. And Clarissa sleeps once more untroubled.

A Little Girl's Lament.

Oh, Jack and Willie have a tent set up on grandpa's lawn; They go up every morning just as soon as it is dawn; And ere they have the nicest times, these long, bright summer days, Pretending they are soldiers—just the loveliest of plays.

But when I want to run with them, To join them, and have fun with them, Aunt Mary says 'I'll never do, I must not make a noise. Or romp and climb, or anything, And little girls should play with dolls, and not with little boys. And so Jimmie curls his hair and puts a ribbon on it, And then she gets my clean white dress, and little white sun-bonnet.

And down the garden path I walk, most primly and sedately, For 'little girls shud never run,' Aunt Mary told me lately. For 'little girls shud rush about, But oh, I want to rush about, There's not much fun in sitting still with only books and toys; There's not much fun in playing ball, All by myself against the wall— Oh, how this wretched little girl does envy little boys!

And Jack and Willie have a drum, and when they make a column, With lots of other little boys, all marching stiff and solemn, Then Willie is the drummer-boy, and makes a sound delight.

At least I think it so, although Aunt Mary says it's frightful, And oh, I want to run with them, To join them, and have fun with them, I'd dearly love to blow a horn, and march and make a noise, It's very hard to keep my hair in curl, When just across the road there are such happy little boys.

NOTICE.

Canadian Forestry Association.—From E. Stewart, Secretary, Ottawa, we have received a copy of the report of the first annual meeting of the Canadian Forestry Association, held at Ottawa on the 8th March last. The forests of Canada are of such great extent and of so much importance to the country that the problem of their preservation, while the present treeless demands careful attention, while the present treeless character of such large areas, especially on our West-ern prairies, shows the necessity and the promoters method of re-forestation and tree-planting, and the promoters of this Association felt that an organization such as has now been formed could do very much towards awakening an interest in these questions, and assisting in their solution. The objects and methods of the Association are fully set out in the report, which is nicely illustrated, and contains much useful information on the subject.

GOSSIP.

Last Call for the Flatt Sale of Shorthorns at Chicago.

Shorthorn breeders in the Dominion need hardly be reminded of the event or the date of the great sale of imported and Canadian-bred cattle to be held at Chicago on the 7th of August. Every one interested in Shorthorns, and thousands not yet interested as owners, but who hope to be "some sweet day" are thinking and talking about the big sale, and we are glad to know that the indications are that there will probably be a representation of breeders there from every Province in the Dominion, from Prince Edward Island to British Columbia, while Ontario breeders especially will be largely in evidence. Mr. Flatt we know is particularly solicitous that the Canadian contingent shall be a representative one, because it will show their interest in the enterprise, which is one affecting personally every breeder in the Dominion, as it will be an advertisement for Canada such as she never had before, one which will draw attention to the excellence of our stock, and a successful sale at this juncture will add materially to the selling value of every Shorthorn in this country. There are many men of means now making a start in stock-breeding in the United States and Canada, and if the Shorthorn average is to remain at the tail end of the beef breeds, they naturally cannot hope to get many of the new beginners to take up this breed. All Mr. Flatt hopes for is to see these cattle sell at their value. We venture to say that few breeders realize the amount of money risked at this sale, neither money nor labor having been spared, and so far as Mr. Flatt is personally concerned, we have reason to believe he does not expect to get much money out of it, but if the cattle sell for what they cost it is certain that the average will be a credit to the breed. But it is hoped that breeders generally will take a liberal and comprehensive view of the matter, and will stand by the man who has shown such commendable courage in championing the cause of the breed at a period when his action is calculated to be helpful to the whole interest. There are scores of breeders in these Provinces who have made such satisfactory sales during the past year or two that they can well afford to put the price of two or three or even half a dozen, average animals into a first-class imported cow or heifer to introduce fresh blood into their herds and found a family with a reasonable certainty of making it a profitable investment, and not one in a hundred could buy as good ones as the bulk of those in this sale if he undertook to import for himself, for the reason that Mr. Flatt was one of the first on the ground of all the importers this year, determined to secure the best that could be bought, and such good ones are very hard to find even in Britain, and are getting harder to buy there every day, owing to the great demand from so many countries, to say nothing of the expense and risk involved in importing, which are no small items.

There are also scores of well-to-do farmers in all the provinces who are contemplating going into breeding Shorthorns because of their intrinsic worth as beef-producing and general-purpose cattle, sure to be always in demand, and no better opportunity is likely to be afforded than this sale presents to secure the foundation stock of a trip to Chicago is not great, and the time need not be more than two days from most parts of Ontario, as one may take tea in Toronto and breakfast next morning in Chicago, but we would advise all to be there a day ahead, if possible, so as to have ample time to examine the stock.

One thing that may be relied upon is that those who buy will buy at their own price, and there is, in this case, no room for debate as to "who pays the duty," since there is none to pay, and Mr. Flatt, in order to make it as easy as possible for Canadians to secure some of the animals, has announced that cattle bought for Canada may come back in charge of the least loss of time, and may return by passenger train with the least loss of time, and will have only the freight to pay, which, especially if enough are bought by different buyers to make a carload, will be very little.

The Union Stock Yards in Chicago and the great daily live stock transactions there are in themselves a sight worth going to see, and this great sale will be an education to young farmers and breeders which they cannot afford to miss, even if they have no thought of buying or bidding. There is inspiration and incentive to enthusiasm in numbers, and this will be the greatest gathering of stockmen seen in America for the last quarter of a century. It will be a history-making event, and the attention to be associated with it in some way, if only as a spectator, will doubtless be an incentive to a very large attendance of breeders. Indeed, to those who are in the business who are likely to be buyers in the future, and the chances for making business connections, will, in all probability, many times repay the expense of the trip, which may be easily recouped five fold in the very next sale made to "Uncle Sam's" sons, who will find in this offering additional evidence that Canada counts for considerable in the production of high-class stock, and will want more of it.

WM. SHIER'S SHORTHORNS.

At Sunderland, Ont., Mr. Wm. Shier has for many years maintained a useful herd of Shorthorns, the foundation stock having been selected with much sound judgment from the noted Scotch-bred Stamford and Crimson Flower tribes, from which Mr. Shier has produced such noted animals as Crimson Knight—29077—winner of 1st and head of 1st-prize young herd at the Winnipeg Industrial Exhibition in 1898, Canada—19338—the sire of Crimson Knight, was also bred here, and was a 2nd-prize winner at Toronto. Imported Hopeful—15278—bred at Kinellar and sired by Gravesson, also bred here, and was a 2nd-prize winner at Toronto. Mr. Shier has also claimed this for his home, and left some splendid stock. With such sires in service, any herd must improve, and Mr. Shier has great reason to feel proud of the results. The sires employed to produce such results have been bred from the choicest of females in the breed, and we have only to mention the names of Red Knight, Hopeful, Crown Prince, Canada, and Riverside Stamp to recognize that a considerable amount of intelligence has been combined with judicious management in the breeding of this herd. The last named sire, now in service, may reasonably be looked to to maintain, if not to strengthen, the herd. He is a typical Shorthorn sire, full of character, evenly made, carrying great wealth of natural flesh character, and his ancestors, coming as he does from the thick-fleshed tribe of Bracelets, a family rich in showyard honors, while his sire, Sultan of Riverside, is an offshoot of the famous Kinellar-bred Matilda tribe. Mr. Shier has decided to dispose of his entire herd, with the exception of his old cow, and in his advertisement on another page he states that he is prepared to offer in breeding shape a few useful and choice females at or approaching their prime. The bulls will also be sold.

NOTICE.

Legume Growing and Fertility.—Prof. Frank T. Shutt, Chemist at the Central Experimental Farm, Ottawa, has issued in neat pamphlet form an admirable paper entitled "Soils and the maintenance of their fertility through the growth of legumes," which was read before the Natural History Society of Montreal, in March of the present year.

Chicken Fattening in Western Ontario.

Mr. F. C. Hare, a chicken fancier, of Whitby, has been chosen by the Dominion Minister of Agriculture to locate a chicken-fattening station somewhere near Chatham, Ont., where he will probably fix upon some enterprising farmer to take charge of the work. The Department has for a year or two been making experiments in fattening chickens by special food and shipping them to the British market, where they were sold at such a large profit that it is intended to introduce the methods generally, and Mr. Hare is being employed for this purpose. All the farmer need do is to grow chickens. He need not fatten them. He can sell them to the fattening institutions and they will do the rest.

g-glass principle, much of his own the world greets it wears a similar crowns, and much on a large stock on be a blessing to

you; now its mirth. UNCLE TOM.

y quarter, beginning r: For answers to 1.50; 2nd, \$1.00; 3rd, 75c.; 3rd, 50c.

with the following must not be copied on one side only of r: answers must on separate paper, which you send an- of issue is sufficient. rk intended for first m not later than the cond issue not later envelope open, mark r will come for one Armand, Pakenham,

violin? IKK ICICLE.

hide, IKK ICICLE.

note, N.

deeply in love with a IKK ICICLE.

hips; 4, to catch; 5, FLO.

opped, repeat. gs.

es double. small bottle. F. L. S.

blue sea, nce to be.

ard asleep. home did roam. NOTA BENE.

country of Asia; 3, a of sorrow; 5, a plant. F. L. S.

Puzzles.

oak, elm, sycamore.

dross, hornet, asta- E. N. Westcott.

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deal, veal, weal, zeal.

ZZLES.

d, Edna McKinnon, rs.

5TH PUZZLES.

you use Collins' Globe often of late. er solver. Why did but we do not give to those who send rican cousin. I have hope you will come rrm puzzles. Conn- and are more accep A. A.

"POST" FOUNTAIN PEN

SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute

to the greatest invention in fountain-pen construction of the age.

THE PRICE OF THE POST IS \$3.00. IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

A Great Offer: We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.



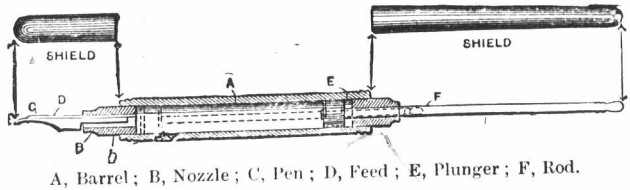
General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. "I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feels itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

Lew Wallace

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.



THE only self-filling and self-cleaning pen, manufactured in the world. To fill the pen, put the nib in ink and draw the piston rod up. To clean, put the nib in water and draw the piston rod backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.

The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen. Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heat may be."

Irab. Sankey

ADDRESS—

The William Weld Co., Ltd., London.

NOTICE.

By reference to our advertising columns, it will be seen that the Forest City Business and Shorthand College, London, Ont., is announcing the reopening for September 4. This reliable Business and Shorthand School has just closed a most successful year, and in the month of June passed no less than ten out of fourteen of its candidates before the Examining Board of the Business Educators' Association. Miss E. Hockin, of London, won the gold medal, and Miss A. Flynn, of London Junction, the silver medal, for the best record of the year in the shorthand department. Catalogues of either department of the College may be had by addressing the principal, Mr. J. W. Westervelt, London, Ont.

GOSSIP.

More Shorthorns and Shrops for the States.
Mr. S. C. James, of New Sharon, Iowa, recently made a visit to Ontario, and selected from several herds seventeen Shorthorns, with Scottish pedigrees, containing some of the oldest and most reliable blood in the country. From the herd of Hon. John Dryden, Brooklyn, a yearling bull of the Victoria tribe, granddam being the imp. cow, Victoria 67th, by Lord of the Isles 1828. This bull would please the most fastidious. Also from the same herd 2 choice heifers: a Cruickshank Lavender, sired by Mr. Dryden's imported bull, Collynie Archer, and a Victoria heifer in calf to the same bull. These are all superior animals, full of quality. From the herd of James L. Davidson & Son, Bolton, he purchased Village Beauty 9th, by Sittytion Hero - 2313 - a prizewinner in every

competition, and recently sold to W. Randall & Son, Brick Chapel, Indiana, for \$700; Roseflower 2nd, by Revenue, dam Roseflower by Sussex (imp.), granddam Rowan Berry (imp.), by Prince Rufus, tracing to Fancy by Billy, of the Orange Blossom tribe; Necklace 27th, sire Sittytion Hero, dam Bracelet alias Necklace 17th, by Councillor of State, bred by A. Cruickshank.

From John Davidson, Ashburn, Miss Mysie, by Royal Exchange, dam Mysie 16th by Baron Camperdown (imp.); bred by A. Cruickshank. (This cow is a descendant of the Mysie tribe, so well known at Sittytion.) Nina of Forest Lawn, by General George (imp. in dam), dam Mina Maid, by War Cloud; Scottish Lass 8th, got by Sittytion Hero, dam Scottish Lass 2nd; a yearling heifer got by Village Boy 9th, dam Lady Sonya; Sittytion Sort, a superior bull calf by Sittytion Hero, dam Flora 2nd, by Duke of Albany 2nd.

From John Miller & Sons, Brougham, an imported yearling heifer.

From Allan Bros., Oshawa, three of the Duchesses of Gloster tribe, viz. 32nd, 34th and 36th Duchesses of Gloster, all by the imported bull, Grand Sweep, and one in calf to imp. Collynie Archer.

Mr. James also purchased from Mr. Dryden 9 yearling Shropshire sheep, 5 rams and 4 ewes.

In addition to the above sales, Mr. John Davidson, Ashburn, also recently sold to Mr. Green, of Griffin, Texas, the 7-months bull calf, Sittytion Hero 16th, sired by the prize bull, Sittytion Hero - 2313 - dam Scottish Lass 6th and tracing to imp. Isabella; bred by Mr. Campbell, Kinellar. Mr. Davidson has a grand lot of calves in stock, and an extra young bull 13 months old, which are for sale.

H. CARGILL & SON,

CARGILL, ONTARIO, CANADA.

WE have the largest herd of Cruickshank and Scotch-bred imported cattle in Canada. Herd headed by the Dutch-bred Golden Drop bull, imp. "Golden Drop Victor," assisted by the Marr-bred Princess Royal bull, imp. "Prince Bosquet." The herd will be augmented about 14th August by a fresh importation of fifty-two head, personally selected by Sylvester Campbell, of Kinellar, an expert judge both as to individuality and pedigree. The cattle in this lot will compare very favorably with any lot yet imported. All females of suitable age are bred to the very best bulls obtainable. Correspondence or personal inspection invited. Catalogue and service list upon application.

Cargill Station is on the Farm, Half a Mile from Barns, and 70 Miles North-west of Guelph. See Catalogue for Map.

Isaac Usher & Son, QUEENSTON, ONT.,

Manufacturers of QUEENSTON CEMENT. Proprietors of

Queenston Heights Stock Farm. Shorthorn Cattle.

Herd headed by Lord Gloster (26995), by Abbotsford. We have for sale seven young bulls, 4 to 20 months; also young cows and heifers. Stock offered for sale sired by or bred to such noted bulls as imp. Guardsman, Royal Standard, Abbotsford, Lord Gloster, Indian Count.

P. O., TELEGRAPH AND TELEPHONE, QUEENSTON, ONT. FARM 3 MILES NORTH OF NIAGARA FALLS.

W. G. Pettit & Son, FREEMAN, ONT.

IMPORTERS AND BREEDERS OF Scotch Shorthorns and Shropshire Sheep

OFFER FOR SALE: 1 imported bull, extra good; 3 imported cows, with calves at their side and in calf again; 6 home-bred bulls, from 5 to 15 months; 10 home bred cows and heifers. All of breeding age have been bred to imported bulls. Our Shropshires have wintered well, and our lambs this season are a strong, thrifty bunch. 5 rams carried over from last season are in good shape. Correspondence or a personal visit solicited. Catalogues on application.

Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm.

ROBT. NESS & SONS, HOWICK, QUE.

BREEDERS AND IMPORTERS OF Clydesdale Horses & Ayrshire Cattle. Also the leading breeds of fowls for the farmers.

W. R. BOWMAN, BREEDER OF Polled Angus Cattle, Yorkshire Swine, Suffolk Down Sheep, Shropshire Down Sheep, Mount Forest, Ont.

A. D. M'GUGAN, RODNEY, ONTARIO.

Shorthorn Cattle and Lincoln Sheep. The noted sire, Abbotsford, stands at the head of our herd. We have a few choice red bulls to offer; also ram and ewe lambs from imported stock.

Shorthorns, Cotswolds, & Berkshires

Our Shorthorn herd was founded on Bates and Cruickshank blood, upon which we have employed only Scotch-bred bulls, 60 to select from. We are now offering an extra choice lot of young bulls and heifers from Duchess of Gloster and Miss Ramsden sires, on Cecelia and Anchovy dams. Also Cotswolds, shearlings and lambs, and Berkshire pigs.

F. BONNYCASTLE & SON, Campbellford, Ont.

SHORTHORNS

Cows, heifers and bulls ready for service, by Scottish Chief - 2724 - by Scottish Pride (imp.). Dam Fancy's Gem, by Guardsman (imp.).

BERKSHIRES

Modern type, well-bred boars and sows, all ages.

ALEXANDER LOVE, EAGLE, ELGIN CO., ONT.

SPRINGFIELD FARM

HERD OF Shorthorns, Oxfords, and Berkshires.

Young bulls and heifers on hand. Also a few choice Berkshires.

CHAS. RANKIN, Wyebridge, Ont.

SMCOK CO.

IN WRITING

PLEASE MENTION FARMER'S ADVOCATE.



FOUNDED 1886

De Kol 17311, 2 years 11
ving: Milk, 311.1 lbs.;
ter 80 per cent. fat, 12

a 50276, 2 years 2 months
ving: Milk, 285.2 lbs.;
ter 80 per cent. fat, 12

Advanced Registry.

ers and Horsemen.

IC BALSAM.

A reliable and speedy remedy for Cuts, Splints, Spavins, Swee-ty, etc., in Horses, and Lump Jaw in Cattle. See pamphlet which accompanies scientific treatment in the use of this balsam. It has no superior. It gives satisfaction, by all druggists. Guaranteed in cows, with full in-eparated by The EUREKA COMPANY, London, Ont.

FOR SALE.

Ship of Son Bra, County of land; newly fenced; e; all under cultivation; between railway and the half a mile along that between St. Clair and th in plain view. Post railway station at cor-ory offer to purchase is nant, term of five years, ase at end of any year if ers till 1st Sept. Apply it.

R SALE

reetsville, 20 miles west gh state of cultivation; timber; well watered by clay and clay loam; 6 ck house, 11 rooms, 4-arn, 50 x 72, cement o, sheep house, hog pen, for dairy or stock farm. ation. This is a rare oice farm, as the estate

UGLAS,

REETSVILLE, ONT.

ABORTION

ERRED BY

FLUID

herds of prize stock

It would injure the

ders, they will not

ials. These state-

is disease, specially

a V.S.

ARD" Sheep Dip-

Chemical Company,

ORONTO, ONT.

ELIFFE

Farm

of Clydesdales in

the Champion Stal-

GREGOR."

and Colts

Scotland and Canada.

ces, sired by the prize-

Golden. Best milking

well repay you.

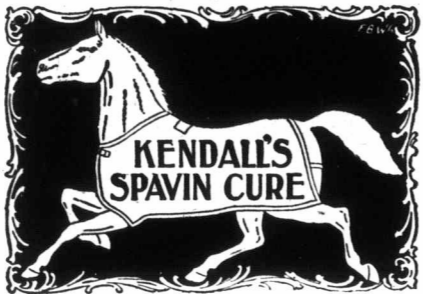
AVIES,

x Farm, TORONTO.

ERTISE IN THE

ADVOCATE

Spavins, Ringbones, Splints Curbs, and All Forms of Lameness Yield to



Works thousands of cures annually. Endorsed by the best breeders and horsemen everywhere. Price, \$1.50 per bottle. As a liniment for family use it has no equal.

Dear Sirs:—A year ago I had a valuable horse which got lame. I took him to the Veterinary Surgeon who pronounced it Oculit Spavin and gave me little hope, although he applied a sharp blister. This made matters only worse and the horse became so lame that it could not stand up. After trying everything in my power I went to a neighbor and told him about the case. He gave me one of your bottles and I studied it carefully and being resolved to do the utmost in favor of my beast, went to the nearest drug store and got a bottle of your Spavin Cure and applied it strictly according to directions. Before the first bottle was used I noticed an improvement, and when the seventh bottle was about half used, my horse was completely cured and without leaving a blemish on him. After ceasing treatment I gave the horse good care and did some light work with him, wishing to see if it had effected a cure. I then started to work the horse hard and to my entire satisfaction he never showed any more lameness through the whole summer. I can recommend Kendall's Spavin Cure not only as an excellent, but as a sure remedy, to any one that it may concern. Yours truly, SAMUEL TRITTEN.

Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address DR. B. J. KENDALL COMPANY, ENOSBURG FALLS, VT.

Bonnie Burn Stock Farm Forty rods north of Stouffville station, Ont., offers for sale Shorthorn bull calves and yearling heifers, Shropshire lambs and shearlings (both sexes), on D. H. RUSSELL, Stouffville, Ont.

H. SMITH, - Hay, Ont. Shorthorn Cattle. Two good roan bulls and a fine bunch of heifers FOR SALE. Exeter Station on G. T. R., half a mile from farm, on

Hillhurst Farm. ESTABLISHED 1861. Scotch Shorthorns. SHEPHERD IN SERVICE: Scottish Hero and Joy of Morning. BREED BY W. DUTHIE, COLLYNIE. Oldest Stud of Hackneys in America. Shropshire, Dorset Horn and Hampshire Down Sheep.

M. H. COCHRANE. Hillhurst Station, Compton Co., P. Q. SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topssan = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prize-winning Lincolns. Apply



T. E. ROBSON, Ilderton, Ont. Shorthorns and Leicesters. Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859, and Duncan Stanley 16364 =. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation. JAMES DOUGLAS, CALEDONIA, ONT.

Shorthorn Bulls FROM 8 to 17 months old. Bred in good condition. Also thick young cows, bred to Imp. Prince William.



R. MITCHELL & SON, Burlington Jet. Station, Nelson, Ont. SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. The Baron 30 head of herd. Seven young bulls for sale—good ones. Also other breeds. Send bulls all imported from H. Dudding, Esq. The same blood as the 1000 guinea ram. J. T. GIBSON, DENFIELD, ONT.

Mr. John Racey, Jr., Lennoxville, Que., advertises in this issue registered Berkshire pigs bred from first-class stock of some of the best prize-winning strains.

GOLDEN MEASURE. The imported Shorthorn bull, Golden Measure = 26057 = (72615), illustrated in this number, and owned by Mr. John E. Smith, of Brandon, was bred by Mr. Duthie, of Collynie, sired by Golden Count, who was bred by Mr. J. Deane Willis from the famous Cruickshank bull, Count Lavender, and the favorite Sittytown cow, Gwendoline. The dam of Golden Measure is Mistletoe 5th, of the grand old Missie family, which in the herd of Mr. Marr, of Uppermill, which produced the Royal champion, Marengo, and many other prizewinners in Britain. Mistletoe 5th was got by Scottish Archer, the sire of Marengo, and her dam was by the renowned William of Orange. From this it will be seen that Golden Measure is one of the very best bred bulls in any country, and his breeding is telling in the character of his calves, which are coming uniformly of the right type, full of the best quality of flesh, and well filled in all points. He is a valuable bull, and is doing good work as a sire in the herd of Mr. Smith.

MR. GEO. HINDMARSH'S SHROPSHIRE. It has been again our lot to visit Mr. Hindmarsh at his home near Ailsa Craig, Ont., and to look over his flocks and herds. His extremely favorable pasture lands renders the business of stock-rearing one of constant satisfaction. It has been gratifying to note from time to time when we have called, with what marked satisfaction Mr. Hindmarsh has been able to point to a splendid bunch of young things, and when we come to analyze the reason, we cannot but congratulate him upon the determination with which he follows out the dictation of his judgment in the selection of his sires. He admits none but the very highest in quality, with good breeding to back it. Two years ago he found a splendid ram, which was selected by Mr. John Campbell, in England. As has been done on former occasions, and again last year, that gentleman purchased a splendid, well-covered rangy 2-shear ram from the flock of Mr. Harry Williams. Both sheep, to our knowledge, were strong, typical rams of the breed, full of Shropshire character, in the pink of health, and grandly covered. The present flock is made up of some 35 breeding ewes and their lambs, 26 shearing ewes, and the stock ram. We found the shearing ewes a splendid lot, extremely uniform in size, quality and covering, and a bunch that would do credit to any flock in the country. The young lambs (over 60) were about evenly divided in sex, and bear out the same uniformity as their older sisters. A few splendid and useful breeding ewes will be held for sale this fall, which will afford an opportunity to beginners to purchase a foundation to start upon correct principles.

SHEEP FOR CANADA AND THE STATES. As was intimated in the report of the Royal Show, written for the ADVOCATE, there were some important purchases made on the show ground, of leading sheep, for both Canada and the States. These purchases have since been largely increased by selections made from the flocks at home. There is, of course, no means of ascertaining definitely what sheep have been purchased, so a complete list cannot be given. We know, however, that Mr. G. McKerrrow, and Oxfordshire Sheep Societies of America, at the international conference, has made some very large purchases from many of the leading flocks, and has left England with a grand selection of sheep of very high merit and character. Among this selection are some five or six very grand Oxfordshire sheep, including the first prize two-year-old ram at the Royal Show, from Mr. A. Brasse's flock, whose name is well known to your Oxford men. He has secured at a long figure the pick of his yearling rams, one that is what may be termed a "run of the mill" selection of some eight or nine other grand rams. From Mr. J. C. Eady's flock one of his grand lot of yearling ewes has been taken, not out of the first-prize pen, but a far better ewe than any of that trio. Miss Alice de Rothschild's flock, from Waddesdon Manor, supplies a selection of high quality and merit, including the grand old flock of Messrs. J. Bryan & Sons, sends seven or eight of its leading specimens. Mr. J. H. Wilson's flock has also been visited, with the result that there has been secured a trio of first-class sheep, and lastly, but by no means least in value or importance, a trio of lambs, each one of the flocks of Messrs. J. White and T. W. Jefferys, have been included in what is one of the strongest Oxford exportations that have left the country for a very long time.

Southdowns to the number of nine or ten have been taken from the noted Pagham Harbor Co.'s flock, which will take a very lot of beating in the States, whilst a Shropshire or so have been selected from the flock of Mr. R. P. Cooper, at Shenstone. The Lincoln breed also secured Mr. McKerrrow's attention, and he took S. E. Dean & Sons, of Dovesly Hall, Dorset Horns were selected from the flock of Mr. W. R. Flower, whose position of pre-eminence as a breeder of this variety is beyond dispute, whilst a small and select lot of Hampshire lambs are taken from the flock of Messrs. J. Dean, and a typical selection of Cotswolds from Mr. H. A. Mills' flock. This is a summarized account of Mr. McKerrrow's valuable selection, which, however, is not a fully detailed one. As a personal favor, Mr. McKerrrow consented to take charge of a small consignment of Southdown lambs, purchased and selected by Mr. W. W. Chapman for a client of his in Canada. These lambs have not figured in the English showyards, but they are fully equal to any that have, and would not have the least difficulty in beating any of the pens that were at the Royal. At the time of writing we are without details of the large shipment that will be made at a later date by Mr. R. Miller and Mr. D. Milton, but we can state that these two shipments will be both large in number and of very great merit. Mr. H. Dudding's first prize yearling ewe have been purchased at a very high figure by Messrs. Patrick, of Ilderton, Ont. Mr. Henry Dudding's flock this year for yearling heifer has up to date not figured in what detail means.

PLEASE MENTION FARMER'S ADVOCATE.

HORSEMEN! THE ONLY GENUINE IS GOMBAULT'S CAUSTIC BALSAM.

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTERY or FIRING. Impossible to produce scurf or blemish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle, sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

GOSSIP.

During a visit to the noted horse-breeding farm of Messrs. D. & O. Sorby, Guelph, Ont., we found the horse stock rather more reduced in numbers than for a considerable period. During the last few months the following animals have been sold: To John A. Turner, 4 animals have been sold; To John A. Turner, 4 animals have been sold; To John A. Turner, 4 animals have been sold.

A member of the ADVOCATE staff recently inspected the excellent herd of Scotch and Scotch-topped Shorthorns, and the equally excellent flock of Leicester sheep, maintained by Mr. A. W. Smith on his fine farm at Maple Lodge, Ont., four miles from Ailsa Craig, on G. T. R. The herd of between 40 and 50 head is composed of representatives of several highly meritorious families, among which is the Cruickshank Lovelys, of which there are a number of very good ones descended from the grand imported cow, Lovely 19th, bred at Maple Lodge, Ont., four miles from Ailsa Craig, on G. T. R. The herd of between 40 and 50 head is composed of representatives of several highly meritorious families, among which is the Cruickshank Lovelys, of which there are a number of very good ones descended from the grand imported cow, Lovely 19th, bred at Maple Lodge, Ont., four miles from Ailsa Craig, on G. T. R.

THE MAPLE LODGE SHORTHORNS AND LEICESTERS.

The Maple Lodge Leicester flock, of something like a hundred, takes a prominent place in the front rank by its representatives at the leading shows in Canada, having won at Toronto in 1899 first prize for Canadian-bred flock, and in 1898 first for both open flock and Canadian-bred, besides a large share of the other first prizes in the class. Last year a choice importation of 2 rams and 10 in-lamb ewes was made, selected from leading flocks in Scotland, and the yearlings and older sheep in preparation for the shows this year will be even better than any he has ever shown, while a few may be spared to make up how big in the States or Canada. The crop on hand is also very fine and the whole flock of animals of good quality and constitution.

PLEASE MENTION FARMER'S ADVOCATE.

SPRINGBANK FARM. Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale. on JAS. TOETON, WALKERTON, ONT.

Maple Lodge Stock Farm ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best. ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

FOR 50 Shorthorns of all ages and both sexes. Found on good Scotch-bred cows, upon DAVID MILNE, which have been employed. Scotch bulls for 20 years. ETHEL, ONT.

Shorthorn Cows and heifers (also a November bull calf), including the imported cow, Northern Empress, and her 3 months daughter, and her 3 months daughter, (imported in dam). A. P. ALTON & SON, Appleby, Ont.

Pure Scotch Shorthorns for Sale. Two bulls and fifteen months old, and three two-year-old and one year-old heifers. All right. Good ones. Meadowdale station, C. P. R. S. J. PEARSON & SON, Meadowdale.

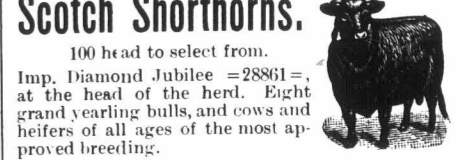
Shorthorns for Sale. 12 FEMALES, from 1 to 7 years old, descended from Red Knight (53512), Hopeful (55903), Crown Prince 19637, Canada 19536, and Riverside Stamp 23589, on a Crinson Flower and Stamford foundation. All in good breeding form. WM. SHIER, SUNDERLAND, ONT.

R. & S. NICHOLSON SYLVAN P. O., PARKHILL STATION. Scotch Shorthorns, imp. and home-bred. The Imp. Clipper bull, Chief of Stars, heads the herd. Nine bull calves for sale, 8 to 10 mos. old, extra good ones, sired by Royal Standard. Inspection invited.

Scotch Shorthorns. 100 head to select from. Imp. Diamond Jubilee = 28861 =, at the head of the herd. All right. Good ones. Heifers of all ages of the most approved breeding. T. DOUGLAS & SONS, Strathroy Station and P. O. Farm 1 mile north of the town.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS. We are offering 5 young bulls for sale, of first-class quality, and AI breeding. Wm. Grainger & Son, - Londesboro, Ont.

GUERNSEYS. This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared. Address— SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.



75 HEAD High-quality, Early-maturing Herefords. Prizewinners, Producers of Money makers in the feed lot.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue. H. D. SMITH, COMPTON, QUE.

Trescowe, Bodmin, Cornwall, England. IMPORTANT SALE OF PURE-BRED HEREFORD CATTLE.

JOHN THORNTON & CO. will sell by auction on Tuesday, September 11 (one o'clock), at Trescowe, Bodmin, Mr. R. S. Over's extensive and old-established herd of pure-bred HEREFORD CATTLE, numbering about 100 head. This famous herd was founded about 1814, from the stocks of celebrated breeders. First-class bulls were selected and used, they being mostly either prizewinners or bred from well-known prize stock. The herd is remarkably even and uniform, true to type, and is of a very high character, and the cows are milky and regular breeders. Catalogues may be had of JOHN THORNTON & CO., 7 Princes St., Hanover Square, London, W., who will execute commissions and attend to shipment.



On Jellies
preserves and pickles, spread
a thin coating of refined
**PARAFFINE
WAX**
Will keep them absolutely moisture and
acid proof. Paraffine Wax is also useful in
a dozen other ways about the house. Full
directions in each pound package.
Sold everywhere.
IMPERIAL OIL CO.

EGGS From Plymouth Rocks, Wyandottes,
Leghorns, Brahmans, Cochins, Lang-
shans, B. Minorcas, Spanish, S. Dork-
ings, Houdans, B. R. Pile and Indian
Game, Hamburgs, Red Caps, Bantams,
Pekin, Rouen, Aylesbury ducks, at \$1
per 13. R. J. & A. Laurie, Wolverton, Ont. -o

SHEEP BREEDERS' ASSOCIATIONS
American Shropshire Registry Association, the
largest live stock organization in the world. Hon.
John Dryden, President, Toronto, Canada. Address
correspondence to MORTIMER LEVERING, Secy-
tary, Lafayette, Indiana. -om

Huntlywood Southdowns & Dexter Kerry Cattle
Flock of 300 head, imported and home-bred. Select-
ed from the flocks of H. R. H. the Prince of Wales,
the Duke of Richmond and Gordon, and the late
Mr. Coleman. We are now offering for sale rams,
ewes and lambs; also a Dexter Kerry bull calf, by
imp. Bantam 257, champion R. A. S., Manchester.
Apply to W. H. GIBSON, Manager,
Hon. G. A. Drummond, Beaconsfield, Point Claire P.O., P.C.,
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**SHROPSHIRE SHEEP AND
CHESTER WHITE SWINE.**
WM. E. WRIGHT, GLANWORTH, ONT.

Shropshire rams, ram and ewe lambs for Sale
Descended from importations made from Tanner,
Minton, Barber, Farmer, Bowen Jones and Thomas,
upon which have been employed the best English-
bred sires. Also an imported shearing ram, well
covered. -o GEO. B. PHIN, Hespeler, Ont.

Shropshires for Sale
Ram and ewe lambs descended from Cooper and
Mansell foundation, upon
which we have employed Mansell-bred sires. We
breed for quality and fleece. Shorthorns later. -o
Locust Hill, C.P.R. PUGH BROS.,
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Shropshires for Sale
9 Shearing Rams and 12 Ram Lambs,
descended from Cooper, Campbell and Dryden im-
portations. Also 3 very choice 2-year-old
rams and an aged sheep of very superior
quality. All well covered. -o
Malcolm McDougal & Sons,
BRUCE COUNTY, Tiverton, Ont.

Shropshires...
Ram lambs for sale, at reasonable prices.
GEORGE HINDMARSH,
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Shropshire Rams and Ewes
Newly imported from the greatest English
breeders. Home-bred rams and ewes of best
quality. Scotch Shorthorns and Clydesdale
horses for sale at moderate prices, and in
large numbers, by
ROBERT MILLER,
-om STOUFFVILLE, ONT.

IMPORTATION
Of Shropshires for Fairview Farm in July. Our D.
J. Campbell will select and import. Only choice
rams and ewes will be brought out. 'Tis the good
ones that please customers first and last.
We breed them and import them.
Orders can now be booked for imported stock, and
some good rams are now at Fairview. -om
JOHN CAMPBELL, Woodville, Ont., Canada.

**SHROPSHIRE RAMS
AND RAM LAMBS**
From Tanner, Minton and Bradburn foundation.
Uniform and first-class in quality, size and covering.
ESTATE JAS. COOPER,
-om Kippen, Ont.

PLEASE MENTION FARMER'S ADVOCATE

GOSSIP.

We learn from the London, Eng., *Farmer and Stock-breeder* that Mr. Robert Miller, of Stouffville, Ont., has purchased from Mr. Robert Taylor, of Pittville, Scotland, five Shorthorn cows and heifers for \$1,000. The particulars are as under: Cows: Lady Mary 2nd, roan, calved February 14th, 1897, of Lord Lovat's Broadhocks tribe; Countess of Pittville, roan, of the same family, calved March 4th, 1898; Fairplay 4th, roan, calved February 25th, 1898, bred by Mr. Duthie; also her bull calf, Pittville Commander, roan, calved April 3rd, 1900, sire Scotland Crown 75592, the bull sold to Professor Curtis, Iowa Agricultural College last year. Heifers: Dora Pittive, red, calved March 5th, 1898, of Lord Lovat's Julia tribe; Nellie of Carlisle 4th, roan, calved March 2nd, 1899, sire Sir Wilfred Laurier 73658, of the well-known Uppermill Missie tribe. All these cows and heifers are served by Bapton Ensign, first pick of Mr. Deane Willis' 1899 calves.

IMPORTANT ENGLISH HEREFORD SALE.
As announced in our advertising columns in this issue, Messrs. John Thornton & Co. were on Sept. 11th sell by auction the noted herd of Hereford cattle belonging to Mr. R. S. Oliver, at Trescome, Cornwall, England, numbering over 100 head. The herd was established in 1844, and by judicious purchase from eminent breeders, and the constant and consistent use of high-class sires, has been maintained at a very high level of quality. Clarence 15044, a son of Merlin, is one of the stock bulls now in service. He is the sire of Sorcerer, winner of first at the Royal this year. A grand crop of calves by Clarence will be in the sale list.

BIG PRICES FOR BLOOD STOCK.
Some extraordinary sales of Thoroughbred horses have been made at Newmarket during the past month. Four figures were commonly and cheerfully paid for anything that was good, but taylor stuff made up to 10,000 gs. The late Duke of Westminster's yearlings, twelve in number, had a remarkable sale, realizing 44,300 gs., and averaging 3,698 gs. Those making four figures and over were a Persimmon bay filly out of the Bend Or mare Ornament, which went to Mr. R. S. Stevier for 10,000 gs.; a bay colt by Orme, out of Kissing Cup by Hampton, which went to the Duke of Westminster for 9,100 gs.; a bay colt by Orme, out of the Galopin mare, Vampire, sold to the Duke of Westminster at 5,700 gs.; another of similar breeding, which realized 3,600 gs., to Mr. R. S. Stevier, for a Trenton bay filly, out of the Doncaster mare, Sandiway; the Duke of Westminster gave 2,400 gs. for a grey colt by Grey Leg, out of a Scottish Chief mare; Mr. Larnach taking a filly of Orme for 1,750 gs., and the Duke of Westminster a colt by Orme at 1,250 gs.

D. H. RUSSELL'S SHORTHORNS AND SHROPSHIRE.

When we called upon Mr. D. H. Russell, at Stouffville, Ont., a short time ago, we found that gentleman making preparations for the winter maintenance of his herds and flocks, and although Mr. Russell had a very prosperous year in 1899, by the addition of a few select females, he still retains a very nice working herd of 9 breeding cows, at the head of which stands the choicely-bred young sire, Royal Stamp 29873, by Sittyt Hero, a first-prize Toronto winner, and out of Scottish Lass 2nd, tracing to the famous Isabella tribe, a combination of breeding to which he is largely indebted for the evenness in which the mellow flesh of the herd is distributed. Royal Stamp has proven no disappointment to his owner. He was introduced into the herd with high expectations as a sire, and has come fully up to the high hopes held for him. He is a long, deep, smooth young bull, straight in his lines, with well-fleshed loin and quarters, and a head and horn indicative of the character necessary in a successful sire. The female herd has the blood of the Meadow Lass, Jessie Grey, Necklace, and other tribes, from which Mr. Russell develops some specially choice young things annually. Mr. Russell as a young breeder has been highly successful in the local show yards, considering the competition he is compelled to face in his section, and frequently brings out young females that would do credit to the larger herds and shows. To his 35 Shropshire breeding ewes he bred a very choice ram from Mr. Robert Miller's importation, and is able to offer a few choice hearlings and ram lambs. Watch his offerings.

Seed Grain Competition.—Persons interested in Prof. Robertson's seed-grain competition, for which prizes are to be awarded from the Macdonald Sloyd School fund of \$10,000, may receive full instructions in a bulletin recently sent out by the Department of Agriculture, Ottawa. References to this competition were published in the *FARMER'S ADVOCATE*, in the issues for Jan. 1st, Jan. 15th, and May 1st, 1900. A copy of the bulletin may be obtained by writing a post card to Prof. Robertson, Ottawa.

Fire Insurance. It is seldom that one man is burned out from his property more than once, yet almost every thunder storm that passes over leaves some one or more farmers lamenting the loss of property. It does not cost much to turn the risk over to an insurance company. It will save more in anxiety than the insurance costs, and should a fire occur, which seems most liable when the barns are filled with the harvest, the effect on the farmer may not be much more serious than if a sale of the property had been made. It is much better to be safe than sorry any time. A good company to insure in is the London Mutual, a purely farmers' company, doing business at little cost. They are safe, and insure cheaply. The president is Capt. T. E. Robson, M. P. P., the well and favorably known Shorthorn cattle and Lincoln sheep breeder. Write the London Mutual Fire Insurance Co., at London, Ont., for rates, etc.

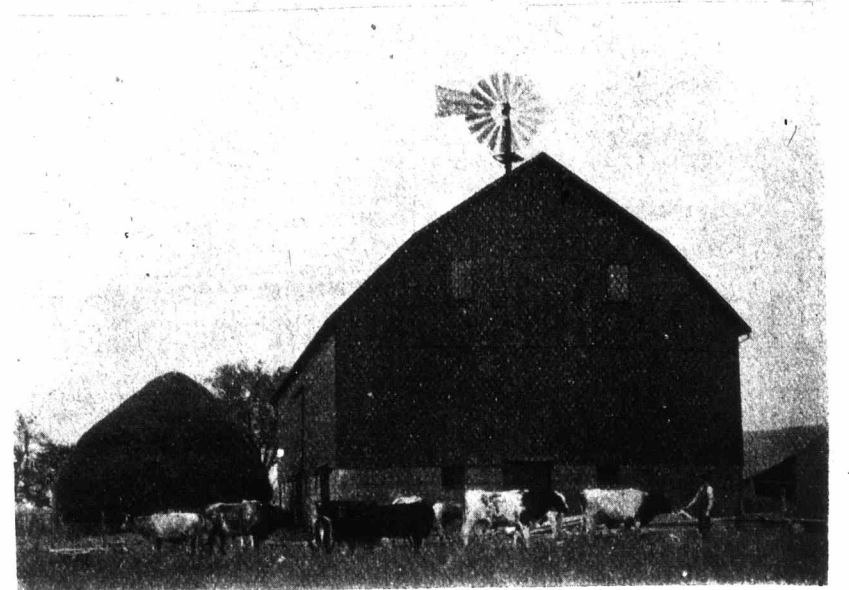
Agricultural College
GUELPH, CANADA.

The Ontario Agricultural College will reopen September 11th. Full courses of lectures with practical instruction suited to young men who intend to be farmers. Send for circular giving information as to course of study, terms of admission, cost, etc. Guelph, July, 1900. James Mills, M. A., President.

This is 

Mr. Pardo's Barn

As it appears completed.



WHAT MR. T. L. PARDO SAYS:

ESTATE OF JOHN BATTLE, THOROLD, ONT.

CEDAR SPRINGS, KENT COUNTY, ONT., NOV. 21, 1899.

DEAR SIRS,—I write to say that we have now fully completed the stabling in my new barn, and I am well pleased with the work done throughout the whole building, which is 54 x 100 feet, with basement walls 9 feet high, and a silo 14 x 14 feet, same height as walls, built in a corner of the basement wall, there being a concrete floor throughout the whole building. We used in all 200 bbls. of your Thorold Cement in this work, with the result that our walls and floors are as hard as rock itself. The work was all done under the supervision of your travelling agent, Mr. Marcus A. Ware, a man who appears to be completely master of his trade, and who is always in a hurry, but never slights his work. I send you photo of building under separate cover.

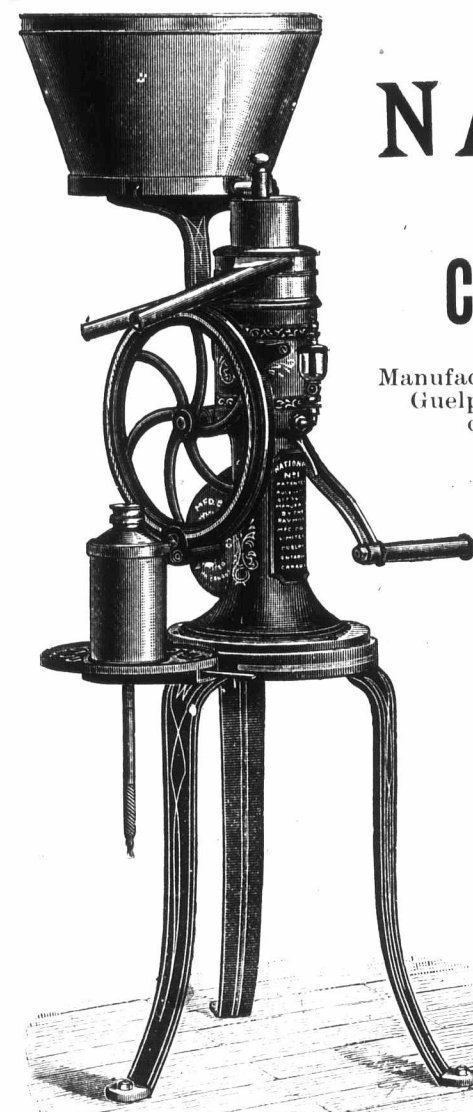
Yours truly,

T. L. PARDO.

Estate of John Battle, Thorold, Ontario.

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FARM
Cream Separator

Manufactured by the Raymond Mfg. Co. of
Guelph, Limited, manufacturers of the
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Capacity, 330 to 350 lbs. per hour.

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leading all others in separating cream
by centrifugal force. It is the farmer's
choice, because it runs easy, skims fast and
clean, and makes a perfect cream, contain-
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also easier to clean than any other. The
National is built of the very best material
suitable for the construction of a high-speed
machine, and with proper care should last a
lifetime. The bearings are interchangeable
and easily adjusted. Every machine is guar-
anteed to do good work, and a trial of the
"National" is solicited before purchasing
any other. The already large sale of the
"National," and the growing demand for it,
shows how much the Canadian farmers ap-
preciate a Canadian-made machine that does
its work so easily and well, and at the same
time returns such a large profit on the small
investment. Ask for the "National"; try
it and buy it.

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General agents for Ontario.

MESSRS. CAMPBELL & GLENN,
381 TALBOT ST.,
LONDON, ONT.,
Agents for the Counties of Middlesex and
West.

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

Messrs. Sampson & McNaughton own a beautiful ranch in the valley of the Bow River, a few miles west of Calgary, upon which they run a fine herd of about 175 pure-bred Shorthorns, of which 105 are breeding cows. They recently completed a sale of 30 young bulls, at very satisfactory figures, to R. Cockburn, Great Falls, Montana.

Breeders of Berkshire swine in Canada, as well as in the United States, will learn with regret of the death of Mr. M. K. Prine, of Oscaloosa, Iowa, which occurred on June 30th, in his 79th year. He was a good judge and a successful breeder of high-class Berkshires, and was a man of kindly nature, and a firm friend. The business will be continued by his son, Geo. S. Prine, who has had charge of the herd for the last few years.

At the annual sale of Shorthorns and Shropshires from the herd and flock of the Prince of Wales, at Sandringham, June 26th, the highest price for a cow was 250 guineas, for Moss Rose, a red 3-year-old cow, bought for the Queen's herd. The next highest was 230 guineas for Spring Rose, bought by Sir John Gilmour. Ringmaster, a roan 8-months calf, was the highest-priced bull, 200 guineas, and goes to South America. Crystal Quality, a red 2-year-old, went to the same buyer at 100 guineas. The highest-priced Southdown ram was purchased for Canada at 52 guineas, for the flock of Senator Drummond, at Pointe Claire, Que.

DATE OF MR. TOOP'S SALE OF SOUTHDOWNS.

By a typographical error in the notice in our issue of July 2nd, of the approaching dispersion sale of Mr. Toop's famous flock of Southdown sheep, at Chichester, Sussex, England, the date was made to read Aug. 17th, which should have read Aug. 7th, which latter is the correct date, that commissions may be intrusted to Mr. W. W. Chapman or the auctioneer.

LORD ROSEBERRY SOLD.

Graham Bros., Claremont, have sold the great Hackney stallion, Lord Roseberry, winner of first prize and the championship of the class at the Toronto Industrial last year. Only a long price, it is safe to say, induced Graham Bros. to part with a horse of such grand character and so popular in the stud during the past season.

DON'T LIKE THE RULES.

The Executive Committee of the American Shorthorn Breeders' Association has declined the invitation of the Buffalo Pan-American Exhibition, to take part in the proposed dairy test, the rules being considered arbitrary and objectionable, as well as from the fact that they have already devoted large sums and laid out work in connection with other exhibitions, to such an extent that the time is now too limited to make proper arrangements for the Pan-American. Furthermore, they are quite satisfied with the showing made by the dairy Shorthorns in the Chicago test of 1893. The Committee of the American Jersey Cattle Club also declines to endorse the Buffalo rules, which the Jersey Bulletin says imply "a Holstein affair pure and simple." These rules were published in July 2nd issue of the FARMER'S ADVOCATE.

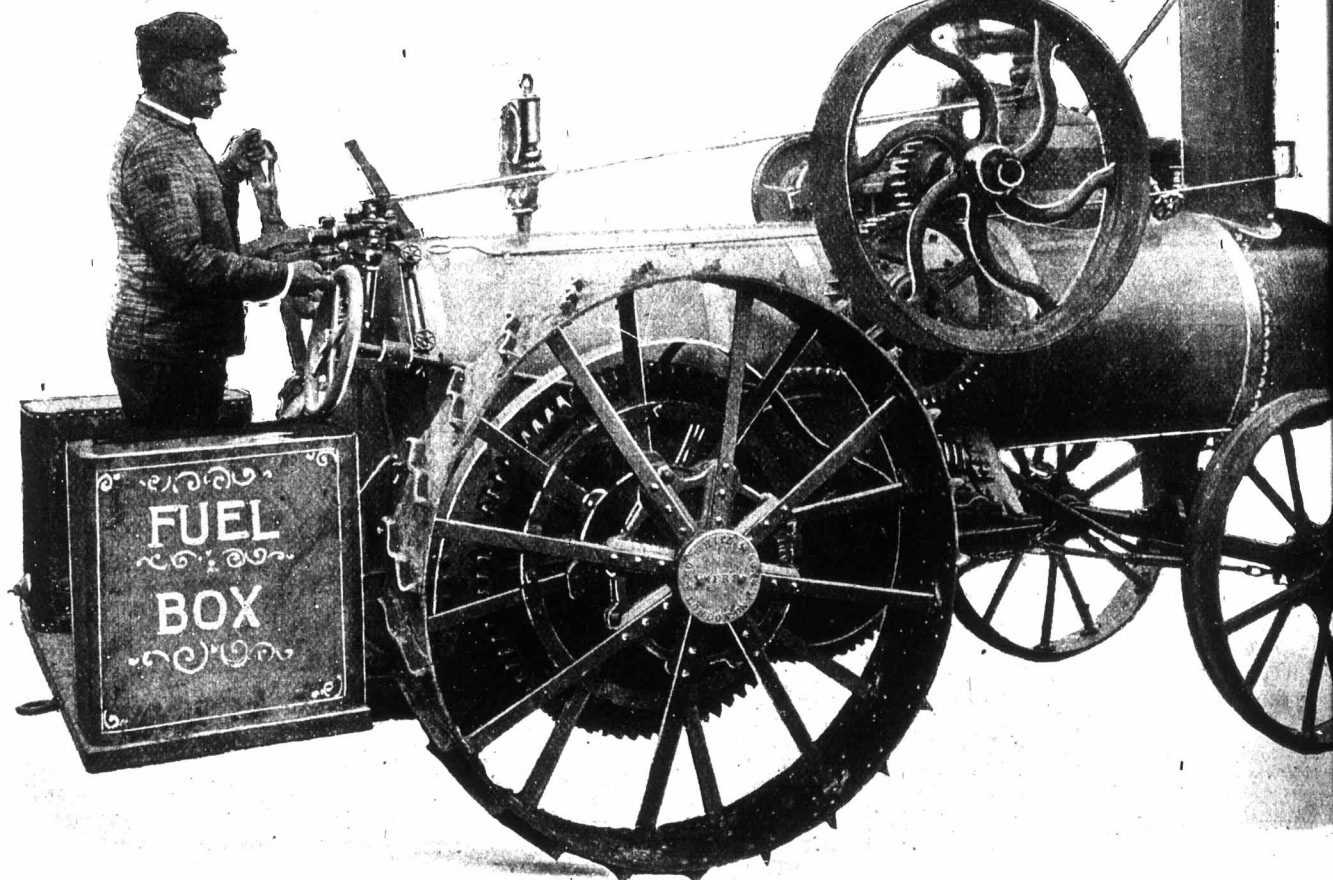
MR. S. DYMENT'S SHORTHORNS AT ALLANDALE, ONT.

Within a stone's throw of the village of Allandale may be seen the extensive stock farms of Mr. S. Dymont, whose enterprise has led him into the purchase of a few select Shorthorns, and laying the foundation of what promises to become a herd of considerable importance within the near future. Mr. Dymont is on the alert for choicely-bred females whose conformation will merit his approval. When in that vicinity in June, we were accompanied by the proprietor and his herdsman, over the various pasture plots, and viewed the stock on hand, and we must confess that Mr. Dymont is exercising considerable judgment in his selections and breeding operations at the very outset. A few months ago the stock bull, Aberdeen Jock 24503, by Aberdeen imp., and out of Lady Maria, by imp. Vice Consul (and tracing to Maid of Honor, by imp. Lord York), was selected to head the herd. Aberdeen Jock is a massive red bull, 4 years old, that was selected from the herd of John Miller & Son when a yearling, and employed by Mr. Bell, giving an opportunity of seeing his stock, which was very satisfactory. At our visit we found him in the grass plot near the buildings, with the cows, and for an animal of his weight it would be hard to equal him in activity. He carries a wealth of natural flesh which can only be bred there, is straight in his lines, has well-developed loin and quarters, and is supported on an excellent set of underpinnings; his head and horns denote character of a high order. Mr. Dymont has a good bull in this animal, and we wish him success with him. Upon examining pedigrees of the females, we found many lines of breeding, and as space will not allow mention of each, we must confine ourselves to a few. The 3-year-old Ora Duchess, by Indian Duke, a son of the noted imp. Indian Chief, and out of Dorothy by Rufus, and running to the famous Wildame tribe, is a young cow of great quality and development. She has a broad, level back, deep, well-sprung ribs, and, for one of her size, is remarkably free from coarseness. She has a splendid young bull calf at foot by Sir Adolphe, a son of imp. Albert Victor, and will be bred to Aberdeen Jock. We also noted a smooth, useful type of cow, Bonnie Gill, by Rufus, and out of Bonnie Brae 19679, and her red daughter by Indian Duke, and in them we saw marked evidence of dairying qualities; Lorna Doone, by Albert Victor, by Gravesend, dam Valkyrie 29102, her sire tracing to Snell's imp. Golden Drop cow, which fetched the handsome sum of \$1,225, and her daughter \$1,000, under the hammer. Mr. Dymont has four of this strain, and there are few if any better sorts. They are a uniformly well-made, prolific tribe, with a good quality of flesh and fine breed character. None of Aberdeen Jock's youngsters of either sex are on hand, and we cannot but be impressed by their uniformity in character and conformation. One extra-choice bull calf will undoubtedly be heard from in public at some future period, if he does not make his bow in public a calf this year. Upward of 25 head are already on hand, with more to follow, as many of the cows are due to calve this autumn, and a strong herd will be maintained on the farm.

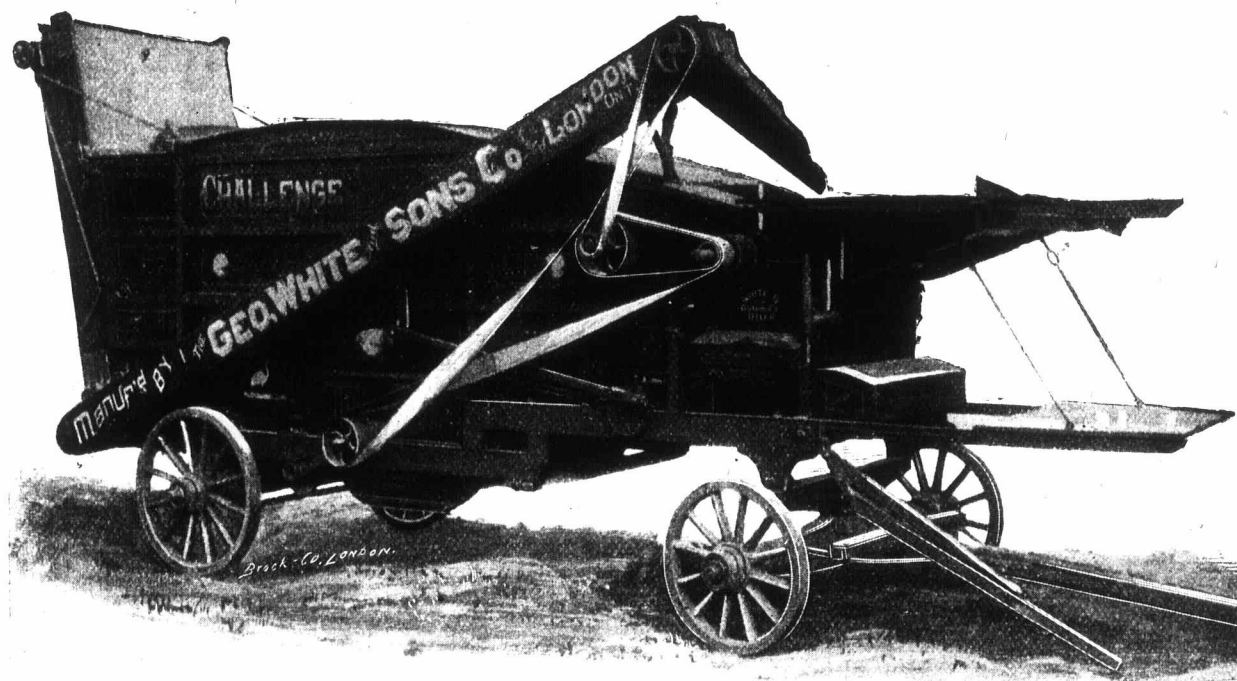
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Traction and Portable Engines.



Of Our CHALLENGE AND ADVANCE THRESHERS. Compare them with other kinds. We Are willing to abide by your decision.



THE GEO. WHITE & SONS CO., LTD., LONDON, ONTARIO, CANADA.

GOSSIP.

Prof. Roberts, of Cornell University, publishes some figures which go to show that the fertilizing value of the manure made by a sheep in a year is \$3.17.

Lord Roseberry's advent into Clydesdale breeding has been hailed with much acclaim in North Britain, as things are rarely done by halves when the primrose colors have to be carried either on a race course or in the showing. The carrying off of the championship at Edinburgh for fillies by a yearling augurs well for the future of the Dalmeny Stud.

AYRSHIRES FOR CANADA.

A recent issue of the North British Agriculturist, published in Edinburgh, contains the following: "A good few transactions in Ayrshire cattle have recently been effected. At the Ayr show, Mr. Hunter, from Montreal, purchased from Messrs. Kerr the beautiful three-year-old quey, Senorita, which not only won the Derby, but was first also amongst the three-year-olds in milk, besides getting the Herd Book prize as the best cow or quey. She is one of the best queys that has yet been at Ayr, and will be a substantial addition to the Ayr herd entered in Canada. Mr. Hunter also bought from Messrs. McAlister, Mid Ayr, the excellent quey which was first in the Kilmarnock Derby and



THE CENTRAL BUSINESS COLLEGE TORONTO,

GIVES that practical training along business lines which every young man and woman should enjoy. Farmers' sons become better farmers with such training. The cost is nominal. Write for full particulars. Fall term opens Sept. 1th. Address

W. H. SHAW, Principal, Yonge & Gerrard Sts., Toronto.

seventh at Ayr. This is also a very superior quey, showing both quality and breeding. At the Glasgow show, the same gentleman also bought from Mr. McKean, Dam of Aber, the splendid bull, Douglasdale, which won the male championship, and the prime two-year-old heifer, Lady Montrose, which was first in perhaps the strongest class of the age that has ever been seen in Glasgow. These are also a pair of very superior animals, as the positions they took in each company will abundantly testify. Douglasdale and Lady Montrose will be accompanied from Dam of Aber by the excellent cow, Lady Flora 1st of Orchardton, bought at the Orchardton sale. The dam of this cow, Lady Flora, was in her day first at the Highland Society, and the kind of them have always done well. The whole of these cattle, besides several others which Mr. Hunter has bought, are for W. W. Ogilvie Company, of Lachine, Montreal, who imported an important draft of Ayrshires two years ago, but their group of this year when completed will be one of the best that has ever left the country, and will probably be unique in that it includes two champion winners at the leading shows, one of them actually the winner of the Ayrshire blue ribbon of the year the Ayr Derby.

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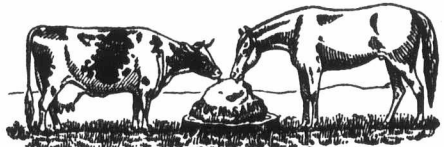
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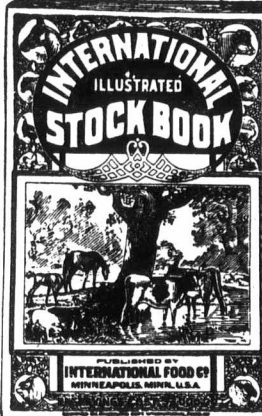
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LIVE STOCK AUCTIONEER.

The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: **John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alma, and Mossom Boyd, Bobcaygeon. Thos. Ingram, Care Mercury Office, Guelph, Ont.**



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This engraving shows cover which is printed in 6 brilliant colors. The book is 9 1/2 by 6 1/4. It contains 183 large colored engravings of Horses, Cattle, Sheep, Hogs, Poultry, etc., with a description of the different breeds and practical points on breeding, raising and fattening stock. It also contains a very finely illustrated and valuable Veterinary Department. The engravings cost us \$3000. We will mail you a copy Free. **POSTAGE PREPAID**, if you write us and answer 4 questions: 1st—Did you ever use "International Stock Food" for Horses, Cattle, Sheep or Hogs? 2nd—Is it for sale in your town in 25-lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. We will ship you \$10 worth of "International Stock Food" FREE if this book is not as represented. "International Stock Food" is a safe vegetable stimulating tonic and blood purifier. It fattens Cattle, Hogs or Sheep in 30 days' less time and saves grain. Aids digestion and assimilation. Is extra good for breeding animals. Thousands of farmers feed 60 to 200 lbs. every year. It makes Colts, Calves, Lambs and Pigs grow very rapidly and only costs 3 Feeds for One Cent. Guaranteed to make Hogs weigh 300 lbs. at 6 months, and to cure and prevent disease. Your money refunded if it ever fails. It will make you extra profit. Refuse cheap and inferior imitations that are on the market. Dealers give this book free with "International Stock Food" in 25 lb. pails. Always sold on a cash guarantee.

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We own for our "International Stock Food Farm" three Stallions, **Buttonwood 2:17**, by Nutwood 2:38; **International Stock Food**, by Hartford 2:23 1/2 and Naheola 2:23 1/2, by Lockhart 2:38 1/2. They eat "International Stock Food" every day. It saves grain and keeps them in extra fine condition. We also have the largest 3 year old Short-Horn steer in the world. He was fed "International Stock Food, is over 6 feet tall, weight 3100 lbs.



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Grease disappears like dew before the sun,

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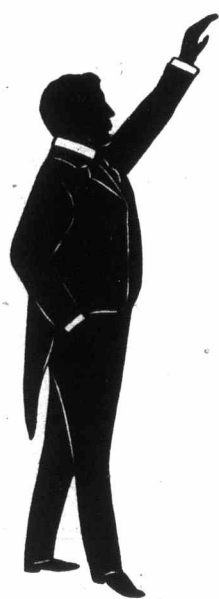
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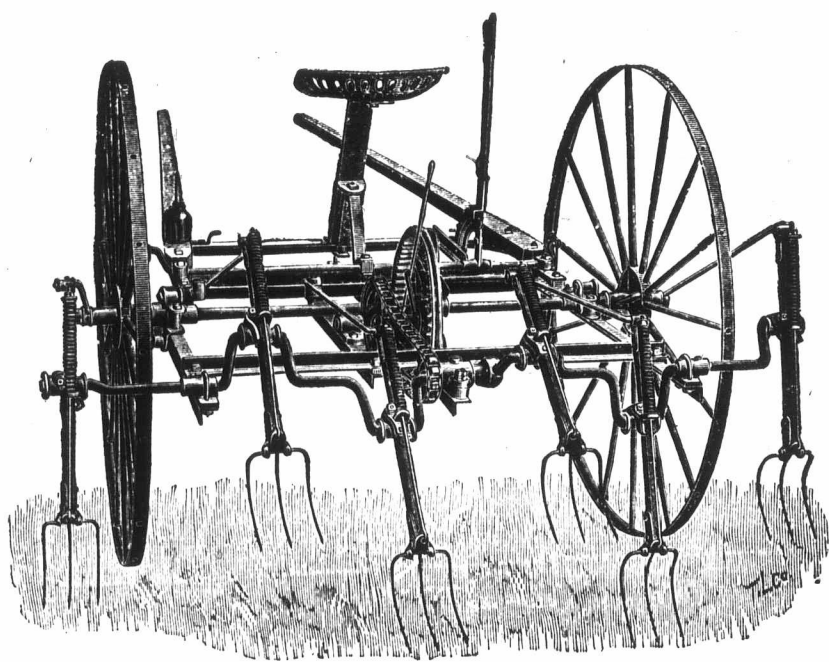
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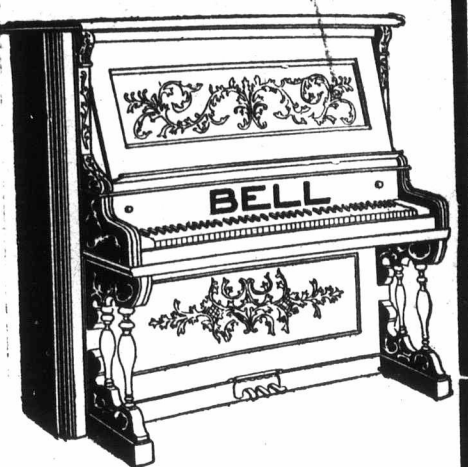
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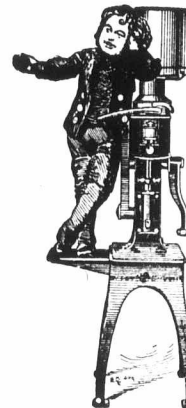
THE NEW CENTURY ALPHA

BABY Cream Separators

Have never been beaten!

AN EVERYDAY STAND-BY.

SEE HOW IT TURNS UP.



SHELburne, June 18, 1900.

The Canadian Dairy Supply Co., Montreal:

GENTLEMEN,—I have bought a No. 2 Alpha Separator from your agent, Mr Hugh Taylor, of Shelburne, Ont. It is now working four months, and I am pleased to give you this testimonial.

Last March I got a DeLaval on trial, which was satisfactory. Just then the Melotte agents from Dundalk got me to try a No. 1 Melotte separator; saying it would "beat the DeLaval, as it had done often before." But it came far from giving the results which they claimed for it. My barn is about 8 rods from the house, and the weather being very cold at the time, I found the Melotte separator would clog at times as the milk was a little chilled.

The agents then brought a No. 2 Melotte, which gave the same results. I found that the discs in the Melotte separator would start and clog, commencing at the bottom and continuing upwards the longer you skimmed. As a result of the trial, I bought a DeLaval, and would advise my fellow farmers to try a DeLaval Separator before buying any other, as it is a machine that is well constructed, and will skim milk at any temperature and not clog.

Yours truly, SILAS MYERS.

CANADIAN DAIRY SUPPLY CO.,

327 Commissioners Street, MONTREAL.

Strong, durable, cheap. The only "Hinge" Stay. Write for circular and prices.

AGENTS WANTED.

THE Strathy Wire Fence Co., WELAND, ONT.

SHOWING HINGE MOVEMENT OF STAYS UNDER PRESSURE. STAYS CANNOT BEND & WILL SPRING BACK TO PLACE WHEN PRESSURE IS REMOVED.



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