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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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No. 433.

EDITORIAL.

The Cheese and Butter Branding Bill.

The new Canadian Cheese Branding Bill, of which a correct summary was given in our last issue (page 274), has passed the House of Commons and received its third reading in the Senate. It will become law as soon as the Governor-General's assent is secured, which will be but a short time, so that factory and creamery men will do well to get their brands ready for use. The word "Canadian," "Canadienne" or "Canada" must be stamped in a legible, indelible way, in letters not less than three-eighths of an inch high and one-quarter of an inch wide, upon the box or package containing cheese or butter, and in case of cheese upon the box itself. It is not necessary to put on a factory number or the date of manufacture.

U. S. Butter Abroad.

The U. S. Department of Agriculture has got returns from its two experimental shipments of creamery butter to Great Britain, but the results were not very encouraging from a financial standpoint. Unless the product can reach the British consumer at a low cost of transportation so that better net prices can be realized than at home, eastern U. S. creamerymen are not likely to consider for some time the question of exporting butter. It is difficult to reconcile this conclusion with the fact that large quantities (some 240,000 packages) were last season shipped from the States to England. One lot from the Ames (Iowa) College creamery was reported "firm, bright, and in sweet condition throughout," but was not up to standard in flavor, contained too much brine or water, and was all too salt; but the New Hampshire lot was more satisfactory. The Government has evidently "discovered" what private enterprise learned long ago in Canada, and in the Republic as well probably, regarding light salting and coloring, the use of the square 56-lb. package, and other points. To ensure the exporter ample modern transportation facilities at reasonable changes would seem a more needful field for Government activity.

The Tuberculin Test Once More.

The FARMER'S ADVOCATE took occasion a couple of issues ago to dissent from the recommendation to a Parliamentary Committee of Dr. McEachran, Chief Veterinary Inspector for the Dominion, that the Government set aside \$100,000 to inaugurate a campaign of tuberculin testing, slaughter, and disinfection. The country is not ready for any such drastic procedure, nor is it necessary. It would, furthermore, involve endless trouble, though, no doubt, as long as the supply of appropriations held out it would prove a perennial plum for needy veterinarians, a good many of whom, by the way, are probably ill-prepared for the critical work of applying the test. Judging from his speech at the time, we apprehend that Hon. Mr. Fisher, the Minister of Agriculture, will set his foot down firmly and promptly upon this needless and unwise "plan of campaign" and encourage instead an educational course by which the best, most economical and permanent results can be secured.

Our position is confirmed by a recent letter from Prof. H. L. Russell, Entomologist of the Wisconsin Experiment Station, where a great deal of practical attention has been devoted to the subject, published in *Hoard's Dairyman*. He says:

"Serious attempts have been made in certain parts of the country to eradicate the disease by destroying all reacting animals. Such a course is undoubtedly too drastic, and it has met with persistent opposition. It is a question whether such methods are warranted or not. Certainly, such a course is sure to defeat the very end desired: the co-operation of all in eradicating the disease."

Prof. Russell further indicates what is now generally conceded among scientists, that tuber-

culosis is not what is called a hereditary disease, and also the course that should be taken in case of a herd where the trouble may have made its appearance. He observes:

"From experiments already made under different auspices it is evident that the progress of the disease can be stopped by the isolation of all reacting animals. The least affected animals can, with care, be used for breeding purposes, and if the calves are separated at birth and fed on boiled or pasteurized milk it is possible within a relatively short time to build up a strictly healthy herd from affected parents. Under these conditions a valuable animal in a herd, even though she reacts to the test, often may be kept for a considerable time for breeding purposes. Tuberculosis is rarely hereditary. It is contracted, in almost all cases, after birth by breathing contaminated air or consuming diseased food. If the source of contagion be removed the young stock will remain healthy."

"For the past year the Wisconsin Agricultural Experiment Station has been working with a herd under these conditions. The results already accomplished justify us in believing that it is entirely possible to take a herd in which a large percentage of the animals react to the test and from such an affected herd build up one that is free from tuberculosis. Not only is it possible to stay the progress of the disease, but the condition of the reacting animals can often be actually improved if nature is allowed an opportunity for recuperation. Such a method requires time and patience, but it will result in saving the good qualities of a herd at a comparatively slight expense, whereas the stamping out method necessitates beginning again at the bottom. Even if the herd is entirely destroyed it is necessary to thoroughly disinfect the infected barns and also test all new stock purchased before starting a new herd."

In view of the foregoing considerations those who have been inspiring the tuberculosis campaign (with "appropriations") can have no difficulty in coming to the conclusion that it does not commend itself to the good judgment of the country and will not be tolerated.

"Agricultural Business Science" for the O. A. C.

Some time ago President Mills of the O. A. C. wrote a letter to the FARMER'S ADVOCATE, replying to members of the Ontario Legislature who had been criticising the conduct of that institution on the floor of the House. As Mr. D. M. Macpherson, M. P. P., of Lancaster, had, after careful investigation into the matter, taken an active part therein, he now writes us a long letter replying to Dr. Mills in order to make clear to our readers the object of the criticisms. He takes exception to the following statement by Dr. Mills: "I hope it does not follow from this that our bookkeeping is defective or that we need a special accountant to put things in proper shape."

He (Mr. Macpherson) states that the system of keeping the accounts is "insufficient to give the students or public an insight into the comparative value of work done on the profitable direction of labor." He adds:

"I find that there is no accurate account kept of the labor cost of production, capital cost of production, or even incidental expense cost of production (such as maintenance, wear and tear) for any one farm product. The farm produces wheat, oats, barley, peas, hay, corn, ensilage, roots, and milk, etc., etc., yet no subdivision of charges is kept either in the labor, capital or maintenance, and hence the cost of production of any one individual crop is not known. I find in the feeding of animals for experiment only is there evidence of a proper individual debit and credit observed." Mr. Macpherson concedes that the College is well equipped and managed, for on this point he says: "I have every reason to believe that the work done in the College proper as to the scientific teaching of agriculture and discipline of the students is all that could be wished for, and the practical work done on the farm and in the experimental plots is artistic and as near perfect as can be. The yield per acre on the farm proper is equally successful, but for the systematic keeping of farm accounts and economic results per acre or per crop, the management of the farm is not all that can be desired, and I assert that

these very important requirements do not receive sufficient consideration to promote the best financial results, either to the farm students or the public."

A good business man, in a productive business, should know the exact cost of production in relation to each article, or how, asks Mr. Macpherson, will he know where profits arise or losses occur?

The lack of the institution, Mr. Macpherson contends, is what he describes as the application of "business science," in addition to the other two great requisites, so that students will not only understand the science and practice involved in raising abundant crops, but learn "how to produce the most profitable crop." What he advises is a "business department" supervised by a "business professor," who would lecture on "agricultural business science," devise the best plans of work, the best system of keeping the farm accounts, and to demonstrate the economic result of work done on the farm, which would not only benefit students and the people, but, he contends, cause parliamentary representatives more cheerfully to grant any reasonable money requirements for promoting the efficiency of the institution.

We should be glad to hear a further expression of opinion from readers who have given this subject due consideration as to whether such an addition to the already large college staff is really necessary, or whether such a line of work, if required, would not properly come within the function and capacity of the existing staff.

Partial Underdraining.

The unusual lateness of the season for spring seeding this year and the frequent rains which delayed farm work has no doubt led many farmers to turn their thoughts to this subject. While it is certain that most farming lands, especially such as contain a fair amount of clay, would be improved both mechanically and in certainty and amount of yield of crops by underdraining, yet we find that in most sections of Canada very little underdraining is done. This is probably not because farmers as a rule are not persuaded of the benefits that would be likely to follow the practice, but because they do not feel that they can afford the outlay necessary for the performance of the work. While we sympathize with them to a large extent in this view of the case, at least in so far as thorough drainage is concerned, we are constrained to say that there are on most farms some parts of fields which the farmer cannot afford to leave undrained. These are low, flat places from which there is little or no fall to carry off the surplus water by means of the usual surface drains or water furrows. Such portions of the fields are liable, especially in a wet spring, to delay the seeding of the whole field for several days, and in such a case the loss in the difference between a good crop, such as would likely have followed an early seeding, and the inferior yield, owing to delay in seeding, would mean more in one season than the cost of putting in underdrains sufficient to have improved the condition of the field, making it more uniform in all its parts and fit for earlier seeding. These low places, generally containing the best land on the farm, often hang out the signal of distress in the form of a broad sheet of water on the surface after a shower, or in the dark, wet streaks in plowed land where all should be uniformly dry. Sometimes it is seen in the curling leaves of the corn crop or in the yellow leaves and spindling stalks of grain. The result is an uneven crop, a smaller yield from the whole field, and the harvest delayed while these places are maturing, the better parts of the field in the meantime getting overripe, resulting in loss of grain by shelling and loss in the feeding value of the straw on the greater part of the field. These facts may well lead the farmer to reflection; and if he feels that he cannot afford to drain the whole field, he may at least, if a fair outlet is available at a reasonable distance, put in sufficient tile drains to improve some of the worst of the places we have described. If he does this much properly

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we are persuaded be will soon realize the desirability of doing very much more. No work gives a more prompt and satisfactory return than tile draining. It will of course be wise in doing this much to lay one's plans in such a way that this partial work may ultimately form part of a more complete system of drainage when circumstances permit. With this end in view it might be economy to start with some main drains for the center of a system; but if this is considered too large an undertaking, temporary outlets may be made to answer a good purpose for the present. The writer has seen very gratifying results from partial draining, and especially in the case of low, slack places which formerly were useless for cropping on account of surplus water, but which with a few tile drains and at trifling expense have been made to yield equal to the best parts of the field. To those who contemplate a more thorough system of underdraining we commend the very able and practical article of Mr. Simpson Rennie in the FARMER'S ADVOCATE for May 15th.

Agricultural Exhibitions.

The fair season will soon be with us again. Manitoba leads the van, holding its chief fairs in July, before the harvest season, the Winnipeg Industrial being slated for July 19th to 24th, an arrangement which, while it suits the Western condition best on account of the harvest, and the fact that time is so fully occupied during the early autumn months with the gathering, threshing and marketing of grain, followed closely by the extensive fall plowing necessary for the following crop, is also most suitable for the Eastern Provinces, where the harvest is now generally earlier than formerly, and where it is most convenient to hold the fairs from August to October, inclusive. It is rather unfortunate for the Western Ontario exhibitors who wish to make a circuit of the four leading shows of Ontario and Quebec, that a better understanding has not prevailed among the fair associations in arranging their dates so that these exhibitors could make the round with greater economy of travel and expense. As arranged, Montreal has its exhibition from August 19th to 26th, followed by the Toronto Industrial, August 30th to Sept. 11th, and the Western Fair, at London, Ont., Sept. 9th to 18th, followed by the Ottawa show on Sept. 17th to 25th. Eastern exhibitors are probably satisfied with the present arrangement, as they can take in the Ottawa show on their return trip home. It would, however, appear

to be the best arrangement for the greatest number of the exhibitors who elect to make the circuit of these fairs to have the Western Fair take the earliest date and the others follow in the order of their geographical position, ending up at Montreal for the central circuit. The Maritime Provinces, where the exhibitions are growing in interest and importance every year, arrange dates to best suit the convenience of exhibitors, visitors, etc., in three Provinces, N. B., N. S., and P. E. I.

The question of fair circuits is one which the breeders' associations might well keep in view and use their influence to secure the most convenient arrangement in future. Montreal, Ottawa, Toronto, and London ought to maintain first-class exhibitions in perpetuity, and their leading citizens should take sufficient interest in them to see that the prize lists are such as to induce stockmen, farmers and manufacturers to patronize the shows, and visitors in large numbers to attend them. Fair boards and citizens should not lose sight of the fact that in so far as these are agricultural and industrial events it is the exhibitors who make the show, and that but for their contributions to the entertainment the "special attractions" on which so much care and money is bestowed would fail as completely to draw the people as does the average circus in this age of enlightenment. We are firmly convinced that the last-named element might in time easily be largely eliminated from our fairs without materially lessening their popularity or attractiveness, and with a much more elevating effect if a wise and judicious use were made of the live stock exhibits by a strict adherence to a well-arranged programme, in which the horses and cattle were shown before the seated pavilions, where the people could comfortably witness the judging and daily parades of the animals bearing numbers corresponding with the numbers of the entries in carefully prepared official catalogues, giving the necessary information in regard to each animal, such as its breed, age, owner, and pedigree. Purely agricultural exhibitions in Great Britain are made attractive and popular by just such means as we have indicated, which are vastly less expensive than the means resorted to in the conduct of not a few American shows, the influence of which in many respects is far from being desirable, and which is, indeed, to say the least of it, distracting if not demoralizing. To our own mind there are few sights more enjoyable than a well-conducted and systematic parade of high-class animals of various breeds, colors and classes, and the complete success with which this feature is carried out at the Royal and other leading shows in England, to the delight of visitors who attend in gratifying numbers, gives assurance that it is possible and practicable to adopt it here. Of course to make it a real success the cheerful co-operation of exhibitors is essential, and if a firm stand were taken, the prizes made large, and the penalties for failure to comply with the parade rules made involve forfeiture of all prizes, the most stubborn of exhibitors would soon be led to see that it pays to be law-abiding, and that from a business point of view it is profitable, being an effective means of advertising. None but those who have seen it worked out as it is done at the English shows can fully appreciate the beauty of a well-arranged live stock parade, where the animals are collected in a separate enclosure, arranged in their classes in the order of the catalogue and passed into the showing to make the circuit while the next class in order is being made ready to follow. We quite appreciate the difficulties in the way of the adoption of this system in this country, especially where, in some cases, the management is not in the hands of practical representative farmers and stockmen, or those who are likely to take sufficient interest to carry out the idea; but making due allowance for all the difficulties, we submit that in this matter what has been done can be done again, and that where there's a will there's a way. If we are ever to make our agricultural exhibitions what they ought to be in the best sense of the term "educational influences," we need to make a forward movement of considerable proportions to get out of the ruts we have been traveling in and take higher ground. Practical exhibitions of a working dairy might also be made attractive as well as instructive, including the use of the most improved appliances, such as the milking machine, the cream separator, the test for butter-fat, and the process of butter-making. The actual manufacture of many articles in other departments of the show could be made interesting to visitors as well as means of advertising machinery and goods, and thus promoting trade and business. We are persuaded that a wide field is open for improvement in the lines we have referred to, and that it is possible, with the co-operation of the organizations we now have, such as the stock breeders' associations, the dairymen's associations, and the manufacturers' associations, with fair associations, to make a distinct advance in the matter of elevating the character of our agricultural and industrial exhibitions, making them at once attractive and educational as well as profitable from a business standpoint of view, and we commend these ideas to the consideration of all concerned, with the hope that they may be found to be capable of practical application.

In the meantime let us make the best possible

use of our fairs as we have them, and we are free to say they are second to none on the Continent in their management, in the enterprise and liberality of their boards of control, in the excellent and extended classification of exhibits, the substantial prizes offered, the courtesy of their officers, the accommodations provided for exhibitors, and the character of the judges selected for the awarding of prizes, whose work is as a rule as faithfully and fairly done as in any country in the world. We confidently anticipate for 1897 the most successful fair season Canada has ever witnessed.

One word more in conclusion: The question may be asked, Are we likely to overdo the exhibition business? Turning again to England for an example, we should say not, for we find there a series of grand agricultural, live stock and dairy exhibitions, numbering nearly 200, beginning in February and continuing till December, and nowhere in the wide, wide world has the profitable rearing of pure breeds of horses, cattle, sheep and swine been so developed and brought to such a high degree of perfection as that "tight little isle."

How to Start a Jubilee Era of Agricultural Progress.

Mr. Wm. Morley Edwards, of Wellington Co., Ont., under date June 24th, writes: "Please find enclosed the sum of \$1.00, a year's subscription to the FARMER'S ADVOCATE. Now, if it is at all possible, I would very much desire my year's subscription to commence with your 'Jubilee number.' I have just seen it at a friend's. If Canadian farmers would yet more, when possible, follow its leading thoughts in practical and educational action, the result would be but the beginning of a Jubilee era in the line of agricultural progress."

STOCK.

Stockers Going Out of Manitoba.

Hundreds of young stockers, yearlings and two-year-olds have been shipped out of Manitoba within the last two months, the majority of course being sent to our own ranching country. We saw several droves being driven westward through Southern Manitoba, the owners saying they intended driving them all the way west to the ranching country. Several hundred head have been sent south across the border. Farmers who sell thin stockers in the spring of the year with six months' unlimited grass ahead of them are shortsighted indeed, especially in the face of a rising market. It's the man who finishes these stockers, whether in the stall or off grass, that stands to make the profit.

Those who are keeping over a bunch of good quality young steers for next winter's finishing in the stall have a pretty safe thing, judging from present appearances. Already (early in June) the local markets have gone up, the export cattle went out early, grass beef is not yet ready, and butchers' cattle of reasonably fair quality are scarce on the Winnipeg markets. With such numbers of young cattle sent out of the country it would look as though beef must be scarce next spring. With the stimulus better prices will give to breeding, it is important that every farmer should keep quality rather than quantity in view, and use only pure-bred sires, the best obtainable.

Let Us Finish Our Cattle at Home.

There is undoubtedly a scarcity of young steers fit to fatten in Canada at the present time, due largely to the heavy exportation to the United States that has gone on within the last few months. According to our Chicago Stock Letter of last issue some 21,500 Canadian cattle arrived in Buffalo during the four months preceding June 1st. This cannot by any means include the entire number that has gone over the border, as many have been taken by other routes to the Western States. At the time the embargo was placed by Great Britain upon our live cattle the more optimistic of us saw good in the effect it would have in compelling the finishing of our cattle in this country, which we must agree is the most profitable way of handling them. We were led to believe that the lesson was so easy to learn that even though the embargo were removed in a few years young half-fat cattle would never be sent away to make their finishers a profit that we so much need and appreciate. Our expectations, however, have not been realized, as we well see. When a chance comes along to turn great numbers of those very cattle we want over to our American cousins we are just eager to let them go. The reason that they want them is that they have a great amount of surplus cheap feed and need animals to convert it into salable products. It seems a great pity that such a condition exists that compels farmers to realize at once at a certain loss when holding them for a short period would place to their credit many an additional dollar. Such a course is especially regrettable at the beginning of a season that promises a large return in fodder crops. Not only that, but reports from all quarters of the United

States indicate a shortage in cattle. We need no other proof for this condition of the supply than the evidence we have in the way American feeders have been scouring our country in quest of stockers. This all indicates that beef will be dear just at the time we have none to sell. Let us be wise and go no further in this back-handed way of conducting our business.

Death of Mr. Thos. Guy.

Very many of our readers will regret to learn of the demise of Mr. Thos. Guy, of Sydenham Farm, Oshawa, Ont. He was born at St. Gorran, Cornwall, England, March 21st, 1819, and at the age of 27 came to Ontario and settled on a farm a few miles north of Sydenham Farm. After remaining there four years he moved to Woodstock, and some twelve months afterwards returned to Ontario County and settled on the present homestead. Mr. Guy was better known to our readers as a breeder and exhibitor of Ayrshire cattle, but he became also famous for the excellence of his Shorthorn cattle, Leicester sheep, and Berkshire pigs.

The prize winnings of the Sydenham Ayrshire herd have been honorable to Canada, as well as the breed and herd they represented. In 1882 the FARMER'S ADVOCATE prize of \$100 for best five cows for general purpose and profit at the Provincial Exhibition was won by five Ayrshires owned by Mr. Guy. The same year at the Toronto Industrial the best Ayrshire cow was found in the Sydenham herd, and two years later the milk test premium at the Toronto Industrial came to one of Sydenham's favorites. But perhaps greater than all of these in national honor was the success attained at the World's Columbian Exposition, where Mr. Guy shared liberally in the glory of Canadians who won nearly all the prizes offered for Ayrshire cattle. These are a few instances of winnings we have in mind, but for a great number of years the best Canadian shows were visited, with results in keeping with those mentioned. Commencing in a humble way, and being possessed of a cautious, straightforward character and marked capacity as a breeder, the success attained has been personally earned by the deceased and his sons.

Mr. Guy was the father of a large family who, with the exception of one daughter and son, are doing for themselves in different parts of Canada and the United States. He was a man of sterling integrity and christian character, respected by all who knew him. His health commenced to fail more than a year ago and his life went out on the morning of June 16th. The wife and family have the sympathy of all who know them or Mr. Guy in the loss of an affectionate husband and father.

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Corn as a Stock Food.

BY PROF. G. E. DAY, ONTARIO AGRICULTURAL COLLEGE.

The feeding value of corn is at present attracting considerable attention, and it is a question which certainly is deserving of careful consideration. The composition of a fodder, though not an infallible guide, is always of assistance in studying its value, and for this reason the composition of corn, peas, and barley is given below:

	Ash.	Digestible Protein.	Digestible Carbohydrates.	Digestible Fat.
Corn.....	1.5	6.3	61.8	5.0
Peas.....	2.6	18.0	25.0	0.9
Barley.....	2.4	9.5	66.1	1.2

From the above table it will be seen that the most striking feature of corn as compared with barley is its very low percentage of ash and high percentage of fat. Compared with peas the difference is even more striking, while the percentage of protein in peas is very much higher than in either corn or barley.

Now, the ash of a fodder goes to form the bone of the animal, the protein is mainly concerned in the formation of muscle (lean meat), blood, milk, etc., while the carbohydrates and fat are used to form fat and produce heat. Judging from the composition, therefore, the natural conclusion would be that corn is a poor bone-former, but that it is especially designed to form fat. Peas and barley, on the other hand, appear to be fairly good bone-formers, while peas seem especially adapted to the production of lean meat.

So much, then, for appearances. How about practical results? It would require altogether too much space to review the whole field of experimental work with these fodders, but the results obtained by a few leading experimenters are worthy of notice, and their results, generally speaking, are verified by the work of others.

Prof. Craig, of Wisconsin, regards corn as the most fattening farm grain that can be fed to sheep, but he found difficulty in maintaining the appetites of the animals and preventing disorders when corn was used exclusively as the grain ration. The results of his work go to show that the safest plan is to commence the fattening with oats or bran and gradually add corn, finishing the fattening with a mixture composed of about three-fifths corn. Peas

also combine well with corn, and Prof. Craig obtained a much larger gain with peas and corn than with corn alone. Very little attention seems to have been paid to the quality of the mutton, but a general review of the subject seems to indicate very little difference.

Prof. Henry, of Wisconsin, found that the feeding of an exclusive corn ration to hogs resulted in weak bone. The addition of bone meal and ashes doubled the strength of the bones, but did not appear to affect the proportion of lean to fat. Maine and Utah experiment stations have done considerable work in comparing corn with mixtures of corn and peas, corn and barley, etc., and the results were very favorable to the mixtures.

With cattle comparisons of corn with peas or barley are few in number, and it is still more difficult to find anything conclusive regarding the effect of fodders on the quality of beef. What work has been done indicates that the effect of a ration poor in ash and protein is most marked in the case of immature animals, especially calves.

A review of the whole question shows that there is still room for investigation along these lines, though it is not difficult to draw a few logical conclusions. There is little doubt that corn is not suitable as an exclusive grain ration, especially for young animals. It combines well with peas, since each tends to correct the defects of the other, peas being rather too rich in protein and corn deficient in ash. For growing animals bran and oats combine well with corn. For young pigs, however, oats would not be suitable owing to their hulls, and middlings would supply their place. The addition of skim milk would be a still further improvement. Oil cake is very suitable to feed with corn to any class of stock. Barley tends to improve corn, but resembles it too closely to give the best results. If barley is mixed with corn the mixture would be improved by the addition of peas, bran, shorts, middlings, oil cake or oats, the oats being especially suitable for calves or lambs.

It has been claimed that corn is responsible for the lower prices of American pork as compared with Canadian, and that corn will eventually bring Canadian pork to the level of American. To what extent this is true it is difficult to say, and a question might be raised as to whether the difference in price is not due to a large extent to differences in breeds and methods of selection. If we have not the right kind of animal to begin with we cannot obtain a No. 1 product no matter what we feed. No doubt the exclusive feeding of corn would have an injurious effect, but when fed intelligently to animals intelligently selected there is little to fear, and we may regard corn as a valuable addition to our list of stock foods.

Summering the Foal.

There are those who affirm that if horse breeding is to be successfully carried on the mare should not be worked while suckling her foal, says *Prairie Farmer*, and that healthy, robust animals can be reared only when the dam is free to devote her whole time and strength to the duties of maternity during the five or six months usually set apart for that purpose. There is a good deal of truth in this contention, and there is no doubt that there is a deal less trouble and risk of infantile disorders, and that better grown foals, ready to wean earlier, are the result when the mare runs with her offspring over a good wide pasture, and enjoys the further advantage of something out of a trough, than when, in addition to suckling a foal, she has to take her share of the work of the farm. Much, however, depends on the amount of care and forethought brought to bear on the matter, and some good foals are reared on farms where it is the common custom to put the mares to work at the expiration of six weeks or two months, or when it is designed to breed another foal, after they have been served and "tried." It savors rather of the kind of economy that is the reverse of profitable to have a mare working, carrying a foal, and suckling another, but so far as I can see it answers well, and pays, where the system is judiciously worked. It does not, however, answer where the mare is hard worked or underfed, or where the mare and foal are kept apart for long hours at a time. Take the case of mares used for agricultural purposes in some tillage districts. During the turnip sowing, haymaking, and harvest, they are kept hard at work from morning till night, with the exception of a short spell at noon. The mare is heated and dripping with perspiration when she comes in, and the foal, generally shut up during her absence in an ill-ventilated stable, is desperately hungry. The mare's udder is distended and painful, and the foal is nothing loath to appease his appetite on the heated, watery milk resulting from the hard work and long fast; and if it does not suffer from colic and scour as a consequence, the effect of such a system of management is soon visible in the appearance of both mare and foal. It is bad to keep mares in close confinement during gestation, since it results in a bad foaling time and an ill-developed foetus, but it is worse to keep any young animal in close confinement during the early days of its existence. A foal shut away from its dam during the long hours constituting the summer working-day suffers from the want of freedom, and the fresh air and exercise associated with it, not less than from the want of regular feeding. A foal running with its mother in the field is constantly sucking, scarcely an hour passing without its doing so; and as this is nature's method of

rearing, it is an outrage to keep a foal six or eight hours without access to its dam. There is not only an alteration in the secretion consequent on the work and long fast to which the mare is subject, but a foal shut away for a long period is hungry, and is then apt to take a quantity of the vitiated fluid with which his imperfectly developed digestive organs are quite incapable of dealing. Long fasts, followed by hurry and overfeeding, are productive of digestive derangement in much older and more robust creatures than young foals. With such treatment a foal, instead of growing out, remains puny and stunted; in fact, the organs of digestion and assimilation may be impaired by the bad quality and insufficiency of the milk to such an extent that no subsequent treatment, however liberal, can fully restore them. The mare, too, gradually loses flesh and spirit, becomes hidebound and unthrifty, and presents all the signs of overwork, which does not augur well for our next season's foal. This cannot pay, and if any work is exacted from the suckling mare it should be of the lightest possible description, and should not occupy her for long periods together. The light horse breeder who wants his mare to work during the suckling period is in much the same position as the agriculturist who wants to exact the full day's toil, since his mare in taking journeys will be long absent from her foal and return to it heated and tired. For the sake of the foal there can be no doubt that it is best to let the dam give it her undivided attention, and to feed both liberally with a view to early weaning. A mare fed on suitable food, in addition to a plentiful supply of good grass, will yield an abundance of milk on which the foal will grow rapidly, and it is astonishing how soon the latter will, from the force of example, learn to feed with her, and thus not only be ready for weaning at an earlier date, but, by becoming independent of the milk and able to deal with solid food, feel the early separation less acutely.

Forage Crops for Pigs.

The value of pasture for pigs was illustrated by the Arkansas Agricultural Experiment Station. Rye, red clover, sorghum, peanuts, and sweet potatoes were the crops used in the test. These could be all used by most of our readers except the sorghum, peanuts, and sweet potatoes, which places could be supplied by green corn, green peas, and mangels. A grade Poland-China sow and five pigs were turned on the rye March 23rd, when the crop was six inches high. This she did not relish, and in one week was put on clover, which was grazed over twice. A little grain was given in addition. Towards the end of June the pigs were put on sorghum which had been sown in April and was headed out. Late in September two of the pigs were put on sweet potatoes and three on peanuts. They were all turned on peanuts in two weeks, and continued to feed upon them until into December. They were then given soaked corn about three or four weeks. During the test the pigs had grazed over one-fourth acre of clover, one-fourth acre of sorghum, two-fifth acres of peanuts, making in all less than one acre. In addition to the forage crops, the pigs were fed some grain until they were five months old to insure rapid growth. They were also given a mixture of charcoal, salt, ashes and slaked lime. They were in perfect health throughout the entire test.

At the close of the test the pigs weighed 1,215 pounds, the average weight being 243 pounds. The total value of the grain fed pigs and the sow (while she ran with the pigs) was \$10.61, and the value of the green crops was \$4.50. The rent of the land was assumed to be \$3.00, making a total cost of fattening the pigs \$18.11. The average cost of producing a pound of pork was 1.5 cents.

The pigs when slaughtered were valued at \$3 25 per 100 pounds, making their total value \$39.48, and a profit of \$21.37. With the above rotation of forage crops only 6.6 bushels of corn was required to produce a pig weighing 243 pounds at ten months old. There is no doubt but in cheese-factory and creamery districts very cheap pork could be produced were due attention given to the use of forage crops in conjunction with the dairy by-products and very little grain.

If any of our readers have had experience with this plan of pork production, we will gladly publish the results, showing its advantages or disadvantages.

The Bath and West Show.

From the beginning of March until the middle of December live stock shows in Great Britain follow with only a few days, at most, of intermission. The Bath and West is classed as one of the great annual summer events among breeders; in fact, it was this year the first of the great annual summer shows. It was held at Southampton from May 24th to 28th. It was not up to the show of last year because of its very southern location, which being close to the homes of the Jersey and Guernsey brought out an unusually fine display of those breeds of cattle. The entries were as follows:—Horses, 123; cattle, 505; sheep, 205; pigs, 100; poultry, 397; farm produce, 397; total, 1,708, compared with 1,850 last year. Implements occupied 21,885 feet, compared with 22,872 last year.

In horses the turnout of Shires was good, especially the female sections. Clydesdales were very sparsely represented, being the only breed shown in the section allotted to draft breeds other than Shires. There was a small display of hunters, and

only two classes for Hackneys which were meagerly filled. In the harness class the reserve award was secured by a Canadian-bred horse, Great Scott, out of an American dam.

Among cattle Jerseys and Guernseys formed the most noteworthy feature of the show. The entry of Jerseys was 173, and of Guernseys 88, making a total entry of 266, while the entire entry for all other breeds of cattle combined was 239. Not in numbers alone but in point of merit the Jerseys and Guernseys were very superior, and was probably rarely, if ever, excelled. Frequently among the list of winners in Jerseys we notice the names of Lord Rothschild, Duke of Marlborough, Miss Greenall, and Mrs. C. McIntosh.

Among other breeds of cattle perhaps Devons eclipsed any of those remaining. Every class was well filled, and in most instances a number of honorary awards had to be expended to satisfy the judges.

There was not a brilliant turnout of Shorthorns, although the female classes contained animals of very choice quality. A number of the winnings fell to animals bred by Mr. Duthie and sired by Scottish Archer. Mr. J. D. Willis, of Bapton Manor, was successful in several sections.

Herefords made a small class, as did also Aberdeen-Angus, there being seven catalogue entries in the three classes devoted to the latter breed. Sussex cattle made up one of the best and most interesting classes in the show, not so much on account of numbers but for the excellent quality of the entries. In yearling heifers three highly commended tickets had to be issued after the money prizes were placed.

There was quite a large display of Kerries and Dexters. In the latter the Prince of Wales gave a good lead to the heifer class with his three-year-old, Dainty Girl.

In sheep the following breeds were more or less strongly represented: Leicesters, Cotswolds, Kentish, Devonshire Longwools, Southdowns, Hampshires, Shropshires, Oxford, Somerset and Dorset Horns. Of these Shropshires were undoubtedly the best in numbers and general merit. Hampshires too proved their claim to a high standing as a breed at this show. Southdowns were numerous, but disappointing in quality and uniformity. The other breeds represented were not as strong as one would have looked for in the southern part of England.

Pigs have, since 1893, been debarred from exhibiting at this show on account of disease, but this year showing was again resumed with rather a scarcity of entries. Berkshires, Large Whites, Middle Whites, Small Whites or Small Blacks, and Tamworths were moderately represented.

Our Scottish Letter.

These be the days of Jubilee and all the world and their wives have gone fairly mad over the diamond celebration of Queen Victoria's reign. This is the greatest thing in the world at present, and politics, trade and agriculture are severally at a standstill. It can hardly be said that this state of matters is good for the country. With a backward spring, a long succession of dull, cold east winds, and the newest phenomenon, a boycott of the public auction marts, the lot of the average farmer who means to make his rent out of profits is not a happy one. The sudden

OUTBREAK OF BOYCOTTING

has come at a most inopportune moment. After a weary time of very low prices for fat cattle, the market had taken a turn for the better, and prices were on the upgrade. To-day sales of prime polled bullocks in Aberdeen are reported at 39s. 1d. per 112 lbs., live weight, and at all the principal marts improved prices are recorded. In these circumstances it may be useful to indicate what the boycott means, and all the more as the Canadian shipper of fat cattle will be as badly hit by it as the home feeder; indeed more so, as the boycott was first put in force at the Yorkhill wharf.

To understand the position we must go back a bit. For some time the growth of what are called co-operative stores has been regarded as a stern menace to the prosperity of private traders, especially such as had to do with food and raiment for the million. The co-operative stores are huge combinations of the working classes, managed by themselves through directors specially selected for the purpose, in which the system of bonuses largely prevails. The stores sell only to members. Each member is bound to buy all he or she needs in the way of food and raiment from the stores, and for every purchase up to a certain amount the buyer is entitled to a definite share in the profits, which share is payable at a specific date, usually about the rent time. In this way the stores become the bankers for the members, who without any effort on their part are continually, and, as it were, automatically, laying past a certain amount of money which otherwise they would have needed to lay past by strict self-denial to meet the payment of rent and taxes due at the quarter's end. It is argued by the private traders that this system simply means that the purchaser from the stores receives goods of inferior quality, and there is some reason to believe that in this there is a germ of truth. Be that as it may, inferior or not inferior, the buyer shares in the profit and has little care for the future. The growth of these stores has been phenomenal. They exist in every center of population and accumulate money at an enormous rate. Consequently they have em-

barked in many enterprises, amongst others, farming, which they have never been able to carry on at a profit. It is alleged that a system of mild terrorism exists amongst the members of each society, and that any workman who does not join the stores is a marked man. Whether that be so or not I cannot tell, but this is certain: the effect of the system is to stamp out individuality and gradually merge the individual in the body corporate. The widespread ramifications of the system will be understood when I mention that a wholesale co-operative society exists the partners in which are the various local retail societies, and these local institutions are under the same obligation to purchase their goods from the wholesale society as their own members are to purchase from them. The aim and object of the entire system is the abolition of the individual and the exaltation of society or the State.

The pressure of the competition of these stores was very keenly felt in Glasgow, and a few years ago private traders organized themselves to crush the stores or at least to fight them with their own weapons. Many of the servants in the employment of private firms were members of the co-operative societies, and the first movement of the traders was to intimate to all such that they must either resign their membership or their situations within a short specified period. This was a very serious step, but I believe it has been carried through with a very considerable measure of success. There was a good deal to be said in its favor. These employees were practically opposition traders who from their position in the service of private traders were able to learn many trade secrets which became useful to the co-operative society of which they might be members. It is an extension of the same principle which has brought about the present deadlock in the auction marts. Naturally the co-operative societies are very large buyers of fat cattle. The butchers are the best organized of all the private traders, and they resolved to strike a blow at the stores by cutting off their supplies of meat. To this end a resolution was come to by all the butchers in Glasgow under which they pledged themselves to purchase cattle from no auctioneer who would sell to the agents of the co-operative societies; and to make sure that this would be carried through, they formed a concordat with certain of the auctioneers, who signed a pledge to the desired effect. The battle began at the foreign animals wharf at Yorkhill. The butchers resolved and kept their resolution to buy from none but the auctioneers who would refuse the co-operative bidders. Consequently some of the salesmen on that particular day had very bad trade indeed. If they did not agree to the butchers' terms their only customer was the agent of the wholesale co-operative society which supplies all the local societies. At first a good many of the salesmen stood out against the coercion, but after the first week they abandoned the struggle, and now the butchers control the marts in every center where either foreign or homebred cattle are disposed of. The effect on the feeder alike here and in Canada is obvious. One of the best bidders is driven out of the market, and the butchers, who are just as well organized as the co-operatives, can dictate their own prices to the farmers or agents. The first remedy which suggests itself is of course this, that the agents of the co-operative societies will buy direct from the feeder, and this many of them are doing. But they are not competitive buyers; the one store does not compete with the other, and there is a dead level of prices. Further, the butchers intimate further reprisals. They say that they will compel the auctioneers to refuse to sell store cattle to those farmers who have been selling fat cattle privately to the wholesale co-operative society. Should this be carried out it is obvious that farmers will next need to combine in self-defence, and possibly the result may be to lead to a reversal to the system of sale by private treaty. If so, to some extent good might come out of evil, as no doubt many have the feeling that the auctioneers latterly have had rather much power. Be that as it may, the present situation is anything but pleasant, and we believe it is as heartily disliked by most auctioneers as it is by most farmers.

A Question of Interest.

To the Editor FARMER'S ADVOCATE:

SIR,—In Mr. Munroe's article on "A good dairy cow—How to get her, and how to keep her," published in the ADVOCATE, he asks the farmers to line up for a practical arithmetic class. After they have lined up and toed the mark he suggests the following problem in interest as their first lesson, viz.:—"If a man invests \$3 per week for one year and gets a clear profit of \$2 per week for the same time, what is the annual rate per cent.?"

He says, "It's a stunner." Well, I can't see anything stunning about the problem, but really his solving and answer does "stun" me when he tells us that the rate per cent is 3466.

That is about the way the "sharks" in the cities figure interest when the backwoods farmer goes in to pay or renew his note, but the everyday farmer, in answer to the problem, would say that 66 is the rate per cent. Not much difference, only 3400.

BERESFORD.

FARM.

Haymaking.

By this time the hay crop for 1897 has been grown; the vital question with the farmer now is to save it. In the FARMER'S ADVOCATE for June 15th a batch of excellent letters from practical men appeared dealing with this important subject. They would well repay reading and re-reading. By the time the present issue reaches our readers hay-making will have been commenced in many sections of the country. Clover in Western Ontario is generally far enough advanced to commence cutting on the 1st of July, but will probably be a little later in some sections this year on account of the continuance of cool weather up to nearly the middle of June. If the clover is mostly in full bloom and some of the lower leaves are beginning to turn brown the sooner it is cut the better, if the weather is favorable for drying and curing it. The weather being right, it is wise to begin cutting early, as the aftergrowth will be better for it and many weed seeds may be destroyed; and if there is much to cut and care for it may be late before it is all secured, and the last cutting will be so over-ripe as to be seriously injured in feeding value. For clover that is cut early we think, as a rule, it is better after it has been shaken up and turned over to dry to be put in medium-sized cocks and allowed to stand a few days to sweat and cure before being put in the mow. A little salt scattered over each load as it goes into the mow will have a good effect in checking fermentation and prevents molding. Later in the season when the grass gets more advanced hay may, by keeping it well tressed up and exposed to wind and sun, be hauled in from the windrow the same day it is cut. This applies especially to timothy, but even timothy should be cut before it is ripe, and makes a better quality of hay if allowed to cure in cocks before it goes into the mow. Special care should be observed in the case of clover that it is not left exposed to the dew which is often as hurtful to the quality as a shower of rain, and when once the fresh green color is lost it is permanently lowered in nutritive value, and cannot again rank as first quality. To sum up, we repeat commence cutting early if weather is favorable. Cut no more than you can care for. Keep hay moving, exposed to wind and sun; rake before too dry. Avoid exposure to dew or rain. Cure in cocks, though we have seen some good hay "made" simply in windrows. Secure it in the mow as soon as in proper condition and salt it down moderately. Where there is a large crop to take off, "hands" scarce and speed an object as in "catchy" weather, the hay loader will render great service, as described by "Old Haymaker" in our last issue.

The Harvest Field.

The importance of having all the implements required for harvesting operations ready and in working order some time before the fields are "ripe unto the harvest" is so patent as hardly to require a reminder. But, notwithstanding this, we fear there may be some who will put off the necessary preparations till the day they wish to commence the work, and then may find some part of the machinery out of order and requiring attention which may involve the loss of a day's work and a delay in the harvest which may mean a considerable loss in the quality of the grain or of the feeding value of the fodder, and a loss of time which may be of great value in the preparation for sowing of fall wheat, which in these days presses close upon the heels of the harvest. We believe it is safe to say that as a rule in this country grain is allowed to get too ripe before cutting for the best results from the whole crop. Since a large proportion of the straw of all our grain crops is utilized for fodder it is of great importance that it should be cut as early as the condition of the grain will justify, in order to secure the greatest amount of nutriment in the straw, which may be safely cut quite on the green side if the weather is favorable and it is bound in small sheaves. When the grain is in the dough state it is, as a rule, safe to cut it, as there is then sufficient sap in the straw to nourish the grain for a few days, and the color will be even a brighter and richer shade than if left to fully ripen before cutting, besides being less liable to waste from shelling out. When the commencement of harvesting is delayed till the grain is fully ripe it frequently happens that before the cutting is completed the last fields have become excessively ripe and are liable to great loss from shelling, besides the loss in the feeding value of the straw which is almost inestimable, and a rainstorm may come and beat down a crop that had stood up well and might have been safely cut. It is well, therefore, to be forward with the work, to commence cutting early if the weather is favorable, to bind in small sheaves, stook the sheaves firmly, so that they will not be liable to fall over, and haul into the barn as soon as dry enough to be safe.

A Scottish Opinion of the "Farmer's Advocate."

JNO. ALLEN, Esq., Aberdeenshire, Scotland, under date of June 4, writes:—"I am always well pleased with the ADVOCATE, and I must say it would be the last paper I would part with."

Look Carefully to the Well.

The following suggestions as to the care of the well, contributed to *Farm Stock and Home* by Prof. Snyder, will perhaps be helpful to some readers of the FARMER'S ADVOCATE:

"It scarcely seems necessary to emphasize the importance of a good, wholesome supply of water for household use. Foul water, containing a large amount of dissolved animal and vegetable matter, furnishes a breeding place for all kinds of disease organisms. Typhoid fever and many other germ diseases are generally caused by such water.

"Recognizing the importance of a pure water supply, what can be done to improve our wells? If it is an open well, as is usually the case, look to the drainage. The drainage should be from, and not toward the well. In order to keep out all surface water, the top six or eight feet should be laid up with water-lime. If the soil is sandy a few loads of clay should be used for surfacing. The top of the well should be raised two feet if there is any doubt about the drainage. When well water becomes muddy after a rain it is a sure sign that surface water finds its way into the well. When the drainage has been looked after look to the surroundings of the well. The watering trough should be a little distance from the well. The well platform should be sound. As soon as a board becomes rotten remove it, never nail another on top of it, because rotten wood is a breeding place for germs. The well platform should fit close to the well curbing so as to keep small animals, as rats and gophers, from accidentally getting into it.

"The well should have ventilation. A square box-like ventilator should project through the platform, and this should be covered with a piece of cheese cloth, which should be washed from time to time. The ventilator should be high enough to keep out surface dirt.

"Drinking from the spout of a pump and allowing the waste water to run back into the well should never be tolerated. Neither should the cleaning of rubber boots, covered with stable filth, be allowed on the platform. A little wire fence about the well will keep away trespassers like dogs.

"It is not wise to plant trees in the immediate vicinity of the well, because the roots will find their way into the water and give off waste organic matter, making the water foul and causing it to taste bitter.

"Farm wells are not as bad generally as those in villages and cities, where frequently wells and cesspools are in close proximity. In some cities the introduction of a good sewage system has materially lowered the water in surface wells, showing the close connection between cesspools and wells. It has frequently been observed that the water from sink holes and foul places has a direct communication with the water in wells. This is shown by placing a little lithium, one of the rare elements, into the cesspool or foul place, and then after a few days the spectroscope will show the presence of the lithium in the well water.

"Look at your well and see if it can not be improved in some way. Is the drainage all right, is the surface water kept out, is the platform sound, is the well properly ventilated, and do all of the persons who use the well understand how important it is that the drippings from boots, etc., should not be allowed to run back into the well, and is the watering trough some little distance from the well? These are all important points to consider, because the health of the whole family may be seriously affected by not giving proper attention to them."

Manitoba's Crop Report for June.

The official crop bulletin for June issued by the Department of Agriculture shows a very gratifying statement of increased area under crop and hopeful outlook for a bountiful harvest. The following comparative statement of the acreage under crop for the last three years is interesting:

Acreage under:	1894.	1895.	1896.	1897.
Wheat.....	1,010,186	1,140,276	999,598	1,290,882
Oats.....	418,686	482,658	442,445	468,141
Barley.....	119,528	153,339	127,885	153,266
Flax.....	30,500	82,668	20,325	20,653
Potatoes.....	13,300	16,716	12,260	13,576
Roots.....	7,880	6,683	6,715	6,130

The total area for 1897 is nearly 2,000,000. The largest increase is, of course, in wheat, which is considerably larger than ever before. There was estimated to be 821,370 bushels of wheat in the farmers' hands at the date of issue of the bulletin. Stock of all kinds is reported to have wintered well, 8,729 beef cattle having been fattened during the winter, and the number of milk cows in the Province is given as 65,205. Creameries and cheese factories began operations about May 1st. There are now 28 creameries and 31 cheese factories. The demand for farm help is well supplied till harvest time, but there is an active demand for domestic servants.

The Army Worm in '97.

Bulletin 133, by M. V. Slingerland, of Cornell University, devoted to the army worm in New York, says, in closing a discussion upon the likelihood of an infestation in 1897: "In short, we believe that the history of the insect and the evident and very effective work of its enemies last year, in New York at least, strongly indicate that the army worm will be a scarce article of diet for the birds in 1897 and for some years to come in most parts of the State."

Cattle Feeding at "Maplebank Farm."

BY AN OCCASIONAL CORRESPONDENT.

"Maplebank" is the very appropriate name of the farm owned by Mr. A. Miller, treasurer of the township of East Zorra, Ont. It is situated about fifteen miles north-east of Woodstock, in the County of Oxford, and comprises some two hundred acres of fine fertile soil, running from one concession through to the next, with parallel line fences. The house, orchard and barns are situated about the center of the farm, and connected with both roads by driveways. With this arrangement one is right in the midst of operations, and it is certainly most convenient for the handling of the season's crops. During the last few years Mr. Miller has devoted his time chiefly to feeding beef cattle, and raising the necessary crops for that purpose. The barns are large, and fitted up with all the latest improvements. The cattle, of which there are some fifty head, are stalled in the basement, along one end of which is built a large root cellar, with doors opening into it at the head of the passageways. At the other end there is a large bin reaching up to the ceiling of the stables, for the purpose of receiving chop from the mill in the barn above. This mill, as well as the straw cutter and turnip cutter, is driven by wind power, which has thus far proved most satisfactory. The cattle are fed hay the first thing in the morning, and then turned out for exercise and water. During the winter the water tank, which is kept filled by wind power, is supplied with a hot air drum to keep the water from freezing—a device that works splendidly. By this means the chill is also taken off the water, which is then, it is claimed, much better for the stock. While the cattle are out the manure is removed from the stables with a stone boat, and the feed distributed ready for their return. This feed, which is given to them three times a day, consists of cut corn and hay, whole roots and a chopped mixture of oats, barley, corn, peas and bran. The chop is fed in the proportion of one pound for each hundred-weight; that is, a beast weighing twelve hundred will receive twelve pounds a day. The cattle are weighed once a month, it being quickly accomplished by having a scale placed in one of the passageways and driving them through. The greatest gain noticed since they were put in on the fifteenth of November last was 350 pounds, and the average gain 290 pounds. The horse stable, driving shed, and implement house are in a separate building facing the driveway, which leads out through a fine orchard of apple trees. Mr. Miller has used the sprayer for some years, and finds it to have been a great benefit to the trees. The farm in general presents a neat and tidy appearance, and is in every way an example of modern farming.

Cost of Growing Turnips.

To the Editor FARMER'S ADVOCATE:

SIR,—Many farmers do not grow turnips, because they claim it is too much work for so little return. These men have no experience in feeding turnips or they would not talk as they do. I heard of an "intelligent" man who said he preferred turning his cows out to the creek rather than grow turnips to supply them with water. There are too many men who look on turnips as being of very little value, but experienced feeders, both here and in the Old Country, know that they are indispensable in keeping stock growing and healthy, as well as being an important adjunct in making up a fattening ration.

Turnips may also be fed to milk cows in moderate quantities without having the slightest effect on the milk, but they must be fed immediately after milking, being careful to have all milk removed from the stables before feeding, as I believe the milk takes the flavor more quickly from the air of the stable than from the cow.

The following figures will give an idea of what it costs to grow and harvest five acres of turnips:

Preparing ground (plowing twice, harrowing, etc.)	five days at \$1.75	\$8.75
Drilling, two days at \$1.75		3.50
Seed, and sowing same		4.00
Cultivating twice, two days		2.50
Thinning turnips		3.75
Hoing, second time		5.00
Harvesting		26.37
		\$58.87

These figures were taken from farm account and were made at the time the work was done.

We harvested 2,000 bushels of turnips, which we count only a fair crop, and which at 5c. a bushel makes \$100, but 600 bushels per acre is not a large crop, and 7c. is a moderate price, which would make the value of the crop \$12 an acre. You will notice that nothing is charged for the manure or hauling same to the field, but as opinions differ in regard to the per cent. chargeable to first crop we left that alone. The cost of hauling manure would be more than balanced by the feed derived from the turnip tops, which were carefully saved and fed to stock in pasture or stable as weather permitted. Turnip tops are, I think, as good feed for stock as rape and much cheaper. J. C. H. S. Lanark Co., Ont.

Happy is the man just now who is loaded with plenty of good cattle. If present prospects in this business are realized, the owner of good cattle will have few cares to trouble him other than those resulting from a prosperous transaction.

Agricultural Nomenclature.

To the Editor FARMER'S ADVOCATE:

SIR,—There is probably no vocation in which the things connected with it are called by their wrong names more than in farming. We are constantly hearing men speaking of something that they may own or be doing, and in order to understand them properly it is necessary to question them to get at the facts of the case. Not long ago I was amused on going into a Magistrate's court, where a case of horse stealing was on, to hear a lawyer examining a witness as to the breeding of the horses stolen. It was quite evident that the lawyer knew a good deal more about the subject than the farmer did. Now this should not be, for though I suppose a lawyer should know a little about everything, a farmer should at least know the names of the different breeds of farm animals and also their characteristics, and be able to answer such questions as I heard put, satisfactorily.

On looking for some of the things wrongly called and classified, we find that very few farmers know how to describe their own land. They speak of loam, clay loam and sandy loam, but what is generally meant by loam is not loam but humus, or decayed vegetable matter. A loam is a soil in which there may be little or no humus. It is, properly speaking, an equal mixture of sand and clay, or is land in which neither of these two ingredients is found to exceed the other more than twenty per cent. Where either is found in greater percentage over the other than this the soil becomes a clay loam or sandy loam, as the case may be. When the percentage of either gets so low as ten per cent. the soil is then classed as either sand or clay. A soil may be a loam and be composed, to a great extent, of vegetable matter, but it would then be described as loam containing a large—or small, as the case might be—percentage of humus. Other soils containing humus would be described in the same way. Where the soil is composed of a large percentage of humus and a small amount of sand or clay it is a peaty soil or vegetable mould—not a loam—and when land contains much lime it is a calcareous soil. River flats, sloughs, and other low lands are almost always vegetable moulds, but this mould having been deposited by water they are called alluvial soils. Farmers should at least be able to properly describe their own land, and this they can comparatively seldom do, for most dark colored land is described as loam, which is a mistake.

Another common mistake, and one much more often heard than the one I have already mentioned, because it is a subject most farmers talk much about, is the misuse of the name of one of our breeds of light horses. This seems strange, as most Canadian farmers' sons and young farmers give much thought to their horses; in fact, they give too much thought to them and too little to other branches of the farm, which has a strong tendency towards causing them to degenerate into teamsters instead of farmers. The thought given to their favorites must, however, be ill-directed when they do not know the characteristics of the different breeds of horses, and worse still, even how they are named. The name of the breed I refer to is Blood horse. We hear a very large number of horses spoken of as Blood horses or Bloods; in fact, some farmers seem to know so little about the subject that they would almost call any stallion that they saw a Blood provided he did not carry any "feather," while properly speaking there are very few Blood horses—far too few—and of so-called Blood horses far too many. The Blood horse proper is one of the few breeds of animals that has two names, the other name being the Thoroughbred. This breed is the aristocracy among horses, the best stuff put up in the smallest space, and, as sires, would be one of the most profitable Canadian farmers could use. The horse that is so often called a Blood horse and has no right to the name is the Standard-bred trotter, and horses of that breeding which are not Standard-bred. It seems strange that so many farmers do not understand the difference between the Thoroughbred and the Standard-bred, their characteristics being so different. They might just as well call a Hereford a Shorthorn as call a Standard-bred a Blood horse. As I have already said, there are but few Blood horses in Manitoba, which is to be deplored, as they are not only useful in breeding light horses, but when used on heavier mares of the right sort are likely to beget horses that will bring good prices, but when it comes to mating this class of mares with the so-called Blood horses—animals of trotting blood—all I can say is don't do it. While I am on this subject I must not forget to speak of the improper use of the word "thoroughbred" when applied to the different breeds of pure-bred animals. The word thoroughbred is not correct, it not properly defining the meaning which should be conveyed, while the word pure-bred does so, and thoroughbred is now conceded by all authorities to the English running horse—the Thoroughbred.

The word "hybrid" is another that we often hear wrongly used, and new varieties of grain often have been brought out and called So-and-So's hybrid, when it was not a hybrid at all, but just a cross-bred. Then, again, we hear of hybridizers and hybridizing, when in reality they are cross-breeders and cross-breeding. A cross-bred is a cross of two varieties of the same species; but a hybrid is a cross of two species of the same family. A cross of two varieties of wheat is simply a cross-bred and not a hybrid, as such crosses have sometimes been called. If a variety of wheat and one of barley were crossed the product would be a hy-

brid, as would also be a cross of potato and tomato, or peas and clover, they, in each case, being different species of the same family. We have the same thing in animals. If we go to extremes and cross the Shetland and the Shire we have still only a cross, for they are both horses—although the one is a very small one—but if we cross the ass and the horse we have a hybrid. With this cross there is little or no difficulty in producing progeny, but in most crossing of species in both animals and plants it is not so. Nearly all the different varieties of plants are due to cross-breeding, and those who give their time to it are doing a good work and are benefiting mankind, and are practically "causing two blades of grass or two ears of corn to grow on a spot of ground where only one grew before."

There are other things connected with the farm which are also often wrongly named, but farmers should endeavor to avoid these misnomers as much as possible, for, in speaking, wrong ideas are often conveyed, and it also betrays an ignorance which should not exist in connection with anyone's own business.

Dauphin, Man.

"CLAUGHBANE."

DAIRY.

Cost of Keeping a Cow.

In answer to a question involving a discussion of the cost of keeping a cow for a year, Mr. C. H. Everett says, in the *Prairie Farmer*:

"Much depends upon how the cow is kept, and the price of foods, pasture, etc. As to the cost, I have not been able to keep a good cow that will pay a profit for the food consumed for much less than \$35 per year. In keeping cows for profit it ought not to be, how little can we feed to get milk? Profit does not come through stinginess in dealing out feed to the cow, but, rather, through liberal and full feeding. The cow is but a machine, and requires a certain amount of food to run herself which is wasted, and if the farmer seeks to economize by giving her just enough to supply the demands of nature, then his food is wasted and the cow does not pay. On the other hand, if he gives her all she wants to eat, she will, if properly bred and developed, return a profit. A locomotive requires one hundred pounds of steam to move along the track. As the steam pressure is increased beyond this, power is added to the engine to draw cars, until the limit is reached. So with the cow, and no one can tell what it will cost to keep her until her ability to consume food has been found. It certainly pays to keep good cows the year through. A term of years is the only way in which to make dairying or any other business profitable. No man can keep cows just when butter is high and dispose of them when the price goes down, and ever make a cent. It takes time and intelligence to raise and develop good cows, to know how to feed and care for them, and to arrange buildings and other suitable necessary things in order to carry on the business. No one should engage in the business without a full determination to study and stay by the business through thick and thin. A good cow will produce 300 to 350 pounds of butter per year, besides 4,000 to 5,000 pounds of skim milk to be fed on the farm, and a calf. She ought to earn from \$80 to \$75. An ordinary cow will produce from 100 to 200 pounds of butter, about the same amount of skim milk, and a calf. She may earn from \$20 to \$40 per year. She may cost more than she earns, and she may pay a small profit."

The Unprofitable Dairy.

When it is considered the extent of valuable land in Canada that is being devoted exclusively to producing crops for the dairy industry, it is remarkable how little careful scrutiny is given to the capacity of the cows in the herds. It would, perhaps, be difficult to find many herds of any considerable size that had not a few quite heavy producers; but even where these cows exist there will be found enough inferior cows to bring down the average production to a place where actual profits are difficult to discern. According to a large number of replies to questions sent out to factory patrons by the Secretary of the Western Ontario Dairymen's Association, the largest amount of money received by any patron per cow for the season of 1894 was \$65, and the lowest \$6, the average being \$23.34. It is estimated upon close calculation that it costs from \$25 to \$35 per cow to feed the average herd for a year, so that so far as hard times among dairymen is concerned, it is not difficult to determine the cause of much of the shortage in financial returns. It is not the best cows, nor in many cases the failure of food crops, but the low average, that kills the business, and this is due in some measure to the character of food provided as well as the low producing capacity of many cows. These are conditions over which cow owners have considerable control, and which they must assume more oversight if their business is to become profitable. This applies to dairymen whose business is not now profitable.

It cannot be too much to state that if the average dairy farmer understood this cow business as well as any ordinary business man ought to understand it, he would not be moving along in this easy, contented manner, keeping unprofitable excuses where a good cow could as well be placed. It is better to have no cow than one that costs more to feed her than she returns. The great trouble is, men do not see the loss they are sustaining, or else they do not know what to do to get hold of better

cows. A man should know how to test his herd, and do so, and thus find out which side of the fence he is on. What do we find to be the custom of men who have profitable dairy herds? Guesswork does not enter into their way of doing business. They see that it is not the price they obtain for their butter or cheese that tells the story of profit, so much as the cow they use. They can see that even a very high price for dairy products would not make some cows profitable. But the other fellows fail to see this. The matter resolves itself into this: every pound of food consumed by a poor cow will sink her owner further into hard times. *Hoard's Dairyman* says:

"Here is the key to the whole dairy situation in the United States to-day. It is the poor, unprofitable cow. The way out of the difficulty is a simple one, and the wayfaring man, though a fool, must not err therein. It is simply to test the herd, weed out the poor cows, and set to work to produce good cows."

It has been proved time and time again that it is no great thing to produce a herd of cows that will range from 200 to 300 pounds of butter per cow per year, which will be an average for ten months of 25 to 30 pounds of milk per day, testing 3 per cent. of fat; but it is necessary to start right. It will never be done by breeding poor, scrub, half-starved cows to good bulls, and being thus satisfied that because he is not worse off than his neighbor, he need not make further effort. The only hope for the keepers of poor cows is in finding out the cause of the failure and setting about to correct the fault.

Shall Butter be Worked Once or Twice?

The object of working butter is to get the salt evenly distributed and to expel a portion of the brine. When it is worked but once, the butter-maker thinks he has worked the butter enough and packs it immediately. There is, at that time, no way to tell whether the salt has been evenly distributed or not. A few hours afterwards he draws out some of the butter with a trier, or cuts it with a ladle, and finds it mottled, which will seriously affect the selling price. He knows the cause is unequal salting; that the portions which have salt have changed to a deeper yellow, and the unsalted portions have remained of a lighter color. With the next churning he is determined to remedy this and be sure to work enough. The chances are that this time it is worked too much, so that the grain is injured and the butter has a greasy appearance. But after much practice and the exercise of good judgment and care, these errors can be avoided to a great extent, and a fairly uniform and even product produced.

In the opinion of C. P. Goodrich, expressed in Bulletin No. 57 of U. S. Department of Agriculture, it is better to work butter twice instead of once. The first time it should be worked just enough to mix in the salt. Then for four or six hours it should be left on the worker, or in some other place, where the temperature is from 60° to 65° F., so that the butter will remain in the right condition as to hardness to work well. This will give time for the salt to dissolve and also time for it to change the color of the butter that it comes in contact with. Then it should be worked just enough to obliterate the streaks and mottles. This second working expels some more of the water, for the salt has had time to draw the moisture together in drops, and it is worked out, thus making a drier butter containing from 85 to 87 per cent. of butter-fat. Such butter will be firmer and better and more satisfactory to the consumer than it usually is when worked but once. Immediately after the butter is worked, it should be packed in neat, clean packages, or put up in such form as is required by the market to which it is to be sent. If tubs are to be used, ash or spruce is to be preferred, and they should be well soaked before packing the butter. If other wooden packages are used they should be lined with parchment paper. This will prevent the butter tasting of the wood.

Milking Machine Competition.

At the Glasgow show of the Highland and Agricultural Society, a prize of £50 was offered for the best milking machine. The judges were Messrs. Alexander Cross (convener), John Speir, John Gilchrist, John Drysdale, and James D. Park, engineer. The following entries were made, viz.: Mr. William Murchland, 23 Bank street, Kilmarnock—one machine, No. 1 in the catalogue—hydraulic suction regulation; made by the competitor. The "Thistle" Mechanical Milking Machine Company (limited), 25 Gateside street, Glasgow—two machines, No. 2 in the catalogue—steam-power milking machine; made by Messrs. Shiels, Elliot & Nelson. No. 3 in the catalogue—horse-gear milking machine; made by Messrs. Shiels, Elliot & Nelson.

The following details of the prices of these machines were supplied by the makers, viz.:

THE "MURCHLAND" MACHINE.	
No. 4 size, to milk 4 cows at once; 20 cows per hour.	£ 30 0 0
No. 6 size, to milk 6 cows at once; 30 cows per hour.	36 0 0
No. 9 size, to milk 9 cows at once; 45 cows per hour.	54 0 0
No. 12 size, to milk 12 cows at once; 60 cows per hour.	72 0 0
Power and fitting-up extra.	
THE "THISTLE" MACHINE.	
Machine to milk 6 cows at once, No. 1 type.	£ 80 0 0
Machine to milk 10 cows at once.	100 0 0
Machine to milk 15 cows at once, No. 2 type.	80 0 0
Machine to milk 20 cows at once.	119 10 0
Machine to milk 30 cows at once.	146 0 0
Machine to milk 40 cows at once.	210 10 0
Machine to milk 40 cows at once.	237 10 0
Power, piping, connections, and fitting-up extra.	

The committee appointed by the Society to conduct the trials decided, after consultations with the competitors, that machines already at work on different farms be taken for the competition. The judges inspected the working of the machines at seven farms in the counties of Ayr, Lanark, and Dumfries. On each occasion samples of the milk drawn from certain cows by the machine, and from the same cows by hand, were taken and set, to test the keeping qualities of the milk. These samples were distinguished only by numbers, the key to which remained under seal until the judges met finally to complete their report.

Having thus inspected the working of the machines and investigated the keeping qualities of the milk drawn by the respective machines, the judges unanimously awarded the prize of £50 to Mr. Wm. Murchland, Bank street, Kilmarnock, for No. 1 in the catalogue.

The following are the judges' remarks on the different machines: (1) The "Murchland" Machine.—The judges inspected this machine at three farms. On No. 1 and No. 2 it has been at work since 1891, and on No. 3 for two months. It was found in each case to perform the operation of milking efficiently and speedily. The time occupied for each cow was generally from four to six minutes, sometimes rather less. It seemed to cause no discomfort to the cows, and no injury to the teats or udder. It draws the milk by continuous suction, without any apparent pulsating movement. The apparatus is simple in its construction, equally simple in its working, and not difficult to clean or keep clean. The power required to work the machine is not great. At No. 1 farm a half-horse power oil engine milks ten cows at a time quite easily. Until this engine was put in recently, the machine was worked by one man with an ordinary force pump. In every instance the samples of milk drawn by this machine were found to keep satisfactorily; after a lapse of 48 hours they were perfectly sweet, and in no respect inferior to the milk drawn by hand. The judges regard this machine as a practical success, and are of the opinion that in large dairies where milkers are scarce it may be introduced with advantage. (2) The "Thistle" Machine.—This machine was inspected at four farms, where it has been at work for two years or less. It is ingenious but somewhat intricate in construction, not so simple in its working, nor so easily cleaned or kept clean as is desirable. Besides the action of suction common to both machines, the "Thistle" machine has a pulsating movement, and it would seem that the intricacies in this machine arise mainly from the mechanism required to produce the pulsating movement. This machine also performs the milking operation satisfactorily, but it appears to have a more severe effect upon the teats of the cow than the other machine, although no serious injury was seen upon any of the cows on the farms inspected. It milks more slowly, the time for each cow being, as a rule, from six to ten minutes. It requires considerably greater power for its working. The chief defect in this machine is the effect it has upon the keeping qualities of the milk. The judges found that the milk drawn by it kept very unsatisfactorily. Most of the samples from it developed sourness in from twelve to fourteen hours, and marked or great acidity in twenty-four hours, while samples drawn by hand from the same cows at the same time, and kept under precisely the same conditions, remained perfectly sweet for from thirty-six to fifty hours.

The decision of the judges in making the award to the Murchland machine was confirmed.

POULTRY.

Selling Fresh Eggs.

A lady living a few miles from a city asks information as to the best way to market eggs in order to get a good price, to which *Farm Poultry* makes the following reply:

"We would not look to the stores or hotels for a market for fresh eggs, but would look to family trade, and in private family trade one would find the best market. Stores buy in quantities, to sell again, so of course expect to buy cheaper; hotels and restaurants similarly. They buy at wholesale prices, and to get the best prices for eggs one wants to sell them at retail; hence, should cultivate the family trade. In any of the cities or towns there are many families where strictly fresh eggs are appreciated, and good prices paid for them. By good prices we mean about five cents per dozen above the retail price for the best store eggs.

"To build up such a trade we would make a personal canvass of certain selected families within reasonably easy access, a printed circular letter (or mimeographed letter) would do the work, simply stating that the undersigned 'was prepared to supply families, two or three times a week, with strictly fresh eggs, to be not more than two days old when delivered, and guaranteed as represented.' With such a representation of the eggs one had to sell it would not be difficult to get a trade started, and once started it would extend itself.

"The writer knows three or four private customers, one family of whom takes twenty dozen of eggs a week, and the lady of that household came to us personally and solicited us to supply her with eggs, saying that 'she had found it extremely difficult to find reliably fresh eggs.' That was nearly three years ago. We have been supplying that family with twenty dozen eggs a week ever since, and that

lady has recommended two or three others to come to us for fresh eggs, so that all of the customers that we supply, personally, have come to us instead of our having to go in search of them.

"We know for a fact that there is a great and constantly growing demand for strictly fresh eggs, but the demand is from individual families, and not stores or hotels. These individual families buy 'store' eggs because they can get no better, and if we wanted to extend our family trade we would do it by solicitation, or 'drumming' as it is sometimes called, just as almost every trade is gotten. The will to get the trade is the important thing. The old proverb tells us that 'where there is a will there is a way.'

"The time to begin to establish such a trade is in the fall of the year, when eggs are scarce, and once it is started it will go on of its own momentum."

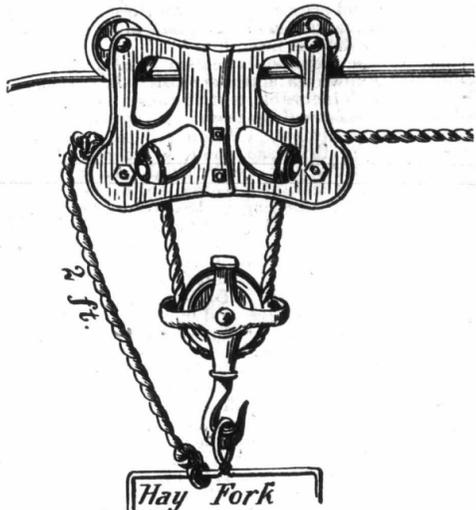
We would suggest that a trade of this sort once established would be more liable to continue and grow if the eggs are not permitted to become fertilized.

Corn Meal for Young Turkeys.

In ADVOCATE of June 1st I see J. J. Lenton says corn meal mixed would kill young turkeys. I send my method of feeding corn meal. I take two quarts of sour milk, one level tablespoonful of soda, same of salt; stir in corn meal same as for johnnycake, bake till done; when cold soak hard crusts in cold water till soft and see there is no hard pieces to choke them. At present I am using half second grade flour, half corn meal as above. Have 46 young turkeys doing well. I also feed hard-boiled eggs on rainy days when they cannot get out to pick. Boil eggs fifteen or twenty minutes. My son took the FARMER'S ADVOCATE three months on trial and it pleases me so well I enclose \$1 for a year's subscription. MR. CLOSK. Huron Co., Ont.

THE HELPING HAND.

Increasing Horse Fork Power.



E. H. HOPKINS, Victoria Co., Ont.:—I have been using a hayfork since they were first introduced, and know that they are one of the greatest labor-saving machines on the farm. I found out that it required two horses, which were not always as handy as one, to lift a forkful from the wagon. I tried many different ways to overcome the difficulty and at last found out a very simple one. My first object was to get more power, which I obtained by bringing the stationary end of rope at car down to the fork, as per cut, which gives one-third more power, but in no place on the fork could I fasten the rope so that the movable pulley at the fork would be sure to enter the car properly; but by tying a knot, large enough not to run over the pulley at car, on the rope, about two feet from the end which is attached to the fork, you will get one-third more power just when you want it, when it is leaving the load and until it is about to enter the car; the knot then stops the end of rope which is attached to the fork and it enters the car as it ordinarily does. By this simple plan of tying a knot on the rope you get one-third more power and the fork leaves the load slower, which allows it to get a large forkful not liable to fall off. You can also use a rope that is worn so as not to be serviceable in the old way, but of course it will have to be longer the distance from the car to the fork on the wagon, but for a new one a smaller rope will do, so that it will not take any more pounds.

"Do not out off until to-morrow what can be done to-day," was considered the best of advice by the boy who said to his mother: "Then let us eat that pie you are saving for to-morrow." Another example of its soundness is in not dividing a colony of Italian bees one day, when it is known it should be done, and they take French leave the next day. On such occasions they do not generally stop to inspect the various kinds of shrubbery in the lawn near their old home. Our bee editor will tell you how to divide colonies.

APIARY.

No 6.—Increase, Restocking, Queen Rearing.

BY A. E. HOSHAL, LINCOLN CO., ONT.

A common mistake with young beekeepers is that of attempting a too rapid increase of their colonies. Hand in hand with this often goes another mistake, namely, that of attempting to work their apiary and make it pay without a complete outfit for each colony. Beekeeping cannot be made to pay without such an outfit, and this will cost from seven to nine dollars per colony, an amount twice if not three times as great as what is generally supposed. When starting into beekeeping never invest more in it than you are willing to lose, and having done this, never think of increasing your stock unless you have actually realized from it sufficient to pay for the complete outfit and other expenses in connection with your increase. If this is strictly adhered to the beginner will not, even in the best of seasons, be able to more than double his colonies. Taking one year with another, especially when working for comb honey, the increase obtained through the swarming will be found to be all if not more than he can afford to keep.

There is as much difference in the honey gathering qualities of bees as there is in the milking qualities of cows. In apiaries where careful selection and breeding have not been attended to, it will be found that with the same management some colonies are producing twice and three times as much as others. As early in the season as possible, and not later than the first week in July, every colony that is not giving satisfactory results should be noted and all such stock done away with through requeening from the best colonies before the close of the honey flow in July.

Queen rearing is a branch of apiculture by itself, and to explain it throughout so as to be understood would require a small volume. However, the following is possibly as simple and practical a way of raising queens as any for the beginner as well as many others.

At the beginning of the honey flow in June select for queen rearing one or more colonies, according as required, of the best bees in the apiary and work these for comb honey. As a result of being worked in this way they will almost always swarm. Six days after any such have swarmed, if its hive be opened and the brood nest examined it will be found to contain from eight to fifteen or twenty finely developed queen cells all ready for use and which will hatch in from one to five days. Now, carefully remove any of these cells which are sealed by cutting out a little bit of the comb to which they are built, being careful not to cut or bruise them, and at once proceed to give them to those colonies which you wish requeened and which must have had their queens removed one to three days previous to this. After removing one of the combs from the center of a hive which you wish to requeen, cut a hole in the center of it of such size and shape as to fit the bit of comb to which your queen cell is attached, and insert it into it in such a manner that the queen cell will be in a natural position, pointing downward, like what it was where built. In due time this cell will hatch and the young queen mate and commence laying. If in three to four weeks you open this hive and find that it contains brood you know that all is well and that your colony has been requeened, even though you may not see the queen.

In carrying out the above it is necessary to carefully observe the following: (1) Should a colony into which you are inserting a queen cell contain capped queen cells of its own these must all be destroyed, as some of these may hatch before the cell which is being inserted does. (2) Never use a queen cell before it is capped. (3) A queen cell which has ever so small a hole in it will be destroyed by the bees. (4) Rough handling, chilling, or much exposure to the hot sun, will kill the inmate of a queen cell.

How to Avoid Bee Stings.

There is no doubt at all but a great many more people would keep bees were it not for the fear of being stung. We grant such a fear is quite excusable in some people, who, when they receive a sting, swell up tremendously and become very sick. This, happily, is not the rule. Most of people with a little precaution and understanding of the bees need not forego the pleasure of so healthful a luxury as honey from their own hives.

It is generally believed that bees will sting some people more than others. This is only true in so far as the bees notice a difference in behavior in different persons. Quick motions under almost any circumstances are quite liable to arouse the bees and cause them to sting, but under ordinary circumstances, if one's motions are regulated to their whims, he will get along with few or perhaps no stings.

It will soon be recognized that bees are crosser on cool days after a rain or a day following a sudden stoppage of honey flow than usual. At such times one ought to have the smoker ready to give them a good volume before and during a disturbance of their colony. It is well to blow a little smoke into the entrance, then pry up the top and send a stream of smoke into the crack, then remove the cover and puff in a little more smoke between the racks. If the bees show a quick, nervous movement, standing up high on their legs, bobbing their bodies quickly one way and then the other, a few

more light whiffs will readily subdue them. When the racks are to be examined they can be pried apart with a screwdriver with one hand, while the smoker is held in the other. Upon any indication of fight a little smoke will drive them down, when the first frame can be cautiously but deliberately removed. The movements from now on should be deliberate but watchful. To one who is accustomed to handle bees, there is a certain indescribable action on their part that shows when they are ready to sting. A little smoke at the right time takes the fight all out of them.

It may be asked, Are the veil and gloves not necessary when the smoker is wisely used? These can be dispensed with, but it does not pay. When a bee stings an odor arises which arouses other bees to fighting action, and when a sting is prevented by the protection of veil and gloves, a decided advantage has been gained. When, however, a sting is received, it is well to walk away at once until the odor has passed away. An application of liquid ammonia, baking soda or some other strong alkali will do much if applied immediately after a sting to counteract the formic acid injected by the bee.

ENTOMOLOGY.

Notes on the San Jose Scale.

To the Editor FARMER'S ADVOCATE:

SIR,—The announcement that the San José scale has appeared in Ontario has created much alarm among fruit growers, and at present our Governments, both Dominion and Provincial, are ascertaining all they can regarding its presence and how best to act against its further distribution. It is not surprising that we should view with alarm the presence of this most serious insect.

A single female that has wintered over may be the progenitor of three thousand millions in a single season. Young trees infested perish in 2 or 3 years. It can feed on a host of plants, including our most valuable sources of fruit, and it is so minute that it can be detected only by a well-trained observer; besides, it usually resembles the bark upon which it is located, and may be upon stem, twig, leaf, and fruit.

It is readily introduced by nursery stock and the fruit from infested trees.

Although first observed in 1893, already it has been found in nineteen of the Eastern United States and four localities in the Province of Ontario. It came from the San José Valley in California, and is claimed to have been distributed by nursery stock from the State of New Jersey, firms in that State having imported it from California in 1896-7, and distributed infested stock in 1899-00; in 1890 Prof. Comstock gave it the name *Aspidiotus perniciosus*. It may be distributed by birds, insects, scions of infested trees, infested trees, fruit, and even wind.

As the insect has but a short life of active movement, only a few hours, or at most a day or two, when it settles down and feeds upon the sap of the infested plant, it consequently can do little itself to aid in its distribution. It must largely depend upon such means as those referred to above.

Its general appearance upon infested twigs is that of a grayish, slightly roughened, scurfy deposit, and sometimes even appears as if ashes had been sprinkled upon the twigs.

The scales of the females are round, with a small nipple in the center, and is one-twelfth to one-twentieth of an inch in diameter. The color varies from a light gray to a darker shade, often much the same as that of the bark. The male scale is quite oblong, with the nipple at one end. In summer infested twigs may show orange colored larvae, snowy white young scales, and old brown or blackened scales. Affected fruit, especially pears, may show an encircling band of reddish discoloration around the edge of the female scales. The females nearly fully grown winter beneath the scales, and about June commence to bring forth living young, continuing this for about six weeks, producing in the meantime 100 to 500 insects. The young attach themselves to the plant a few inches from their birthplace, and during their sedentary life absorb the juices of their host. Females become legless, wingless, and without eyes; but the males retain their legs, eyes, and have wings, so that they are comparatively active on reaching maturity. The young mature in about five weeks, and produce young about six.

So far the most efficient remedy is the use of whale oil soap—two pounds in one gallon of water. Apply this in the fall just as the leaves drop off, before the scales harden, and again in spring just before the trees bloom. Some prefer a weaker solution in the fall—1 pound to 1 gallon of water—then just before the buds swell in spring the stronger solution—2 pounds to 1 gallon of water.

As the insects are being continually produced during summer, spraying is of little use unless followed throughout the season; but there is no doubt that every time you spray with kerosene emulsion (9 parts water) or whale-oil soap (1 pound in 4 gallons of water) after the insects are on the move many thousands will be destroyed.

Most reliance is placed upon fall or winter treatment.

At present the following suggestions are worthy of consideration:

1. Regard with suspicion orchards set out within the last six years with trees from infested States, and examine carefully for this scale.

2. Examine closely sickly young trees in your orchard, and trees or scions brought from nurseries in infested localities.
3. If only a few trees are infested destroy them.
4. Trees well cut back and treated with whale-oil soap, as referred to above, will be largely saved.
5. Watch the fruit from infested trees and destroy the scale upon it.

The above notes have been written so that some of the leading facts about this alarming insect may reach at once the readers of the FARMER'S ADVOCATE.

J. HOYES PANTON.

VETERINARY.

Scab in Sheep.

Canadian flocks, we are pleased to say, have enjoyed a gratifying immunity from the affliction of scab, but it is known that a few cases have occurred in certain districts during the past year which have readily responded to treatment, and we do not at present know any existing cases, though it is possible there may be such, and if so it is important that it should be promptly and vigorously dealt with, as the disease is highly contagious, and is contracted not only by contact with infected animals, but also by contact with fences or the sides of buildings against which affected sheep have rubbed. The term "scab" is a poor one to apply to this trouble. It is simply a parasite or insect resembling a cheese mite working in the skin of the sheep, and is scientifically known as "Acariasis," from the name Acari, which signifies the whole family of scab insects in general. The symptoms are extreme itchiness, manifested by the sheep continually rubbing itself against something. The wool, on account of the parasites working in the skin, falls off in patches. Finally the sheep will bite its body in mad agony, will fall off in condition, and become a miserable looking object. The scab is caused by the bite of the insect, producing a tiny elevation on the skin, filled with an aqueous serum or fluid. This bursts from inflammation, and the matter dries and forms a scab, under which these insects live and bite into the flesh, depositing a virus that poisons the skin and causes more and more of these little corpuscles to form, and they multiply with the increasing numbers of the insect, limited only by the surface of the animal it works on and the length of time it can endure the torture. Sheep owners unacquainted with the trouble are apt to pay little attention to it and neglect it till it has become deep-seated before they seek to apply a remedy, and this delay makes it more difficult to deal with, besides the loss of flesh and growth resulting. On the first appearance of the trouble the infected sheep should be isolated from the flock and given specially careful treatment for cure, and the whole flock should also be treated as a prevention. No matter what the season of the year is, the sheep should be dipped in one of the prepared sheep dips advertised for this purpose. It should be applied at a good degree of strength, stronger than for ticks, and as hot as the animal can safely bear it. This softens the scab so that it can be readily broken up, as it should be, so that the emulsion can reach the bottom of the disease. In bad cases a second dipping should be given in a week or two to destroy any germs or parasites which may have escaped or have developed since the first treatment. In regard to this, as well as to most of the ailments stock are liable to, it is well to remember that prevention is better than cure, and if every flock owner would make it an inflexible rule to dip his sheep at least once a year, and do it thoroughly, the probability is that this trouble will never appear in his flock, though it may be introduced by purchased animals from other flocks; but to be safe it is wise and will amply pay to dip twice a year, in early spring and late fall; the latter service may be done by pouring, opening the wool in many places over the body, and pouring the dip from a coffee pot, using about one quart of the mixture to each sheep. This will keep the skin in a healthy condition, destroy all ticks and lice, and promote the growth of wool and the general health of the flock. No man need hope to get the best results from his sheep who neglects to do this, and such neglect is a direct pecuniary loss, which is wholly inexcusable and prodigal.

We may add that under the existing Animal Diseases Act, owners of sheep affected with scab failing to report the fact to the Minister of Agriculture at Ottawa are liable to a penalty as high as \$200, and are not entitled to compensation for such animals as may be slaughtered in accordance with the provisions of the Act.

Under the latest order from the U. S. Department of Agriculture it is a violation of the law to receive for transportation or transport any sheep affected with scab from one State or territory to another, or to deliver for such transportation to any railroad or ship company any sheep knowing them to be affected with scab.

Glanders in Minnesota.

Dr. Reynolds, veterinarian at the Minnesota State Agricultural College, reports the appearance of glanders among horses in 51 places in Minnesota during 1896, and they are well distributed, from Kittson and St. Louis counties, in the extreme northwest and northeast corners of the State, down to the southern boundary. The losses for the year aggregated less than \$10,000. But this is a disease that must be vigorously dealt with or

its ravages will become serious, owing to its highly contagious character. The Doctor suggests the employment of a field veterinarian by the Board of Health, for the purpose of visiting all localities where glanders appears or is suspected, so that the work of control or suppression may be effectively done.

Glanders in Glasgow.

The Subcommittee of Glasgow Corporation on Glanders have reported to the executive, under the Diseases of Animals Acts, the result of the deputation to the Board of Agriculture on 31st March, consisting of Bailie Chisholm, Councillor M'Farlane, and Professor M'Call. The deputation learned that the Board of Agriculture had no power to authorize by-laws for dealing with the construction and ventilation of stables. These could only be dealt with after definite legislation. The department had not hitherto regarded glanders as so important as to require their interference in the direction mentioned by the deputation; but no objections were likely to be offered to efforts made by such a municipality as Glasgow to obtain special powers. In regard to means presently available, Mr. Elliot, secretary to the Board, and his advisers agreed that the existing provisions were, on the whole, reasonable for Glasgow to adopt, viz., that 40s. be paid to owners of horses for each animal slaughtered for glanders; that efforts should be made to secure the co-operation of owners to have the Mallein test applied to horses occupying the same stable as that in which a horse is found to be affected by glanders; that horses which react to the test should be slaughtered; that, if an animal thus slaughtered is free from the disease, the owner should be paid full value for it; but if the animal has the disease, the owner be paid one-fourth of its value. The deputation recommended that, without expressing approval of these proposals, the subcommittee should invite a conference with several of the representative owners of horses in the city, so that their views may be considered before coming to a final decision. The subcommittee agreed to report this to the executive. A report submitted to the committee shows that since 1886 there have been in all 758 cases of glanders in the city, of which 619 were in the Tramway Company's stables. At a meeting of the executive committee on 11th inst., twelve outbreaks of glanders were reported since 10th ult., affecting twenty-two horses, all of which had been killed.—*Scottish Farmer.*

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.]

Legal.

FENCE ON HIGHWAY.

PATHMASTER, Nipissing District, Ont.:—"A has a fence extending out upon the public road, but, of course, not upon the travelled part of the road. B has notified the Council to have it removed. Must the Council have it removed, and if so within what time?"

[The Council cannot be compelled to move in the matter at all unless the fence or obstruction amounts to a public nuisance, but B of course may institute the proceedings, and unless there are very strong reasons why the fence should remain on the road it would be removed.]

CONTRACT.

READER, Wellington Co., Ont.:—"The agents of a machinery manufacturing company, after a great deal of persuasion, induced B to sign a contract for the purchase of a binder. B, on consideration on the following day, wrote to the company requesting them to cancel the order, and wrote two other letters shortly after to the company notifying them that he could not afford to pay for the machine, and would not take it. About two months after this B received a letter from the company saying the machine would be delivered to him, and he is asked to come and take it home. Is B bound to take the binder, and what would you advise B to do?"

[B made a contract, and of course is liable in law to perform his part by taking the machine. No doubt the company's action is rather high-handed and severe, and perhaps in case of a suit they would not recover very much in damages if B does not take the machine. We cannot, without knowing more of the circumstances of B, very well advise further as to what B had better do, but if he can make a reasonable settlement he should make it.]

Veterinary.

AILING PIGS.

R. M., Lanark Co., Ont.:—"I have seven pigs two and a half months old that were left with the sow till nearly eight weeks old, when they looked extra well, and they went on well for a time after weaning. Yesterday I was told something was wrong with them, and found them looking gaunt, lying on their sides principally, breathing short and panting. The body jerks and trembles as they breathe. They stand with their hind legs close to-

gether and a little under them, and step rather short. Their feed has been barley meal and whey, and were usually fed more than they would eat up clean. They have had ashes and salt mixed with earth before them for ten days past. Pen is kept clean and dry."

[We judge these pigs have been kept too closely confined, and have not had sufficient exercise and access to the ground and to grass. They have also been fed too liberally for pigs confined to the pen. Indigestion and fever seems to have been brought about by these conditions. Sods thrown into the pen for the pigs to pick at and root over should be helpful. We would change the feed for a time, using shorts and ground oats mixed, and some greasy swill, and would get them out on the ground in the cool of the evening or early morning for exercise. Feed lightly till they get over the trouble, when the feed may be gradually increased.]

Since the foregoing was written we have received the following letter from our correspondent: "I wrote to you two days ago concerning my pigs. I noticed afterwards that the sick ones were costive, but the treatment has removed that. The worst one got a dose of castor oil. This morning she made a great effort to get up when the others were fed. She died in two hours after. We opened her. The blood was very dark. We could see nothing amiss save there was a fatty or jelly-like layer over the small intestines on one side, which had a yellowish appearance on one spot. The intestines are full, though they eat nothing or very little. A lump appeared on the side belly of one, and has spread all over the belly. Two spots of a purple color were on it, and they have enlarged also. The small intestines appear bloated, and give a yellowish or apple green colored fluid—quite thin—when cut."

NOTE.—Judging from this report the case requires the attention of a competent veterinarian. We would suggest the advisability of reporting it at once to the Minister of Agriculture, Hon. Mr. Fisher, Ottawa.—Ed.]

LUMP JAW.

J. M., Grey Co., Ont.:—"Two cows are running at large. They have lumps on their jaws which have broken and are running. Can they be cured; if so please give remedy? Is their milk good to use, and is the disease infectious?"

[The disease commonly called lumpy jaw is technically known as actinomycosis. It is generally considered incurable, but if taken before the disease has become deep-seated it is sometimes amenable to treatment. When a fistulous opening exists, as in this case, about a teaspoonful of tincture of iodine may be injected into it three times a week, the object being to diffuse that agent through the swelling, so that it may come in contact with the parasite and destroy it. A solution of sulphate of copper may be used for the same purpose. Such solution to be composed of sulphate of copper, half an ounce; water, one pint; injected with a syringe. Boring into the bone with a quarter-inch auger, and pouring tincture of iodine into the holes, has been recommended. The animal in this case would have to be thrown and secured, and the holes should be filled with iodine every fourth day till they heal up. Another remedy which has proved effective in some cases is that of administering iodide of potassium internally. A good purge should be given at first, from one to two pounds of salts, with a little ginger added; then give daily doses of one dram of iodide of potassium in a mash, gradually increasing the quantity to two drams in the course of a week. If the animal goes off its appetite cease giving the medicine for a few days, and then commence again. In about six weeks an improvement is generally noticed, the lump drying up and disappearing. The disease is considered somewhat infectious, and also hereditary. Animals affected with it are condemned at the stock yards, and are not allowed to be sold for meat. According to the law governing the sale of milk in cities milk from cows having any disease, including actinomycosis, is forbidden to be sold or used.]

Miscellaneous.

QUACK AND CANARY REED GRASS.

"SUBSCRIBER":—"I enclose you herewith two grasses for names. The seed of sample "A" was sold to me for Kentucky blue grass, and "B" I found growing in patches in swampy flat along creek."

[The grasses are: "A," quack grass, pure and simple. This grass in no way resembles Kentucky blue grass, which has an open, loose panicle, the seed of which is nearly ripe now. Quack grass is found all through Canada, and it is just possible that your correspondent may be mistaken in thinking that the seed was sold to him as Kentucky blue grass. The seeds are not in the least alike, and it is hardly possible that any seedsman could confound the two; nor, indeed, is any seedsman likely to have for sale the seed of quack grass, for, although it is an excellent grass for feed, it becomes such an extremely troublesome weed that no one would think of sowing it for a crop. The Kentucky blue grass germinates sometimes rather slowly and does not flower the first year. The other specimen, marked "B," is the valuable canary reed grass, a luxuriant but rather coarse grass which grows naturally in low, wet lands in all parts of Canada. It is very valuable from the fact that it will grow on overflooded meadows and marshes where few other grasses of value will live. J. FLETCHER, Central Experimental Farm, Dominion Botanist.]

A HINT TO OUR CORRESPONDENTS.

To the Editor FARMER'S ADVOCATE:

SIR.—We suggest treatment for various troubles which arise in the dairy and always request an answer as to how the remedy succeeds. Seldom, however, do correspondents take the trouble to let us know whether the advice was helpful or not. A correspondent from Leaskdale, Ontario County, wrote about "greasy curds," to whom we advised substantially the same as appeared in the ADVOCATE of June 1st. He replied as follows:

"DEAR SIR.—I followed the treatment you suggested with reference to greasy curds and found it to work quite satisfactorily, and I have been able to entirely overcome the trouble. I have had no bother in that way of late, but got a few of my curds a little open in my efforts to avoid grease. I am, yours, W. A. DONALD."

We like to hear whether we have done good or not. How many have tried a remedy and with what success. H. H. DEAN.

QUEEN FERTILIZATION.

A. OWEN PRICE, Annapolis Co., N. S.—"Will you kindly inform me whether or not the queen bee is fertilized before she leaves the old hive, as there appears to be no drones in the young swarm at the time of swarming? I notice at the time of swarming the drones are the first to come out of the old hive, which I take it to be the drones belonging to the mother swarm."

[The first swarm of the season is almost invariably led off by the old queen. Every new swarm except the first is led off by a young queen, and as she is never impregnated until she has been established at the head of a separate family, it is important that each should be accompanied by a goodly number of drones. This requires the production of a large number in the parent hive which, as Mr. Price intimates, belongs to the mother swarm. The drone that impregnates the virgin queen need not necessarily belong to her swarm. In the neighborhood of colonies of bees there are always a large number of drones ready to take a bridal tour at the sound of the virgin queen as she enters upon such a journey.]

PLANT LICE ON FRUIT TREES.

T. J. W., P. E. I.—"I am sending you a sample of an insect that is destroying my fruit trees, both apple and plum. Could you tell me, through the ADVOCATE, what they are, and a remedy for them?"

[The insects sent are what are known as plant lice or aphids, which injure the leaves by sucking out their substance, causing them to turn brown and curl up like the sample our correspondent has enclosed. The standard remedy is the kerosene emulsion thoroughly sprayed, as these pests are difficult to reach. The emulsion is made by dissolving in one gallon of boiling water one-half pound of hard, soft or whale-oil soap; then add two gallons kerosene (coal oil), stirring or churning with a force pump or syringe till a creamy mass. When using dilute with nine or ten parts of soft water.]

CORN AS GREEN MANURE.

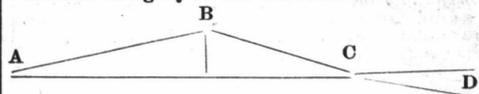
CHAS. SIMPSON, Huron Co., Ont.—"Would fodder corn be of any value as a green manure crop to plow down about the 20th August for fall wheat, or would buckwheat be of more value, both sown this month?"

[We have not known any cases where corn has been used for this purpose, and have not seen it recommended. We should expect better results from buckwheat. Some farmers sow a mixture of oats, peas and buckwheat for green manure with good effects.]

TROUBLE WITH WATER PIPE.

S. PLAIN, Middlesex Co., Ont.—"I have eighty rods of iron pipe laid in a trench to carry water from one farm to another. The outlet at the house and barn is six feet lower than the top of the well the pipe starts from, but there is fifteen feet of a raise between the well and the barn. There are five hydrants between the well and the house. There is a fall of eleven feet from the top of the well to the lower end of pipe, but the hydrants run five feet up from main pipe to water boxes in stables. The pipe does not leak. We cannot get the water to run. We have had a force pump attached to both ends, and had the best success when the pump was attached to top end of pipe in well. The trouble was that the water would run back into the well from the top of the hill. To overcome that we put a check valve on the pipe, then filled the pipe, shut off all the hydrants, took off the pump, then opened one hydrant. The water began to run then. We took off the check valve and the water ran four hours. It started a three-quarter inch stream, and gradually lessened until it stopped. The pipe is one inch bore. We began filling the pipe as soon as the plumbers finished their work. We did not give the pipe time to dry the paint in the joints or to rust the joints. I believe water should run over the hill as long as the outlet is lower than the well that feeds the pipe. As you give us so much valuable information through the ADVOCATE, I now beg for instructions for starting the water through this pipe. When we get this job satisfactory I will make a full report for the benefit of the readers of the ADVOCATE, as there is no doubt plenty of farmers who draw water when they could get it easier. The previous occupants of this farm have hauled and

carried water for this house for over eighty years—a distance of eighty or one hundred rods."



[My explanation will have reference to the above diagram. As I understand it, it is desired to carry water from a well at A by means of a pipe, A B C D, to a house and barn at D, 80 rods from A. D is six feet lower than A, but between these points is a hill whose highest point (B) is fifteen feet above the level of A. There are five hydrants somewhere in the line, presumably near D. C is the point where the downward slope from B to D crosses the level. Now, the obvious laws of hydrodynamics will compel the following conclusions: 1. The flow will not begin until the whole pipe from A to C, and a little beyond, has been completely filled with water to the exclusion of air; this can be done, of course, with a force pump at A. 2. The flow will not continue unless the whole pipe from A to C is completely air-tight. If air leaks in slowly, then the flow will diminish slowly, and finally cease. 3. If there are any hydrants between B and C or between A and B—that is, above the level of the well—then of course the water will run back into the well at once, since the hydrant, if open, will let the air into the pipe. 4. To sum up, if all the hydrants are between C and D, and if the pipe from A to C is air-tight, then the pipe, after it is once filled, will act as a siphon, and will give a continuous flow so long as it is fed at A. If the pipe cannot be made air-tight an alternative course would be to sink a straight pipe from A to D. The water has then only to run down hill. In case this opinion should not be satisfactory, it would be well for the enquirer to draw and send in a plan showing relative positions and distances of the well, hill, house, barn, and hydrants. J. B. REYNOLDS, Ontario Agricultural College.]

PRUNING PLUM TREES.

A. OWEN PRICE, Annapolis Co., N. S.—"Will you please inform me when is the proper time to prune plum trees? I cut off a lot of black knot from one of mine late in the fall, but this spring it has died back on that part of the tree. I also thinned out two large egg plum trees in March when pruning the apple trees. They have evidently suffered, as they were late in budding and the leaves look pale and weakly. My neighbor lost two trees in the same way by trimming off lower branches to facilitate plowing."

[Generally speaking, plum trees require little or no pruning. By careful thinning the first year or two the tree should be so shaped as to need no pruning, except a shortening in of the rampant shoots. After fruiting commences there is little likelihood of a superfluous wood being made. If, however, the removal of some limbs is desirable because of crowding or being too low, I would prune them after the severe winter weather has passed and before growth commences. In all cases make a clean cut, close back to the main trunk or limb, as the case may be, and paint the exposed surface with mineral paint. If black knots are cut out, apply linseed oil or paint. I do not quite see why the trees in question died. Am inclined to think overbearing the previous year or some mechanical injury must have been partially responsible. M. B.]

HAY STACK CAPS.

E. C. B., King's Co., N. S.—"I intend to stack some hay this season weeks. Will a good piece of twilled factory cotton without oiling shed the rain, and what shape would be best? Would like to hear from some of the readers of the ADVOCATE who have had experience in the matter."

[We have had no experience in this line and shall be pleased to hear from those who have. If the hay is well stacked and carefully topped, the center being kept full, and a load or two of swill hay or June grass on the top, there will be little danger of damage from rain in the time mentioned.]

WILD FLAX.

W. F., Middlesex Co., Ontario.—"I enclose sample of a weed which has appeared in this district in the last two or three years, appearing only in fall wheat and meadow land. Please inform me what it is, and state whether it is a dangerous weed?"

[The weed is what is commonly called wild flax or false flax. It is an annual with pale yellow flowers which usually appear early in June. Its seeds are numerous and are enclosed in round balls, and being of an oily nature are the more difficult to destroy, as they may remain in the ground for a long time, only to germinate when the field is again cultivated. It usually appears only in fall wheat or rye and in meadows. If it appears in pasture, sheep will eat it off. It has secured a firm footing in many districts, having, it is supposed, been introduced in timothy or alsike clover seed. It is likely to prove a troublesome weed, since the seeds will likely be widely distributed through the

agencies of threshing machines and barnyard manure. The only methods to prevent its spread that we can suggest are hand-pulling in wheat or rye and early cutting of hay before the seeds have ripened, or the infested fields may be summer-fallowed and then sown the same season with rape in drills, thus allowing late cultivation, or they may be sown with rye to be pastured and plowed down for green manure, followed by rape in drills to be cultivated.]

CARP BREEDING.

EDWIN GUTHRIE, Perth Co., Ont.—"Kindly let me know something about "carp" fish, the preparation of a pond, and where the fry can be obtained."

[In April 1st ADVOCATE, page 157, we gave a description of a trout pond which would answer in a general way for carp, but a less supply of fresh spring water will do carp as they are more sluggish fish that lie about in the mud. We have made careful enquiries as to the merits and demerits of carp and have not heard much in their favor. They grow to a large size even in a small supply of water, but are soft, of poor flavor, and would only be in demand where no other fish could be had. We have not succeeded in learning where the spawn or fry can be secured, but we consider it not very desirable information because of their inferior quality.]

SHOWS AND SHOWING.

The New Western Fair Swine Building.

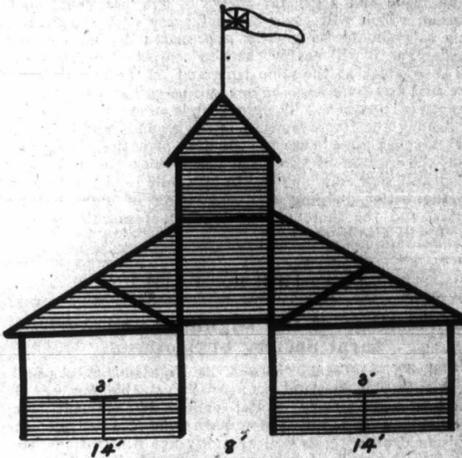


FIG. A—END ELEVATION.

When the Western Fair Board of London, Ont., had erected last year a cattle, sheep and swine building, 735 ft. long by over 50 feet wide, it was not supposed that further additions would soon be needed, but when the exhibition came off it was found that greater capacity was necessary. This addition is now being made, besides a number of improvements in last year's buildings.

The accompanying figure illustrates the new piggery, 156 feet long by 36 wide, with an 8 foot passage through the center. Fig. B represents the ground plan. The pens are

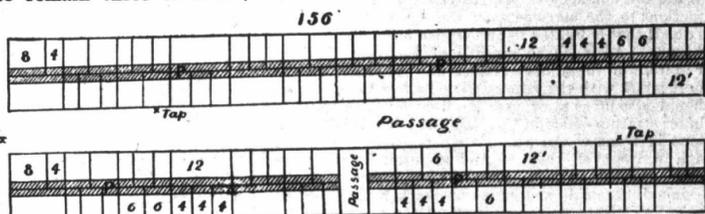


FIG. B—GROUND PLAN.

4 ft. by 7 ft., 6 ft. x 7 ft., 8 ft. x 7 ft., and 12 ft. x 7 ft., and so situated as to suit the various sizes of individuals and herds of the different breeds. The pens are all floored and comfortable. On the top of the partition, between the two rows of pens there is a three-foot platform, marked P in Fig. B, on which to store feed. The central passage is 8 feet wide. The 6 foot passage leading from the center to the east side is for the convenience of exhibitors in removing their stock to and from the judging ring. It is intended to keep this passage closed to the public. Water taps and troughs will be conveniently arranged.

Fig. A represents an end elevation. The partitions and sides of the pens are 3 feet 6 inches high. The pens have convenient gates. The ends of the building above the level of the eaves are clap-boarded. Light and ventilation will be all that could be desired, by reason of the open sides, both beneath and between the lower and upper roof. The building is being given every consideration for the convenience and accommodation of exhibitors and visitors. It stands north and south, and is situated some 40 feet east of south portion of the cattle and sheep building in which the swine were housed last year.

Toronto's Next Exhibition.

In less than three months we shall once more be in the midst of the annual fall shows. Toronto, as usual, will be in front, opening on August 30th and ending September 11th.

Entries for live stock close on Saturday, August 7th, with the secretary-manager, Mr. H. J. Hill, at 82 King street east.

Among the improvements to the grounds and buildings that are being made are the erection of entirely new pigpens, the erection of two large new stables the making of an entirely new ring one-eighth of a mile in circumference, for the better judging and exhibiting of light harness horses, and the thorough overhauling of machinery hall, which will also be extended.

THE BOOK TABLE.

Transactions of the Highland and Agricultural Society of Scotland.

Vol. IX. of Transactions of the Highland and Agricultural Society of Scotland is a specially valuable number. It contains some twenty capital articles by eminent men, possessing a wide practical and scientific knowledge of the subjects dealt with, as well as eighty-five illustrations, etc.

The sanitation of farm buildings is practically covered by Prof. John Scott, who says: "The completeness of the ventilation will depend upon the distribution and diffusion of the incoming air, and the situation and form of the inlets and outlets. In farm buildings these cannot be too simple."

"The power which moves the air so as to make it go out by the openings provided is partly the wind, but much more the difference of the temperature between the inside and outside air. If, therefore, we simply remove obstructions to the movements of the air, we shall in most cases do all that is wanted to accomplish our end."

"Inlets.—As much as possible of the fresh air should enter in front of the animals, which then get the benefit of it before it mixes with the vitiated air. Part of the air coming in should also do so at or near the floor level, to sweep out the lower stratum of air in the building; but this can only be done in front of the animals where there is a feeding passage in front of them. And to minimize drafts and gain the greatest advantage from diffusion, the inlet openings should be small and numerous rather than few and large."

"Famous C ydesdale Sires," by Archibald MacNeilage, is an excellent contribution. "The Effects of Food on Milk and Butter," by John Speir, is written at the conclusion of extensive experimental effort. A number of stock articles, also veterinary, are worthy of careful perusal.

"Nitragin."—A very striking proof of the practical value of growing leguminous crops as a means of increasing the fertility of poor, light land was furnished by Schultz Lupitz, in Altmark, North Germany. About forty years ago he introduced a system of farming founded upon the theory that leguminous crops and cereals had two entire and different functions to perform in the economy of the farm.

store of nitrogen came from, he answered that it was brought into the land by his leguminous crops, and he presumed that these must have got it from the air. He, as a practical agriculturist, had proved the fact, and he left it to scientists to discover the reason."

MARKETS.

Toronto Markets.

The cattle market was firmer on lighter receipts; all stock left over was cleared to-day, June 26th. Distillery stock is being shipped out weekly on good cable reports. Prices are no higher. Buying for Montreal was brisk. Buffalo buyers are not so keen, but are still anxious to take stock as they fear a speedy closing of that market for our cattle.

Export Cattle.—The feeling was better; trade more brisk; all on offer sold easily. The ruling price was 35c. to 45c. per lb. One load of 45 head, average 1,230 lbs. choice stuff, sold at top price, \$4.60 per cwt. One load, 5 cattle, 1,350 lbs., at 35c. per lb. A fair demand for next week; good export cattle wanted; some of the dealers had to fill space contracted for early in the season, and this accounted for the price quoted in the daily papers as \$4.90; our last quotation may be taken as the top price, \$4.75 per cwt.

The shipments of cattle from this market by the C. P. R. for export were: Crawford, M. P. P., 3 cars; W. Lavack, 3 cars; R. Ironside, 4 cars; E. Halligan, 2 cars. Messrs. Vincent, Montreal, Maybee & Taylor, shipped 21 carloads for Montreal.

There was a better demand from shippers, and all offerings of cattle met with a ready sale at 4 1/2 to 4 3/4 per lb. Messrs. Thompson and Eskins were the principal operators. The shipments of hogs were returned from the Northwest, and report prospects encouraging.

Butcher's Cattle.—The feeling was better for choice butcher's stock. The quality of stock must be the best to fetch top price. The ruling price for good to choice was from 3 1/2 to 3 3/4 per lb.; one or two loads fetched 4c. One carload of 1,000 lbs. average sold at \$3.30 per cwt. Good butcher's cattle are wanted; market firm and steady.

Bulls.—About a dozen export bulls were bought to-day at 3 1/2 to 4c. per lb. One extra choice sold at 4 1/2 c. per lb. Common stock bulls are not in demand and sell slowly at 3c.

Stockers.—There was considerable buying for Buffalo at \$3 to \$3.10 per cwt. Telegrams arrived at the close of the day reporting that prices were lower, so that this branch is likely to be dull and easier next week.

Feeders.—Farmers were in looking for choice feeders. Mr. Pickering, of Mount Forest, picked out three load to put on grass. He wanted good cattle weighing from 1,150 to 1,200, for which he was willing to pay 3 1/2 c. per lb.

The ruling price was 3 1/2 c. to 3 3/4 c. per lb.; the Buffalo market dropped about 1c, but real good feeders would bring the top price.

Calves.—There is a good demand for calves of the right sort, and they are worth from \$5 to \$6.50; for a picked lot as high as \$8 was paid. Common calves are not in demand, sold down to \$2 per head.

Sheep.—Messrs. Dunn Bros. shipped four double decked loads of sheep for the Old Country market, the first for this season. Mr. Verrall shipped two carloads double decks to the Liverpool market. Prices ruling from 3 1/2 c. to 3 3/4 c. per lb., a trifle higher for choice stuff.

Lambs.—The offerings very light; all on offer sold readily at 5c. Spring Lambs.—Scarce and wanted; supply not equal to demand; ruling figures were \$3.50 to \$4.50 each; one or two choice fetched \$5.

Milk Cows and Springers.—The market barely steady; general run of prices from \$20 to \$35 each; choice dairy cows in demand.

Hogs.—As foretold in my last, hogs advanced 10c.; offerings very heavy, over 7,000 this week; price is now at the top for a little time. Choice sangers sold at \$5.65 weighed off cars, but must be selected. Cable reports the Old Country market as a little slack, but if supplies are not rushed, likely to hold. Light hogs, 5 1/2 c. per lb.; heavy fat, 4 1/2 c. to 5c. per lb. Hamilton market reports a shortage, and Ingersoll took quite a few from this market, so that prices are likely to hold for next week.

Dressed Hogs.—Offerings continue scarce; prices are steady at \$6.50 to \$6.65; for choice light weights as high as \$6.75 was paid.

Receipts of Grain on the street markets to-day were fairly liberal. Wheat—350 bushels of red wheat selling at 70c.; white, at 72c., and 6 1/4 c. for goose.

Oats.—Steady; 500 bushels selling at 25c. per bushel. Hay.—Supply large, 20 loads selling at \$10 to \$12 per ton. Ten loads per day selling at \$10 to \$11 per ton. Market easier. Straw.—Selling at \$6 to \$7 per ton. Four load per day sold at \$7 to \$7 1/2 per ton.

The receipts of hides are small, the demand good at the advance. Steer hides, 8 1/2 c.; green quoted at 8c. The stocks of cured are about cleared up here; cars are quoted at 8 1/2 c. to 9c.

Wool.—The receipts of new clip wool continue liberal. Local dealers are preparing to make shipments to the United States; the situation is unchanged; prices are firm at 18c. for farmers' lots and 19c. for jobbers' lots in the country. On Monday, 10 carloads of wool were shipped to the U.S. per C. P. R. The total value of the wool this year to date is \$154,300 from Toronto.

Butter.—The prospects are that the supply of butter will get lighter now that the export trade is well started; quoted at 12c. to 14c. for dairy rolls.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.) Following are the current and comparative prices for the various grades of live stock:—

Table with columns: CATTLE, Range of Prices, Present, Two weeks ago, 1896, 1895. Rows include 1500 lbs. up, 1350 @ 1500, 1200 @ 1350, 1050 @ 1200, 900 @ 1050, etc.

The cattle exporters had rushing orders on account of the Jubilee, and they undoubtedly reaped quite a harvest, as prices in English markets were a good deal higher for awhile. The famous steer, Jumbo, which had attained the enormous weight of 5,000 pounds, was killed at Wichita, Kansas, recently. Jumbo was 4 years old, 8 feet tall, and 12 feet long. He had horns 15 inches in circumference and 6 feet across,

with perfect curve. His owner decided to kill him and have him mounted while his hide was in good condition. Western range cattle are expected to be a couple of weeks later this year, though some will doubtless be in by the middle of July.

The highest price paid for range cattle in the Concho Country, Texas, since 1884 was paid by Thorp Andrews, of Fort Worth, as follows: From C. B. Metcalfe, manager of the X Q Z Cattle Company, 18 cows at \$30, 2 bulls at \$30, 25 steers at \$32.50, 2 steers at \$35, 10 steers at \$30, 10 steers at \$35; from G. B. Ketchum, 25 steers at \$37.

Range cattle are being fed much more generally than they used to be. Standard Cattle Co., Ames, Neb., marketed 180 1,360 lb. fed Westerns at \$4.65. T. B. Ford, Central City, Neb., marketed 189 Texas cattle, 1,238 lbs., at \$4.40.

There is a lull in the market for stockers and feeding cattle. A trader in speaking of the market said: "Country buyers come in and look around, but don't buy anything. They say that prices are too high and claim that prospects are too uncertain. The result is a decided stagnation in the trade. There is more activity in the cattle trade than for a dozen years past."

The live stock exhibit at Nashville, Tenn., is expected to be a creditable feature of the Tennessee Centennial. At the Trans-Mississippi Exposition next year at Omaha, President Dinsmore, of the State Board of Agriculture, has recommended that cash prizes in the sum of \$40,000, or the maximum sum of \$80,000, be offered, divided as follows: Horses, 25 per cent; cattle, 25 per cent; swine, 25 per cent; sheep, 15 per cent; poultry, 10 per cent.

Texas sheep are still coming freely and are of good quality. Prices for all kinds of sheep and lambs are from 50c. to 75c. lower than the best time of the season, but are selling at comparatively good prices.

There has lately been quite a slump in prices for export sheep. The exporters were driven away from the market temporarily by the Government order to dip all sheep sent out and the break in prices at market centers caused by their withdrawal enabled them to buy up some very large lots of heavy sheep at interior feeding points at prices that seemed very low. The dipping order has been rescinded as regards export sheep, as sheep, even when exposed to scab, do not develop the disease inside of 30 days, and, of course, they are slaughtered in much less time than that when sent abroad. In the meantime the exporters have been buying some good heavy sheep at way down prices.

A hog salesman says: "The quality continues good, and there are signs of a let-up in the supply in the near future at nearly all markets. The provision market continues strong, and prices for hogs and hog products are more favorably adjusted than they have been for a good many months. The demand for provisions of all kinds is considerably larger than last year, and with a reduction in the supplies of foreign grown hogs we think the demand for American product will continue large all summer. The hogs in this country at the present time are almost entirely free from disease, and with an abundance of cheap feed in the country, we do not think it wise for anyone to figure on anything like a famine. But old hogs are comparatively scarce, and during the next two or three months we look for the usual reduction in the receipts. The packers are still free buyers of hogs to the extent of the supply."

There must be plenty of young pigs in the country. One stockman reported that his 29 sows had an average of a dozen pigs to the litter, and they are all small and growing rapidly. Hogs are selling at about the lowest point of the year, and yet dealers all testify that producers are getting more money for corn fed hogs than to any other class of live stock at present.

Combined receipts of hogs at Chicago, Kansas City, Omaha, and St. Louis last month were 200,000 larger than any previous May receipts, and the total for the present month, estimating the balance of the month, will reach 1,400,000, the largest June receipts on record, 150,000 more than a year ago and 500,000 more than the four points received in June, 1895. Allowing 1,400,000 for this month, the four points will receive 7,495,000 the first six months of 1897, or 700,000 more than the first half of last year, 395,000 more than two years ago, and over 400,000 more than ever arrived before at like period in any former year. For the twelve months of 1896 the four markets received 13,100,000, but from present indications the total for the twelve months of 1897 will be at least a million larger than last year, and of course the largest on record.

Canadian Live Stock Export.

Table showing live stock reports for the week ending Wednesday, June 23rd, as prepared by F. Bickerdick of the Live Stock Exchange, Montreal. Columns include date, location, and quantity of cattle and sheep.

Weeds.

There has been, speaking generally, throughout the country, a wet and somewhat cold spring, and with the opening of warmer weather, which cannot long be delayed, weeds will come on very rapidly. With a great many of the most troublesome weeds cool weather early in the season is quite favorable to their development. The roots get a chance to spread, and while they do not make so much top growth, perhaps, they become thoroughly prepared to make it as soon as the growing weather sets in in earnest. It is, therefore, a matter of importance that the farmer gets after the weeds at the earliest possible moment. The harrow and cultivator should be at work whenever the ground will permit. If it can be done on bright, warm days, so much the better, for then they will will instead of taking hold again. But no pains will be too great to take to thoroughly clean the fields at the first cultivation, and as soon as possible. When they have once been cleaned, the task of keeping them so is not so very difficult, but if the weeds get to chasing the farmer instead of the farmer chasing the weeds, as should be the case, the task is one of great difficulty the season through. A weed in time makes nine, if permitted, and the only safety is in not permitting it. To open up the soil as early as possible with the cultivator increases the decomposition of its vegetable matter and at the same time increases the warmth and fertility, a matter of no little importance in order that growing conditions may be secured in a spring such as we have had this year.

—Iowa Homestead.



THE CASTING AWAY OF MRS. LECKS AND MRS. ALESHINE.

PART I.

I was on my way from San Francisco to Yokohama, when I became acquainted with Mrs. Lecks and Mrs. Aleshine. The steamer carried a fair complement of Americans; and, among these, my attention was attracted from the very first day of the voyage to two middle-aged women who appeared to me very unlike the ordinary traveler or tourist. They were not of that order of persons who generally take first-class passages on steamships, but the stateroom occupied by Mrs. Leck and Mrs. Aleshine was one of the best in the vessel.

Mrs. Lecks was a rather tall woman, large-boned and muscular. Mrs. Aleshine was somewhat younger than her friend, somewhat shorter, and a great deal fatter. These two worthy dames spent the greater part of their time on deck, where they always sat together in a place at the stern of the vessel which was well sheltered from wind and weather. From a question which Mrs. Lecks once asked me about a distant sail, our acquaintance began. There was no one on board for whose society I particularly cared, and I was glad to vary my solitary promenades by an occasional chat with them. They were not at all backward in giving me information about themselves. They were both widows, and Mrs. Aleshine was going out to Japan to visit a son who had a position there in a mercantile house. Mrs. Lecks had no children, and was accompanying her friend because, as she said, she would not allow Mrs. Aleshine to make such a voyage as that by herself; and because, being quite able to do so, she did not know why she should not see the world as well as other people.

Our steamer touched at the Sandwich Islands; and it was a little more than two days after we left Honolulu that, about nine o'clock in the evening, we had the misfortune to come into collision with an eastern-bound vessel, which struck us with great force near our bows, and then backing disappeared into the fog, and we never saw or heard of her again. The damage to our vessel was at first reported to be slight; but it was soon discovered that our injuries were serious, and indeed disastrous. The hull of our steamer had been badly shattered on the port bow, and the water came in at a most alarming rate. For nearly two hours the crew and many of the passengers worked at the pumps, but all labor to save the vessel was found to be utterly unavailing; and a little before midnight the captain announced that it was impossible to keep the steamer afloat, and that we must all take to the boats. The night was now clear, the stars were bright, and, as there was but little wind, the sea was comparatively smooth. With all these advantages, the captain assured us that there was no reason to apprehend danger, and he thought that by noon of the following day we could easily make a small inhabited island, where we could be sheltered and cared for until we should be taken off by some passing vessel.

The first officer came among us, and told each of us what boats we were to take, and where we were to place ourselves on deck. I was assigned to a large boat which was to be principally occupied by steerage passengers; and as I came up from my stateroom, where I had gone to secure my money and some portable valuables, I met on the companion-way Mrs. Lecks and Mrs. Aleshine, who expressed considerable dissatisfaction when they found that I was not going in the boat with them. They, however, hurried below, and I went on deck, where in about ten minutes I was joined by Mrs. Lecks, who apparently had been looking for me. She told me she had something very particular to say to me, and conducted me towards the stern of the vessel, where, behind one of the deck-houses, we found Mrs. Aleshine.

"Look here," said Mrs. Lecks, leading me to the rail and pointing downward, "do you see that boat there? It has been let down, and there is nobody in it. The boat on the other side has just gone off, full to the brim. The other ones will be just as packed, I expect. I don't see why we shouldn't take this empty boat, now we've got a chance, instead of squeezing ourselves into those crowded ones."

"That's so," said Mrs. Aleshine, "and me and Mrs. Lecks would 'a' got right in when we saw the boat was empty, if we hadn't been afraid to be there without any man, for it might have floated off, and neither of us don't know nothin' about rowin'." And then Mrs. Lecks thought you would know how to row.

"Oh, yes," said I, "but I can not imagine why this boat should have been left empty. I see a keg of water in it, and the oars, and some tin cans, and so I suppose it has been made ready for somebody. Will you wait here a minute until I run forward and see how things are going on there?"

I found that there was to be rather more crowding than at first was expected. People who had supposed that they were to go in a certain boat found there no place, and were hurrying to other boats. It now became plain to me that no time should be lost in getting into the small boat which Mrs. Lecks had pointed out, and which was probably reserved for some favored persons, so I slipped quietly aft, and joined Mrs. Lecks and Mrs. Aleshine.

"We must get in as soon as we can," said I in a low voice, "for this boat may be discovered, and then there will be a rush for it. I suspect it may have been reserved for the captain and some of the officers, but we have as much right in it as they."

"And more too," replied Mrs. Lecks; "for we had nothin' to do with the steerin' and smashin'."

"But how are we goin' to get down there!" said Mrs. Aleshine. "There's no steps."

"That's going to be a scratchy business," said Mrs. Lecks, "and I'm of the opinion we ought to wait till the ship has sunk a little more, so we'll be nearer to the boat."

"It won't do to wait," said I, "or we shall not get in at all."

"And goodness gracious!" exclaimed Mrs. Aleshine, "I can't stand here and feel the ship sinkin' cold-blooded under me, till we've got where we can make an easy jump!"

"Very well, then," said Mrs. Lecks, "we won't wait. But the first thing to be done is for each one of us to put on one of these life-preservers. If two of them I brought from Mrs. Aleshine's and my cabin, and the other one I got next door, where the people had gone off and left it on the floor. I thought if anythin' happened on the way to the island, these would give us a chance to look about us; but it seems to me we'll need 'em us a good gettin' down them ropes than anywhere else. I did intend puttin' on two myself to make up for Mrs. Aleshine's fat; but you must wear one of 'em, sir, now that you are goin' to join the party."

As I knew that two life-preservers would not be needed by Mrs. Lecks, and would greatly inconvenience her, I accepted the one offered me, but declined to put it on until it should be necessary, as it would interfere with my movements.

"Very well," said Mrs. Lecks, "if you think you are safe in gettin' down without it. But Mrs. Aleshine and me will put ours on before we begin sailin' or scumblin'. We know how to do it, for we tried 'em on soon after we started from San

Francisco. And now, Barb'ry Aleshine, are you sure you've got everythin' you want, for it'll be no use thinkin' about anythin' you've forgot after the ship has sunk out of sight."

"There's nothin' else I can think of," said Mrs. Aleshine; "at least, nothin' I can carry, and so I suppose we may as well begin, for your talk of the ship sinkin' under our feet gives me a sort o' feelin' like an oyster creepin' up and down my back."

Mrs. Lecks looked over the side at the boat, into which I had already descended. "I'll go first, Barb'ry Aleshine," said she, "and show you how."

So saying, she stepped on a bench by the rail; then, with one foot on the rail itself, she seized the ropes which hung from one of the davits to the bow of the boat. She looked down for a moment, and then she drew back.

"It's no use," she said, "we must wait until she sinks more, an' I can get in easier."

This remark made me feel nervous. I did not know at what moment there might be a rush for this boat, nor when, indeed, the steamer might go down. Standing upright, I urged them not to delay.

"You see," said I, "I can reach you as soon as you swing yourself off the ropes, and I'll help you down."

"If you're sure you can keep us from comin' down too sudden, we'll try it," said Mrs. Lecks, but I'd as soon drown'd as to go to an island with a broken leg. And as to Mrs. Aleshine, if she was to slip she'd go slam through that boat to the bottom of the sea. Now, then, be ready! I'm comin' down!"

So saying, she swung herself off, and she was then so near me that I was able to seize her and make the rest of her descent comparatively easy. Mrs. Aleshine proved to be a more difficult subject. Ever after I had a firm grasp of her capacious waist she refused to let go the ropes, for fear that she might drop into the ocean instead of the boat. But the reproaches of Mrs. Lecks and the downward weight of myself made her loosen her nervous grip, and, although we came very near going overboard together, I safely placed her on one of the thwarts.

I now unhooked the tackle from the stern; but before casting off at the bow, I hesitated, for I did not wish to desert any of those who might be expecting to embark in this boat. I called out, and, receiving no answer, I shouted again at the top of my voice. I waited for nearly a minute, and hearing nothing and seeing nothing, I became convinced that no one was left on the vessel.

"They are all gone," said I, "and we will pull after them as fast as we can."

"It's a good thing you can row," said Mrs. Lecks, settling herself comfortably in the stern-sheets, "for what Mrs. Aleshine and me would ha' done with them oars, I am sure I don't know."

"I'd never have got into this boat," said Mrs. Aleshine, "if Mr. Craig hadn't been her friend. 'You'd ha' gone to the bottom, hangin' for dear life to them ropes.'"

When I had rounded the bow of the steamer, which appeared to me to be rapidly settling in the water, I perceived at no great distance several lights which of course belonged to the other boats, and all I had to do was to overtake them as soon as possible. I thought it would not take me long to do this, but, after rowing for an hour, Mrs. Aleshine remarked that the lights seemed as far off, if not farther, than when we first started after them. Turning, I saw that this was the case, and was greatly surprised.

It was not very long after this that Mrs. Lecks said that she thought that the lights on the other boats must be going out, and that this, most probably, was due to the fact that the sailors had forgotten to fill their lamps. "That's not the way things happen," she said, "when people leave place in a hurry."

But when I turned around, and peered over the dark waters, it was quite plain to me that it was not want of oil, but increased distance, which made those lights so dim. I had been used to rowing, and thought I pulled a good oar, and I certainly did not expect to be left behind in this way.

"I don't see what's the matter," said Mrs. Lecks, "for my feet are wet, though I didn't notice it before."

At this I shipped my oars, and began to examine the boat. The flooring was in sections, and lifting the one beneath me, I felt under it, and put my hand into six or eight inches of water.

The exact state of the case was now as plain to me as if it had been stated on a bulletin board. This boat had been found to be unseaworthy, and its use had been forbidden, all the people having been crowded into the others.

And now, here was I, in the middle of the Pacific Ocean, in a leaky boat with two middle-aged women!

"Anythin' the matter with the floor?" asked Mrs. Lecks. "This boat has a leak in it," said I. "There is a lot of water in her already, and that is the reason we have got along so slowly."

"And that is why," said Mrs. Aleshine, "it was left empty. We ought to have known better than to expect to have a whole boat just for three of us. It would have been much more sensible, I think, if we had tried to squeeze into one of the others."

"Now, Barb'ry Aleshine," said Mrs. Lecks, "don't you begin makin' fault with good fortune, when it comes to you. Here we've got a comfortable boat, with room enough to set easy and stretch out if we want to. If the water is comin' in, what we've got to do is to get it out again just as fast as we can. What's the best way to do that, Mr. Craig?"

"We must bail her out, and less no talk about it," said I. "If I can find the leak I may be able to stop it."

I now looked about for something to bail with, and the two women aided actively in the search. I found one leather scoop in the bow, but as it was well that we should all go to work, I took two tin cans that had been put in by some one who had begun to provision the boat, and proceeded to cut out the tops from them with my jackknife.

"Don't lose what's in 'em," said Mrs. Lecks; "that is, if it's anythin' we'd be likely to want to eat. If it's tomatoes, pour it into the sea, for nobody ought to eat tomatoes put up in tins."

I hastily passed the cans to Mrs. Lecks, and I saw her empty the contents of one into the sea, and those of the other on a newspaper which she took from her pocket and placed in the stern.

I pulled up the movable floor and threw it overboard, and then began to bail.

"I thought," said Mrs. Aleshine, "that they always had pumps for leaks."

"Now, Barb'ry Aleshine," said Mrs. Lecks, "just gather yourself up on one of them seats, and go to work. The less talkin' we do and the more scoopin', the better it'll be for us."

I soon perceived that it would have been difficult to find two more valuable assistants in able to stop it."

I was very able to accommodate themselves to the unusual circumstances in which they were placed.

For about two hours we worked, and then I concluded it was useless to continue any longer this vain exertion. The boat was an iron one, and the leak in it I could neither find nor remedy. We were very tired, and even Mrs. Lecks, who had all along counseled us to keep at work and not to waste our breath in talking, now admitted that it was of no use to try to get the water out of that boat.

I sat and racked my brain to think what could be done in this fearful emergency. To bail any longer was useless labor, and what else was there that we could do?

"When will it be time," asked Mrs. Lecks, "for us to put on the life-preservers? When the water gets nearly to the seats?"

"I answered that we should not wait any longer than that, but in my own mind I could not see any advantage in putting them on at all. Why should we wish to lengthen our lives by a few hours of helpless floating upon the ocean?"

"Very good," said Mrs. Lecks; "I'll keep a watch on the water. One of them cans was filled with lobsters, which would be more than likely to disagree with us, and I've

thrown it out; but the other had baked beans in it, and the best thing we can do is to eat some of these right away. They are mighty nourishin', and will keep up strength as well as anythin', and then, as you said there's a keg of water in the boat, we can all take a drink of that, and it'll make us feel like new cre'turs. You'll have to take the beans in your hands, for we've got no spoons nor forks."

Mrs. Lecks and Mrs. Aleshine were each curled up out of reach of the water, the first in the stern, and the other in the aft thwart. The day was now beginning to break, and we could see about us very distinctly. Before reaching out her hands to receive her beans, Mrs. Aleshine washed them in the water in the boat, remarking at the same time that she might as well make use of it, since it was there. Having then wiped her hands on some part of her apparel, they were filled with beans from the newspaper held by Mrs. Lecks, and these were passed over to me. I was very hungry, and when I had finished my beans I agreed with my companions that although they would have been a great deal better if heated up with butter, pepper, and salt, they were very comforting as they were. One of the empty cans was now passed to me, and after having been asked by Mrs. Lecks to rinse it out very carefully, we all satisfied our taste from the water in the keg.

"Cold baked beans and lukewarm water ain't exactly company withes," said Mrs. Aleshine, "but there's many a poor wretch would be glad to get 'em."

I could not imagine any poor wretch who would be glad of the food, together with the attending circumstances; but I did not say so.

"The water is just one finger from the bottom of the seat," said Mrs. Lecks, who had been stooping over to measure, "and it's time to put on the life-preservers."

"Very good," said Mrs. Aleshine, "hand me mine."

Each of us now buckled on a life-preserver, and as I did so I stood up upon a thwart and looked about me. It was quite light now, and I could see for a long distance over the surface of the ocean, which was gently rolling in wide, smooth swells. As we rose upon the summit of one of these I saw a dark spot upon the water, just on the edge of our near horizon. "Is that the steamer?" I thought, "and has she not yet sunk?"

At this there came to me a glimmering of courageous hope. If the steamer had remained afloat so long, it was probable that on account of water-tight compartments, or for some other reason, her sinking had reached its limit, and that if we could get back to her we might be saved. But, alas, how were we to get back to her? This boat would sink long, long before I could row that distance.

However, I soon proclaimed the news to my companions, whereupon Mrs. Aleshine prepared to stand upon a thwart and see for herself. But Mrs. Lecks restrained her.

"Don't make things worse, Barb'ry Aleshine," said she, "by tumblin' overboard. If we've got to go into the water, let us do it decently and in order. If that's the ship, Mr. Craig, don't you suppose we can float ourselves to it in some way?"

I replied that by the help of a life-preserver a person who could swim might reach the ship.

"But neither of us can swim," said Mrs. Lecks, "for we've lived where the water was never more'n a foot deep, except in time of freshets, when there's no swimmin' for man or beast. But if we see you swim perhaps we can follow, after a fashion, and then there's a chance that we'll be saved, and that's all there is to be done."

[TO BE CONTINUED.]

Summer Fruits.

"There is scarcely a disease to which the human family is heir but the sufferings therefrom would be greatly relieved or entirely prevented by the use of fruits which are often forbidden."—From "Eating for Strength," by Dr. Holbrooks.

Modern medical science has accorded to fruits an important place, not only in the preservation of health, but also in the treatment of disease; and in the public opinion also it is steadily growing in value. A proof of which is the wonderful increase in the consumption of all kinds of home-grown and foreign fruits within the last few years.

The busy country housekeeper values them from an entirely different standpoint; she regards with a sigh of relief the well-stocked fruit garden which will, in her planning of summer menus, displace to a great extent the rich puddings and pastries she was wont to provide in times past.

Nature has arranged her programme in the order best suited to our needs, and with the opening of summer presents us, as a foretaste of better things to come, with a fruit acid in the form of rhubarb, and to please the eye gives it the pretty coloring to the red-skinned varieties. This acid is oxalic acid or the acid oxalate of potash, and its effects medicinally are well-known.

RHUBARB SAUCE.

Wash and dry (but do not peel) the red variety. Cut in inch pieces, and for each three cups allow two scant cups of sugar, or about three quarters of a pound to each pound of fruit. Use no water, but lay in alternate layers in an agate double boiler. Cook until the sugar is dissolved and the fruit tender. Each piece should be whole and distinct in the clear red syrup, and inviting in appearance. For preserving use the same proportions and flavor with lemon juice and root ginger. The rhubarb may be sprinkled over in layers with sugar and left over night, then boiled until tender but not broken.

AUNT MARY'S PUDDING.

To one pint hot rhubarb (or any fruit sauce) add one-half ounce gelatine soaked in one-half cup cold water and dissolved. Pour while still hot into a plain mold which has been lined with thin slices of buttered bread, cover to keep the bread in place, and set on ice to harden. When firm turn out on a pretty dish and pour around it a soft boiled custard, or cream, either plain or whipped.

STRAWBERRIES.

These have a medicinal effect opposite to that of rhubarb; some economical persons mix them, as their flavors harmonize nicely. One authority says "strawberries have been known to cure malarial fevers." They are more popular served in their natural state or with sugar, but with them can be made an almost endless variety of desserts and ices. In warm weather what can be more welcome than a fruit ice cream, sherbet, or water ices? A water ice contains fruit-juice, sugar and water; a sherbet is similar, with the addition of gelatine, white of egg or milk; while an ice cream is simply cream sweetened, flavored and frozen, or its substitute a frozen custard.

STRAWBERRY SHERBET.

One pint milk, one cup sugar, juice from one box of strawberries. Wash and pick over the fruit, sprinkle with sugar, and mash in a bowl. Set in a warm place one hour, then strain through cheese cloth. Freeze the milk till it thickens, then add the berry juice and freeze until firm. Remove the dasher and pack in the freezer one hour, then turn out on a pretty dish, garnish with a few fresh strawberry leaves and serve at once. A delicious combination is a mold of strawberry water ice served with a mold of plain ice cream, the dark pink of the water ice forming a pretty contrast to the ice cream, a few green leaves completing the picture.

STRAWBERRY SOUFFLE.

To two whites of eggs beaten stiff add two heaping tablespoonfuls powdered sugar and one cup of strawberries cut or mashed slightly. Use a strong wire beater and beat until stiff. Pile it lightly on a glass dish and serve with delicate white or sponge cake.

GOOSEBERRIES.

For winter use gooseberries will keep without sugar. Pick over and wash the fruit, and fill a self-sealer which has been rinsed in warm water. Then pour on boiling water to fill the jar and while overflowing put on the cover and screw down tightly. If properly done these will keep a year, and are useful for pie-making, etc.

RASPBERRY BLANC-MANGE.

Heat three cups of milk in a double boiler. Add three tablespoonfuls cornstarch wet in a little cold milk, a pinch of salt, and one-half cup sugar. Cook—stirring often—for fifteen minutes, then add one cupful of juice from canned or stewed raspberries on fresh fruit sweetened. Put into a mold and when firm turn out and serve with sweet cream.

The moral effects of an abundant fruit diet are being more and more recognized, and some noted scientists take strong ground in regard to a farinaceous and fruit diet for the intemperate, asserting

that "persons using such food without meats feel no inclination for alcoholic liquors." Let us then luxuriate in nature's choicest delicacies.

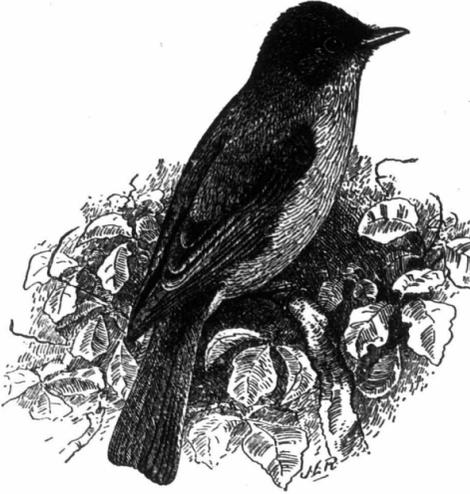
MARY E. MILLAR.

The Phoebe.

Few people are aware of the importance of birds in regard to agriculture. It is true we frequently hear complaints made of the harm they do, but as a general rule the good they effect is never mentioned.

When a number of crows or blackbirds appear in the fields or orchards they are regarded as enemies to our crops, when in reality they are working in our interests by destroying noxious insects and weeds.

The majority of land birds eat insects at all



THE PHEBE.

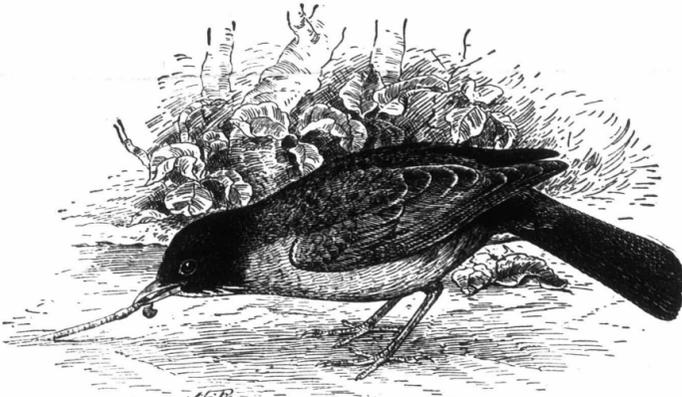
times, particularly during the breeding season, and their young are reared entirely on that diet.

It is a much easier matter to exterminate birds than to annihilate insect pests. When the practical value of birds in destroying insects and noxious weed seeds is more widely known, they will be encouraged to nest about the farm, instead of being regarded as deleterious to its prosperity.

A bird which subsists almost entirely on insects is the phoebe; its confiding disposition has made it such a favorite that it is seldom molested. A pair of phoebes destroy an astonishing number of insects in a garden or field, as they raise two broods a year of from four to six young. It is useless to furnish nesting boxes, as they prefer a more open situation like the overhanging cliff of rock or earth.

The Robin.

On its first arrival amongst us, early in the season, the robin is always welcomed with delight, being regarded as a sure harbinger of spring; but later on when our early fruits begin to ripen frequent



THE ROBIN.

and many are the complaints made of bold Robin Redbreast. His depredations in the cherry orchard are a constant source of annoyance to its owners; the cherries ripen early so that they are almost the only fruit attainable at a time when the robin's appetite has been sharpened by the long continued diet of dried berries, insects, and earthworms, and consequently they devour an amazing quantity.

The robin, however, is such a valuable bird that we should not seek to exterminate it on that account. A well-known authority says that noxious insects comprise more than one-third of the bird's diet—insects that would otherwise considerably injure our fruit and grain crops—in that case the remedy would be worse than the disease. An experienced fruit grower says: "A good plan to protect the cultivated fruit is to have some wild fruit-bearing shrubs and vines planted about the grounds as it has been proved by careful observations that where

these can be obtained the robin seldom touches the cultivated varieties." It is a remarkable fact that the wild fruits upon which the robin principally feeds are those which man never gathers for his own use. Some persons assert that birds are most careful in always consuming the choicest and costliest varieties of fruit; but this is contrary to all scientific observations. How is it that few or no complaints are made of them eating apples, pears, peaches, or even the choicest fruit of the grapevine? Because by the time they are ripe the hedges and forests are teeming with wild fruits, which the robin plainly prefers to the richest varieties brought to perfection by the labor of man.

THE CHILDREN'S CORNER.

The Golden Fleece.

(Continued from page 281.)

The adventurous youths, all over the country, who had fought with giants and dragons, came thronging to Tolchos, and clambered on board the new galley. Shaking hands with Jason, they told him that they were ready to row the vessel to the farthest edge of the world, and as much farther as he might think it best to go. Among these heroes were the mighty Hercules, whose shoulders afterwards held up the sky; Theseus, who killed the Minotaur; Lynceus, with sight so powerful that he thought nothing of looking through a millstone; and Orpheus, the wonderful harper who could make the animals dance in tune with his music. There were several prophets and conjurers in the crew, who could foretell what would happen a hundred years hence, but were generally quite unconscious of what was passing at the moment.

Well, when the Argonauts, as these fifty adventurers were called, were ready to start, a new difficulty arose. The vessel was so ponderous that with all their efforts they could not launch her. Then Jason asked the figurehead what they were to do. "Seat yourselves," answered the image, "and handle your oars, and let Orpheus play upon his harp."

They obeyed this strange command, and at the first ringing note of music the vessel stirred and slid easily into the sea.

During the voyage the heroes talked about the Golden Fleece. It originally belonged, it appears, to a Boeotian ram, who had taken on his back two children, when in danger of their lives, and fled with them to Colchis. One of the children fell into the sea and was drowned, but the faithful ram brought the other ashore, but was so exhausted that he immediately lay down and died. In memory of this good deed his fleece was turned into gold, and was hung in a sacred grove, where it became the envy of mighty kings. If I were to tell you all the adventures of the Argonauts, it would take a week, and perhaps longer. At a certain island, where they were very kindly treated, they found the inhabitants in fear and trembling because of a band of giants who made war upon them. The sharp eyes of Lynceus, which were better than a telescope, made out the figures of the six giants walking about on the top of a distant mountain. They had six arms apiece, and a club or sword in each hand. The next day, when the Argonauts were setting sail, down came these terrible giants, stepping a hundred yards at a stride, waving their thirty-six arms aloft in the air. But they were not very brave, and soon would have been glad to have six legs apiece instead of six arms, as it would have served their purpose better to run away with.

At Thrace they found the poor blind king, Phineus, deserted by his subjects, and terribly tormented by three great creatures called Harpies, with the faces of women, and the wings, bodies and claws of vultures. These ugly wretches were in the habit of snatching away his dinner, and gave him no peace. The Argonauts spread a feast on the seashore to attract the greedy Harpies, and then the two sons of the North Wind, who had wings on their shoulders, drew their swords and set off through the air in pursuit of the thieves. After a chase of hundreds of miles they overtook them, and so frightened them with their drawn swords that they solemnly promised to let the poor king alone for the future. Then the Argonauts sailed onward,

meeting with many other marvellous adventures, any one of which would make a story by itself. At one time they landed on an island and were reposing on the grass when a shower of steel-headed arrows nearly put an end to them. There was no sign of any enemy, but they soon found that a flock of birds, overhead, were shooting their feathers down upon them. Not knowing what to do, Jason applied to the oaken image and asked for advice. "Make a clatter on your shields," said the image. So they beat their swords upon their shields, making such a terrible noise that the birds flew away in a fright. Then a small vessel approached the shore and in it were two young princes. These turned out to be the sons of that very Pegasus who had been carried to Colchis on the back of the golden-fleeced ram. Pegasus had married the king's daughter, and the two young princes had been brought up at Colchis,

spending grove was had the Arg very d getting garde devour ventur culties "But i back b heart, panion this ex "M "this c more li by it. never s Golden "W and fo make a Atte Aetes very s polite. away above the w asked you m Golden my tw Vulcar their st who d cinder.

UNC

My DE Wh of old writer a young gradu the sc the yo writter blisful adulter flatter: are so olden, them a when age wh and wi knowl quite a the op so on, being possibl sound, the rec But up you greater gradu at rest In of gre able ti sidered days o sadly e what toned friend No can su cast-in will be corres taining natura: Wr Say w Wh absent tant memo relatin consid neigh there, snowb circle in the A c therof bright one an "A lig writte happil one of aids in usefut Wr (whic

spending their play-days in the outskirts of the grove in the center of which the Golden Fleece was hanging upon a tree. They promised to guide the Argonauts to Colchis, but spoke as if it were very doubtful whether Jason would succeed in getting the Golden Fleece. They said that it was guarded by a terrible dragon who never failed to devour at one mouthful every person who might venture within his reach. "There are other difficulties in the way," continued the young princes. "But is not this enough? Ah, brave Jason, turn back before it is too late. It would grieve us to the heart, if you and your nine and forty brave companions should be eaten up at fifty mouthfuls by this execrable dragon."

"My young friends," quietly replied Jason, "this dragon is only a large-sized serpent, and I am more likely to cut off its head than to be swallowed by it. At all events, turn back who may, I will never see Greece again unless I carry with me the Golden Fleece."

"We will none of us turn back!" cried his nine and forty brave comrades. "If the dragon is to make a breakfast of us, much good may it do him."

After this they quickly sailed to Colchis. King Aetes soon summoned Jason to court. He was very stern and cruel, but pretended to be most polite. When Jason said he had come to take away the Golden Fleece, which the king prized above all things else in the world, it put him into the worst possible humor. "Do you know," he asked sternly, "that there are conditions which you must fulfill before getting possession of the Golden Fleece. For example, you must first tame my two brazen-footed, brazen-lunged bulls, which Vulcan made for me. There is a furnace in each of their stomachs, and their breath burns any person who dares to approach them into a small black cinder."

[TO BE CONTINUED.]

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

What quaint fancies lie concealed in a package of old letters! What a key to the character of the writer they furnish! When looking over those of a young friend recently I noticed with interest the gradual development from the childish efforts of the schoolgirl to the more mature productions of the young lady. Those babyish scrawls, badly written and ink-bespattered—what innocence and blissful ignorance they displayed! Here was unadulterated honesty, guiltless of that unmeaning flattery to which "children of a larger growth" are so prone. With a half-breathed sigh for "the olden, golden glory of the days gone by," I laid them aside to glance with a smile over those written when our girlie was about fifteen or sixteen (the age when one thinks one knows almost everything and wishes to give every one else the benefit of that knowledge). The letters at this period assumed quite a grandiloquent tone; the writer "embraces" the opportunity, with inexpressible pleasure, and so on, throughout the chapter, the main object being apparently to use as many big words as possible, the whole having a stilted, unnatural sound, giving little pleasure and less information to the recipient.

But a few years later and our would-be-grown-up young lady has discovered that simplicity has a greater charm than obscure verbiage, and she gradually leaves old Noah Webster more and more at rest.

In our grandparents' time, when the exchange of greetings between absent friends cost considerable time and much money, letter-writing was considered an art worthy of cultivation; but in these days of rapid transit and low postal rates it has sadly degenerated—in fact, is almost ignored. Yet what a pleasure it is to receive a chatty, natural-toned letter that brings to our mental view our friend and his environments.

No "Complete Letter-Writer" ever published can supply one with material for such a letter; no cast-iron rules can be followed or the stilted tone will be perceptible at once. Taste is essential in all correspondence; brevity most desirable in that pertaining to business. Some people possess these naturally, but any one may cultivate them.

Write as you would speak, with perfect freedom. Say what you mean and mean what you say.

When you who live in the country write to the absent member of the family, after the more important messages have been given keep fresh his memory and warm his love of the old home by relating any little incidents that a stranger might consider foolish—the pleasant evening you spent at neighbor Brown's, the old school friends you met there, how blossom-laden are the honeysuckle and snowballs you both helped to plant ere the home circle was broken, and what a world of promise lies in the wealth of buds on mother's own rosebush.

A cheerful letter will brighten up a whole day; therefore, eschew as far as possible doleful news—a bright letter is always more welcome than a sombre one and has a more beneficial effect on the writer. "A light heart lives long." To-day I read a letter written to my father forty-two years ago, but so happily composed that it sounded just as fresh as one of yesterday. Practice and care are important aids in letter-writing, yet a few hints may prove useful to the less learned of my readers.

Write as legibly as possible, avoiding flourishes (which always savor of a business college adver-

tisement); be sure that your words are properly spelled and use only those you thoroughly understand; try to master at least the simpler rules of punctuation; and, finally, reply as promptly as possible to all letters, whether business or otherwise.

Make your letters characteristic of yourself and do not try to imitate others. "B natural" is the keynote most certain to awaken sympathetic chords in the hearts of others. Be careful *what* you write.

"The bird once at liberty, who can enthral!"
And the word that's once spoken, oh! who can recall?"

When you feel (as we all sometimes do) like writing an angry letter—a masterpiece of sarcasm, perhaps—stop long enough to inquire these questions: "Is it kind?" "Is it necessary?" Afterwards, if you still feel disposed to carry out your original intentions, do so; but do not seal your letter till the morrow—sleep on the subject, then read it over, and if you do not round several corners, and omit some particularly cruel speech, my name must be "Jack Robinson," and not, as I supposed—
UNCLE TOM.

Puzzles.

All work for this department should be addressed to Ada Armand, Pakenham, Ont.

1.—LOGOGRIPH.
I hope that the Cousins will all agree
That but for my first no one here would be.
Transpose, and to all 'twill be plain as day,
We'll stay just as long as it sees fit to play.
Now, make as the first, curtail and transpose,
Find what follows grief, since the sun first rose;
Transpose but once more as a "value you set,"
On one, two and three of the answers you get.
CLARA ROBINSON.

2.—CROSS-WORD ENIGMA.
My first is in minute, but not in hour;
My second is in yard, but not in flower;
My third is in window, and also in door;
My fourth is in drive, but not in floor;
My fifth is in hide, but not in seek;
My sixth is in rode, but not in speak;
My whole is a city in Europe.
ETHEL MCCREA.

3.—RIDDLE.
Before a circle let appear,
Twice twenty-five and five in the rear,
The last of its subject you then,
And you will have what conquers men.
EDITH BROWN.

4.—SQUARE WORD.
First, please stop every one,
Second, reverse what you've done,
Third, think a thought,
It may help you to not
Meet four—worst reptile under the sun.
A. P. HAMPTON.

5.—PUZZLE.
In slow, but not in fast;
In hard, but not in soft;
In up, but not in down;
In black, but not in white;
In earth, but not in ground;
In near, but not in far;
In rain, but not in snow;
In school, but not in study;
In star, but not in sky;
In deed, but not in work;
In sick, but not in health;
In tree, but not in branch.
Total is a river in Nova Scotia.
HATTIE MACDONALD.

6.—SQUARE.
1. To wander.
2. Above.
3. To turn.
4. Mistakes.
F. W. ROLPH.

Answers to June 1st Puzzles.

- 1.—Darling.
- 2.—No matter how this old world goes
It's very hard to beat.
You get a thorn with every rose,
But aren't the roses sweet.
- 3.—Grace—race, laid—aid, still—till, fat—at, Spain—pain.
- 4.—Currant, apple, melon, peach, banana, orange.
- 5.—Rime, mire, Emir.
- 6.—Satisfaction.
- 7.—(1) Sir Richard Steele, (2) John Froisart, (3) Laurence Sterne, (4) Washington Irving, (5) Henry Wadsworth Longfellow.
- 8.—Scotland.

SOLVERS TO JUNE 1ST PUZZLES.

Hattie MacDonald, Ethel McCrae, Edith Brown, Maggie Scott, Annie McLennan, Chris McKenzie, J. S. Crerar, D. W. Campbell.

The following prizes will be given for puzzles during August, July, and September: For best original puzzles—1st, \$1; 2nd, 75c; 3rd, 50c; and similar amounts for most and best solutions.

The names of winners for last quarter will appear next issue, when I hope to announce a new competition. U. T.

"Mrs. Evergreen" Talks to the Men.

I read with pleasure "At the Sound of the Bell," and agree with all Mrs. Jones says about the independence and happiness of living on a well-managed farm. A "well-managed" farm in my opinion means one that is managed for the good of all concerned, with an equal division of its work, pleasures, and profits. My husband and I have spent the best years of our lives on the farm where our children have grown up around us. We have planted and watched the growth of every tree on the place, and tried to keep up with the times in better methods of agriculture; have worked hard to make both ends meet, but in spite of all the ups and downs I love the farm; and when I get too old to work, instead of moving into town I shall end my days amid the scenes and sounds I love so well. As Mrs. Jones speaks particularly about girls leaving the farm, I want to say a word on their behalf.

Very often it is the only course open to them. As long as their parents are living the farm is their home, but when they are gone that home is theirs no longer. The family may consist of two or three girls and a younger brother. The girls know that at the father's death the farm will go to the boy. The girls probably have milked the cows, fed the calves, churned and sold the butter, raised the poultry, planted, hoed and picked up potatoes, looked after the vegetable garden, and helped pick the fruit. All this work in addition to housekeeping with its hundred and one duties such as tailoring, dressmaking, and nursing. Then they have taken care of that precious young brother, who later on has a horse and rig of his own, goes and comes as he likes, and spends more money on cigars than they ever spent on luxuries in all their lives. I heard a girl say that she left home just because her brother was to have everything, while she got nothing but her victuals and clothes, though she worked as hard as he did. The eldest daughter on a farm is worth as much and often more than a son in money value, yet in many cases she gets little, while the son has plenty. I have known families where the sons got all the property, while the daughters not only supported themselves, but provided a home for their father and mother, and buried them when they died without any help from the boys. Unfortunately, the mother can't help the girls. The father owns everything, and does as he sees fit. She has worked hard, economized and saved in every way, and naturally would like her girls to get some benefit from it. But she closes her weary eyes in death, trusting in Providence and her husband's good sense, and if these should fail where would the girls be if they had not taken time by the forelock and got something to do to earn their bread and butter.
Huron Co., Ont. MRS. EVERGREEN.

THE QUIET HOUR.

"God's Grain."

The page bears but a single line;
And yet the gentlest, truest friend
Who ever mingled tears with mine,
With her sweet hand the sentence penned
I scan in puzzle and in pain—
"Our Lord is gathering in his grain!"

Within my sight two graves were heaped,
But yesterday, with cruel clods;
The sharp and sudden scythe that reaped
In my home-meadow—was it God's?
The blast that swept my lilies plain,
His way of gathering in His grain!

Man's reckoning is not Thine, dear Lord!
From grapes unripe who wrings the wine?
With flowering corn whose barns are stored?
In summer's prime we strip the vine;
In autumn pile the mighty wain,
And garner fully-ripened grain.

"God's grain"—she wrote, and then—"His own";
With tactful skill the truth is phrased,
His chosen seed, in weakness sown,
To be in strength immortal raised.
Who early sends, with later rain,
Knows when to gather in His grain.

From frosts that blight! from droughts that draw
The very life-blood from the roots;
From canker-worm; from tempests raw
That bruise, then harden, tender shoots;
From earthly hap; from earthly stain—
In loving haste He saves His grain.

Thrice-blessed sheaves! with them He fills
His stately chambers, strong and fair;
The white the everlasting hills,
And boundless reach of sun-steeped air,
Thrill with the Harvest-Home refrain—
"Our Lord has gathered in His grain!"
—Martin H.

Death Only an Incident.

No one could ever bring himself to believe that he would ever possibly come to an end at death; in spite of all the daily, hourly news of death's doings over the whole earth, one's own death seems as inconceivable as ever. The preacher parades the overwhelming evidence, he reminds us that it is the one certain thing that happens to us: "You will be there carried out, over you the handful of dust will be thrown." Yes, we cannot deny it, but yet he does not persuade us; does any one of us believe it?—believe it not with the forced assent of the intellect only, but with the heart and imagination and conviction? It is in vain. Till it actually is there knocking at the door, till its first slow symptoms begin to give positive warning, we cannot take it, the imagination refuses it, the whole man repudiates it; we try to lay hold of it, we say over and over again to ourselves: "I must die, the end will come," but no, it eludes us, it is impossible. The preacher may complain of us, but ought he to complain? Is not this imaginative impossibility of accepting it just the clearest evidence of what we are? Being what we are, what we know ourselves to be, it is simply silly to suppose we come to an end at death; to suppose it is to be in direct collision with our reason and our imagination, not for selfish reasons, not because we desire some future happiness, not for that, but purely and simply because the idea is so radically inconsistent with our inward character, that it cannot adapt itself to it, cannot be harmonized with it; it is intolerable, nothing can conceivably make death look like a rational and consistent end of life. But death cannot be an end, it can only be an incident.
—Canon Scott Holland.

GOSSIP.

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

Mr. J. G. Snell, Snelgrove, Ont., will judge dairy breeds of cattle at the Winnipeg Industrial Exhibition, July 19th to 28th.

New York State Fair will be held at Syracuse, Aug. 23rd to 28th. Entries close August 2nd positively, as the society publishes a catalogue of the entries for the convenience of visitors...

Mr. H. D. Smith, Compton, Quebec, who has been on a visit to Great Britain, has purchased a selection of seven high class Hereford cattle for addition to his excellent herd...

Capt. Wm. Rolph, of Markham, has recently sold six Jersey cows from his famous Glen Rouge herd to Miller & Sibley, of Franklin, Pa.

A national and international exposition is to be held at The Hague, Holland, from the 18th to the 26th September, 1897, to celebrate the fiftieth anniversary of the Dutch Society of Agriculture.

Mr. John Shepherd, Bothwell, Ont., has recently purchased from Messrs. Humpidge & Laidlaw, London, Ont., the fine yearling Jersey bull, Loudon Stoke Pogie 41438...

In calling attention to the advertisement of the Ontario Veterinary College, which appears in our columns, we have much pleasure in noticing that this institution is now in affiliation with the University of Toronto...

The Michigan State Farmers' Institutes report for the winter of 1896-97 is a well gotten up bulletin of 184 pages, well bound in boards.

CUTS Route Bills, Folders, etc. OF ALL ANIMALS FREE LONDON Ptg. & Litho Co. (Limited), Lithographers and Printers, London, Ont.

25 GLYDESDALE STALLIONS and MARES. Nearly all prize-winners at Toronto, Montreal, Ottawa, and Chicago World's Fair. Most of our young stock are sired by the Columbian champion, Prince Patrick, and Grandeur (sweepstakes four times at Toronto). Two of our fillies are daughters of Lillie Macgregor, the champion World's Fair mare...

Hawthorn Herd of deep-milking SHORTHORNS for sale. Heifers and cows of the very best milking strain. In-pection invited. 13-y om WM. GRAINGER & SON, Londonboro, Ont.

PURE-BRED HAMPSHIRE RAM three years old (bred at the O. A. C.) for sale or exchange. ALFRED BURGESS, BURGOSNE P. O., ONT.

STEAM ENGINEERING (Stationary, Locomotive, Marine); Mechanical Drawing; Architectural Drawing; Machine Design; Electricity; Architecture; Plumbing; Railroad, Municipal, 31 COURSES & Bridge Engineering; Surveying and Mapping; Metal Pattern Cutting; Bookkeeping; Shorthand; English Branches; Mining; Metal Prospecting. All the GUARANTEED SUCCESS. Fees Moderate, Advance or Installments. Circular Free. State subject you wish to study. International Correspondence Schools, Box 900, Scranton, Pa.

W. G. Pettit & Son, FREEMAN, ONTARIO. Telephone office, Burlington Station, G. T. R. BREEDERS Shorthorns, Shropshires, and Berkshires Have on hand and for sale twenty choice one and two year old rams, four pair of extra good yearling ewes, and a nice lot of Berkshire boars and sows from two to six months old.

THE GRAND VALLEY STOCK FARM G. & W. GIER, Props., Grand Valley, Ont. Breeders of Shorthorns and Imp. Yorkshires. We offer for sale young bulls, cows and heifers of choice breeding and good quality at very low prices; also a choice young Yorkshires of both sex. 13-y-o

Ample Shade Stock Farm. IN Shorthorns WE BREED THE BEST. AND Leicesters Young stock FOR SALE! E. Gaunt & Sons, ST. HELEN'S, ONT. Lucknow Station, G. T. R., 3 miles.

SIMMONS & QUIRIE. Shorthorn Cattle, Berkshire Swine—Money-making Sorts. The imported bull, BLUE RIBBON = 17085 = (63736), by ROYAL JAMES (54972); dam ROSE-LINDY, by GRAVESIDE (4641), heads the herd. Representatives of the celebrated Minnie Strathallan, Golden Drop and Mysie families. The Berkshires are choice prize-winning stock. Easy to feed, quick to sell. Stock for Sale. C. M. SIMMONS, Ivan P. O., Ont. 1-1-y-om JAMES QUIRIE, Delaware, Ont.

FOR SALE! Good Young Cows two years old yearlings and heifer calves out of imported and home-bred cows, and the imported bulls, Royal Member and Ramin Robin. Come and see them, or write, if you want something special. om- H. CARGILL & SON, Station on the farm. Cargill Stn. & P. O., Ont.

FOR SALE! A fine lot of young Berkshire Pigs; also two Yearling Boars, and a two-year-old Shorthorn Bull. JOHN RACEY, Jr., - Lennoxville, Que. 17-1-y-o

"Gem Holstein Herd." STOCK FOR SALE! We only keep and breed registered Holstein-Friesians. We have now some choice young bulls and heifers, also some older animals, all of the very best dairy quality, that we will sell, one or more at a time, on reasonable terms. Correspondence solicited. ELLIS BROTHERS, BEDFORD PARK P. O., ONT. Shipping Station, Toronto. 7-y-om

BROOKBANK HOLSTEIN HERD. Champions for milk and butter. Eight have already won money in actual test. Sir Paul De Kol Clothilde in service, in whose veins flows the blood of such record-breakers as Pauline Paul, Clothilde, De Kol, Mercedes, Netherland Twisk, etc. Nineteen nearest relatives average 22 lbs. of butter in one week. Orders taken for Holstein calves and Poland-China pigs. A. & G. RICE, Oxford Co. Ont. CURRIE'S CROSSING.

MAPLE Holstein-Friesians. For rich breed-HILL ing, heavy production, and uniformity of type, the Maple Hill Herd is not excelled by any in America. My cattle have won over \$1,000 in prizes in the last three years, and I never had as many crack show animals as at present. Many are closely related to Netherland Hengerveld, De Kol 2nd, and De Kol 2nd's Pauline, whose official butter records have never been equalled. Write or visit— 11-y-om G. W. CLEMONS, St. George, Ont.

HOLSTEIN BULLS FOR SALE. Two 2-year-olds and a yearling; also some young females; all bred in the purple, as their pedigrees will show. Prices right. A. C. HALMAN, New Dundee P. O. Springbrook Stock Farm.

Ayrshires All Tuberculin Tested by Dr. McEachran, and declared sound. D. DRUMMOND, BURNSIDE FARM, PETITE COTE, MONTREAL

OAK POINT STOCK FARM Ayrshires FOR SALE. I have now for sale a choice lot of young bulls and heifers of fine quality, and bred from best milking strains. Particulars on application. J. B. CARRUTHERS, Kingston, Ont. 17-y-o

AYRSHIRE CATTLE AND RED TAMWORTH SWINE A grand lot of each on hand, including a nice lot of in-calf heifers, and EIGHT BULLS six to eighteen months old. Write us now for bargains. Prices away down. CALDWELL BROS., Briery Bank Farm, Orchard, Ont. 23-1-y-om

WM. WYLIE, 228 Bleury St., MONTREAL, or Howick, P. Q. Breeder of high-class AYRSHIRES. Young stock always for sale; bred from the choicest strains procurable. Breeding stock selected from the most fashionable strains and prize-winning stock of the day. Farm located at Howick, Que. 5-1-y-o

PRIZE-WINNING STOCK FOR SALE AYRSHIRE BULLS fit for service; one out of Ada No. 882, winner of first and two special prizes at Provincial Dairy test, Guelph, Ont., 1895. Imp. POLAND-CHINA pigs of all ages. W. M. & J. C. SMITH, Fairfield Plains, Ont. 19-1-y-om

AYRSHIRE CATTLE The bull TOM BROWN and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester Sheep and Berkshire Swine. 5-1-y-o DAVID BENNING, Glenhurst Farm, WILLIAMSTOWN, ONT.

FAIRVIEW STOCK FARM. Ayrshire Cattle and Berkshire Pigs. Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Benning; are modern in type, and are of the choicest milking strains. Write for prices of young bulls and heifers. DAVID LEITCH, Grant's Corners, Ontario. Stations—Cornwall, G. T. R.; Apple Hill, C. P. R.

Choice Ayrshires of deepest milking strains. Largest and oldest herd in Ontario. We have choice young stock of both sexes sired by Leonard, Meadside, a sweepstakes bull at Ottawa. Also choice Shropshires, and a fine lot of Berkshire pigs for sale. Visitors met at Queen's Hotel. Give us a call. J. YUILL & SONS, CARLETON PLACE, ONT.

AYRSHIRE BULLS... FROM FIRST PRIZE HERD. One bull fit for service. One March calf, and five (5) last September and October calves. All from imported stock of heavy milking strains. THOS. BALLANTYNE & SON, Neidpath Stock Farm, Stratford, Ont. Farm adjoins city, main line G. T. R. 1-1-y-om

WM. STEWART & SON, MENIE, ONT., Breeders of high-class Ayrshire cattle; choice young stock of either sex and any age always on hand. Our herd contains a number of Columbian winners. 21-1-y-o

KAINS BROS. BYRON, ONTARIO, LONDON STATION. Breeders of AYRSHIRE CATTLE. Several fine young bulls, including the first prize yearling at London, second prize bull calf, and other good ones; also choice heifers of various ages. Prices right. 1-1-y-o

BRAMPTON JERSEY HERD. Crowded Out Are our high-grades and thoroughbreds, 22 head of beauties, mostly in calf, and will be sold—worth the money—to make room for our registered stock. Also a number of fawn A.J.C.C. calves. B. H. BULL & SON., Brampton, Ont. ADVERTISE IN ADVOCATE

GOSSIP.

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

Seven factories in the State of Illinois have taken out permits to manufacture filled cheese. An experimental shipment of 100 horses is to be sent from the U. S. to France for use in the army.

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Poultry-keeping can be made a success when one has good fowls, suitable food, and a light, sanitary building and surroundings—provided one knows the proper use of these. A first-class poultry journal, together with daily experience, will supply this last requisite in perhaps the best and cheapest way. We have no hesitation in recommending "The Poultry Monthly" as an up-to-date paper. It is lively, high-class and practical. It is published by The Ferris Publishing Co., Albany, N. Y.

According to a British stock paper, a shipment of horses from Australia will have arrived in England before this date. The new arrangement of allowing the horses their freedom in box stalls on the ship in calm weather, and tying them in narrow padded stalls when the seas are rolling, is making the long transportation a profitable venture with valuable animals. This line of importation is yet in its experimental stage, but it is expected from what is already learned that an Anglo-Australian horse trade will yet be developed. In 1895 a shipment of medium and heavy Clydesdales, cobs, jumpers, trotters and ladies' hacks were sold in England at fairly profitable figures. They were chiefly bred from sires imported from England.

The Kansas State Board of Education deserves hearty congratulation on the very practical and helpful character of its report. Its secretary, F. D. Coburn, Topeka, Kansas, has sent us their first Quarterly Report of 1897, which largely amounts to a useful treatise on poultry. Part I. deals with "Farm Poultry, Its Rearing, Management and Marketing." Part II. gives addresses, papers, and discussions on various topics at the last annual meeting of the Board. The following quotation from the front cover of the report will indicate the estimation in which "The Helpful Hen" is held by the Kansas Board of Agriculture:—"While everything else was going to rack and ruin she increased and multiplied; she supported herself and the family. The very insects which would have spoiled the farm she fattened upon, laying her daily egg—the blessed egg that took the place of beef and milk, mutton and pork—and in good time, after all these services, surrendered her toothsome body to the cause of humanity." The report comprises 256 pages of well printed matter. Part I. is profusely illustrated with representations of various useful breeds of poultry.

WESLEY W. FISHER'S SWINE. We were unfortunate in not finding Mr. W. Fisher, Benmiller, Ont., at home on our visit, but succeeded in obtaining the following facts in connection with his hogs. Among the Poland-Chinas we saw a very useful stock boar, Ezra 933, aged 18 months, and bred by Capt. A. W. Young, of Tupperville. His sire was Canada Wilkes 277, dam Grille 818. He impressed us with his amount of substance and activity, and is nicely marked; also the eight-months' boar, bred on the farm, sired by Kent Duke 466, dam Cora's Model 851. He is a strong, active, useful animal, with good quarters and back. The Poland-China sow, four years old, Old China 1093, was bred by W. & H. Row, Avon, Ontario, and sired by Fountain King 362, imported from the pens of S. E. Shellenberger & Co., Camden, Ohio, dam Fancy 1092, bred by J. A. Shipley, Richwood, Ohio. As an exhibition sow she won first at Exeter, first and diploma at Goderich, Blyth and Duncannon last fall, which speaks for her very superior quality and substance. She is due to farrow July 10th. The two-year-old sow, Nelly, bred by Henry Herron, Avon, Ont., and sired by Sambo 679, dam May 795, is also a very superior animal, due to farrow on July 13th. The richly-bred yearling sow, Belle of Kent 1045, was bred by Meredith & Dunlop, Thorncliffe, Ont., sired by Champion 680, bred by W. H. Parker, Price, Michigan, dam Kent Maid 742, bred by C. W. Jones, Son, Richland, Mich. She was an extensive red tickot winner last fall and is due to farrow on June 15th. Cora's Model 852, three years old, bred by R. Willis, Jr., sire Sam 457, and out of a registered mother, is also in the herd, and taking the Poland-Chinas as a bunch they are a very creditable, strong, thrifty lot.

The Duroc-Jersey boar, under one year, is a thick-set, lengthy fellow, having a very fine coat of hair, and has the appearance of being a great feeder. He was bred by Chris. Fahner, Crediton. We also saw a very choice Tamworth sow, which we were informed was four years old, and was bred by Chris. Fahner. She has been very successful in the showing the last two seasons, winning wherever shown, and has many firsts and diplomas to her credit. She is really an extra sow with immense depth and length of body and of a very quiet disposition. She has a litter just weaned, a deal Tamworth, which was bred by Mr. Fahner, if not sold by show time, will be considered sufficiently up in quality to justify her owner in showing her. Mr. Fisher reserves no animal on the farm, and when purchasers come to the place they have the privilege of buying any animal, as they are all priced.

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WHITE'S New High-Speed Portable Engine



Large Saving in Fuel and Water.

High Speed. - - -

High Grade.

Up-to-date. - - -

Furnished with stack shown or our regular stack, or with our improved water stack.

See this before buying.

GEO. WHITE & SONS, - London, Canada.

GOSSIP.

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

The Toronto Poultry Association has decided to hold a winter show. The date has not yet been decided, but no doubt it will be in December, and near Christmas.

London, Ont., *Free Press*:—"The Queen's Jubilee number of the FARMER'S ADVOCATE just issued is an exceptionally good one, containing a large quantity of excellent letter-press and timely illustrations."

Peter Smith, Grey Co., Ont., under date of June 18th writes:—"I have taken the FARMER'S ADVOCATE a great many years, and consider that it has always maintained its position as the best agricultural paper in Canada."

John Miller, Markham, Ont., writes:—"I enclose you P. O. order for advertising due you. I have had a very successful year, and could have sold many more if I had had them. I have a very fine lot of young calves, and intend showing a herd of calves at the Industrial."

P. J. Cogswell, Brighton Place Herd, Rochester, N. Y.:—"Lord Harry's Lucy 86091 dropped her last calf Feb. 19th last, and gave in seven days, commencing April 11th, 220 lbs. of milk, from which we churned 16 lbs. 5 ozs. of choice butter. Lord Harry's Lucy is four years old, a steel gray color and a strong, robust cow."

The Farmers' National Congress of the United States and Pan American Agricultural Parliament will hold its annual meeting in St. Paul, Minn., on August 31st to September 6th next. The Secretary is Mr. John M. Stahl, of Chicago, and the membership includes many of the ablest agriculturists in the Republic. It is entirely nonpolitical.

Mr. Thomas A. Sharpe, Manager of the Dominion Experimental Farm at Agassiz, B. C., before the Agricultural Committee at Ottawa made a statement of the experiments that are being conducted there, principally in fruit culture, there being over 2,000 varieties under test. He said that there was, to his knowledge, no San Jose scale in that Province, although it was in Washington Territory.

Mr. Wm. Watson, Teeswater, Ont., has recently purchased from Mr. J. C. Snell, Snelgrove, Ont., the handsome solid fawn yearling Jersey heifer Mabel, by Signet Seal, son of Mighty Dollar, winner of first prize and sweepstakes silver medal at Toronto exhibition. The dam of Signet Seal, Gipsy of Spruce Grove, winner of first prize and sweepstakes at the Provincial Dairy Show, 1895, gave 45 pounds milk daily, testing 6.2 butter-fat. Mr. Watson has introduced a number of Jerseys into the district where he lives, and most of them have given good satisfaction. He has a special liking for this his favorite breed of dairy cattle.

American Fat Stock Show.

The Illinois State Board of Agriculture has decided to resume the holding of the American Fat Stock Show in the new Coliseum building at Chicago, Nov. 9th to 20th. The prize list gives to cattle \$2,750, to sheep \$1,000, swine \$1,000, poultry and pet stock \$1,500, dairy products \$1,000. No prizes are provided for breeding stock in the above classes. The Chicago Horse Show will be held at the same time and place, under the same management. An appropriation of \$10,000 has been made for prizes in this department.

The Greatest Event of the Jubilee Year!

CANADA'S GREAT Victorian Era Exposition and Industrial Fair

TORONTO, Aug. 30th to Sept. 11th.

GRAND ATTRACTIONS. NEW FEATURES. SPECIAL JUBILEE NOVELTIES. The Latest Inventions in the Industrial and Amusement Field. Improvements and Advancement in all Departments, Excelling all Previous Years.

CHEAP EXCURSIONS ON ALL LINES OF TRAVEL. ENTRIES FOR EXHIBITS CLOSE AUG. 7th. For Prize Lists, Entry Forms, and all particulars, address

JOHN J. WITHROW, President. H. J. HILL, Manager.

LEE FARM REGISTERED JERSEYS.

Bulls fit for service, - - \$50 each
Heifers in calf, - - - 50 "
Young cows in calf, - - 75 "
Heifer calves, - - - 30 "
Solid colors. None better bred in Canada for dairy purposes. Come and personally select, or write for description and pedigrees.

E. PHELPS BALL,
17-7-0 Lee Farm, Rock Island, P. Q.

4 GRADE JERSEY COWS

and Heifers; 2 are 4 years old and due to calve in September and October, and 2 seven-eighths Jersey, good colors and rich milkers, are due in December. For prices write

W. C. SHEARER,
BRIGHT, ONT.

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IN BELVEDERE STABLES are still

6 of my Best Jersey Cows

Kept for use of my own and daughter's families, but I do not wish to increase the number, hence I can usually offer something uncommonly choice. Just now I have

1 BULL, NEARLY 2 YEARS OLD,
1st prize winner, and fit for any herd.
1 SPLENDID BULL CALF, 7 MOS. OLD
The best, I think, I ever raised.
1 EXTRA BULL CALF, 3 MOS. OLD.

MRS. E. M. JONES,
Box 324. BROCKVILLE, ONT., CANADA.

WILLOW GROVE HERD OF JERSEYS.

Sweepstakes herd of 1893, 1894, 1895 and 1896.
J. H. Smith & Son, Highfield, Ont., are offering 12 females, to calve shortly; one first prize bull, dam Elena of Oakdale (19 lbs. 4 oz. of butter in seven days), grand dam Menies 3, A. J. C. C., test 20 lbs. 1 oz. in seven days. Dam of bull won 1st prize in dairy test, Guelph, 1896, and he is half-brother to King of Highfield.

A Bicycle Ride Through Southern Manitoba.

From Carman our course lay directly south along a fairly good road, parts of which might easily be improved if a road machine were passed over it occasionally. Three miles out a brief halt was made to inspect the embryo of a Shorthorn herd, which is being established by

Mitchel Waller, he having procured from the herd of H. Cargill & Sons, Cargill, Ont., four yearling heifers, all by their imported bull Royal Member =17107 = (61741), and all of that smooth, sweet, even type indicative of good breeding. Royal Josephine, a lightish roan, out of Josephine S. =23230 = Jessie, a nice rich roan, out of Josephine Victor =18276 =, Royal Maud, a red, out of Maud 4th =23240 =, and Isabella 8th, a red with white markings, out of Isabella 4th =18745 =. A few miles further south.

Forest Home Stock Farm, the home of Andrew Graham, is reached. The large grove of poplar, ash, maple, etc., planted some years ago, completely shelters the buildings and adds wonderfully to the homelike appearance and comfort of the surroundings. Mr. Graham's stock was recently reviewed in our gossip columns. We may only add that the show herd is coming along in good shape. Manitoba Chief, at the head of the herd, improves steadily year by year. He is not a big bull, but is smooth, level, and well covered with firm, even flesh on those parts that cut the highest priced meat. He is the kind of bull one would look to for an impressive sire of high quality best stock, and so far as his progeny now show they justify this conclusion. Spending the night under the hospitable roof of Forest Home Farm, a fresh start is made next morning again southward ahead of a terrific gale of wind from the north. It's easy wheeling over a good road with such a gale at one's back. Four miles south of Rosbank station, on the N. P. Brandon branch, a short stop was made at

E. Leatherdale's, just to look at his Berkshires. Besides several sows of his own breeding is one bred by Arthur Johnstone, Greenwood, Ont., a nice sow but a trifle fine perhaps. Mr. Leatherdale had been unfortunate in a hog imported from Ontario for a stock boar, he having failed to breed; this made his sows all late in farrowing. South-east three miles further and

A. P. Stevenson's is reached. To be appreciated this farm must be seen. There is not a man in the Province, to our knowledge, who has done so much in a practical way along the lines of horticulture and arboriculture as Mr. Stevenson, and it would well repay any farmer to visit his place; he would receive a kindly welcome and be inspired with a higher ideal of the possibilities of homemaking, and fruit, forest, and ornamental tree growing. Mr. Stevenson is well known to ADVOCATE readers; his articles, descriptive of the varieties and methods of cultivation found most successful are always eagerly read. Again southward ahead of the wind, which throughout this section was damaging the crops on the light knolls by drifting off fine soil. We passed through Morden and on some seven miles further, reaching

Nelson Bedford's, in township 2, range 5, the farm lying well up on the first rise of the Pembina mountains and the building site close under the protection of the higher hills and in the forest of the timber. The most conspicuous object as one approaches is the magnificent stock barn which had just been completed. It is 106 x 50 feet; a stone wall ten feet high, the ground floor giving room for 104 head of cattle and eleven horses. The superstructure has eighteen-foot posts, twenty-eight feet purlins posts, giving a capacity for about 300 tons of hay, besides a granary, etc. The barn is surrounded by a windmill to pump, elevate and crush grain. In the orchard are a number of crab apples, a few standards, and several improved plums, besides quantities of raspberries, currants, etc.; twenty-three crabs bore fruit last year, one fine old Transcendent yielded twenty-three pails of choice fruit, another ten and another seven. A Desota plum graft that had been set on a wild plum stock had borne abundantly, although the parent stock which had developed into a good sized tree had never fruited. The stock are Shorthorn grades, headed by a very good pure-bred horn. Unlimited pasture is afforded on the hills and ravines to the westward of the 150 acres of cultivated land lying between the buildings and the main road. From here our course lay north-westward through what was once Mountain City. Keeping south of Thornhill, passed Mr. Fair's Boulton's, who was just breaking ground for a large stock barn, and Mr. Bedford's, the father of S. A. Bedford, Superintendent of the Experimental Farm; on past Calf Mountain, a relic of the prehistoric Mound Builder, to Manitou, where train was taken for Crystal City. In the neighborhood of this flourishing little town are many breeders of pure-bred stock, and high-class farmers, but time only permitted brief calls on a few.

The butter factory, just getting under way for the second year's operations, is situated in an old building not well adapted for the purpose. Mr. Munn, the buttermaker, had just come from attendance at the O. A. C. dairy school at Guelph. The managers anticipate a good season's run. Adjoining the town is

The farm of Premier Greenway, where some 300 acres are in crop. Our attention was, however, more attracted by the live stock. A bank barn, with basement, cow stable, horse stable on upper floor, also grain and feed rooms and hay mows; on stone foundation, with frame lean-to in the rear. In this building were found some of the Shorthorn herd. The two-year-old bull, Emperor Earl, of Hon. John Dryden's breeding, shown last year at Winnipeg, has developed into a good sized, useful looking animal, although disfigured somewhat by having been dehorned, he having broken off one horn at the exhibition last year. The roan two-year-old heifer, Roan Mary, also of Dryden's breeding, and shown last year as a yearling, has made great development. Is now of good size, smooth, and well fleshed. She is due to calve early in July. Starling is a showy red yearling heifer, with fine front, well-sprung ribs, and good back. In the red Village Flower 16865, recently imported from H. & W. Smith, of Hay, Ont., and in their hands winning third in three-year-old class at Toronto last fall, the Premier has a cow that will not be easily turned down in any showing; and in

SS. SAILINGS.
ALLAN LINES

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Royal Mail Service of Passenger Steamers, Montreal to Liverpool, every Saturday, calling at Quebec and Londonderry.
DIRECT SERVICE MONTREAL TO GLASGOW
Direct Service Montreal to London.

These steamers are of most recent construction; are of the highest class, and their record for the safe carriage of cattle is unexcelled. Special attention paid to the best methods of stowing and carrying cheese, apples and other farm produce. Steamers fitted with refrigerators for perishable freight. For schedule of sailings, rates of passage or other information, apply to— J. D. HUNTER, Western Freight Agent, Corner King and Yonge Streets, Toronto, or H. & A. ALLAN, Montreal.

Dominion Line Steamships.

Steamer. From Montreal. From Quebec.
Ottoman, July 3rd, daylight. July 3rd, 2p.m.
Vancouver, July 10th, " July 11th, 9a.m.
Scottsman, July 17th, " July 18th, 9a.m.
Labrador, June 31st, " Aug. 1st, 9a.m.

Rates of Passage—Cabin, \$32.50 to \$90; second cabin, \$21 to \$36.25, to Liverpool or London. Steerage, \$22.50 to \$23.50, to Londonderry, Liverpool, London, Glasgow, Queenston or Belfast.

Outfits furnished free to steerage passengers. First and second cabins are midship, and steamers are lighted throughout with electric lights.

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CONSISTING OF THE FOLLOWING FIRST-CLASS STEAMERS:

S.S. MILWAUKEE (new)	7,317 tons.
S.S. MONTCALM (bidg)	7,000 "
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S.S. MONTEZUMA	6,357 "
S.S. MERRIMAC	4,117 "
S.S. QUEENSMORE	3,878 "
S.S. MARINO	3,819 "
S.S. ASHANTI (new)	3,400 "
S.S. BELGIAN KING	3,379 "
S.S. LYCIA	3,252 "
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the red two-year-old, Bridal Belle, from Dryden's herd, he has a sweet and smooth and plump a two-year-old heifer as one could find anywhere. But we must not anticipate the Industrial. Doubtless there are many good things in store for the lovers of fine Shorthorns who attend the summer fair. The half-dozen Ayrshires in the herd are a fair lot, but to our action rather small and lacking in depth of hind quarter. Among the Shropshires are a number of grand ewes and shearlings. There are also a lot of Yorkshires and some Berkshires—a sow of the latter of Snell's breeding that will be heard from at the Industrial. Adjoining the Premier's farm is that of

J. Ring, an occasional contributor to the ADVOCATE. Mr. Ring has a nice little herd of grade Shorthorns of evident dairy quality, using always a pure-bred bull. He has great faith in dairying, and is president of the creamery company. He is also a lover of a good road horse, and has a very fine Standard-bred mare, bred by Nat. Boyde of Garberry, and a handsome filly out her and sired by Fremont D. Mr. Ring has been most successful in tree culture, and has a beautiful grove of native maple, black and white poplar, with a mingling of spruce, surrounding the buildings on three sides. The farm comprises 640 acres, over 300 of which is in crop. Timothy is successfully grown, and a regular system of rotation is being adopted, this year forty acres has been seeded.

John Oughton, who has for years been breeding Shropshire sheep and Yorkshire swine, is fitting up a nice flock of ewes for the Industrial. His farm immediately adjoins the town on the south-east. A couple of miles north is the farm of

J. S. Cochran, who crops 100 acres and devotes his spare time to the Ayrshires, a nice herd of which he has laid the foundation. At the head of the herd is a fine yearling bull bred by W. M. and J. C. Smith, Fairfield Plains, Ont. Some ten miles to the east is a rolling country to the north-westward of Clearwater brought us to

Restronguet Stock Farm, where to the last year's show herd has been added a red two-year-old Aberdeen heifer and a rich roan yearling heifer, both full of meat and quality, and the bull Sittytton Stamp, purchased from the Millars, by whom he was imported. He is a big, thick-fleshed bull, well covered with meat, stands up well and shows a nice head and front; he looks like a great feeder. But as this herd will be out in force at the Industrial we hurry on. Eastward from Crystal City, on the way to Manitow, we called at

Wm. Werry, who has bred and shown at Winnipeg some fine heavy horses. We did not, however, see any of the stock. Mr. Werry farms extensively.

At R. Gosnell's, south of Pilot Mound, we saw a number of well graded mares, five with foals at foot, sired by the Clydesdale stallion, Ernie's, of 1901; also a very fine E. M. Ewan, of Morden, winner of first at the 1896 Industrial. One very handsome three-year-old Clyde-bred mare was shown us; she had fine flat, clean bone and good feet. All were home-bred stock. Mr. Gosnell, along with his son, crops about 600 acres, using a 4 horse 24-shoe drill, and a 4-horse harrow that covers from three feet at a sweep. The next stop was at

Purvis Thompson's, who in '95 won the Industrial sweepstakes with the Shorthorn bull, Hillary—1897—, and high honors with the Clyde filly, Lady McArthur. Hillary was out on a timothy pasture, looking as vigorous and full of health as his rich roan hide is full of meat. He will make a good fight for honors again this summer. The other two, above mentioned, were all in good condition. The Clyde mare, Lady McArthur, had a nice foal at foot, sired by Sir Patrick, a stallion owned by Mr. Thompson. Seeding was over, and in the stable were a couple of span of big Clyde geldings, one pair bred by the Shilsons, of Star Mound, and the other by the above mentioned. The latter, Mr. Thompson said, could be shown weighing 3,460 lbs., and yet some people say heavy drafts can't be raised in Manitoba. Berkshires are also kept—a two-year-old sow of Coxworth's breeding, with a nice strong litter of nine, and two young sows yet to farrow, from a sow bred by Arthur Johnston, Greenwood. The stock here was bred by Wm. Whiteman, Lariviere, out of a Snell sow. About 350 acres is cropped, and the steading is being surrounded with a nice shelter belt of trees. The buildings are good and nicely situated. Horse and cattle stables, granary, and implement shed are in separate buildings, far enough apart to guard against fire. After crossing the Pembina River, at the old crossing.

J. S. Robson's was soon reached, and having wheeled all day against a heavy head wind, we were glad to turn in. Thorndale Stock Farm is only about four miles south of Manitow; the land is level and a pretty heavy clay loam; it is well sheltered by native bush, and the farm extends down to the river, affording a large area of pasturage. The Shorthorn herd consists of about thirty breeding cows; a bull of W. S. Lister's breeding, having succeeded one from the Pioneer Herd of Walter Lynch, has again been displaced, after serving his time, by the yearling Village Boy 12th—24409—, bred by Jas. I. Davidson & Sons, Balsam. He is a good, sappy, deep bodied, thick fleshed, red son of Scottish Prince—14828—, out of Village Beauty 4th—21586—, she by imported Hospodar. The herd and most of the horses were a way to pasture and time did not permit of inspection. Mr. Robson also owns the Clydesdale stallion Darnley's Pride [1672], bred by Wm. Hood, Shadeland, Man. He is a low-set, blocky little horse with good legs and feet. On our way into Manitow

R. D. Foley's newly purchased bull Cavalier—22603—, of Wats's breeding, was seen. He is a two-year-old roan, with nice head and neck, grand front and a good underline. He also will be seen at the July Fair. The next call was at Dr. M. Young's, where some extensive experiments are being carried out in grading up a flock of western ewes. The octagonal barn on the farm of

Alex. Cochran is on a stone wall ten feet high. Root pit in center surrounded by feed alley to which face the horse and cattle stalls. A windmill pumps water for all stock into a trough running in front of mangers. A portion of the cattle stable floor is laid in cement; it would have been more finished had the gutter been also cement instead of plank.

George Motherall has fine buildings; drive shed, and stone basement barn about 65x30

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