

**PAGES  
MISSING**

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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No. 431.

## EDITORIAL.

### Combating Swine Disease.

A fortnight or so ago the daily papers contained sensational despatches from the county of Essex, Ont., regarding a conflict of authority between the owners of several lots of hogs and a local veterinary inspector. Rightly or wrongly, and for longer or shorter periods, probably a score of townships have had quarantine regulations applied to them during the past six months, and we have been repeatedly assured that the "cholera is stamped out." With a view of studying the whole situation—rather than the merits of the above dispute—we commissioned one of our staff to visit the district in question and to note carefully the conditions existing in order to make such suggestions as may be helpful in eradicating the trouble while it can be easily grappled with, and to outline a course which swine raisers especially in their own interests should carefully pursue. We need offer no apology for devoting considerable space to the result of his investigation. The magnitude and high character of the Canadian bacon trade fully warrants every effort to preserve it intact. Our representative was cordially received; in fact, several expressed themselves as more than pleased at the presence of an independent outsider, and we trust the suggestions made elsewhere will be received in the same spirit in which they are given. If applied, as we have reason to think they will be, very great benefit will result from some of them, even though another outbreak of "cholera" or "plague" should not make its appearance.

### The Farm Library.

"Book Farmin'," so-called, has not stood in very high repute; nor is this to be wondered at. Agriculture is really one of the most difficult and many-sided industries, requiring every day a wider range of more accurate knowledge, which can only be acquired by study, observation and experience. A man without the latter undertakes to farm by means of a set of technical rules or by text-book, and at every step he will find hundreds of things to learn. In the very nature of things the chances are that his first efforts will be failures. What ailed him was lack of knowledge and how to apply it—not too much of it. Really successful men everywhere know this. Hence, we find an increasing demand for good agricultural papers. The more a farmer knows about his business the more he sees there is to learn, and this is the reason why we have been devoting so large a portion of space in the FARMER'S ADVOCATE to giving the record of actual experience in various lines so that mutual help can be afforded. The growing enquiry for trustworthy books on different branches of farm work, such as stock rearing, dairying, soil cultivation, horticulture, etc., suggests another great want felt by those who are pursuing specialties for ample technical information. Every farm home should have its well-chosen library of agricultural works. The arrangement we have made with the well-known Macmillan publishing house will help to meet this need, and we would refer the reader for particulars of it to another page in this issue. We trust our readers will feel free to write us for any additional information desired, and that this very favorable opportunity will be very generally taken advantage of. We have excellent facilities for furnishing promptly works on other subjects not specified in that announcement.

### Beware of Swindlers.

We caution our readers against the many swindlers who appear to be operating this season. Steer clear of strangers who offer something big for nothing, or handsome wages for light work. We are rejecting such advertisements every week, but they secure insertion in some of the newspapers and so gull the unwary.

### The Fat Stock Show for 1897.

The Fat Stock Show for 1897, to be held on December 7, 8 and 9, ought to be better in every respect than any of those which have preceded it. The prize list to be offered by the combined breeders' associations will be by far the best that has ever been placed before the breeders and feeders of Canada in a show of this character, and is highly creditable to the Directors who have shown a liberal spirit in its preparation quite in keeping with the importance of the great interests they represent. The classification has been improved and extended so that nearly all the acknowledged breeds have a full list, and in addition to the liberal cash prizes given by the Associations, an unusually large and generous list of special prizes has been donated by manufacturers, by pork packing companies, and others. The breeders and feeders have every encouragement and should bend their energies to the work of preparing the best display of stock that has ever been brought out in this country. The city of Brantford, which has been honored by being chosen as the place for holding the show of '97, will be expected to display a liberal spirit in providing for the comfortable entertainment of the Directors and exhibitors, who are representative men of the highest type of Canadian farmers, who know when they are well used, and will govern themselves accordingly when the time comes to decide where the next year's show shall be held. It is no small honor for any city to be made the choice for such a meeting, and there are not a few places that would be glad to assume the responsibility of providing for it. The success of the show so far as the interests of the city in which it is held are concerned depends very largely upon the interest taken in it by the leading citizens, and by advertising the show they advertise their city. An interesting series of evening farmers' meetings has been arranged for the week of the exhibition, including popular meetings in which prominent public men will be invited to take part, and vigorous efforts are being employed to make the show a success in the best sense of the term.

### Tuberculosis and the Tuberculin Test.

The subject of tuberculosis in cattle and the tuberculin test engaged the attention of the Agricultural Committee at Ottawa on May 21st. Dr. McEachran, Chief Veterinary Inspector for the Dominion, advised an expenditure of \$100,000 for the purpose of applying the test, slaughtering animals in diseased herds, disinfecting premises, and compensating owners. Hon. Sidney Fisher, the Dominion Minister of Agriculture, took a different view, and one that ought to commend itself to the good judgment of the country. He preferred an educational process of accomplishing the desired result and encouraging stock breeders to have the test made voluntarily themselves. Public opinion is not ripe for a law involving general testing and slaughtering. We quite agree with the Minister that better and more permanent results can be secured, as he suggests, at much less cost and trouble. Hon. John Dryden, Minister of Agriculture for Ontario, who was also present, concurred in the foregoing view, stating that from the bacteriological department of the Agricultural College tuberculin was now being furnished free. Dr. McEachran said the Dominion Department also furnished tuberculin and explicit directions for administering the test, which was now very simply done.

Now, there is little doubt that tuberculin in competent hands is a very accurate diagnostic agent, but the FARMER'S ADVOCATE believes that there is yet much to be learned regarding its use. We have it on pretty good authority that some very unscientific, slipshod work has been done by so-called "professional" cow testers. It is really not quite so simple a matter as it may appear to an

old experienced authority like Dr. McEachran, and we are probably well within the mark in saying that even a good many veterinarians do not find themselves entirely prepared for the work. The whole subject presents an opportunity for careful educational work, otherwise we will have another case of "more hurry and less speed." In our view, the work of weeding out tuberculous cows should begin with the herds supplying cities and towns with milk, which are probably the most affected, and where the conditions are such that the most harm might be done by using tuberculous milk.

In our Veterinary Department in this issue we give particulars as to how the test is conducted by the Veterinarian at the State Experiment Station of Minnesota, where it has been made the subject of a long, careful and exhaustive investigation.

### The Transportation Problem.

The Canadian public is indebted to Mr. J. S. Willison, of Toronto (editor of the *Globe*), for the frank, luminous and informing contribution he has just published in a small pamphlet of 75 pages, entitled "The Railway Question in Canada, with an Examination of the Railway Act of Iowa." He must be a superficial observer indeed who does not see that the time is at hand when more than one troublesome phase of this question in Canada must be faced. The more light we have the sooner will solution be reached, and the better will it be for the taxpayer and every one concerned, directly or indirectly, with transportation. It is little wonder that in some quarters people have asked, "Does the railway serve or does it simply reign?"

Nominally, under the Railway Act of Canada there is a safeguard in the Railway Committee of the Privy Council to which all rates and classifications must be submitted for approval, but what has it accomplished? Little more, as Mr. Willison points out, than to register the decrees of the carrying corporations. Stockmen know something from experience of this. A year and a half ago the freight agents got together and promulgated a new classification and schedule of rates on stock in less than car lots that would have proved simply ruinous to the trade in pure-bred animals, and struck a fatal blow at the live stock rearing industry. A prompt and vigorous protest through the press and corresponding action by the live stock organizations brought relief, but the incident demonstrated the uselessness of the Railway Committee of the Privy Council in that respect. In Mr. Willison's pamphlet scores of freight charges are cited which are not only oppressive beyond endurance, but for which it is difficult to see any reasonable justification. Think of wool being carried via Vancouver from Australia to Montreal or Boston at a less rate than from Calgary to Montreal (whereby the railway defeats the aim of the protectionist); or a carload of self-binders from Toronto to Australia lower than from Toronto to Alberta; or rates on goods to Western Canada equal to 40, 75, 155, and even 300 per cent. of their actual cost in Ontario; or nearly half a Manitoba farmer's crop of wheat to carry it to Montreal or Toronto; or passenger rates amounting to 4 and 5 cents per mile, with no reduced return fare rates! The Northwest, British Columbia, and Manitoba, where we should have encouraging conditions for the settler, have been the chief sufferers. It is only fair to remember, however, that sections of the C. P. R. like that through the Rockies and in Northwestern Ontario are costly to operate, and vast stretches yet contribute comparatively little for transportation. What is the remedy? We have spent millions getting effective railway service (vast sums needlessly in Eastern Canada, in a vain effort after relief through competition). The public has little idea how it has been fleeced through railroad projects, but this

## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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THE DOMINION.

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1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month.
2. It is impartial and independent of all classes or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.
3. TERMS OF SUBSCRIPTION—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, 6s., or \$1.50. New subscriptions can commence with any month.
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pamphlet will give them an inkling. What we require now—and this is the main point—is an effective Railway Commission, with power to enforce its decrees. Canada being essentially an agricultural country, when such a body is created by Parliament we desire to see upon it one member at least competent to represent that great interest in connection with the transportation of the products of the soil, animals and their products, etc. He could be of real service to the farmer there.

Such a commission would investigate and settle all disputes, and it would shift the burden of investigation from the shoulders of the shipper. Railway charges for postal service would probably bear enquiry if U. S. experience is any guide. Hon. W. Clark, Associate Justice of the Supreme Court of North Carolina, tells us that the two great defects in the administration of the U. S. postal department are the enormous overcharges paid to the railways, amounting to fully \$15,000,000 annual loss to the Government, and the prevention by corporate influence of the adoption of the telegraph and telephone for the betterment of the postal service.

Besides the Intercolonial we have but two great lines in Canada—the G. T. R. and C. P. R.—so that effective regulation should not be difficult if Parliament has backbone enough to make the tribunal right on the start. True, over the C. P. R. main line the right of public control is limited by the charter clause which prohibits reduction of rates until the earnings net 10 per cent. on the capital invested; but even here, while we have not the right to reduce, we have probably the right to prevent discriminations between shippers and communities, so that what we want, as Mr. Willison points out, is effective machinery to enforce our present legal powers. We trust the pamphlet will be widely read, and we commend it to our readers.

### The World's Model Agricultural College.

The *Scottish Farmer* for May 15th has an article strongly advocating the establishment, for the counties of South-western Scotland at least, of an institution patterned after the Ontario Agricultural College at Guelph, of which a very complete outline is given. "Mr. James Biggar and many others," to quote from the editorial in question, "including the writer of this article, who have leisurely inspected the institution and its workings, have emphatically testified that in their opinion it is just the sort of place suited to the requirements of Scotland." It is no small honor in this the Queen's Diamond Jubilee year to have the repre-

sentatives of British agricultural progress coming to Canada for the model of an agricultural college, but they evidently know what they are about. Pending the establishment of this institution the FARMER'S ADVOCATE begs to suggest that a ship load of prospective young Scottish farmers be sent over to Guelph for training in the true faith of agriculture. Under President Mills and staff we can assure them they will be nurtured according to orthodox principles. Come West, young men of Scotland, and welcome!

### Science Justified by Practice.

To the Editor FARMER'S ADVOCATE:

SIR,—The ADVOCATE of May 15th contains a very able article from the pen of Mr. R. Gibson, entitled "Practice, with Science." It is well worth careful reading, and the motto adopted is eminently sound. But I am afraid that the casual reader may possibly derive some wrong impressions, not so much from what has been said as from some things that have been left unsaid, and this letter is not intended as a criticism of Mr. Gibson's article, but rather as an addition thereto.

In the first place there is a danger that some may infer that the Aberdonian ration of 120 pounds turnips, 15 pounds oat straw, and 4 pounds linseed cake is not a balanced ration, an inference which surely was not intended. If we take the ration as given we find that it contains digestible nutrients as follows: Protein, 2.7 lbs.; carbohydrates, 14.1 lbs.; fat, .6 lbs. Now, compare this with Wolff's feeding standard for fattening oxen. For the finishing period Wolff recommends the following quantities of digestible constituents: Protein, 2.7 lbs.; carbohydrates, 14.8 lbs.; fat, .6 lbs. Thus we see that the Scotch ration is a perfectly balanced one, and the success of the Aberdonian establishes the soundness of scientific teaching.

It is further stated that the Scotchman does not cut and mix his feed as is the practice in England. Now, science teaches that cutting, mixing, pulping, etc., do not increase the digestibility or nutritive value of fodders, but the practice is frequently adopted by good feeders for the reason that the food is thus rendered more palatable and animals may sometimes be induced to eat fodders which they would otherwise refuse. Hence, we see that the Aberdonian is still in accord with science.

Still further, it is stated that the meal is all given at one feed, usually at night. But the meal ration is a very light one, and four pounds of linseed cake at a feed is not such a heavy dose after all, especially when we consider that it is given only once a day. Some American feeders give as much as this at a feed three times a day. So far as I can glean there is nothing in scientific teaching that would condemn the practice of the Aberdonian in this particular.

Therefore a careful review of the whole matter will show that the Scotchman is not such a heretic as some would have us believe, and his world-renowned success affords the finest demonstration of the soundness of scientific principles that could possibly be found. But science does not pretend to "know it all." There are many things yet to be learned, and patient investigation is gradually perfecting knowledge; but it would be the height of folly to scoff at what is known simply because all questions cannot be answered.

We must be careful, too, in the use of the terms "scientific feeding" and "scientific men." The world is full of men who have dabbled in the great question of scientific feeding just sufficiently to turn their poor heads, and they take a delight in airing their ignorance on every possible occasion. People call them "scientific men" and blame science for all their grotesque contortions of common sense. Like Mr. Gibson, "I get riled" when I hear such men talk, and also when I hear them styled "scientific men." "Blundering ignoramus" is the proper term. It is such men as these who have discredited science in the eyes of many practical men and led them to believe that science is diametrically opposed to all established practice, whereas nothing could be farther from the truth.

Science in cattle feeding comprises a knowledge of those principles which underlie successful practice. It is merely common sense. It is an aid to the intelligent feeder, but was never intended to be blindly followed. It does not presume to supplant practical knowledge, but merely supplements it. It fully recognizes the hundred and one modifying influences which may occur in practice. It is no terrible "bugaboo" which the practical man need fear; it is no "rule of thumb" which the ignorant may hope to follow; but it is the lawfully wedded wife of practice, and the truly scientific feeder will never attempt to have science and practice divorced. When we cast aside all prejudices and extravagant conceptions, when we determine neither to belittle nor to magnify the aim and scope of scientific teaching, and when we earnestly set to work to study the subject in the light of common sense, we are forced to acknowledge that science is justified by practice.

Ontario Agricultural College.

On the 7th inst., Mr. F. C. Harrison, Bacteriologist of the Ontario Agricultural College, sent out the first lot of tuberculin manufactured at the College to a veterinary surgeon in the neighborhood of Owen Sound, to test some cows in that locality.

## STOCK.

### AN IMPERILLED INDUSTRY.

A Visit of Investigation by the "Farmer's Advocate" to the Essex Infected District.

TWO TYPES OF SWINE DISEASE—INVESTIGATION AND INSPECTION—LAX METHODS—SOURCES OF INFECTION—SUPERVISING TRANSPORTATION—SANITARY REFORMS NEEDED—PREVENTION BETTER THAN CURE—WESTERN STATES METHODS MUST BE DISCARDED—HINTS FOR THE HOG RAISER AND THE AUTHORITIES.

The hog disease affected districts of Essex County, Ont., were recently made the object of a special personal visit by a representative of the FARMER'S ADVOCATE with a view of learning as nearly as possible the truth as to existing conditions in order to assist in overcoming some one-sided prejudices which unfortunately appear to exist, and to suggest the line of action which in the interest of this important branch of Canadian live stock husbandry ought to be pursued. More than one influential resident expressed himself deeply gratified at the presence of our representative on the ground, as it was an indication that proper independent interest was being taken in the situation in a way that had not hitherto been done, and from which beneficial results would flow.

We referred above to swine rearing as an important industry, for such it unquestionably is, 1st, as a natural and essential adjunct of the immense dairy industry of Canada; 2nd, by reason of the splendid reputation of Canadian bacon and hams in Great Britain; and 3rd, because of the dimensions our exports of pork products have already attained, amounting last year to some \$1,000,000 worth, not to mention the vast quantities produced for home consumption. A trade like this must be preserved. Once the public realizes the seriousness of the menace, any half-hearted or misdirected procedure will not be tolerated. The Government cannot afford to be parsimonious in dealing with the situation, and individuals must necessarily bear with temporary inconvenience, possibly hardship, in the disturbance of their operations. On the one hand there must be tact and determination, on the other forbearance, and on both earnest efforts based on the best available knowledge.

Periodically we have been assured during the past two years that the "cholera" or "plague" was stamped out, but just as certainly has come the tidings of "another outbreak," none of them very extensive or alarming, but still sufficiently pronounced and fatal to periodically wake up the authorities. The ADVOCATE may be criticised for "disturbing" the subject again, but we believe that some "disturbing" is useful. While the trouble is yet confined to a limited area is the time to act, for neglect of duty at this juncture would not only be ruinous to this particular industry in "the peninsula," but imperil it as far as the whole country is concerned.

### TERRIBLE WARNINGS.

Look, if we will, at the situation across the border, where its ravages have increased year after year until the situation has become most alarming—in fact, beyond control of the authorities—and weekly we see reports in the more prominent U. S. stock journals wondering what next they can do to stop or even check its ravages. Take for instance Ohio, where the losses in 1895 amounted to over \$3,000,000; or Iowa, where last year they ran up to the enormous sum of \$15,000,000; other swine-raising States being devastated in like manner. The annual losses in the United States are put at from \$10,000,000 to \$25,000,000. The new Secretary for Agriculture, Hon. Mr. Wilson, has addressed himself to this serious problem and proposes drastic measures whereby it will be eradicated, root and branch, in limited districts, in order to show what can be accomplished and that it might be done throughout the entire swine belt; but we notice that the Iowa *Homestead*, an exceedingly well-informed journal on that subject, despairs of success by the heroic method proposed, though the sanitary arrangements connected therewith would admittedly be beneficial.

Or take the lamentable experience of England with swine fever, where despite an expenditure of over \$800,000, and incalculable trouble, the attempt to suppress it proved a failure, because, in the judgment of the National Veterinary Association a year ago, the proper measures were not properly applied. These facts indicate the peril to which the Canadian industry may be exposed, and the magnitude of the work of suppression, if it once obtains a general foothold.

### THE SOURCE OF INFECTION.

There is no use shutting our eyes to the fact, the quicker more decisive action is taken the sooner we can see our way out of the difficulty, or else submit to disastrous consequences in the end, and from our brief investigation in the matter we are almost convinced that no one is in a positive position to state just to what extent swine plague or cholera now exists, for apparently without warning it crops up sufficiently well defined to become recognized, and in many cases in altogether different townships, and the question arises, from whence

comes the diseases positively ment to Chicago years ago show ev from the venting matter v is, that s of all co without the one duction cost tha must be resolute have been the extr especially ing that Buffalo; for it is of Ame annually many of sections diseased course of contract period of to as m probable country ally sho the disea not quit great pe hogs ar nated v them in of their been alim section. ing when this cou We a have be through not to n are the r from the through might f pense of rigid m the por coming men sho thorough in and readers hogs en purposes the regu [NOT written new or importa authoriz to instr or other manures place, unloaded disease. The f and in v country; plague, closely, tively d where v in conn Hog ch attacking acute fo many c some ca able sym the sever etc.) las cases th there is observe signs of loss of appear in the b or const as the diarrho the end and ma stages. quent l driven r and rec limbs, u the col There i stands walks v and less

comes the contagion? As to the origin of the diseases under consideration, it is difficult to state positively; some claiming to trace its commencement to the introduction of germs brought from Chicago to the vicinity of Kingsville a couple of years ago, while others contend that they can show evidence of outbreaks many miles distant from the above named source. Apart from preventing further contagion, its origin is hardly a matter with which we have now to deal. The fact is, that a seat of contagion exists, and it is the duty of all concerned to face the situation frankly and without prejudice, and to deal with it firmly with the one end in view, of preventing further introduction into our herds, and stamping out at any cost that which already exists. To our minds it must be gone at systematically, intelligently, and resolutely. The spread of the malady appears to have been so far confined to a few counties lying in the extreme south-western portion of the Province, especially along the various lines of railways crossing that part of the country between Detroit and Buffalo; in fact, the outlet for the American hogs, for it is an indisputable fact that thousands of cars of American hogs pass between those points annually, and we are justified in believing that many of them come directly from the infected sections in the West, not intentionally shipped in a diseased condition, but developing the disease in the course of the journey, having been exposed to and contracting the disease just at shipping time, the period of incubation varying from a couple of days to as many weeks, for it is very improbable that hogs coming from a country in which thousands die annually should all pass through free from the disease. This being the case, is it not quite reasonable to suppose that a great percentage of the cars in which hogs are shipped are badly contaminated with the germs and distribute them in the droppings along the course of their journey? Its spread has so far been almost wholly confined to this one section. We are quite justified in looking where we do as to its admission into this country.

We are informed that these trains have been entering Canada and passing through without any inspection of cars, not to mention animals. The railways are the real beneficiaries from this traffic from the Western to the Eastern States through south-western Ontario, and might fairly be charged with the expense of such inspection. Much more rigid measures should be instituted at the port of entry for American cars coming into the country. Competent men should be located there to inspect thoroughly each and every car coming in and its cargo of animals. Our readers understand, of course, that hogs entering Canada for breeding purposes must undergo as formerly the regular quarantine.

[NOTE.—Since the foregoing was written we have received a copy of a new order-in-council prohibiting the importation of swine manure and authorizing the Minister of Agriculture to instruct veterinarians to declare cars or other conveyances bringing animal manures into Canada as an infected place, and prohibiting their being unloaded if believed to be a source of disease.—EDITOR.]

TWO TYPES OF DISEASE.

The forms in which the disease exists, and in which it has shown itself in this country, are hog cholera and swine plague, and while the terms appear so closely associated they signify two entirely different conditions, and here is where we believe much confusion has been wrought in connection with the past outbreak in Essex Co. Hog cholera is a disease of the digestive tract, attacking the bowels, the symptoms in the very acute form being very decisive, animals dying in many cases before illness is at all noticed, or in some cases within two hours from the first noticeable symptom; in the less acute type (according to the severity of the attack, constitution of animal, etc.) lasting many days. In the greater number of cases the progress of the malady is slower and there is consequently a much better opportunity to observe the symptoms. There is at first seen the signs of fever, shivering, unwillingness to move, loss of appetite, fever increases rapidly, animals appear stupid and dull, having a tendency to hide in the bedding. The bowels may at first be normal or constipated at the beginning of the attack, but as the disease advances there is a liquid and fetid diarrhoea, abundant, exhausting, and persistent to the end. The breathing is more rapid than usual, and may be oppressed and labored in the later stages. There is a cough which is usually not frequent but generally heard when the animals are driven from their bed. The skin is often congested and red over the abdomen, inner surface of the limbs, under surface of the neck, and on the ears, the color varying from pinkish to dark red or purple. There is rapid loss of flesh, the animal grows weak, stands with arched back, the abdomen drawn up, walks with a tottering, uncertain gait; there is less and less inclination or ability to move, the weak-

ness and exhaustion increase until death results. The symptoms of swine plague in many cases are not noticeably different from those of hog cholera. Frequently, however, the lungs are extensively inflamed in swine plague, and in that condition the breathing is more oppressed and labored, and the cough more frequent and painful, the course of the disease varying with the severity of the attack, or from one or two days to three weeks. In hog cholera it is believed that the disease first attacks the intestines and secondarily invades the lungs, while in swine plague the first effect is believed to be on the lungs and afterwards the intestines, and while the germs appear in many respects alike, when examined under the microscope their difference is very noticeable when closely watched. In the first place the germ of hog cholera is furnished with an organ of locomotion which the germ of swine plague does not possess, and having power of making rapid movements of its own, while that of swine plague depends upon the movement of the fluids which contain it for its transportation, consequently it is easily understood why hog cholera is the more contagious. Another point, and one which is very important, is the fact that in many cases of swine plague the symptoms of illness are almost absent. For a few days there may be slight dullness and drooping of the tail, but the appetite is retained, the temperature is scarcely affected, and neither skin eruption or diarrhoea is present. These statements are based on experiments in

principles of cleanliness around their premises there should certainly be some one having authority take the matter in hand and cause such places to be placed in a proper sanitary condition. We have in these few counties a very level—in fact, flat—country, much of it clay land, in which there can be neither natural drainage or soakage, and which necessarily demands more attention than a more rolling country. Coupled with this we find hogs herded together by twenty-fives, fifties, and even greater numbers, fed by the wholesale, with little or no bedding—just the condition to breed disease. Again, the character of the food must not be lost sight of, which is chiefly corn, morning, noon and night, and occasionally between meals. These are the conditions which we find associated with hog cholera in the United States, and Canadians should heed the warning. This American system must be discarded. Attentive readers of the FARMER'S ADVOCATE well know the necessity of feeding a ration not so rich and stimulating, but rather one calculated to maintain a stronger condition of health, such as, for instance, the addition of roots, bran or clover, or the use of a mixture of the ordinary Canadian coarse foods, such as peas, barley, oats and bran, with corn, for rightly used corn is a wholesome and profitable food. Reared in this way we would not look for such rapid progress of disease in case of infection, and would expect to find it in a less fatal type, as our hogs would possess greater power of resistance.

NEGLIGENCE.

In the past we believe it has been customary to destroy those animals only which gave sure evidence of the disease, and to quarantine the balance of the herd, which, in our opinion, has been a grave oversight, for those animals which were immediately exposed were almost as certain to contract it in some degree of severity, and, as we have already said, some may be so slightly affected as to escape notice and yet be as capable of spreading the disease as the most fatal case that exists. We are informed that this regulation has or is about to be altered, and rightly so, for we believe that had a more rigid step been taken a year ago last September fewer animals would have been lost.

Another point noticed requiring correction was that animals for shipment from the district were allowed to be collected at the shipping yard from all quarters, and not until they were there was the inspector asked to make his examination. We believe the folly of this action has been so thoroughly impressed on every thinking man in the district that some alteration in the regulation will very soon be made, for had the animals which were collected at Kingsville, and detained by the local inspector recently, been seen at their homes much trouble would have been avoided. The diseased animals would have been condemned at their own pens; healthy ones would not have been exposed to contagion, and would not have been compelled to lie in quarantine ever since. Again, we consider the home premises the proper place upon which the inspection should be made, and every herd from which animals are to be sent should be seen, for we believe it possible for the disease to exist in a more or less severe form on a farm and the owner to ship animals that have been exposed either ignorant of the consequences or wilfully for the purpose of avoiding losses. Had those animals that were condemned and slaughtered at Kingsville recently been allowed to have been shipped that day the results might have been disastrous at the point of destination.

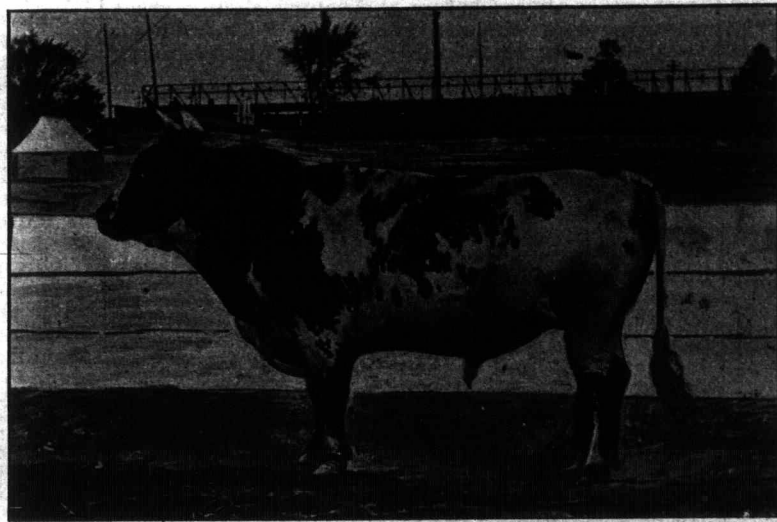
Again, we have fault to find with the local provisions made for those animals at quarantine, for example, at Kingsville, and these owners are not consulting their own interests very much when they neglect to make such animals comfortable, and we would suggest that if a portion of their time employed in obstructing the inspectors were used in improving the condition of such places and making their surroundings more sanitary much benefit would be the result in stamping out the plague, or at least in modifying it. The earlier some one is employed whose duty it is to enforce proper sanitary regulations and keep a close eye over the herds in the affected districts, the quicker we will rid the country of what may develop into a scourge, and until such a decisive step is taken we would suggest that each district be under the supervision of their respective boards of health, which, if they do their duty, will not be lenient with any one who falls short of the requirements of the law.

It is only right to state just here that some of those who have been the heaviest losers in the past have been most hearty in co-operating with efforts made to check the disease. Such action is most commendable.

SANITARY REFORM NEEDED.

Again, as we have before suggested, more attention should be given to the surroundings. All pens should be thoroughly cleaned and disinfected; in fact, all old swine buildings should be destroyed and new ones erected as far from the site of the old

A Great Dairy Sire.



THE WORLD-BEATING LEONARD MEADOWSIDE. OWNED BY J. YUILL & SONS, CARLETON PLACE, ONT.

Leonard Meadowside—1423—was calved in 1892. He was bred by Jas. Yuill, Carleton Place, and sired by Mansfield—861—. His dam, Lilly of Meadowside—1737—, was by Rob Roy of Oxford—300—. This noted bull commenced his showing career at an early age. As a calf he won 1st prize at the World's Columbian at Chicago, and as a yearling he won 1st at Ottawa and Almonte. In 1892 his winnings were 1st at Almonte, Ottawa, and the Provincial Dairy Show at Gananoque, and last autumn at Almonte he again won 1st, and at Ottawa 1st and sweepstakes. Such a record has seldom if ever been surpassed, which speaks in the highest terms of the sort of animals Messrs. Yuill breed. We cannot but believe that the practical common sense indicated in Mr. Yuill's contributions which from time to time appear in our columns characterizes his efforts in the selection, breeding, and care of his excellent dairy herd of pure-bred Ayrshires. Leonard Meadowside is now heading the herd of Mr. A. Barnett, Renfrew, Ont., who was certainly on the lookout for something extra in an excellent breed when he selected him.

which pigs have been fed with portions of ulcerated bowel and killed some weeks after, and *post-mortem* showed beyond any question of doubt that the disease had existed, by the partially healed ulcers in the large bowel, although having shown no decided symptoms of ill-health.

The two forms of disease have been confused, and local trouble has arisen because the conditions disclosed by one *post-mortem* have not been found in another, and yet both were called "cholera." There would seem to be room for some careful and exhaustive scientific investigation at this point to determine definitely if the two diseases are actually present and to shed light upon points which are at present obscure. The hog raiser who is well posted as to the nature as well as the seriousness of these ailments will be most likely to co-operate most heartily in efforts made to eradicate them.

CONDITIONS FAVORABLE TO DISEASE.

In dealing with such a subject as this we deem it advisable to consider the conditions which exist that are favorable to the progress of the disease; and first, we must not overlook the fact that contagion is the first and foremost condition that we must seek to remove in order to head it off and make our efforts fruitful in stamping it out. Again, the surroundings must not be overlooked, and in our trip to Essex Co. we certainly saw places that require the attention of the health boards, and if certain hog raisers do not consult their own interests by attaching sufficient importance to the

ones as convenient, fewer hogs kept together, plenty of room provided for exercise, good drainage provided, and with the constant free use of antiseptics (lime and carbolic acid), strict attention given to diet, avoiding any course that tends to weaken the constitution of the animals, such as a constant corn food, but rather use other grains, such as inferior wheat and its products, roots, etc., as we have already suggested; breeding only from strong, vigorous animals, not in any way related, and which are known to possess good constitutions, and providing the young pigs a good plot of fresh clover upon which to roam in the summer months.

#### AS TO REMEDIES.

The reader will notice that we have based the foregoing observations upon the principle that prevention is better than cure, which is particularly true of swine disorders. In a limited way we judge this by the result of experience in the Dominion, but especially by the results of professional and non-professional experience in the United States. In an exhaustive report by the U. S. Bureau of Animal Industry, published a couple of years ago, it is recommended as a rule when disease breaks out in a herd it is best to slaughter both healthy and diseased at once, and allow sufficient time and take such measures as will rid the premises of infection. Something will depend on the local conditions. If favorable, well hogs should be separated from the sick ones and isolated and a light diet substituted for a heavy one. Boiling the food has been recommended. Countless "remedies" have been tried, but the infallible specific has not yet appeared, though we were many times asked to suggest a remedy that would be of some benefit to the sick animals. Since we have a germ to kill (and in swine plague not very tenacious of life), the agent should possess the power of destroying germ life without irritant properties to injure the patient, and should retain its powers when in the circulation. There is a long list of agents from which to select, as far as antiseptic properties are concerned, but the number which possess the full properties are not numerous, and we will mention two which we would suggest to be tried, and give the dose:

1st. Creoline, given about 20 drops to each 100 lbs. of animal, repeated three times daily, dissolved in sloppy food.

2nd. Hydro (ore) sol, given in doses of 30 drops to each 100 lbs. of animal, twice or three times daily, dissolved in sloppy food, repeated for a period of say ten or fifteen days, or until some decided result is noticed.

The latter is the newer preparation which is described as an excellent antiseptic, germicide and insecticide. The solution recommended for internal treatment is about in the proportion of one teaspoonful hydro (ore) sol to about two quarts of water. If any reader has tested either of the above we would be pleased to learn the result, and at any rate would suggest a fair trial of both, more particularly the latter, though as a general policy we attach most importance to preventive measures.

#### To recapitulate:—

##### WORK FOR GOVERNMENT.

1. By inspection, personal oversight, quarantine, slaughter where necessary, confine infection to and exterminate disease from present points.
2. Bacterial investigation.
3. Inspection of cars and hogs at ports of entry.

##### FOR LOCAL BOARDS OF HEALTH.

1. Enforcement of strict sanitary regulation on farms, at railway stations, etc.

##### FOR HOG RAISERS.

1. Breed from healthy stock only.
2. Buy none but healthy stock from non-infected districts.
3. Discard exclusive corn-feeding and Western States methods.
4. Observe cleanliness, exercise and free use of charcoal, sulphur, salt and antiseptics.
5. Prevention rather than cure.

#### Should Calves be Turned Out?

The practice of keeping calves housed the first summer of their lives is becoming more and more general each year among progressive dairymen and beef raisers. Those who are endeavoring to find profit in either of those branches of stock raising are finding out that protection from heat, flies, and dried pasture is about the cheapest and most effective plan to adopt. No doubt one principal reason why more calves are not housed is that it would involve a certain amount of regular labor in the shape of "chores" which so many object to in the summer season; but unless we take a lively, practical, and self-sacrificing interest in our business in these times we cannot hope to reach the goal of greater profits in our business. The wide-awake and enterprising competitors who do things because they should be done and not draw the line at a point where an undertaking adds to or takes from a little of present personal comfort are the ones that wear the hopeful expression to-day and declare that the times are mending.

There is no question in the minds of those who have tried both plans but that indoor summering has great advantages over pasturing after the third week in June. So far as turning the calves out a few weeks on the fresh pasture before the heat and flies become harmful is concerned, there can be no great disadvantage, provided the calves are not less

than six or seven weeks old and the pasture is abundant and of good quality. Perfect liberty at this time, along with fresh grass or clover, skim milk, and a lick of oat chop, oil cake, or the like, will start the youngsters in the way to be profitable feed consumers. So long as these favorable conditions exist in the pasture lot there is no advantage in making changes, but when the time comes that a cool, dark stable and mown clover or oats and tares would give the calves greater comfort just as that time should such conditions be administered. This is more particularly applicable to calves that are to become beefers, because we want to sell for money some time in the future every pound of gain our feed has made and not allow any of it to be lost after being once beneath the skin. With dairy calves rapid development, when of a muscular character, is very important. A stunted animal is always much less profitable than it would have been had its growth been continuous, because its digestion will be stronger and it will become a larger, better-looking beast, with greater capacity for service.

When calves have shade trees or a cool stable to protect them so that they may avail themselves of their shelter as they desire, they need not be shut up in a house as early as if these conditions were not present. The only guide should be the evident need of the calves for a change in order to give them the greatest opportunity to grow and gain rapidly. A roomy box stall, having awnings of coarse sacking or the like, is a desirable place so long as it is kept clean and dry. A comfortable place to lie down is as desirable in summer as in winter, and pure air is equally as important. Watering young calves from a pail once or twice a day is not the best practice. Feeders who have fresh water always before their stock claim a great advantage for the convenience. We would advocate turning them out to graze at nights during the whole summer if practicable.

The sort of feed to use is not hard to determine. Green clover, oats and tares, then clover again succeeded by corn and clover hay will follow in succession and answer well. There is no better grain for calves than ground oats, bran, and oil cake. A small quantity will do a dairy calf, but an animal to be sold for beef should profitably consume a liberal supply. It is more profitable to sell a finished two-year-old than to keep him another year. The food of a year of support is worth money and we should seek as much as possible a return for the same.

We would not have it understood that calves should be fed without milk during their first summer. Six months old is young enough to wean calves off milk, and it should invariably be given lukewarm. Direct from the separator is the finest way, but if heated by adding a little oil-meal porridge the effect will be as satisfactory. No rule can be given for quantity, calves differ so much in size and food requirements. Judgment must be used, the feeding effect observed, and the calf given enough to thrive and be active, but not too much. More calves suffer from overfeeding of milk than a scant supply. Keep the calf a little hungry and eager for more rather than fill it to dulness. The endeavor should be to prevent the beginning of indigestion, which leads to scouring and perhaps to fatal diarrhoea. Nothing causes indigestion sooner than overfeeding or irregularity in the quantity, time and temperature of the milk, especially while the calf is young. Cleanliness about the feeding vessel, with frequent scalding, is a healthful practice. We believe there is a great advantage in keeping calves separate while drinking and for a half hour afterwards to prevent sucking. If gritting the teeth or other symptoms of indigestion appear, a little lime water in the milk or a little baking soda will usually prove a correction.

A point to keep in view is that the digestive apparatus needs to be developed and become accustomed to working up large quantities of food. A big belly may result, but no matter. If accompanied with a well-sprung rib, a strong back and loin, depth of flank, and other marks of constitutional vigor, a big belly is to be desired, indicating capacity as a feeder and user of feeds. Long forage fodder or roughage will answer the purpose of stomach development both in capacity and power. For the dairy a fall calf, well bred and healthfully grown, should "come in" when just about two years old, while a beef-bred steer similarly developed should be ready for the block from thirty to thirty-six months old.

#### Where Are the Herefords?

To the Editor FARMER'S ADVOCATE:

SIR,—In the ADVOCATE of May 1st I find an article, signed Thos. C. Ponting, on "Herefords on the Range." After reading said article I turned over to your advertising columns to see who the breeders of this particular stock were in this country. You can imagine my surprise when I could not find one. How is this? Are there no Hereford breeders in Manitoba, or are they such a valuable stock that the owners wish to keep all they have got, and therefore do not want their neighbors to know anything about them or that they have got them? If you know of any of these secret fellows would you kindly give me the names of a few of them in your next issue, and oblige. Langford, Man. Yours truly, J. R.

[Hereford breeders would do well to note the above and not hide their light under a bushel.—EDITOR.]

#### Harness Horse Breeding.

In seeking to breed any type of horse we require to get well fixed in our minds the object of our desire. If our fancy is for a ten-mile-an-hour roadster we would not seek the blood of sensational knee-actors, however beautiful; nor would we cross the business road mare possessing fast speed but low action with the high-stepper with the idea of getting the park harness horse. The harness horse of the present day that is most sure to sell well is of the showy, cobby stamp, and, to use a horseman's phrase, "can go along some," though with the fashion for heavier equipages the present tendency calls for a driver of good size and substance from 15.2 to 16 hands. It is impossible to divide harness horses into distinct breeds, for as a rule they are made up of many strains. The sire of the full-sized, 16-hand carriage horse may be Cleveland, German Coach, Yorkshire Coach, Thoroughbred, Standard-bred or Hackney, while the dam may be of the above breeds or some kind of half-bred with more than ordinary action.

For brougham, phaeton or dog cart work the Hackney blood is much in favor. A squarely built horse about 15.2 with good but not extravagant action, nothing can be more admirable. One must remember, however, that high-steppers are not calculated to perform long or tedious work; in fact, a horse will only show that proud style of going when he is feeling well and in good heart. This implies rather easy work and fairly generous keeping, which every one who has undertaken to fit a harness horse to sell understands fully.

To secure our horse to prepare for the market is what will concern us most for the next few years at least. We have attempted to describe what the salable harness horse should be, and to breed such we have a task not readily performed. Mares fit to produce the fashionable harness horse are not plentiful. Many that would have answered well have been disposed of. We have already remarked that more than ordinary action is essential. A low-going, slouching mare is likely to prove the law "like produces like," even though she be bred to a gamy knee-actor. Quality, especially about the head and neck, must be present in more than an ordinary degree; in fact, we want a strong, good looking, nice acting mare. If she has a dash of Thoroughbred about her to warm up her blood her chances of producing a seller are decidedly in her favor. A cross of Coach or Cleveland Bay will do no harm to her produce, provided she has the necessary snap and quality, and we have nothing to say against even a good deal of Standard-bred blood, provided that size, uniformity, and open, straight gait is hers. A mare that requires booting in order to preserve the skin on the other leg has no business in the carriage horse stud. Good limbs and feet, strong, sound joints need no support, as they are already appreciated by a horseman. A free but gentle disposition is as liable to be imparted to a son or daughter as any other characteristic. The same may be said of a vice. So far as color is concerned we need not hesitate to breed from any colored mare if she is otherwise all right. "A good horse has never a bad color." We see almost as many grays and chestnuts at the horse shows as any other colors, and they seem to sell as readily as the most handsome bay or brown.

So far as the sire is concerned we need to be governed in the selection by the type of our mare. Too great length of leg and fineness of bone is best corrected by the use of a Hackney sire of the right sort. He will also give width, strength and draft power as well as action. Round, deep body, indicating endurance, added to action and shape, should be possessed by the harness-horse sire. What we need is quality, substance and action, and if we cannot be fairly sure of getting these as a result of breeding we had better not undertake the task. Occasionally a Thoroughbred of a suitable type can be found to mate well with certain heavy-bodied mares with good action. The same may be said of the Standard-bred class; but because a stallion has a number of offspring in the 30 list or can himself do a mile in sensational time it does not follow that his services are at all desirable in the stud when handsome harness stock is wanted. The finest carriage and coach stallions possessing good action are the proper sort, but we must not forget that warm blood and quality must be present in whatever is used if the results are to be at all satisfactory. One of our staff has at present a mare in the breeding stud from which it is expected the offspring will sell well when mature. She was sired by an imported Thoroughbred stallion, Toppallant. Her dam was by a Cleveland Bay stallion and out of an imported Irish Thoroughbred mare. Last year the young mare had a filly from the world-renowned Hackney stallion Banquo, and recently another foal from Banquo's sire, Jubilee Chief. This is what we consider almost ideal breeding for harness stock. It is expected considerable work and waiting will be necessary before the market will be reached, but if good figures are not realized we shall be much disappointed.

In the breeding of any stock, but more particularly in that of horses, the commonplace animal should be avoided. Whenever a shortage of this sort occurs the market can readily turn to the ranches for a supply, and secure them at not a big figure. We must seek to keep above the average in quality if we are not going to be satisfied with average or lower prices.

Echoe have no and doub dissenior readers. tuted in Stud Bo first mee should b should b Martin, Glasgow late Mr. no object stud boe be a cord himself s ors of th of found his inter of the br that Mr. founding nary me tended th the Socie council. Mr. Dre nated, b was fou not theu reasons f some tin out that were op stud boe the mem in April, letter in he practi mast as whole n found pr later wh some o called th Book or was exar and not early in spasmod to have 1888. V opinion antagon second p has nev In 1879 due to th to the S was not 1877 he he then tion of could h However is no do on the ago wa perenni dale Ho minority issue of Society large n mares l Book. duce of reputed were o The gr sprang caused dales, not, the ma largely those w tically but de Registe many o were us still the ing off the syst person the iss strengt what m Mr. Dr The their a within rules w nature there o of anir possibl than s not ru regula the ca adapte requisi

**Our Scottish Letter.**

**CLYDESDALE REGISTRATION.**

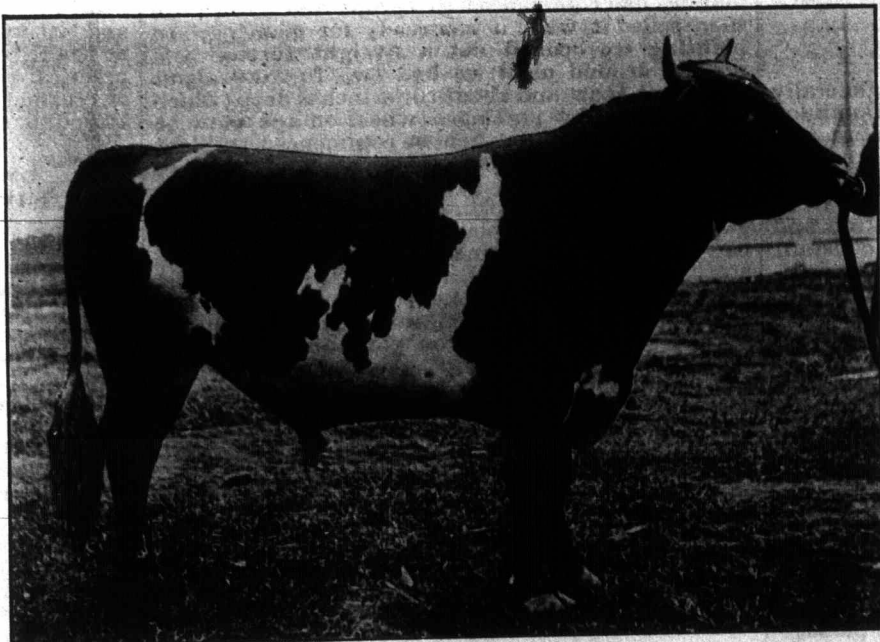
Echoes of a controversy in the Clydesdale world have no doubt reached the Dominion of Canada, and doubtless some indication of the causes of the dissension may not be without interest to your readers. The Clydesdale Horse Society was instituted in June, 1877, and the first volume of the Stud Book was issued in December, 1878. The first meeting to consider whether such a society should be formed was summoned by Mr. John M. Martin, of Auchendennan, and was held in Glasgow in February, 1877. At that meeting the late Mr. Lawrence Drew was present and offered no objection to the proposal to found a society and stud book, but with the others was understood to be a cordial supporter. A few years earlier he had himself seconded a motion, at the meeting of directors of the Glasgow Agricultural Society, in favor of founding a stud book for Clydesdale horses, and his interests were bound up with the advancement of the breed. Hence, there was every expectation that Mr. Drew would be one of the foremost in founding the book. It was agreed at the preliminary meeting above referred to that all who attended the second meeting would be held as joining the Society, and be eligible for seats on the first council. There was a universal expectation that Mr. Drew would be one of the number so nominated, but when the second meeting convened it was found that Mr. Drew was absent, and he could not therefore be elected as a councilman. The reasons for his absence did not become known for some time, but it gradually leaked out that he and Mr. David Riddell were opposed to the formation of a stud book on the lines laid down in the memorandum of Association, and in April, 1879, Mr. Drew published a letter in the Glasgow Herald in which he practically nailed his colors to the mast as an active opponent of the whole movement, which policy found practical expression four years later when he and Mr. Riddell, with some others, instituted what they called the "select" Clydesdale Stud Book or Register, the basis of which was examination for individual merit and not pedigree. Mr. Drew died early in 1884, and after a somewhat spasmodic career the "Select" ceased to have any visible existence after 1888. Why Mr. Drew altered his opinion and adopted a policy of antagonism between the first and second preliminary meetings in 1877 has never been publicly avowed. In 1879 he said his objections were due to the standard of admission into the Stud Book; but the standard was not fixed when in the spring of 1877 he altered his tactics, and had he then adhered to his original intention of going with the others he could have dictated his own terms. However it may be explained, there is no doubt that the change of policy on the part of Mr. Drew 20 years ago was the primary cause of the perennial conflict between the Clydesdale Horse Society and the opposing minority. In practical working, the issue of Mr. Drew's absence from the Society was the exclusion of a very large number of the horses and mares bred by him from the Stud Book. Many of these were the produce of Prince of Wales 673 and reputed Shire mares, while others were of unacknowledged lineage. The great foreign demand which sprang up in the years from 1881-91 caused the great majority of breeders of Clydesdales, whether adherents of Mr. Drew's cult or not, to join the Clydesdale Horse Society, but the management of the Society continued to be largely in the hands of the original founders or those who endorsed their policy, which was practically this—to exclude as much as possible all but demonstrated Clydesdale blood from the Register. Mr. Drew was an extensive breeder and many of his horses had great individual merit. These were used by some breeders, sparingly perhaps, but still they were used, and gradually with the slackening off in the foreign demand, and an alteration of the system of electing the council, a change in the personnel of the management was brought about, the issue of which was an inevitable trial of strength between parties, or a renewal in a somewhat modified form of the old battle initiated by Mr. Drew in his letter published in April, 1879.

The occasion of the conflict arose thus: In their anxiety to keep the breeding of Clydesdales within restricted limits, the old council adopted rules which placed new crosses on stock faster than nature could breed the crosses. Consequently there came in a short time to be quite a number of animals outside of the Register, with as much or possibly even more Clydesdale blood in their veins than some that were inside, but their pedigrees did not run in the usual orthodox fashion—with a regular record tracing through the dams. To meet the case of such as far as possible the council adopted a system of registered animals having the requisite proportion of recognized Clydesdale blood,

although their pedigrees might not trace in quite as uniform a style as those in the Shorthorn Herd Book. In other words, all animals were registered if they had seven-eighths Clydesdale blood, even although their sires were not eligible for registration. It was always recognized that this was at best a temporary expedient, and in 1892 a resolution was unanimously agreed to that no horse foaled after 1893 would qualify stock for registration unless he was himself registered. For practical purposes this rule came into force this year; and as matters have fallen out, it will come into force, but not with quite the same results as was intended when it was passed in 1892. The Society has a very large membership, but from reasons which admit of easy explanation, but on which we need not linger, it has rather an inadequate revenue. This has occasioned much anxiety to those responsible for its management, and in 1896 a special committee was appointed to consider the financial position and look around for ways and means to increase revenue. This committee recommended, amongst other things, that the above quoted rule passed in 1892 should be rescinded; in other words, that the system of using unregistered sires should be adhered to indefinitely. Over this proposal the battle raged, and feeling ran pretty high. Eventually matters cooled down a little—a spirit of compromise was abroad—the new council was about evenly balanced; and to make a long story short, a compromise was effected with which all parties expressed themselves as satisfied. Briefly it means that the rules have been cast on the parallel of

another. They should have access to water and salt at all times. Late in the summer or early in the fall is the critical time in the sheep business, because it is the weaning time, when our lambs should receive no setback. When the cold rains of the fall come be careful to house your sheep. Don't allow them to depend on the frozen grasses of the fall; if you do the wool will stop its growth, and the next season you will find a weak place in that wool, and the fleeces will run from two to four pounds less than if you keep them in good shape, and they will not be as well and strong as if properly fed. In the winter be sure that you have a variety of feed of the proper kinds. Clover hay is excellent. Well-cured corn fodder or oat straw is good. Ensilage in many places is taking the place of roots, and giving good satisfaction when properly fed. In feeding hay or fodder use a rack, and don't give any more than will be eaten up pretty clean. Feed regularly. Give the flock plenty of exercise, especially the breeding ewes. Without exercise the lamb crop will not be satisfactory. In housing our sheep we don't want warm quarters for them. In building our sheep houses or barns there are two points to keep in view. One is to have them well ventilated, and another is to have them free from drafts so the wind does not blow in directly on the flock. It is all right to have it open on one side. Have it so plenty of sunshine can get into it, facing the south if possible. I believe ticks are costing sheep breeders thousands of dollars every year.—By Geo. E. McKerrow, Supt. Wisconsin Farmers' Institutes.

**A Superior Ayrshire Bull.**



GALLANT CHIEF 6816.

OWNED BY J. G. CLARK, OTTAWA, ONT.

This excellent animal was bred by James Rae Sherriffs, Clarence, Ont., and sired by Pendleton 3222, a grand type of an Ayrshire bull, full of vigor up to a ripe old age. He was sired by imported Knockdon 1512, and out of imported Lady Gray 514. Gallant Chief had a most excellent dam in conformation and performing powers. This is why he was chosen to head Mr. Clark's fine herd of pure-breds and grades. Of the former there are few better, while the excellence of the latter was proved at the last Ottawa exhibition by winning the best prizes in the best grade dairy cow class we ever saw together. Mr. Clark is highly pleased with the stock from Gallant Chief, which we might be sure of when he retains him in so valuable a herd.

those of the Shire Horse Society, only a shade more stringent as becomes a senior organization. The minimum standard for horses or mares foaled after 1889 is three registered crosses. Horses or mares foaled before 1890 must have two registered crosses, and thus no animal can be registered except it has a registered sire. There will be a few exceptions to these rules, as the council does not intend to disqualify any animal which might have been registered in Volume XIX., but the general standard is simplicity itself, and a widespread desire exists for unanimity amongst Clydesdale breeders, and the starting of a fresh crusade in favor of their own breed. "SCOTLAND YET."

**Science in Handling Sheep.**

"We get the most profit if we sell our sheep before they are a year old. If I were starting to breed with the object of mutton production in view, I would not go to some breeder and pay him \$30 and \$40 per head for pure-bred registered ewes. I would start with the best common ewes I could buy in the country at a reasonable price, and with a good pure-bred sire would raise up a flock in a few years which would be just as good for practical purposes as pure-breds, but you must start in with a clear idea of the line you intend to follow. In caring for our sheep we must use judgment coupled with liberal feeding. In the summer they must have plenty of pasture, which will be best not to be over one and a half or two inches high, and the flock should be changed often from one pasture to

another. They should have access to water and salt at all times. Late in the summer or early in the fall is the critical time in the sheep business, because it is the weaning time, when our lambs should receive no setback. When the cold rains of the fall come be careful to house your sheep. Don't allow them to depend on the frozen grasses of the fall; if you do the wool will stop its growth, and the next season you will find a weak place in that wool, and the fleeces will run from two to four pounds less than if you keep them in good shape, and they will not be as well and strong as if properly fed. In the winter be sure that you have a variety of feed of the proper kinds. Clover hay is excellent. Well-cured corn fodder or oat straw is good. Ensilage in many places is taking the place of roots, and giving good satisfaction when properly fed. In feeding hay or fodder use a rack, and don't give any more than will be eaten up pretty clean. Feed regularly. Give the flock plenty of exercise, especially the breeding ewes. Without exercise the lamb crop will not be satisfactory. In housing our sheep we don't want warm quarters for them. In building our sheep houses or barns there are two points to keep in view. One is to have them well ventilated, and another is to have them free from drafts so the wind does not blow in directly on the flock. It is all right to have it open on one side. Have it so plenty of sunshine can get into it, facing the south if possible. I believe ticks are costing sheep breeders thousands of dollars every year.—By Geo. E. McKerrow, Supt. Wisconsin Farmers' Institutes.

The prevailing opinion appears to be that foul air rises to the ceiling, and should be got rid of as quickly as possible. This I have tried to show is not the case, and that, in the winter months at least, instead of allowing this heated air to escape, every principle of economy in feeding demands that it be retained.

I have made this letter as short as the subject in hand would permit of, with the hope of getting the views of others on this very important branch of sanitary engineering. R. BALFOUR, N. Westminster, B. C.

[NOTE.—As our correspondent says, carbonic acid gas is heavier than air—two and a half times, we believe—but he apparently overlooks entirely the operation of the law of the diffusion of gases, which, with the heating of the stable air, etc., when well filled with cattle, makes the solution of this problem rather a different matter. We have recently given the experience of several stockmen who have tried plans different from what Mr. Balfour suggests, with very satisfactory results.—EDITOR.]

Let us farm-dwellers be content at least until we have evidence that the living of the man in the city is as abundant and secure as is ours, and that nature's donations to him exceed that to us.—Aurora in N. Y. Tribune.

**FARM.**

**Stable Ventilation.**

To the Editor FARMER'S ADVOCATE:

SIR.—This subject is generally understood to mean the purification of the air and the regulating of the temperature within the stable. In designing any system of ventilation it is necessary to understand the properties of the atmosphere to be dealt with, viz.: (a) Air heated by contact with the bodies of animals or otherwise increases in volume and rises above the colder air; for this reason the air at the ceiling of any room is always warmer than that nearer the floor; (b) air which has become charged with carbonic acid gas is heavier than pure cold air. Bearing these facts in mind it becomes a simple matter to provide proper facilities for purifying the air of a stable and keeping it pure. In the first place means must be provided for draining off the impure air charged with carbon dioxide or carbonic acid gas at the floor level. Next, provide for a supply of fresh air, which, being heavier than the warm air inside, will sink below it, but not below the carbonic gas. Then provide for the regulation of the temperature by the retention or discharge of the heated air near the ceiling.

The above is a statement of the general principles involved, and will admit of many different plans in detail, different local conditions, existing buildings, etc., etc., requiring different treatment. No doubt in many cases a very small outlay would make the present ventilating plans conform to these principles; for instance, in the case of your two correspondents on page 151, they can very cheaply drain off the carbonic gas at the floor and put a damper in the so-called "foul air" pipe, and thus retain a large amount of heat (i. e., feed) now lost, and have a much healthier stable than heretofore.

**Recommendations in Lucerne Growing.**

While lucerne is being opposed by many farmers who have had little or nothing to do with it, we find those who have given it a good trial and adapted their practice to suit its requirements consider it a great boon to stock feeders. Lucerne for hay must be cut early, just as it is coming into bloom. If left till the fibers become tough it is about as difficult to digest as hemp; but knowing this, we have it in our power to avoid any danger from such a source. No doubt a great many of our readers are just commencing to grow it, and the object of these remarks is to assist such men in commencing right.

Some have advocated growing lucerne without a "nurse crop," but unless ground is both rich and clean the practice will no doubt be disappointing, as it is likely to become quite weedy the early part of the first season. Frequent cutting in such cases would be necessary in order to prevent the weeds from seeding or from gaining supremacy in the competition. Lucerne and other clovers make rapid growth after cutting, and on account of most of our weeds being annuals, or are largely destroyed by cutting, there is usually little difficulty in holding them in check by this process until the clover has gained complete possession, providing the seeding has been heavy enough and the stand even enough to completely occupy the soil. The secret of clean pastures and meadows consists in having plenty of grass or clover, or both. Weeds merely occupy the land that is not properly utilized, and their presence indicates a weakness in the prevailing system of agriculture.

On no account should lucerne be pastured the first season if seeded alone, or the second season if seeded with a grain crop. The reason is that the plant does not for a couple of seasons get a firm hold in the soil, and there is a liability of its becoming pulled up and thus destroyed.

**Farm Work for June.**

In a system of mixed farming, such as generally prevails in the older provinces of the Dominion especially, the work of the farm is fortunately varied in the summer months to suit the needs of the season. It is important that each season's work be attended to at the proper time so as to give to each crop the necessary cultivation and care, and thus to avoid the checks to the constant improvement of the crops which will most assuredly be experienced if the proper attention be not given at the proper time. The crops which require special attention during the month of June are corn and roots. Corn, we take it, has been planted or sown during the last fortnight in May and first week in June if the land was in suitable condition and the weather such as to allow the work to proceed properly. If the conditions were not favorable it was better to postpone planting until such time as the land could be worked satisfactorily, but if greatly delayed it is a question whether it would not be wise to sow an earlier-maturing variety than was intended had the seeding been done earlier. In successful corn growing very much depends upon the early cultivation after sowing to keep down weed growth, to admit the free passage of air to the soil, and to conserve moisture. It is well to have the land well firmed by rolling both before and after planting, but the harrow should immediately follow the latter rolling, so that a rolled surface may not at any time be exposed more than a day or two to either sun or rain without being again harrowed. The harrowing not only destroys the weeds which have sprouted but disposes of them at a period when they can do least harm. It also promotes the growth of the corn plants by loosening the earth around them, gives the air free access to the land and prevents the evaporation of moisture, all of which processes stimulate the crop to rapid and healthy growth. One of the mistakes the beginner in corn sowing and culture is liable to make is to get it too thick for the best results, and the harrowing process is likely to be harrowing to his feelings when he sees a large proportion of his healthy plants destroyed, but if he has sown the seed thicker than one peck to the acre and it has all grown he can better afford to cut out a goodly proportion of the plants than allow them to remain, for not only are the stalks less valuable as fodder when the plants are too close but the ears cannot develop and mature so as to produce the greatest amount of valuable food for stock. The first prize acre of corn in a competition in the U. S. last year yielded 146 bushels of shelled corn. It was planted in hills 3 feet 4 inches apart each way and four kernels in a hill. Mr. Rennie, Farm Superintendent of the Agricultural College, Guelph, Ont., in his report of the farm work for last year says: "The corn was sown with the ordinary grain drill having all the tubes stopped but two, and so set that the rows were 42 inches apart. Twelve pounds of seed per acre was sown, which may seem to be a thin sowing; but we prefer to have it so, since it produces a better quality of corn for ensilage." The common practice, we believe, is to sow about one half bushel per acre, and when that is done, if the seed has germinated properly, the plants will be sufficiently thick to stand harrowing two or three times, and then if they are too thick it will pay well to cut out with a hand hoe to at least eight inches apart, which is the distance which has given the best average results for ensilage corn in several experimental tests. Cultivation should be continued and repeated at least once a week if the land is not too

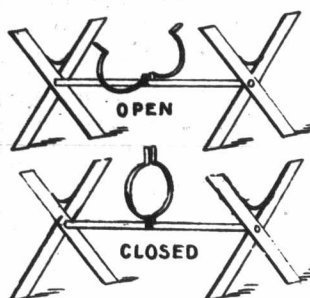
wet. The cultivation should be comparatively deep at first and shallower as the season advances to avoid cutting off the fibrous roots thrown out by the plants. After every shower of rain as soon as the land is dried off so that it will not stick the horse hoe or cultivator should be used to break up the surface and move the soil, thus conserving moisture.

The cultivation which roots require is generally well understood and differs from that required for corn only in that the harrow cannot be safely used. Frequent stirring of the soil is of prime importance, and the checking of weeds while young should never be neglected, as they are more difficult to manage when grown older, and they rob the soil of moisture and fertility that should go to the support of the crop. Thinning or singling is the first operation, the preliminary part of which is narrowing or cutting down the drills with a suitable implement. Singling should not begin till the second or permanent leaf has been well formed, and plants left at a distance of from 10 to 12 inches apart, except in the case of carrots, which require to be left nearer together.

**"How We Managed Our Corn Crop."**

To the Editor FARMER'S ADVOCATE:

SIR,—In the first place we prepared the land the summer previous by plowing a piece of meadow land after the hay was cut very shallow and harrow it occasionally during the summer, then later in the fall we plow it pretty deeply for the winter snow and frost to act upon. In the spring we gave it a dressing of about twelve loads of manure to the acre, which we worked in with the gang plow about four inches deep and harrowed it well; then let it stand until time for planting, about the 5th of June, by which time what seeds were in the land or manure had commenced to sprout and grow; we then rolled it, when it was ready for planting. In planting we opened out a straight furrow and plowed around until we had two furrows about three feet apart and about three inches deep (which can be done by putting a wheel on the plow to regulate the depth); then we commenced to plant by dropping four or five kernels about eighteen or twenty inches apart in the row, which we cover with the plow, and plant every third furrow. A good smart boy can plant it almost as fast as one can plow, as he commences to plant as soon as you start to open the drill, and before you can get around twice, which it takes to open and cover the seed, he can get around once and have it planted; he can then rest while you plow another round, when he is ready to follow again; by this way two can plant about one and one-half acres a day, and the land is in the best shape for the corn to start, and you save a great deal of hoeing by the plowing. After the corn is up it may be harrowed, which will loosen the soil and kill weeds. After the rows of corn show plainly, we use the scuffler as often well on in the season as we have time, which retains moisture, always going up one row and down the other, and every time working the same way and hand hoeing the space between the hills. It is all right now until time for cutting.



We have not a silo, therefore have to save it in the shock. We cut with the sickle, laying it in sheaves and in rows. We let it lie for three or four days; we then tie it up in sheaves, and by using a contrivance like the accompanying sketch it can be done much easier and quicker; it is made like an ordinary sawhorse, with a strong piece connecting the two ends, in center of which place irons for squeezing the corn up tight, which any blacksmith can make. Mine cost twenty-five cents, and you can make the horse yourself. It should be made to hold a sheaf eight or nine inches through, as larger than that is too heavy to handle if the corn is very tall. Two of us tied an acre in one day, which produced twelve loads; we used binding twine. We pick up the corn and lay it lengthwise on the horse; one of us takes the iron handles, one in each hand, and putting the knee on the corn, bring the handles together or past each other; it can be pressed together much tighter and easier than any other way I know of, and held while the other brings the twine around and ties it (the sheaves need not be all of one size). We then stook it in the ordinary way. I think it pays to tie it, as you can handle it much quicker, and it does not take up nearly so much room as when loose. Last fall we left it out until the beginning of November, when we drew it in, standing it up on end any place where we could find room. It should be moved once or twice during winter to keep from settling sidewise, and to keep mice from working in it. Some of ours spoiled by settling over, but what stood upright kept beautifully. We cut it together with a quantity of straw, which the stock appear to relish very much. We planted half of our crop with Southern Sweet, the other half with Mammoth Cuban or Cuban Giant. The Southern Sweet matured well, producing a good crop of stalks and leaves, together with well-matured ears. The Giant grew about two feet taller (about twelve feet); good stalks and leaves, but no ears; it seemed to be two weeks later than the other, and not so

well matured, as both were planted the same day. We had a very early frost, which froze the outside rows and tops of the whole crop, which spoilt it a great deal, therefore we must try and have it matured early and cut before there is danger of frost striking it, as it is one of our best fodder crops. Huron Co., Ont. JAMES HAYDEN.

**DAIRY.**

**Perfumed Butter.**

Perfumed butter on the dinner table is the latest fad of some wealthy people in London, Eng. The dairies where this butter is made are as odoriferous as a florist's shop or the laboratory of a perfumer. In the first place, the butter is made in small pats like those in ordinary use. Each pat is wrapped in a bit of fine muslin and placed on a bed of rose leaves specially prepared in an earthen jar. On top another layer of the fresh and delicate rose leaves is placed before the jar is filled with a solid chunk of ice. Then the jar is placed in a refrigerator and allowed to remain there for ten hours, when the pats are ready for the customer.—*Farmer and Stock Breeder.*

**Superintendent of Dairying in the N.-W. T.**

Mr. J. A. Kinsella has been appointed superintendent in charge of all the Government creameries in the Northwest Territories. Since his appointment he has been attending to the completion of buildings, installing plants, etc., and anticipates having them all fully equipped and in operation by the middle of June. Mr. Kinsella is a thoroughly competent young man for the position. He has been superintendent for seven years of the large combination of over sixty butter and cheese factories owned by D. M. Macpherson, M. P. P., Glengarry, and last winter he was instructor in buttermaking at the Kingston Dairy School. He has a thorough practical knowledge of the building and equipment of creameries, is a worker, and has a reputation of attending strictly to business.

**Loss of Fat in Cheesemaking.**

To the Editor FARMER'S ADVOCATE:

SIR,—We have had many enquiries this spring regarding "greasy" curds and loss of fat in pressing cheese. The main causes for these are:  
1. Milk which is two or three days old when delivered at factory. Many factories started up by hauling twice or thrice a week. Old milk is more likely to give "greasy" curds and loss of fat in pressing.  
2. The milk supplied to our cheese factories has a tendency to increase in richness or fat percentage since the introduction of "paying for milk according to quality." Such rich milk our makers have not yet learned to handle in the best manner.

**REMEDIES.**

1. Have milk delivered every day if possible.
2. Instruct patrons to keep the cream down and mixed with the milk by stirring and aerating.
3. Set vats as soon as possible or as soon as milk is ripe enough. A judicious use of a good "starter" will prevent delay in setting, which nearly always means loss of cream and butter-fat.
4. Cook to a higher temperature than usual—about 100°.
5. Keep curds at a lower temperature after milling and mill early (3/4 to 1 inch of acid on hot iron). Use knife mills. Peg mills are great wasters of butter-fat.
6. Salt earlier than usual by half an hour, and allow curds to stand three quarters to one hour in the salt before putting to press. Curds from rich milk may be salted heavier than usual by one quarter to one half pound per 1,000 pounds milk or 100 pounds curd.
7. Cool to 75° to 80° before putting to press.
8. Apply pressure gently at first.

H. H. DEAN.

**Pasteurization.**

To the Editor FARMER'S ADVOCATE:

SIR,—The subject is a rather difficult one to treat in a short letter. Let us first consider the theory of pasteurization. The ideal milk for consumption is perfectly sterile; that is, free from all forms of bacterial life. The sources of infection are so numerous and the difficulty of getting milk free from germs so great that this may be said to be impossible. It is only after the milk has been secured in some suitable vessel that it can be sterilized. But sterilized milk has a cooked or boiled flavor, and this spoils it for most purposes. Milk begins to take on the boiled flavor at anything over 158 degrees Fahr. Even at this temperature there is a slightly cooked flavor, but it passes off on cooling. Now it has been demonstrated, principally by Pasteur (hence the name), that most of the injurious bacteria as well as the lactic acid bacilli are destroyed at 158 degrees. The bacillus of tuberculosis is said to be killed if kept 15 or 20 minutes at 150 to 158 degrees. Diphtheria bacilli are not so resistant, therefore they also will be killed. In fact, nearly all the known pathogenic germs are destroyed if treated as above. It must not be forgotten that the milk must be cooled to a point 60 degrees or lower as soon as possible after heating and kept in sealed vessels to protect it from further contamination. As to the methods that may be employed to carry this out much depends upon the quantity of milk to be treated. For a few gallons, it may be

heated in a boiler of water on the stove. The water surrounding the milk should never be allowed to go much above 160 degrees or else some part of the milk or cream would be overheated. It must be stirred vigorously while heating is in progress. For a large quantity of milk there are machines on the market which, I believe, work very well. Cornish, Curtis & Greene, of Fort Atkinson, Wis., make a very good one. The following points should be observed:

- (1) The milk should be treated as soon as possible after milking.
- (2) The work should be done in a place where the air is pure and free from all dust. Dust is one great source of infection. Every particle may carry hundreds of germs.
- (3) The milk must be heated to 158 degrees, but not higher.
- (4) It should remain at that temperature for at least 15 minutes, and then be cooled quickly to 60 degrees or under. The milk must be constantly and vigorously stirred while heating if the water surrounding the milk is much warmer than 158 degrees.
- (5) All vessels coming in contact with the milk must be steam sterilized just before using.
- (6) No person should undertake to carry on such work without having a good knowledge of the principles underlying the work.

J. A. RUDDICK,  
Supt. Kingston Dairy School.

**Advantage of Thorough Milking.**

An experiment reported by Buerstenbinder shows the influence of the process of milking upon the production of milk.

Five cows were milked for a fortnight by a milker, A, in the usual manner, no instructions being given him as to the exercise of more than his ordinary skill.

During the following fortnight the same cows, which were fed in exactly the same manner, were handed over to another milker, who was cautioned as to the necessity for obtaining every drop of milk possible. The following were the results obtained:—

	A.	B.	Increase.
	lb.	lb.	lb.
Cow No. 1.....	141	170	29
Cow No. 2.....	152	227	75
Cow No. 3.....	219	303	83
Cow No. 4.....	177	190	13
Cow No. 5.....	176	222	46

This example shows how important it is that the udder should be milked clean out.

It is also important that the milking process should be performed expeditiously, for the more quickly the udder is emptied the better will be the result, especially as regards the richness of the milk in butter-fat.

According to another experiment which was carried out on nine cows for twenty-two days, a very rapid milking increased the percentage of fat by 17.73.

Other reasons showing the importance of thorough milking are that the milk which is first drawn from the udder is comparatively watery, while that obtained last is very rich in fat. Incomplete milking tends to diminish the milking habit, and may spoil the best of cows.

**POULTRY.**

**Poultry on the Farm in Summer.**

BY JNO. J. LENTON, VT., U. S.

Most of the young stock should now be hatched out. Late broods never pay. "The early bird catches the worm" is true every time. But raising the chicks and rushing them through for their intended use may be two different things. Don't be satisfied with having the youngsters "just growned," as Topsy did. This is a fast age, and you must rush with the others or expect to be left away behind. Early hatched chicks always bring by far the better prices. They make faster growth during these glorious spring months, and are, or should be, in the market before the very hot weather makes it uncomfortable for many together. Early pullets make your winter layers, and it is the winter eggs that bring the high prices you read about but seldom secure yourself.

But it is summer now, and a farmer's fowls do not require a great deal of care. The first thing to do is to thoroughly clean out your henhouse and give it a good coat of lime-wash. You can't be too clean with any and all kinds of poultry. Eggs are cheap now, your young stock must not be overcrowded, so market some of your oldest and least profitable hens. Prices for them will be better now, too, than when the young stock become more plentiful later in the season. The young cockerels should also find a market when they weigh a pound and a half or over. They usually pay best to be sold at this small weight as broilers. Your early pullets, though, should be retained for winter layers.

Chicks.—Feeding is reduced to a minimum on a farm in summer when the fowls have all the range they wish and pick up nearly all they want in the shape of insects, small seeds, and green stuff. However, they should be given all the wheat they will eat every night. This is for the old fowls. The young chicks over six weeks old will need feeding at least in the morning and at night, when a mixture of one-half whole wheat and the other half cracked corn will be about as good as anything. Younger ones will need feeding oftener, when shorts moistened with milk or water, milk curd,

potatoes, and other nice bits should be added to the wheat-corn mixture. Always have plenty of clean water where they can get it at will. Shade is a very important necessity during hot summer days. If you have an orchard, that is just where they should be, for not only the shade, but you will find less wormy fruit where fowls have the range.

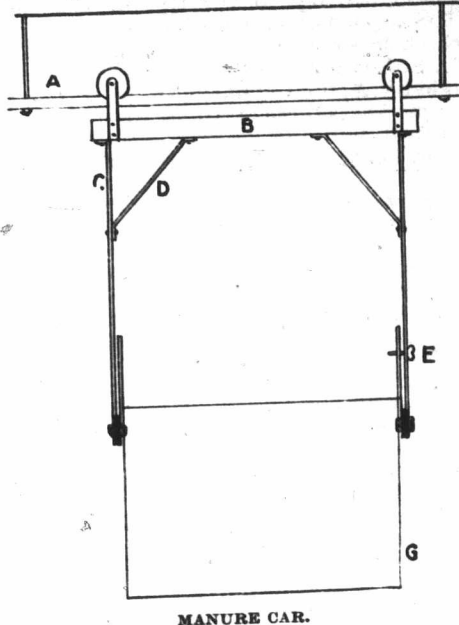
Turkeys.—In my opinion a farmer can't raise anything with more profit than turkeys, and yet you see less of them than any other kind of fowls. Inquire the reason and the answer almost invariably is that they are so much trouble and so hard to rear when small. True, many do suffer severe losses, but nearly all can be traced to neglect in some form. In the first place it is usually the latter part of May and June before the young poults are hatched and this is the season when lice are anxious to claim all the victims possible. The time to kill lice on young turkeys, or in fact on anything, is before they are hatched. When you set your hen give her a thorough dusting with insect powder, and repeat three or four days before hatching and continue every fortnight until danger from this source is past. It is also well to grease the young poults very lightly on the head and under the wings. The feeding requires more care than with other chicks. In general feed no soggy, wet, sour food, but give that which is crumbly or easily digested. One of the best foods for small turkeys is milk curd mixed with a little bran. They also relish a custard made from eggs and milk, cooked, bread soaked in milk and squeezed dry, boiled potatoes, mashed; and as they get older the wheat-corn mixture proves a good thing. But above all give no meals, such as wheat, pea or corn meal mixed up, or you will surely kill them. Keep their mother confined until after hatching is over, when they can run, and then you will find they will require very little from your hands. But how they will grow, and as Xmas draws near you will be making inquiries where to invest the proceeds. The old turkeys require unlimited range and very little or no feed at all during the summer after the young ones are turned loose.

Ducks.—The more I have to do with ducks the more I am convinced that they are pure and unadulterated moneymakers. The first hatches should come off in March, and they can be hatched until July; but here again it is the early ones from which you will make the most money. They are the easiest reared of any fowl. They never are killed by lice or slight neglect. Bran and corn meal, one-half of each, is the best food you can give them from the egg to market. Of course beef scraps should be added for first-class results, and a feed of whole wheat is good for a change. It is not necessary they should have more water than only enough to drink. True they eat a lot, but they grow very fast. Their life should be a merry but a short one, for they should never live after they are ten weeks old. Keep them in large pens so that they won't run themselves poor. The old ducks will lay late into the summer. Plenty of water and exercise will not hurt them. Oh, yes, the poultry business, even as a branch of farming, is a mass of details, and attention to these small matters always results in handsome profits.

**THE HELPING HAND.**

**Stable Cleaning Car.**

A very practical contrivance was noticed by a member of the FARMER'S ADVOCATE staff on a recent trip to Mr. W. J. Duck's, Morpeth, Ont. It consists of a car for carrying the manure from behind the cattle and dumping it in the yard. The car is constructed of inch stuff, 4 feet long by 2 1/2 wide and a foot deep, and is suspended from the ceiling by a flat strip of iron on either end, hung by a bolt, so as to allow it to upset when a bolt for holding it in position is withdrawn. (As per cut.) The track upon which it is run is a 3 x 4 scantling,

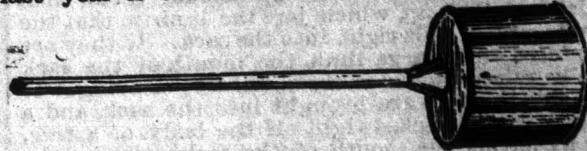


supported from the ceiling by rods every 8 feet. Upon this track runs a truck having four flanged wheels, two on either side, which are strapped on a 4 x 6 inch scantling to correspond in length with the manure box. Figure A represents the track, 3 x 4 inches, and as long as the stable and yard re-

quires. B is a piece of 4 x 6 inch stuff, with straps on either side and end to which the wheels are attached to rim as a hay-fork car. C are the irons upon which the box is hung. D is a brace. E is the pin which holds the box upright, and when withdrawn allows the contents to overbalance the box G, the manure being deposited at the proper place. The track may be run into the yard as far as is desired, and supported by a post on either side sufficiently wide to allow the car to pass. The track is bolted to a scantling running from the top of the posts. The invention was entirely original with Mr. Duck, and he has been using it for a number of years, and says it is a great labor-saving device.

**A Modern Milk Aerator.**

A milk aerator that has been much recommended at dairy meetings and conventions during the last year is similar to the one here represented.



It is of special value to cheese factory patrons to aerate the night's milk in the cans which are to stand till morning. It may be of any size desired so long as it can be easily shoved down into the can. Seven inches in diameter by six high and having a handle twenty inches long is convenient to use. It has several small holes around the bowl near the top.

It is shoved down quickly in the milk so that the air comes out the holes and passes up through the milk, carrying away odors. This should be done several times while the milk is warm from the cows. It is cheap, and easily washed, and much handier to operate and more effective than pouring.

**APIARY.**

**Swarming—A Swarm-Catcher.**

"In producing comb honey," says C. Davenport in the *American Bee Journal*, "instead of allowing natural swarming I prefer dividing, or artificial swarming, and I can by this means obtain better results with less work; but in order to do so, one has to thoroughly understand his locality in regard to the time and character of its honey-flows, as well as many things in regard to the bees themselves. On this account beginners and amateurs will probably have better success by allowing natural swarming, after taking due precaution to prevent it in the way of shade, ventilation, and surplus room.

"The principal objection to natural swarming is the trouble of watching for and hiving the swarms, and various have been the means and devices resorted to in order to avert this, probably the most successful of which are queen-traps and clipped queens; but neither one nor both overcome all the difficulty, for a swarm that has no queen with it will often alight, and after hanging for some time, instead of returning to its own hive, will frequently try to enter some other, or divide up and try to enter a number of others, the bees of which sometimes kill the entire swarm if the apiarist is not at hand to prevent it.

"For many years I allowed natural swarming, with hundreds of colonies, and I have had many and various experiences with swarms, but I never had a natural swarm issue and leave without first alighting and hanging for some time. I have had a great many swarms issue again a short time after they had been hived, and leave without alighting, but this is deserting instead of swarming. It is usually an easy matter to tell if a natural swarm intends to desert.

"When a natural swarm is hived, if it has a queen it is seldom it will desert the hive before the next day; at least I never knew one to do so; and early the next morning after they are hived, if they intend to stay they will be briskly at work, 'weather permitting.' On the other hand, if they intend to desert, but few bees, comparatively, will be moving in and out, and in a languid manner. In the latter case, if they are set in a dark cellar for 48 hours they will generally go to work briskly when set out again, and feel contented with the hive they are in. Sometimes less time in a cellar will suffice, although I cannot say from experience. If the colony was left in the yard, and the entrance and top of the hive closed with wire-cloth, so they would have plenty of ventilation, and left so until they had used up the honey in their honey-sacs, I believe it would answer as well as the cellar plan. Or, with such a swarm, if it has a laying queen and her wings are not clipped, an entrance-guard or queen-trap can be attached to the hive, which will prevent the loss of the swarm.

**"HOW TO MAKE A SWARM-CATCHER.**

"I will describe how to make a swarm-catcher, with which a swarm clustered 30 or 35 feet high can be hived nearly as quickly and easily as when near the ground. It requires only a short time to make one. The material, which is worth but a few cents, consists of a large bag made out of any kind of stout, coarse cloth—such a sack as binding-twine comes in is excellent. To hold the mouth of this sack open, a piece of smooth wire as large or a little larger than telegraph wire is used, which is



bent to a circle with the ends overlapping some inches, so that they can be tied together with small wire or stout cord. The mouth of the sack is then securely sewed round this wire hoop. A crotched stick, the prongs of which naturally or of their own accord stay as far or a little farther apart than the diameter of the wire hoop, is used, and with stout cord the end of each prong is tied to the wire hoop directly opposite each other, so that the sack swings free. Now the open mouth of the sack will always point upwards, no matter at what angle the pronged stick may be held. The stick below the prongs should be at least two feet long, so the small end of a long, light pole can be attached to it by allowing the two to overlap a couple of feet and binding them together with two short straps. Different length poles can be used, as they can be attached or detached in an instant.

"When a swarm is clustered on a small limb, the catcher can be raised up around them, then quickly raised up, which jars the limb so that the whole swarm falls right into the sack. If they are clustered on a large limb, the mouth of the sack can be raised up under them, then by moving it to one side the bees are brought into the sack, and a swarm can be picked right off the body of a tree, for by letting the mouth of the sack catch on the body of the tree below the bees, then gradually raising it up, the bees will be brushed in.

"Until tried, no one would believe from what apparently inaccessible places swarms can be secured with one of these, when rightly made."

[NOTE.—We have used this style of swarm-catcher in our apiary practice and found it most effective. If a swarm that repeatedly leaves the hives is kept imprisoned in this catcher for eight or twelve hours it will effectively cure the swarming impulse.—Ed. F. A.]

## VETERINARY.

### Making the Tuberculin Test.

Editorially in this issue of the FARMER'S ADVOCATE reference is made to the late conference at Ottawa on the subject of bovine tuberculosis and the tuberculin test, when, after discussion, an educational rather than a "slaughtering out" campaign was approved. Tuberculin, as a diagnostic agent, came in common use in America about five years ago. The latest publication on the subject to hand is from the pen of M. H. Reynolds, M.D., V. M., Veterinarian of the Minnesota State Experiment Station, from which we give a few points on the nature of tuberculin and the mode of conducting the test, which is an operation requiring skill and care:—

"Tuberculin, as usually seen in the West, is a thin straw-colored fluid, slightly more viscid than water. It is a chemical product from the germs themselves, and is made as follows: A certain kind of soup or broth is infected with the bacilli of tuberculosis which multiply in this soup until it has become highly charged with this germ product tuberculin. The whole fluid is then filtered through a porcelain filter and heated to kill any germs that might possibly have passed through a defective filter. The fluid is not only thus germ free but has been heated to a sterilizing temperature. It is obviously impossible to infect an animal by means of its hypodermic injection. Observation on thousands of tests shows that tuberculin is without appreciable effect upon the health of non-tuberculous cows, even when taken in large doses. And the results of our tuberculin experiment indicate that tuberculin has an effect favorable (curative) rather than otherwise on tuberculous cattle.

"How the Test is Made.—We take any number up to forty-five in one test. The time of the test is divided into two periods: (a) before injection, (b) after injection.

"During (a) the temperatures are taken at eight and ten a.m., two, four, six and eight p.m. The tuberculin is given by hypodermic injection at ten p.m. in doses of 1 c.c. or one-quarter dram for 500 lbs. live weight.

"During (b) temperatures are taken at six, eight, ten and twelve a.m., and two, four, six, eight, and sometimes ten p.m. The cattle are kept under the same conditions as nearly as possible on both days of the test; that is, watered at the same hours and fed at the same hours each day, given as nearly as possible the same amounts, and treated alike on the two days in every respect as nearly as possible.

"Making the Injection.—The hair is clipped over a space about four inches square just back of the shoulder blade and just below the spinal column. This spot is then disinfected by a solution of corrosive sublimate (1:1000). An assistant stands back of the cows holding a sort of tray, usually a short piece of board, upon which is placed a slender and deep vessel of some kind, holding half a pint of four per cent. carbolic acid solution with a little oakum or cotton in the bottom to protect the needle and knife points, two small graduated (one dram and one ounce), and a small bicycle lantern. In the four per cent. carbolic solution there is placed a slender bladed knife with a piece of cob upon the blade, allowing the point to project about half an inch, and a common veterinary hypodermic syringe, medium size preferred, although almost any kind may be used. The operator takes the lantern, loaded syringe in one hand and knife in the other, makes a quick puncture through the skin with the knife blade surface held in a vertical

position for greater ease in inserting the needle of syringe. The syringe then takes the place of the knife in the operating hand, needle is inserted into the knife puncture, and the tuberculin is forced out of the syringe and left beneath the skin. An operator soon becomes very expert at this and can make either the puncture or the injection with a heifer on the jump. By raising the skin with the thumb and first two fingers the needle can usually be inserted through the skin by making a quick, hard thrust with the needle at right angle to skin surface. The method by knife is urged for those who have not enough practice to become expert with the needle alone. For convenience and safety the operator should stand well forward by the cow's shoulder or even in front of the shoulder.

"The tuberculin is emptied, one bottle at a time, into the one-ounce graduate, and from this it is measured, dose by dose, into the small graduate, which should be graduated for cubic centimetres, although the dose can be measured out in minims (about 15 minims to the c.c.). It is very easy to inject thirty to forty cows per hour in this way. The knife is dipped into the carbolic solution and a little of the same solution is drawn into the syringe and forced out after each injection.

"The diagnosis is made mainly upon the fever reaction; that is, if the temperature rises between eight and twenty hours after the injection two degrees or more above normal as shown by comparison of (a) and (b) temperatures it is safe to diagnose tuberculosis. A rise of 1.5 degree should be called suspicious and the animal held for future test. I would sound a word of warning with reference to the use of tuberculin. In the first place it is not absolutely infallible, and there are possibilities of error if the operator be careless or hasty in his methods. There are side issues that may come in to make it inaccurate, and there are many things besides tuberculin that may result in rise of temperature. A large drink of cold water may suddenly lower the temperature at just a time when the maximum would otherwise have occurred. The cattle must not be excited or worried in any way, but kept as quiet as possible during the whole test, and if the whole stable, or any part of it, be much warmer during the second day than on the first notes should be made of this fact, and it should be considered in making a diagnosis of doubtful cases. Another source of possible error is found in the fact that an animal may be so thoroughly tuberculous that the system is already saturated with tuberculin, and it may have thus naturally acquired such an immunity to the agent that the animal will fail to react."

## GARDEN AND ORCHARD.

### The Longevity Apple—A Doubtful Discovery.

We have received from a Mr. E. W. Graves a letter written on the letter paper of the Horticultural Society of Northern Illinois, in which is given a list of the officers of that Society for 1887, calling our attention to an inclosed newspaper clipping sounding the praises of an alleged hardy variety of apple which is said to have been originated in Canada, two barrels of which are claimed to have been sold in Montreal in 1895 for \$25 a barrel. A prominent horticulturist, it is said, having noticed the report of this remarkable sale, began an investigation by correspondence, and finally by a personal visit, to ascertain where the apple grew and all about it. He found the apples were of no known variety, but were grown upon a tree which came up from seed over 100 years ago and had withstood the rigors of a climate where the thermometer registers as low as 35 to 45 below zero at times, while it stood as a giant five feet in circumference, healthy and thrifty to the tips of the smallest twigs. The apple was named Longevity, for the seed from which this tree grew was brought to Canada by the U. S. Loyalists in 1784. A company named the Longevity Apple Co. has been organized with a large capital in Nebraska to introduce the apple, and a stock of the trees is now being propagated in the most favored apple-growing district of the U. S.

Having some doubts about the wonderful claims of the friends of this "coming apple," as it is described, we wrote to Mr. L. Wolverton, Secretary of the Fruit Growers' Association of Ontario, to enquire what he knew about it. In his reply he says: "I would not place very much confidence in the boom that is being made over the Longevity apple. The apple was shown at our meeting in Kingston, but the fruit committee did not think it worthy of very much notice. Possibly it may have been kept a very long time in special cold storage, but neither its appearance nor its flavor were anything wonderful. I remember seeing the statement that this apple was sold in Montreal at \$25 per bbl., but I believe it was a sale made for advertising purposes, and not a bona fide sale. However, I cannot say anything very definite about the apple."

Having been asked to call attention to this apple, we have deemed it best to give what information we have been able to gather concerning it in this form, so that our readers may draw their own conclusions and govern themselves accordingly. They will do well to be on their guard should any agent make his appearance taking orders on the strength of absurd claims for this apple.

## 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.

#### LANDLORD AND TENANT.

J. C.:—"A tenant who holds by the month is \$26.00 in arrear, being about ten months' rent. He has a cow, an organ, and some other chattels, and he proposes to move away without paying the rent due. What goods are liable to be distrained for the rent, and how should the landlord proceed?"

[The rent being more than two months in arrear, the tenant is not entitled to claim the usual exemptions, and everything may be seized. The landlord simply goes to a bailiff and signs a warrant to distrain the goods, and the bailiff will seize and sell the goods to pay rent and costs.]

#### MASTER AND SERVANT CONTRACT.

W. C.:—"A, who is a mill owner, hires B and C to work for him, promising them work all the summer, and B and C to live in a house on the mill property. After B and C move into the house, A tells them that he has given their jobs to other men, and says he heard that B and C were intending to leave anyway. Can A legally discharge B and C in this way?"

[No. A must carry out his agreement, and he has no right to assume that B and C intended to break their agreement with him upon any such report as to it being their intention to quit.]

#### LINE FENCE DISPUTE.

L. L.:—"Who pays fenceviewers for work done upon a dispute between two owners when neither of the owners notified the other of having the fenceviewers act, but the notices were signed by the Clerk of the township?"

[The statute contemplates the notice to be given by an owner or occupant and not by the Clerk, and perhaps the fenceviewers were not properly appointed; but if the owners acquiesced in the appointment and attended before the fenceviewers, then we think any irregularity in the appointment would be considered waived, and the costs would be disposed of in the usual way by the award.]

### Veterinary.

#### LAMENESS IN SW.

J. H. T., Richmond Sta., Que.:—"I have a sow with a litter of eight pigs five weeks old. Yesterday she did not come to the trough for her feed, and I found she had lost the use of her hind legs. I removed her to another pen, and to-day the pain has gone to her right fore leg, but her appetite has returned. Can you explain the cause and suggest a remedy, and will the young pigs in any way be affected thereby?"

[The trouble is probably rheumatism and may have been caused by lying in a damp pen. We would advise a dry bed and some greasy swill food mixed with bran to open the bowels; and if she is able to go out, would let her out on warm days on the sunny side of a building, with a bed of straw, where she could lie in the sunshine. With this treatment we should expect her to recover, and we do not think her pigs are likely to be affected.]

#### LUMP ON COLT'S HEAD.

B. M., Northumberland Co. Ont.:—"I have a yearling colt with a lump at the root of each ear. They are soft and puffy; one has broke and is running. Can they be cured? If so, please give remedy?"

[From the description given it is difficult to decide what has been the cause of the lumps. In all probability it is the result of a slight attack of blood poisoning or navel ill while the foal was quite young. We would advise fomenting well with hot water once a day, and apply to the discharging lump the following ointment: Red oxide of zinc, one-half ounce; carbolic acid, one dram; and lard, two ounces. To the other lump apply tincture of iodine daily until well.]

#### COW HOLDING UP MILK.

W. H. P., Durham Co., Ont.:—"I have a new calved cow that I got two weeks ago. When we go to milk her she holds up her milk, especially in the front teats. It takes about twenty minutes to milk her, then she only lets it down a little at a time. She gives a large flow of milk, and as we cannot get the milk all down her udder is inflamed. Kindly write what will be the best to do and to stop her from holding her milk up."

[Inflammation is evidently the cause, probably by too great a flow of milk, perhaps the result of too heavy feeding. First get the fever out of her system by giving the following dose: Epsom salts, one pound; sweet spirits of nitre, four tablespoonfuls; saltpetre, one teaspoonful. Mix in one quart of warm water and give as a drench. Bathe her udder well with warm water, an hour at a time, three times a day, then bathe with warm vinegar, and rub dry. After this apply belladonna liniment, which you can get from your V. S. or druggist. This will reduce the swelling, and by keeping the udder well greased with lard or goose oil, milking the cow three times a day, feeding lightly and treating her gently, she will probably come all right.]

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Miscellaneous.

TREE PLANTING.

READER:—"Will you kindly state amount and on what terms remuneration can be obtained from the Government or municipality for planting trees along roadsides?"

[The council of any municipality has power under Ontario Statute, 1896, Chapter 60, to pass a by-law for paying out of municipal funds a bonus or premium not exceeding twenty-five cents for each and every ash, basswood, beech, birch, butternut, cedar, chestnut, elm, hickory, maple, oak, pine, sassafras, spruce, walnut or whitewood tree which shall be planted within such municipality or any highway, or on any boundary line of farms as aforesaid, or within six feet of such boundary. In the absence of such a by-law of the local municipality there is no provision by statute for compensation for such tree planting. Prior to 1896 there was a provision for payment by the Government of the Province of one-half of such bonuses, but that provision was repealed.]

MAPLE BORERS.

J. H., Elgin Co., Ont.:—"Last year, about this season or probably a little later, some of my maple and other shade trees were badly infested with a borer of some kind. Would you oblige myself (and no doubt other readers as well) by publishing some information in your journal as to its nature and the best remedy to apply?"

[In various parts of Ontario shade trees, especially maples, are threatened with destruction by borers. In some towns and cities the municipal councils have had remedies systematically applied. The eggs of the borers are deposited on the trunk in June, and to prevent this the following wash (recommended by Dr. Saunders and successfully used by the City Council of London, Ont., last year) should be painted on the trunks clear up to the branches: Soft soap reduced to the consistency of a thick paint by the addition of a strong solution of washing soda or sal soda in water. If this is applied to the bark during the morning of a warm day it will dry in a few hours, forming a tenacious coating not easily dissolved by rain. It should be applied early in June and a second time during the early part of July. This is a preventive measure and is about all that can be done when a considerable number of trees are affected.]

WANTED, A TREAD POWER HAY PRESS.

H. M. V., British Columbia:—"Could you inform me through the ADVOCATE of any company manufacturing a plunger hay press operated by tread power? If so, you will greatly oblige an old subscriber."

[We are not aware of such a machine being manufactured.—EDITOR.]

GRAPE PRUNING.

R. BLAIN, Waterloo Co., Ont.:—"Kindly give your views on the methods of pruning grapevines in summer in order to get large grapes?"

[The question of training and pruning grapes was exhaustively discussed and illustrated in Dec. 1st, 1896, issue of the ADVOCATE, page 502. A point not touched upon in that article was referred to in April 15th, 1897, issue, page 181. Mr. John Phin, in his "Open Air Grape Culture," says: "As soon as the blossoms show themselves, and before they have expanded, it will be necessary to go over the vines and stop or pinch all the shoots which show fruit, at the same time removing all the blossoms except two or three clusters on each shoot. This will not only serve to keep the vine within bounds, but it will cause the fruit to set much better than it would do if this course were not pursued. \* \* \* \*"]

FEEDING CATTLE GRAIN WHILE ON GRASS.

CONSTANT READER, Middlesex Co., Ont.:—"How would you advise feeding grain to cattle while on pasture: in boxes, troughs, or otherwise, in what quantities and proportions?"

[Messrs. McMillan, of Huron Co., whose cattle-feeding methods were described in our last issue, feed the leaner portion of their cattle meal twice a day while on grass up till they are finished for market. The grain consists of a mixture of four or five pounds per head per day of oats, peas and oil cake about equal parts. They are fed in troughs in the same loose boxes as they are wintered.]

HOLDING BACK MILK.

W. E. LYALL, Welland Co., Ont.:—"I have a cow which holds back from four to seven pounds of milk at a milking. Sometimes a feed of apples or potato peelings will bring the remainder of the milk. If I should let her calf suck her for a few weeks, I think, from past experience, she would be no better when the calf is taken away. I wish for some means of breaking her of the practice?"

[The only remedy is to take her attention away from the milker by feed or by rubbing her gently on the quarters, when she will forget about "holding up" her milk and will "let it down." Allowing the calf to suck too long is the probable cause of this practice among dairy cows. We recommend removal of calf within 24 hours after it is dropped except in special cases. H. H. DEAN. Ontario Agricultural College.]

FALSE FLAX (*Camolina sativa*).

SUBSCRIBER, Peel Co., Ont.:—"Kindly identify and prescribe for the weed sent you by this mail."

[The plant is probably false flax (*Camolina sativa*). It is not sufficiently advanced to determine it certainly. If "Subscriber" would send another plant having the seed pods formed we could determine accurately the variety and species to which it belongs. False flax is an annual which usually grows about eighteen inches high, but sometimes much higher and others much lower, according to its surroundings, etc. The blossoms are small and of a pale yellow color. The plant is very hardy and can well withstand the influences of frost. It is more inclined to come up in autumn. It will grow in any soil adapted to winter wheat or meadow. It usually infests winter wheat, rye, meadows and pasture, but seldom grows to any extent in spring crops. In the conflict with this weed grass seed should be sown along with spring grains. Autumn cultivation is all-important owing to the natural tendency of the weed to germinate at that season. When false flax is formed only in certain patches in meadows the infested parts may be cut and used for soiling purposes.]

MOREL (*Morcello esculenta*).

MR. C. PATILLO, Essex Co., Ont.:—"I am sending you by this mail a species of fungus resembling a mushroom in its manner of growth. Kindly identify it in your next issue."

[The name of the fungus is morel. Its botanical name is *Morcello esculenta*. It is sometimes known as the umbrella mushroom because of its resemblance to a closed umbrella. It is usually brownish-drab in color, and the fleshy portion somewhat resembles a sponge in its surface unevenness or winding corrugations. It grows from two to four or five inches high. It makes a delicious dish when prepared and cooked as mushrooms are usually done. It grows naturally in oak and pine woods, but by supplying it with the conditions in which it is found in nature it can be raised in the garden. MR. JOHN DEARNESS, I. P. S.]

TWO-HORSE POWER—HAWKS.

YOUNG FARMER, Parry Sound Dist.:—"I. Could you or some of your readers give me through the ADVOCATE a plan of a simple homemade horse power for one or two horses, that I could set up on the barn floor to run straw-cutter."

"2. Could someone suggest a plan to keep the hawks away from the chickens. We have a fine lot of young chickens this spring, but the hawks are so bad here they carry off nearly every chick. The ADVOCATE is my text-book. It is a valuable help."

[1. In March 2nd, 1896, issue of the FARMER'S ADVOCATE, on page 92, a simple homemade horse power was illustrated and described. We have seen several one-horse sweep powers made from the large driving-wheel and small pinion of an old reaper. Will some reader who has such a power, or a better simple one, kindly send us a description for publication.

"2. We have heard great claims made for the usefulness of guinea fowls in keeping hawks away from poultry. Will some reader suggest a better plan?"

THE BOOK TABLE.

"The Fertility of the Soil."

The latest and, without doubt, one of the most useful volumes of "The Rural Science Series" is titled "The Fertility of the Soil," by Prof. I. P. Roberts, Director of the College of Agriculture and Professor of Agriculture in the Cornell University. We may say of the writer that he has spent the greater part of his life as a teacher of agriculture and an experimenter, has been a successful farmer at the same time, and has had the advantage of much travel. In addition to all this Prof. Roberts is possessed of a philosophic turn of mind, and has persistently inquired into the reasons and results of what he has seen. This new work differs widely from many so-called manuals of agriculture which are really agricultural chemistries. While a knowledge of the chemistry of soils is extremely important, it is of more service to possess a practical knowledge of the best means of taking advantage of the constituents of the land. This the writer has sought to make clear in the present volume. With regard to the cause of low average yields, at the end of a valuable chapter on "An Inventory of the Land" the following paragraph is quoted: "A hasty survey of the land having been made, it is found that low average yields are not usually due to lack of potential plant-food in the soil, and that most agricultural plants never have full opportunity to come to their best estate, as the meager average yield and the inferior quality of many of the products of the farm abundantly prove." The writer also expresses a belief that the principal causes of low yields of farm crops are imperfect preparation of the land, poor tillage, and hence a lack of available plant-food, and insufficient moisture during some portion of the plants' life.

The work commences with eight pages of a chat with the young farmer—one of the great class to whom it is dedicated. Chapter I., 24 pages, "An Inventory of the Land," is full of enlightening matter. "The Evolution of the Plow," 26 pages, is thoroughly illustrated. Forty-six pages on "Tilling the Land" make up Chapter III. Conservation of moisture has become a serious problem at some seasons of almost every year. Eleven very practical pages are given to that subject. Irrigation and drainage are essential to success in many localities. Ten pages are devoted to their advantages and methods of doing them. "Farm Manures," "Manures Produced by Various Animals,"

"The Waste of Manures," "The Care, Preservation and Application of Manures," are all dealt with simply and explicitly in four chapters comprising 92 pages. "Nitrogen and Nitrification" use up 14 pages; "The Phosphoric Acid and Potash Supply," 10 pages; "Commercial Fertilizers," 42 pages; "Lime and Various Amendments," 38 pages; "Green Manures and Summer-fallows" [the benefits are ably pointed out], 13 pages; "Rotations," 16 pages; and an appendix of fertilizing constituents of agricultural and other products, compiled from recognized sources of authority, comprising 30 pages. The work is well illustrated, and, like all others of the Rural Science Series, is well printed and bound. It is in neat form, and, withal, written in a pleasant, readable style. Prof. Roberts, by his visits and stirring addresses at Ontario Dairy Association gatherings a few years ago, made many warm Canadian friends to whose hands we trust this volume will find its helpful way.

"What the Rocks Reveal."

From the author, J. Hoyes Panton, M.A., F.G.S., Professor of Biology and Geology at the Ontario Agricultural College, we have just received a copy of the revised and enlarged second edition of "What the Rocks Reveal; or, Geology Simplified." This booklet was written to unfold in simple style what is known of the composition, origin and formation of soil, and the economic products of the rock systems of the Province of Ontario. It suggests one of those subjects that public school teachers might well give attention to for an hour or so one day in the week, teaching science in an intensely interesting way by means of observation. A work like the above would be of great service to the teacher or to those desirous of study on their own account.

MARKETS.

Toronto Markets.

The supply of cattle was heavy and some of the choicest heaves of the season appeared on the market. The Canadian shipment of cattle which were landed at Glasgow last week and held over on account of excessive supplies were sold, and the private calves received reporting sales showed that shippers just got out with a very slight margin of profit, as the top prices of the market ranged from 11c. to 11½c. per lb. Cattle receipts were heavier than last week; market steady for export, strong for butchers. Bulls active; fair demand. Stockers and feeders were in demand, and all on offer sold, with enquiries for more. Milch cows and springers were only in moderate demand; best quality fetched top prices.

Hog receipts 6,000 for the week; demand active; price steady; advance demanded. Selected pigs sold at best prices. Buying for Montreal and Buffalo was steady.

Mr. H. A. Mullens returned from Manitoba last week and reports things there looking very favorable.

Export Cattle.—A very active trade was done in export cattle at prices ranging from 4c. to 4½c. per lb. One fancy load touched \$4.60 per cwt.

Butchers' Cattle.—There was a better feeling on the market and all offerings were cleaned up; good stock held at firm prices, choice selling at 4½c. Prices ruled from 3½c. to 3½c. per lb. Montreal men took ten carloads—two carloads for Hull and one for St. John's, Newfoundland.

Bulls.—Good shipping bulls sell readily at 4c. per lb.; ruling prices 3½c. to 3½c. per lb. Stock bulls are quiet at 3c.; export bulls are in demand.

Stockers.—Buying for Buffalo was more active. Prices paid ruled from 3½c. to 3½c. per lb.; about 12 carloads went through.

Feeders.—Quite a few changed hands at from 3½c. to 4c., some sold at 4c. per lb. and \$1 per head over. There is a demand for short-keep feeders.

Sheep.—A few good clipped sheep were on offer and fetched 3½c. to 3½c. per lb.

Lambs.—Active; all sold early at from 5c. to 5½c. per lb.; more would have sold; extra choice fetched \$4.50 per head.

Calves were in better supply and better quality; common to good calves sold from \$2 to \$6 per head; one very fine calf sold at \$8.50.

Milk Cows.—Dairymen are looking for good cows; market steady and firm at \$30 to \$40 each, the latter price for exceptionally choice.

Hogs.—Selling well. We hope to see hogs go up to 6c. Farmers are doing the right thing in holding on this branch; have a crop ready for the September market. Hogs are selling at 25c. to 35c. per cwt. higher than at this time last year for light, lean, right sort. Offerings liberal; market firm; select bacon hogs sell at 5c. to 5½c. per lb.; thick fat and light hogs 4½c. to 5c. Hogs sell at 3c. to 3½c., and stags at 3c. Prospects are good; market steady, at fair prices. The demand for store hogs has increased these last two weeks, but the quarantine is not removed from East York so that only a very few are allowed to pass through this market under the supervision of the Government Inspector. Yorkers, good weight, are advanced 1c. for next week; best Tamworth grade 1c. for best selections.

Dressed Hogs.—Light, lean hogs in demand, and will be taken by the packers at \$4.50, light fat at \$5, heavy fat at \$5.75.

Butter.—There is no particular change in the market. The dealers are looking with anxious eyes towards the cold storage system, and are preparing to ship largely from this section. Arrangements are progressing to a regular supply weekly.

Eggs.—The receipts are somewhat heavier, while the demand still keeps good. All eggs from this time will have to be carefully candled, and shippers must be careful. Round lots sold to-day at 9c., single cases at 9½c.

Cheese.—On the market to-day cheese was quoted at 9c. for export.

Wool.—A little business has been done in unwashed wool on the basis of the price paid for that. The price for the new clip should be 20c. to 21c. Several small lots have come in. Dealers paid 21c. for good fleeces. Farmers are recommended to push their clipping early and send the wool on the market. All received is at once shipped out to the States as the new tariff may go into effect at any time, and in that event prices will decline from 4c. to 5c. Dealers say that the price will be 16c. for this season.

Hides.—Hides are quiet and unchanged and skins remain at previous quotations. No. 1, green, 7½c.; steer hides at 8c. per lb.; No. 2, 5½c.; No. 3, 5c.; No. 1, cured, 8c. per lb.

Skins.—Calfskins, No. 1, green, 9c.; No. 2, 7c.; No. 1, cured, 7c. to 8c. each. Sheepskins \$1.20 to \$1.35 each.

Wheat.—Very little grain was offered on the street market this week. Prices are quoted: white, 79c.; red, 76c., and goose, 63c. per bushel.

Oats are in better demand; market firmer; 500 bushels sold at 24c. to 26c. per bushel.

Hay.—A new crop is assured; farmers are sending all their surplus on the market; 25 loads sold at from \$10 to \$13. Toronto, May 29th.

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 for CATTLE, HOGS, and SHEEP, showing present and two-weeks-ago prices for various grades like 1500 lbs. up, 1200 @ 1200, etc.

It will be seen that cattle are about \$1 per 100 lbs. higher than a year ago; hogs about 35c. higher, and sheep about 50c. higher.

The crop of fed Texas cattle is about exhausted. Supplies of grass Texans will not be as large as last year.

Some practical Nebraska cattle feeders arrange their feeding operations so as to have no cattle on hand during fly time.

The Utah Slaughtering Co., of Salt Lake City, sold three carloads of 1,124-lb. "sugar-coated" Utah steers in Denver at \$4.24.

A New York slaughtering and exporting company has just bought 4,500 distillery cattle at Peoria, Pekin, Milwaukee and Lawrenceburg, at \$3.35 for 1,350-lb. to 1,400-lb. stock.

Receipts at Omaha from Jan. 1, 1897, up to and including May 18, compare with the same period last year as follows:

Table comparing receipts at Omaha for Cattle, Hogs, and Sheep in 1897 and 1896.

The formation of the Agriculturists' National Protective Association is a recent organization among farmers, contemplating an arrangement for marketing their produce through the hands of State and national agents, acting under directions as to prices, etc.

The live stock shippers are trying to organize an association with headquarters at Chicago.

Some of the big banks are feeling the loss of business occasioned by the stagnation of Board of Trade and Stock Exchange speculation, and are disposed to be more accommodating to cattle and sheep feeders.

A reliable hog-man says: "Recent reports to us regarding the spring pig crop show some improvement in the number and condition, with the general tendency to increase the supply as much as possible during the summer and fall months."

Speaking of the probable hog supplies for the next few months, an authority says: "When we remember that the receipts of hogs at Chicago last year averaged over 600,000 per month from May until November, and the fact that hogs were closely marketed right along, we do not consider it good judgment to expect much increase in the supply this summer; and with a continuation of the increased demand for hogs and their product, we do not believe in much sharp or permanent decline in prices."

Canadian Live Stock Export.

The following are the live stock reports for the weeks ending Wednesday, May 13th and 26th, as prepared by R. Bickerdike, the Live Stock Exchange, Montreal:

Table showing live stock export reports for May 12-Ormidale and May 21-Hurona, listing various locations and cattle counts.



MY DEAR NEPHEWS AND NIECES,—

In this winsome month, when earth, figuratively speaking, lies nestled in a bed of roses and the air is still redolent of the delicious fragrance of the apple-blossoms, you'd expect Uncle Tom to be in a playful mood, wouldn't you?

"Boys again!" I hear the girls exclaim. Well, well, you need not listen unless you like, but indeed in this wonderful nineteenth century, when men and women work side by side in nearly every line of life, my remarks, though addressed to boys, are almost equally applicable to both.

First of all, be punctual, for it is aptly said, "Punctuality is the very hinge of business." If employed by another, punctuality is essential to honesty, and I certainly suppose all my boys to be honest.

Do not grumble if you are obliged to live a life of comparative obscurity. The gold that now helps to move the great wheels of commerce once lay buried deep in earth; but it has been found, and if you have real merit sooner or later you will of necessity be recognized—the world will be glad to dig down and bring you to light, for, like gold, merit is not a drug.

Be courteous, but dignified; he who respects himself will be respected by others, while obsequiousness is not only unnecessary but is despised by those who accept it.

Gauge your manner of living by the amount of your own income, and not by that of your associates, and never go beyond it. There is no slavery more degrading than that of indebtedness.

In conclusion, when out of employment financially remunerative, lend a helping hand to another struggler, and aid in building up the temple of true humanity; nay, do not wait till you've nothing to do—that time never comes to people of the better mould—but be ever on the alert to do a kind deed; do not suppose that such seemingly unnoticed acts go for nothing; they are "bread cast upon the waters," and will return a hundred fold, and in a manner wholly unexpected.

I am requested to remind contributors to the Puzzle Corner that all work should reach Pakenham office not later than the 5th when intended for publication in issue of 15th, and not later than the 15th when intended for first issue of the next month.

Ever your loving UNCLE TOM.

THE QUIET HOUR.

The Cost and Worth of Sympathy

The true nature of sympathy is not always understood. It is more than tears, which often lie near the surface, and flow easily at another's grief. Some natures are wonderfully sensitive to the expressions of joy or sorrow in other lives.

more than an echo; its background is individual experience. Strength is not enough for this ministry of sympathy, it must have passed through the fires of suffering, or of struggle, to get the fineness and delicacy required for this sacred work.

The young man brought up in a sequestered home cannot fully understand the struggles of another who is wrestling with the sore temptations of a great city.

Some fruits only ripen when the frost comes. Disappointments, bereavements, the deep plowing of the heart by afflictions—how they enrich the heart that is held all the while close to Christ under the warm sunshine of His wise love!

If we would, then, be fitted for this blessed ministry we must be content to learn in the school of experience. Even Christ learned by the things He suffered.

Human uprightness, undisciplined, is apt to be stern and severe, even uncharitable, towards weakness. We are apt to be heedless of the feelings of others.

Learn that each duty makes its claim Upon one soul,—not each on all;— How, if God speak thy brother's name, Dare thou make answer to the call?

Bearing Another's Burdens. The greater peril in the strife, The less this evil should be done; For as in battle, so in life, Danger and honor still are one.

Sweet little Meg came into her Sunday-school class one morning, her eyes filled with tears, and looking up into her teacher's face, said: "Our dog's dead, and I guess the angels were scared when they saw him coming up the path, for he's awfully cross to strangers."

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**"Well Retrieved."**

Deiker's painting of "Well Retrieved" is one of those admirable works, so true to animal life, that bear the impress of a master hand. The dog has just retrieved a hare, and satisfied that he has done his work well, waits with the game in his mouth for his master's approval, which he appears confident of winning.

Almost any dog can be taught to retrieve; most pointers and setters are so trained, though in some cases this characteristic is clearly inherited, so the term "retrieve" is not the name of any particular breed of the canine race. The title of our illustration explains the subject, to retrieve meaning literally "to search for and bring to hand." The large, black, wavy-haired animal is a cross-breed of Newfoundland and setter, while the small, liver-colored retrievers are cross-breeds of spaniels and terriers. These are the two kinds most commonly seen with sportsmen; but as any dog that takes readily to this sort of work is called a "retriever" it is impossible to assign them to any distinct class.

**Florence Nightingale's First Patient.**

There is a beautiful incident related of Florence Nightingale when she was a child. It shows that God had already planted within her the germ which was to be developed so beautifully in after-days.

Her first wounded patient was a Scotch shepherd's dog. Some boys had hurt, and apparently broken, its leg by throwing stones at it, and it had been decided to kill it to put it out of its misery.

The little girl went fearlessly up to where it lay, saying in a soft, caressing tone, "Poor Cap, poor Cap." The dog looked up with his speaking brown eyes, now bloodshot and full of pain, into her face, and did not resent it when, kneeling down beside him, she stroked with her little ungloved hand the large, intelligent head.

To the vicar he was rather less amiable, but by dint of coaxing, at last allowed him to touch and examine the wounded leg, Florence persuasively telling him it was "all right." Indeed, she was on the floor beside him, with his head on her lap, keeping up a continuous murmur much as a mother does over a sick child. "Well," said the vicar, rising from his examination, "as far as I can tell, there are no bones broken; but the leg is badly bruised. It ought to be fomented to take the inflammation and swelling down."

"How do you foment?" asked Florence.

"With hot cloths dipped in boiling water," answered the vicar.

"Then that's quite easy. I'll stay and do it. Now Jimmy, get sticks and make the kettle boil."

There was no hesitation in the child's manner; she was told what ought to be done, and she set about doing it as a simple matter of course.

"But they will be expecting you at home," said the vicar.

"Not if you will tell them I'm here," answered Florence; "and my sister and one of the maids can come and take me home in time for tea, and," she hesitated, "they had better bring some old flannel and cloths; there does not seem to be much here. But you will wait and show me how to foment, won't you?"

"Well, yes," said the vicar, carried away by the quick energy of the little girl. And soon the fire was lighted, and the water boiling. An old smock-frock of the shepherd's had been discovered in a corner, which Florence had deliberately torn in pieces, and to the vicar's remark, "What will Roger say?" she answered, "We'll get him another." And so Florence Nightingale made her first conquest, and spent all that bright spring day in nursing her first patient—the shepherd's dog.

In the evening when Roger came, not expecting to find visitors in his humble cottage, Florence went up to him. "Roger," she said, "your dog won't die. Look at him!" And Cap rose and crawled toward his master, whining with pleasure.

"Deary me, deary me! What have you done to him? He could not move this morning when I left."

Then Florence explained the mode of treatment. "You have only to keep on with it to-night, and to-morrow he will be almost well, the vicar says." And smiling brightly, she continued: "Mrs. Norton has promised to see to Cap to-morrow while you are out, so you need not kill him; he will soon be able to do his work again."

"Thank you kindly, missy, I do indeed," said the old man huskily. "It went hard with me to do away with him, but what can a poor man do?" And putting out his hand, he stroked the dog. "I'll see to him, missy, now that I know what's to be done," and he stood his crook in the corner and hung his cap on the peg.

Then Florence took her leave, stroking and pet-

ting the dog to the last, and those who, standing in the cottage door, watched her disappear, little thought they were gazing upon one whose mission would be to tend the sick and the wounded on many a battlefield, and how, in years to come, men dying far from home would rise on their pillows to "kiss her shadow as it passed them."

**THE CHILDREN'S CORNER.**

**The Golden Fleece.**

When Jason, the son of the dethroned King of Tolchos, was a little boy, he was placed under the queerest schoolmaster that ever you heard of. This was a Centaur named Chiron. He had the body and legs of a white horse, with the head and shoulders of a man. The good Chiron taught his pupils to play on the harp, to cure diseases, and use the sword and shield. At length, being now a tall and athletic youth, Jason resolved to seek his fortune in the world, without telling his master anything about the matter. He had heard that his father, King Aeson, had been deprived of his kingdom by a certain Pelias, who would also have killed Jason had he not been hidden in the Centaur's cave. This determined young man resolved to punish Pelias, cast him down from the throne, and seat himself there instead. He took a spear in each hand, threw a leopard's skin over his shoulders, tied on his father's embroidered sandals with strings of gold, and set forth on his travels, with his long yellow ringlets waving in the wind. At last he came to a wild and turbulent river, which looked so dangerous that Jason, bold as he was, thought it prudent to pause upon the brink. It was too deep to wade, too boisterous for him to swim, and as for a boat, had there been any, the rocks would have broken it to pieces in an instant.

help uttering a cry of vexation.

"Do not take it to heart," said his companion, cheerily. "You never met with better fortune than in losing that sandal. It satisfies me that you are the very person whom the Speaking Oak has been talking about."

The briskness of her tone encouraged the young man, and besides he had never in his life felt so vigorous and mighty as since taking this old woman on his back. Instead of being exhausted he grew stronger in battling with the torrent, and at last set down the old dame in safety on the opposite bank. Then he looked sadly at his bare foot, with only a remnant of the golden string of the sandal clinging round his ankle.

"Only let King Pelias get a glimpse of that bare foot," said the old woman kindly, "and you shall see him turn as pale as ashes, I promise you. Go along, Jason, and my blessing go with you."

When Jason reached the kingdom of Tolchos he was regarded with great curiosity, for it was not the fashion in that country to wear leopard-skin cloaks or travel with two spears. But everybody stared especially at his feet. "Look at him! Only look at him!" they whispered to each other. "Do you see? He wears but one sandal!"

Poor Jason thought the people very ill-bred to take such public notice of an accidental deficiency in his dress. He was hustled forward through the crowd, close to a smoking altar where King Pelias was about to sacrifice a black bull to Neptune.

"Who are you?" cried the king, with a terrible frown. "And how dare you make this disturbance while I am sacrificing a black bull to my father Neptune?"

"It is no fault of mine," answered Jason. "Your subjects have got excited because one of my feet happens to be bare."

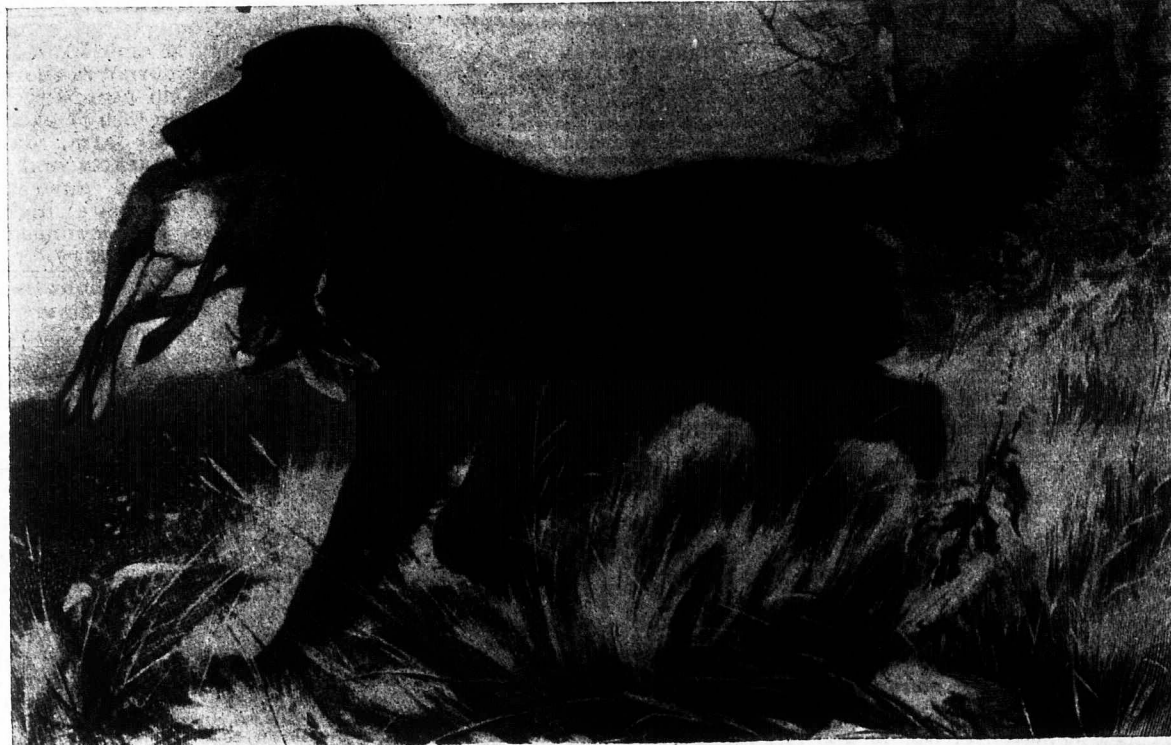
The king gave a startled glance at his feet.

"Ha!" muttered he. "Here is the one-sandaled fellow, sure enough. What can I do with him?"

He clutched the great knife as if he would kill Jason instead of the black bull. The people caught up the words with a shout, "The one-sandaled man has come! The prophecy must be fulfilled!"

For King Pelias had been told, many years before, by the Speaking Oak of Doelona, that a man with one sandal should cast him down from his throne.

[TO BE CONTINUED.]



"WELL RETRIEVED."

"See the poor lad," said a cracked voice close by his side. "Can he not cross a little stream like this." Jason looked around, surprised. Beside him stood an old woman leaning on a staff. She looked very aged and infirm, and yet her large brown eyes were so beautiful that Jason could see nothing else but them. The old woman had a pomegranate in her hand.

"Whither are you going, Jason?" she asked. While Jason was gazing at her, a peacock strutted forward and took his stand at the old woman's side. The young man explained his errand.

"Ah, well, then," said the old woman, "if that is all your business you need not be in a very great hurry. Just take me on your back and carry me across the river. I have something to do on the other side as well as yourself."

"Good mother," replied Jason, "your business can hardly be so important as the pulling down of a king from his throne. However, I would gladly help you if I could, but I doubt whether I am strong enough to carry you across."

"Then," said she, very scornfully, "neither are you strong enough to pull King Pelias off his throne. And, Jason, unless you will help an old woman at her need you ought not to be a king. What are kings made for but to help the feeble and distressed. But do as you please, either take me on your back or I will try to struggle across the stream by myself."

Chiron had taught Jason that the noblest use of strength was to assist the weak. He felt that he could never forgive himself if this poor feeble creature should come to any harm in attempting to wrestle against the headlong current. So the vigorous and beautiful young man knelt down, took the old dame on his back and stepped boldly into the raging torrent. Half way across his foot caught in a crevice and he lost one of his golden-stringed sandals. At this accident Jason could not

hundreds of thousands of bicyclists, for instance, would have to jolt along on rigid, springless wheels, and a universal wail would arise from millions of babies deprived of their feeding bottles.

The men who make the rubber in the jungles of Brazil can earn \$15 a day when they choose to work. They toil as little as their necessities permit, however, and for that reason the supply of this article is always far below the demand. Many trees in various parts of the world yield the caoutchouc milk, but none in such quantities as in the seamy, luxuriant jungles along the Amazon.

There the natives cut gashes in the bark, and place under the wound a little clay dish. The milk which runs out, if examined under the microscope, is found to be sap, in which are found millions of tiny globules of liquid caoutchouc. In three days the trees will bleed about six ounces. The fluid is collected and taken home, where the native operator evaporates the surplus moisture and reduces the caoutchouc to the condition so familiar in raw india rubber.

He has a wooden mold on the end of a stick, and having dipped this in the milk, he dries it in a fire of oily nuts, forming a thin, elastic film over the mold. He keeps on adding to this by repeated dippings and cooking over the fire until a solid cake of rubber is the result. An expert will make six to seven pounds an hour, but the native will work at his leisure. Every sort of food or commodity in those districts has to be imported, and brings a high price. Thither find their way, eventually, most of the gay-colored ties that changing fashions leave upon the dealers' hands in New York and London. Often a native will wear one of these, which will cost him \$4 or \$5, and little other clothing. It seems a charming and idyllic sort of existence, but no white man can withstand the fevers, and the lazy natives have a monopoly of their trade.—New York Journal.

**Men Who Make Rubber.**

Few people ever give a thought to how much of our comfort nowadays depends on a few lazy, sleepy South American natives along the Amazon river. Half the mechanism of our daily life would come to a stop were there a rubber famine. The

Puzzles.

1-ENIGMA.

My first is in the "downy cloud" That floats about on high; My second is in the "robin gay" That in the air doth fly.

My third is in the "burning sun" That rises high at noon; My fourth, if you will guess aright, Is in the "silvery moon."

My fifth is in "the bob-o-link," Who whistles a merry tune; My sixth, now read this o'er with care, Doth find a place in "ocon."

My seventh is in the "general brave" Who never sheds a tear; The total is a river In the Eastern Hemisphere.

J. S. CRERAR.

2-PUZZLE.

On Mat terh out His oldw or Ldg oes I see ERy AA Rd t o be at youge tA th Raw I tHe Very rose But AR EN T Ther Os Ess WE et

A. P. HAMPTON.

3-BEHREADING.

Behoad a girl's name and leave to run; Behoad put and leave to help; Behoad silent and leave to cultivate; Behoad not thin and leave near by; Behoad a country in Europe and leave distress.

ETHEL McCREA.

4-BURIED FRUITS.

- 1. The ugly cur ran to his master. 2. Give me my cap, please, Rosa. 3. He told me the same long tale again. 4. Give the poor ape a chance of getting some. 5. The Turk wore a red turban, an ancient dressing-gown and a sash. 6. Neither sorrow nor anger could be seen in his face.

JENNIE STEWART.

5-TRANSPPOSITION.

If in the spring you early rise, You'll see me under the Northern skies; Transposed, you'll find me at midday When homeward you wend your way; Transpose again, and in my place You'll find a chief of Eastern race.

CLARA ROBINSON.

6-CROSS-WORD ENIGMA.

In south but not in north; death " " " birth; " fat " " " ban; " dirty " " " clean; " fish " " " hook; " flour " " " cook; " bar " " " door; " chair " " " floor; " teach " " " learn; " pine " " " fern; " orange " " " pear; " kind " " " dear.

Now if you certain letters take, You'll find "content" without mistake.

A. M. SNIDER.

7-MUDDLED AUTHORS.

- 1. Acedechillrrrest. 2. Aftijnnoorst. 3. Aceeelnnrrsta. 4. Agghilnnorstvw. 5. Adeefghillnnooorststwwvwy.

ADDA WHETSTONE.

8-NUMERICAL.

My 2, 3, 4 is a hut; My 1, 6, 7, 8 is a kind of soil; My 2, 3, 5, 8 is not warm; My 6, 7, 8 is a conjunction; My 1, 4, 6, 7, 8 is to stop; My whole is the name of a country in Europe.

MAY McNIE.

Answers to May 1st Puzzles.

- 1-Reconciled. 2-C R E T E. 3-A V E N T. 4-Maros, Cam, Welland, Dee, Boyne. 5-Fish-balls. 6-Toronto, Bermuda, Kingston, Madras, Bombay. 7-Irvine Devitt.

SOLVERS late for last issue—Maggie Scott, D.W. Campbell.

Five O'Clock Tea.

Saucers and insincerity; Clatter of tongues and spoons; Gossip and spoiled asperity, Atmosphere good for swoons— Move, if the swift dexterity Known to the clown be thine. That's what you see At a five o'clock tea Served in a social shrine.

This is the game Society (Spell with a big, big S) Plays to dispel salety, Weariness disposes. Tannical inebriety Varies the dreary round, Therefore you roam To a crammed At Home, Carefully groomed or gowned.

"A wfully glad to see you!" "A wfully good to come!" The rest, as the damsel tea you, Is lost in the "widering hum. Nobody comes to free you Of saucer and spoon and cup; So you stand and smile In a vacant style, And long to be out and up.

Little 6-year-old (after seeing the play of Uncle Tom's Cabin)—Oh, mamma, mamma! "Little Eva" has gone to really, truly heaven! Oh—oh—boo—hoo—o—ho—o—o! Mamma—Do not grieve so, my child, "Little Eva" will probably go to heaven again to-morrow night. Little 6-year-old—Oh, no—no—o—o! She won't—for she is going to Philadelphia.

Agricultural School for Girls.

The Minnesota Girls' School of Agriculture is now in most successful operation. Its pupils are nearly all country girls, and the instructors are delighted with their intellectual standard, their industry, their progress and enthusiasm. This is not only complimentary to the girls but goes a long way toward justifying the inauguration of complete co-education in the School of Agriculture. This will be the last summer school for girls, for next winter they will attend the regular school for the full school year. Plans have been drawn and other preliminary arrangements made for the immediate erection of a building expressly for the girls, and other necessary steps will be taken to start the school right and make it another decided advance in that practical agricultural education for which Minnesota is both admired and envied. The Regents of the University assume the duties and responsibilities that the new department imposes upon them with a determination to make it a success in every respect.—Farm Stock and Home.

Our Faults.

All of us have faults, and so have all our friends. Those faults need attention, and they are pretty sure to get it; but the trouble is that the attention usually comes from the wrong direction. Our faults ought to have our attention, and the faults of our friend ought to have his attention. But we are more likely to think of our friend's faults which annoy us, than of our faults which annoy our friend. In this way, the attention which the faults receive only makes matters worse. He is not helped by our giving prominence to his faults, nor are we helped by his giving prominence to ours. If each of us would attend to our own faults, both of us would be the gainers.

Best in the Country.

Delhi (Ont.) Reporter:—"One of the best twice-a-month magazines coming to us is the FARMER'S ADVOCATE and HOME MAGAZINE, the leading agricultural journal in the Dominion, published by the Wm. Weld Company, London, at \$1.00 a year, on the 1st and 15th of each month. It is full of editorial, stock, farm, dairy, poultry, garden and orchard, markets and other useful matters. Its questions and answers, gossip, home matters, stories, etc., are highly appreciated, and the magazine is pronounced by all to be the best of its kind in the country."

"There is too much system in this school business," growled Tommy. "Just because I snickered a little the monitor turned me over to the teacher, the teacher turned me over to the principal, and the principal turned me over to paw." "Was that all?" "No. Paw turned me over on his knee."

Shorthorns by Auction.

I am instructed by Mr. T. C. Patteson to sell out his herd of pedigreed

SHORTHORN CATTLE.

15 females and 2 bulls, at the barn opposite

Eastwood Post Office,

on the Governor's Road, at 1 o'clock p. m., on

MONDAY, JUNE 7th.

Terms—Six months' credit on approved notes. Seven per cent. per annum off for cash.

N. B.—These cattle are of combined beef and milking strains. Some brood mares with foals by Wyndham (Thoroughbred) at foot will also be offered.

P. IRVING, Auctioneer.

FOR SALE!

25 GLYDESDALE STALLIONS and MARES.

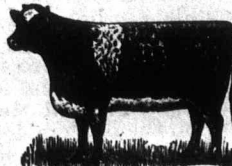


QUEEN.

Nearly all prize-winners at Toronto, Montreal, Ottawa, and Chicago World's Fair. Most of our young stock are bred 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. Also a number of Hackneys. Also Ayrshire bull and heifer calves, and Shropshire sheep.

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 choice young Yorkshires of both sex.



ADVERTISE IN THE ADVOCATE

GOSSIP.

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

At a sale of carriage horses at New York on May 11th, by Thonner & Co., Chicago, 23 head made an average of \$440. Two geldings brought \$1,425 and \$1,300, and a pair of geldings sold for \$2,100.

MONTREAL PROVINCIAL EXHIBITION.

Already the offices of the Montreal Exposition Company are beginning to present a busy appearance preparing for their great Diamond Jubilee Exposition, which, this year, is to be held before the other large Canadian Exhibitions, viz., 1906 to 28th August, inclusive. Farmers and live stock dealers now recognize what an important center Montreal is. No dealer need take any of his live stock home with him unless he wishes, as buyers in that city are always looking for good stock to ship to the Old Country. The farmers throughout Quebec are also anxious to pick up good stock, and each year purchase many good animals from Ontario breeders. Exhibitors at Montreal thus have a decided advantage. As Montreal is to be favored with the meeting of the British Medical Association this year, they will have a number of distinguished visitors from all parts of the world. The Exposition authorities seem to recognize this, and are endeavoring to make this year's event eclipse all its predecessors. A pleasing feature of the Montreal Exhibition is the increased interest shown by parties who donate prizes. Among some of the special prizes offered this year are the following:

Horses.—Canadian Produce Co., gold medal for the best three-year-old Percheron stallion; Canadian Produce Co., silver cup for best jumper; Hackney Horse Society, London, Eng., two silver medals in Hackney class; Robert Wiseman, Mile End Hotel, Montreal, \$15 for best walking horse.

Cattle.—W. W. Ogilvie (Canada's great miller) cash prize of \$100 for best herd of Ayrshires; Dominion Shorthorn Breeders' Association, \$25 for best herd of young Shorthorns; Ayrshire Importers and Breeders' Association, gold medal for the best four Ayrshire animals the progeny of one sire; E. Laporte, Montreal, gold medal for best Canadian cow.

Sheep.—American Oxford Down Association, \$50 for Oxford sheep.

Pigs.—Joseph Featherston, M.P. for Peel, \$20 for best Yorkshire boar imported since exhibition of 1896.

Poultry.—J. J. Gareau, St. Roch l'Achigan, \$10 for best collection of hen's eggs.

Dairy Products.—Wells, Richardson & Co., Montreal, two gold and two silver medals for best display of butter and cheese.

One of the chief exhibitors in the horse department this year will be Dr. W. Seward Webb, President Wagner Palace Car Co., who has signified his intention of entering some of the best animals from his stock farm at Burlington, Vt.

They will certainly add to the attractiveness of the horse display, as they have a wide reputation of being among the best in this part of the Continent.

HIGH-CLASS AYRSHIRES LEAVE CANADA.

A grand collection of Ayrshires has been taken from Eastern Ontario to the farm of Jas. J. Hill, one of America's great railway magnates, of St. Paul, Minn. The purchases were made by Mr. Hill's manager, Mr. J. E. Storey, formerly farm foreman of the Ontario Agricultural College Farm, and late of Bow Park Farm, Bramford, Ont. The purchases consist of the following animals: The noted Silver King, who has distinguished himself as a stockgetter and prizewinner. His winnings have been 19 1st prizes and the championships in all the leading Canadian shows. We regret to learn that so valuable an animal came to an untimely death while on the way to his Western home, by reason of inflammation. Silver King was purchased from Mr. D. McLachlan, Petite Cote, Que., from whom was also secured imported Scarlet Flower 3rd, a winner of many good prizes; Lady Heather 2nd, winner of 1st as a three-year-old and one of 1st herd the following year; Jenny Carrick and Ruby of Huntington, with equally good records. From Mr. David Benning, of Williams-town, Ont., Ayrshire Lass, Queen of Ayr, Junmo, and Nora of Williamstown were taken. They are a choice draft, including prizewinners. From Mr. Wm. Stewart & Sons, of Menie, Ont., Mr. Storey bought the young bull, Highland Chief, who won in 1896 at Toronto, London, Ottawa, and Stirling, also 1st and sweepstakes at Norwood as best bull any age; Scotch Lassie Jean, with an almost unprecedented show-ring record, including a premium at the World's Fair; Ayrshire Maggie, one of the four that won 1st at the Columbian; White Lilly, another of Chicago's 1st prize herd and sweepstakes female at Ottawa in 1893; Highland Mary, a Chicago winner; Rose of Bethel, a grand cow testing 5% butter-fat; and Maggie Lander, the winner of twenty prizes and never stood lower than second. Mr. Storey is to be congratulated on his excellent selections, and Mr. Hill on his invaluable foundation for what should be one of the best herds in the world.

A GLIMPSE AT H. & W. SMITH'S SHORTHORN HERD.

In the herd of H. & W. Smith we found on our visit the stock bull Abbottsford (4 years), sired by Blake, and out of imported Village Blossom; last fall won first wherever shown—Toronto, London and local fairs—and was the sweepstakes winner at London for two years. He is in excellent form at present, and Mr. Smith says he is improving rapidly. Also a yearling bull, Abbott of Strathallen, an animal which unites the blood of Rose of Strathallen and the imported Crookshank cow, Village Blossom—two of the most noted of Durham cows; his sire, Abbottsford, and dam, Moss Rose of Strathallen, being both prize-winners, and himself bearing out the true Shorthorn type so strongly shown in his pedigree. Mr. Smith has bred him to many of the best young heifers this spring, which speaks for the estimation in which he is held. He is now for sale. Among the cows now on the place which we specially noted were: Vanity, 3 years old, sired by Village Hero and

out of Vesta 2nd. She was the winner of 3rd prize last fall at Toronto, and as a calf and yearling won 1st at Toronto; she is now carrying her fourth calf to Abbottsford. Freda, 2-year-old, also sired by Abbottsford, dam Fragrant, by Prince Albert, is an animal of the sappy beefing type. She is of beautiful roan color, and, as with all the Abbottsford stock, has an exceptionally good back, and around the heart is perfect, being a very strong quality with her sire and all his stock. She is safely in calf. Village Bell, one year, by Abbottsford, dam Village Maid, bears out much the same features in type, quality and form. She is a beautiful roan in color. Taking the herd all through they are a really good lot. We were also shown some excellent types of fat steers which are being reserved for the coming fat stock show; and if all reasonable indications do not fail, they will attract notice farther on.

Mr. T. C. Patteson, the well-known Toronto postmaster, has succeeded in building up quite an extensive herd of Shorthorns, which, we are informed, possess desirable dairy qualities. It will be noticed by "Shorthorns by Auction" advertisement in another column that a sale of the herd is to be made on Monday, June 7th, at the farm near Eastwood Station, Ont., four miles east of Woodstock. The Thoroughbred mares and foals should attract some good horsemen.

Mr. John Robertson (father of Agricultural Commissioner Robertson), who has been superintendent of dairying under the Provincial Government in New Brunswick, has returned to Ontario to make his home at Ingersoll. During a call at the FARMER'S ADVOCATE office, he said that dairying had made a very good start in the Maritime Provinces, New Brunswick now having some 60 cheese factories and half a dozen creameries, a few of them combining both features. The silo has been adopted by many, and growing corn and oats and peas for fodder for cows is proving advantageous. The breeding and management of cows shows improvement. Speaking generally, the Ayrshire is probably most in favor, though Jerseys are getting quite numerous also, particularly in or near the towns. Hereafter for the work of dairy instruction and inspection the Province has been divided into two districts—north and south—Mr. H. Mitchell taking the former and Mr. F. Tilley the latter. Both these young men, on the advice of Mr. Robertson, took a course at the Guelph Dairy School, and have, we understand, had the advantage of association with Mr. Robertson in the work there, which he expects will continue to make excellent progress. On his advice, special attention will be paid to the French-speaking districts of New Brunswick. The Maritime Dairy School at Sussex, N.B., was very well attended last winter. Mr. J. Hopkins continues in connection with the missionary Robertson's staff to promote dairy interests in Nova Scotia, but in Prince Edward Island the industry is now so well established that Mr. J. T. Dillon is able to give most if not all of his time to private enterprise.

GOSSIP.

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

A double-deck load of 140 Oxford and Shropshire rams, purchased recently by Mr. Geo. McKerron, Sussex, Wis., were shipped from Guelph week before last.

J. B. Stone, Northumberland County, Ont., writes: "I am sorry to say that I never knew the clover to be so badly winter-killed as it is this spring. There is not one-tenth of the clover left, and the wheat is also badly injured. Quite a large portion has been plowed under. There may be sixty per cent. left all over the counties of Northumberland and Hastings."

The dispersion sale of the Hood Farm stud of trotting horses, at Lowell, Mass., on May 11th, was a decided success, considering the low prices which have prevailed for trotters for some time. They were an exceptionally good lot; 35 head sold at an average of \$437, several numbers reaching prices running into four figures. The highest price obtained was \$2,100 for the stallion Vassar by Estill Eric. Katie Mack, 2:13, brought \$1,500, and the chestnut gelding, Hood's Macgregor, was purchased at \$1,125 for show as a heavy harness horse. Mr. Hood intends to fill his horse barns with Jersey cattle.

As an evidence of the marked improvement in prices prevailing for good cattle of the best breeds, we record the result of three public sales of Shorthorns recently held in the Western States. On May 11th, Mr. H. F. Brown sold, at Minneapolis, 37 head, at an average of \$175.27. C. O. Norton and B. F. Myers, on May 14th, at Corning, Iowa, disposed of 33 head: Mr. Norton's 12 head averaging \$159.35, and Mr. Myers' 20 head, \$133.94. May 15th, Elbert and Fall, at Albia, Iowa, sold 12 bulls at an average of \$305, and 52 head in all at an average of \$285.67, the top price being \$390 for an aged bull.

C. J. Watson, Castlederg, Ont., writes: "The Ashton Frontview Farm herd are now in their finest bloom. The show cattle are doing exceedingly well. I have made the following sales since I last wrote: One three-year-old cow and one heifer calf six months old to W. J. Robinson, Vasey, Ont.; also, one three-year-old bull and one yearling bull to John Thompson, Prince Albert, Sask., N.-W. T. Those cattle were all sold at a handsome figure. I understand the highest price paid for any two bulls in Mr. Thomson's carload was paid for the two brought from the Ashton Frontview herd."

P. J. Coggswell, "Brighton Place Herd," Rochester, N. Y., writes: "Royal Rose 87791, made from March 2nd to 9th (7 days) 20 lbs. 4 oz. of butter, well washed and salted 1 oz. per lb. Her daily average of milk was 46 lbs. 3 1/2 oz. Royal Rose is 4 years old; she dropped a heifer calf by Exile's Successor 42716, Jan. 8th last, and from Jan 18th to March 1st averaged 43 lbs. 5 1/2 oz. milk daily. She is a large, thrifty cow, very handsome light fawn with a splendid capacity for work all through the year—a magnificent large udder with large teats well placed. Her sire is Chairman 29853, a grandson of Exile of St. Lambert 13667, by Exile of St. Lambert 23rd 20712; sire of Jocal, 20 lbs. 14 oz.; May Day, 16 lbs. 3 1/2 oz.; Runaway, 16 lbs. 10 oz. Her dam is Rosa Mosher 2nd 69179, who traces to Doesticks-Napoleon and Peter Norman."

J. A. S. Macmillan, importer and breeder of Shropshire sheep, has recently returned to Brandon, Man., having spent the winter in Britain. In addition to a few Shrops, he has this year imported two stallions, one the Hackney, Prince Danegelt (4937), foaled in 1892, a bay with four white fetlocks, stands 15 hands 3 inches, has plenty of bone and fine action. He has for sire that celebrated Danegelt (174), the sire of such a long list of Royal winners. His dam, Sand Hill Nance, contains the blood of Firaway (249) and Performer (556). Thus in Prince Danegelt we have a combination of the "tops" in Hackney blood and a most fashionable pedigree. The other horse is a Shire, Nalstone Morning Star II. (15741), a big, sound, fine moving horse with good feet and fine limbs. He is a bay with two white fetlocks, stands 16.1. His sire, Nalstone Rising Star, is by Lord Ellesmere's Handuff (4437), he by Lincolnshire Lad II. (1356). His dam, Meesham Poppett (8474), by Big Ben (3459), one of the most impressive stallions in England. The addition of such valuable stallions to the horse stock of the Province is most opportune, and will doubtless prove of incalculable benefit to the district in which they locate.

E. Gaunt & Sons, St. Helen's, Ont.: "Our Shorthorns have come through the winter in good shape, and are now enjoying a full bite of grass, which is quite luxuriant for the season. We have some excellent calves dropped, the get of General—22085—, who at 29 months weighs 2,200 lbs. They are large, smooth, and full of quality. We sold one yearling roan bull, Advocate, to J. R. McCallum, Iona Station, Ont. Advocate is a full brother to Capt. Robson's show bull, Nominee, and promises to make an equally good bull. To John Dempsey, Fairview, Ont., went the yearling bull, Defender, a red with little white, and was a perfect model of a Shorthorn. To A. J. C. Shaw, Thamesville, went the red yearling, Earl of Buckingham, a massive, smooth and heavy-fleshed bull, that ought to have a great future. To John Wilson, Gorrie, the light roan yearling bull, Admiration, than which we had no better bull in the lot and expect to see him in the show-ring in the near future. We still have the dark roan 16-months calf, Admiral, who is developing into a remarkably fine bull. He is a pure Scotch, and the five top crosses were some of the best bulls of the breed. We have already refused some tempting offers for him. Prices, though not large, were all in the three figures, and Shorthorn breeders everywhere must view with satisfaction and encouragement the recent demand for good Shorthorns as evidenced by the recent sales in Canada, but more particularly in the States. [Note.—A summary of several of these sales is given in another paragraph.—EDITOR.] The success of those sales should beget confidence in Shorthorn breeders and stimulate them to produce first-class specimens of the breed. Our Leicester's have given us a heavy crop of lambs, and expect to be well-fitted for the trade this fall."

DISPERSION SALE OF THE ENTIRE HERD OF Pure-Bred Ayrshire Cattle "The Glen" Stock Farm, Innerkip. TO BE SOLD BY PUBLIC AUCTION On Thursday, June 10th, '97, including Bulls and Bull Calves, Cows, Heifers and Heifer Calves of the choicest breeding. F. S. MALCOM, Clerk, INNERKIP, ONT. P. IRVING, Auctioneer, WOODSTOCK, ONT.

Hobbs Hardware Co., LONDON, ONTARIO. WE have led prices for 1897. We still lead on the following brands: PLYMOUTH, KINGSTON, CENTRAL PRISON, CONTINENTAL BRANTFORD. ALL TWINE GUARANTEED. IN CAR LOTS OUR SPECIALTY.

Champion Hackney Royal Standard Stallion. We have a number of first-class mares and fillies of this breed in foal to the above stallion. We also have for sale a number of other choice Clyde-dale stallions, Standard-bred and Thoroughbreds. GRAHAM BROS., Claremont, Ontario. 25 miles east of Toronto, on C. P. R. 4-11-0m

Isaleigh Grange Stock Farm. Special May Sale! Consisting of five choice young AYRSHIRE BULLS fit for service, TWO GUERNSEY BULL CALVES, and the best lot of young IMP. LARGE YORKSHIRE PIGS ever offered. PRICES LOW IF TAKEN THIS MONTH. J. N. GREENSHIELDS, Prop., T. D. M'CALLUM, Mgr., DANVILLE, QUEBEC. 9-7-09

USE Queenston Cement FOR BUILDING STABLE, SILO, AND OTHER WALLS, CISTERNS, STABLE FLOORS, HOG TROUGHS, CULVERTS, Etc. Farmers and others building this season, make your plans and get supply of gravel and stone early; saving time and money. If use of cement is not understood we will send competent man FREE, to lay out work and give complete instructions. We warrant all structures when our instructions are carried out, and guarantee our cement quite equal to any domestic or imported Portland cement for above structures. SEND FOR OUR NEW PAMPHLET OF 1897, CONTAINING FULL INSTRUCTIONS, FREE. For prices of Cement and other particulars, apply, ISAAC USHER & SON, Queenston, Ont. 15-7-0

BOTTLED WIND Gulline Metal Stitched Air Collars MADE BY THE GULLINE PNEUMATIC COLLAR CO., GRANDY, P.Q. No sweat pads. The strongest, most durable, lightest, coolest, easiest and best fitting Horse Collars on earth. Heavier loads drawn with less exertion than with any other collars. Sure cure for sore necks and shoulders. The stitching is rust-proof metal, is not affected by moisture, and will not rip. All collars, from the lightest buggy to the heaviest dray, are made of the very best leather, and tested by a pressure equal to fifteen tons pull, and are so guaranteed. THE GULLINE STRAW COLLARS are also metal stitched and challenge all others for durability and beauty of finish (the Gulline Pneumatic Collars excepted.) THE AMES HOLDEN COMPANY, OF MONTREAL, LTD. Sole Selling Agents for Canada, with full stocks at Montreal, Toronto, St. John, N.B., Winnipeg, Victoria & Vancouver, B.C.

ADVERTISE IN THE ADVOCATE

NOTICES.

In writing to advertisers, mention the "Farmer's Advocate." While self-binders have gone up in quality they have lowered in price. The old machine of eight or ten years ago, while it was then thought a marvel of perfection, was about as far behind the binder of to-day as the bicycle of that date as compared with the present light, graceful and easy running machine. Noxon Bros., of Ingersoll, Ont., have not been slow in keeping pace with the age in harvesting machinery improvements, and in some respects have surpassed many of their contemporaries. Their light steel binder is a wonder in simplicity, durability and convenience. An ordinary farm team can handle a heavy crop with ease. If your old binder needs a lot of fixing it will cost as much as a new machine and then only be an old binder, while a new Noxon machine will save time, temper and horseflesh and do a perfect job.

THE FARMERS' BINDER TWINE CO. According to the present indications the Canadian grain crop of 1897 will consume a very large quantity of binding twine. This is not a serious matter to the farmers of the Dominion for various reasons, the most important of which are the crop in a general way is in keeping with the quantity of twine necessary to bind it, and second, because the price of the twine has come down to a figure that should not be complained of. The thanks of the consuming public are largely due to the farmers themselves comprising the Farmers' Binder Twine Co., who have headquarters at Brantford, Ont.

It was in 1891 that this Company was formed by a few of the leading farmers in the neighborhood of Brantford, among whom were the late John Hope, Hon. Thos. Ballantyne, Mr. Jos. Stratford, Robt. Beith, M. P., Messrs. Jacob Mott, T. O. Currie, the late Wm. Campbell, and a few others who were convinced that the high prices at which twine sold were unjust and unnecessary. At that time every spindle in the Dominion was owned by the Consumers' Cordage Co., controlled by the National Cordage Co. of the United States. The Farmers' Co. was formed at this time, and after securing the necessary support their plans were confronted by a great difficulty in the purchasing of necessary machinery. They found that all the makers of binder twine machinery were under a bond to the National combine not to sell a spindle to any person or company without the consent of themselves, which consent was invariably refused. The difficulty at this time was overcome by a falling out of the John Good Machine Co., of New York, and National Cordage Co., which resulted in the purchase of the Brantford factory. Meetings were held throughout the provinces of Ontario and Quebec by the present energetic manager, Mr. Joseph Stratford, and other speakers, eliciting the sympathy and support of thousands of farmers. In this way a capital of \$75,000 out of \$100,000 was soon subscribed. A permanent board of six directors elected, who have continued to give the enterprise their closest attention, and the result has been to reduce the price of twine one-half and to prevent farmers' twine ever becoming in this country a prey to any monopoly.

The present officers of the Company are: President, Hon. Thos. Ballantyne; vice-president, Mr. Robt. Beith, M. P.; manager, Mr. Joseph Stratford; asst. managers, Mr. Alex. Ballantyne and Mr. Wm. Irwin. The magnificent works situated at Brantford comprise a factory 50x225 feet, and a warehouse of the same size, both with brick, slate roof structures. Raw material is purchased in the Philippine Islands. The machinery is capable of turning out five tons of the best quality Red Star brand of twine daily. The Company is purely a farmers' organization, its stock being exclusively held by farmers in small shares, all over the Dominion, and can only be transferred to farmers. It occupies the unique position in this country of being the only manufactory owned and managed by farmers for farmers and the only factory in the world that sends twine from the jeany direct to the binder, the stockholders and agriculturists throughout the country acting as agents and taking from one to twenty tons for distribution among their fellow-farmers. For this service these agents are paid a considerable commission by the Company. The enterprise has been a pronounced success from the start notwithstanding the opposition it has had to contend against. The many farmers throughout the country who are financially interested in this enterprise and who are the basis of its success is that they constitute, as it were, the main artery for the disposition of the output, have reason to be gratified with their undertaking. It is an object lesson in co-operative manufacturing which may lead to the achievement of great results in the future in the manufacture of agricultural implements and other classes of farm appliances on a co-operative basis, tending to a very material reduction in present prices. Co-operation of this class in England and foreign countries has proved a pronounced success.

GOSSIP.

This is the last call for the dispersion sale of "The Glen" herd of pure-bred Ayrshires to be held at Whiteside Bros' farm, Innerkip, Ont., on Thursday, June 10th. A dairymaster can make no mistake in attending this sale, as the stock is large, of choice breeding, and of all ages and either sex. It is a recognized truism that the bull is half the future herd. When a single animal is to have such an influence it is of utmost importance that his breeding and quality be right. We have these qualifications in view in directing the attention of our readers to the advertisement in this issue of W. Willis, Newmarket, Ont., who offers for sale two pure-bred Jersey bulls. An opportunity to secure superior animals of a superior dairy breed is what very many people should be looking for. No one runs a dairy for fun, but for profit, and without good animals no profits can be obtained. Messrs. David Morton & Sons, of Hamilton, have given up dairy farming, and therefore offer for sale in this issue the balance of their excellent herd. Here is a chance to secure some profitable animals.

**GOSSIP.**

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

The British Dairy Farmers' Association make their annual tour this year to Denmark and Sweden, from July 1st to the 17th.

A. Chadburne, Ralpton, Man., in addition to the Shorthorns purchased at John I. Hobson's sale, as noted in a previous issue, also brought out from Ontario the Clydesdale stallion, "The MacKinnon" (5332), imported in 1891 by Collison & Lavin, Harrison, Ontario.

A new provincial map of the Province of Manitoba has just been issued by the Department of Agriculture, Winnipeg. The newly organized territory in the Dauphin district is given, and the engraving, type, and coloring are greatly superior to any map previously issued of the Province.

The prices realized at the American pure-bred cattle sales are indeed encouraging to breeders, especially of the beef breeds. At the dispersion sale of the Oakwood herd of Shorthorns held at Kansas City on May 24th, 400 farmers and breeders congregated and bought the 69 animals at an average of \$158 per head. The top price paid was \$400 for Baron Dudding, an 18 months old son of Godoy. He went to the herd of H. C. & Joseph Duncan, Plattsburg, Mo. The Lavander cow, 13th Lincoln Lavander, made the same money, going to Mr. Chas. E. Leonard, Bunceton, Mo. The eight bulls sold averaged \$252, and the 61 females, \$145.

"MAPLE HILL" HOLSTEIN-FRIESIANS.  
At the head of the Holstein herd of Mr. G. W. Clemons, St. George, Ont., we found a very excellent animal in the stock bull Count Mink Mercedes, bred by Smith Bros., Churchville, Ont. He is five years old, and has been owned on the place a year. As a show animal last fall he won first honors at Montreal and second at Ottawa and Toronto. He is quality all over; has the finest disposition; in fact, a boy can manage him anywhere, and is very active on his feet; has also proven himself a sure stockgetter. There is also a yearling bull purchased from Mr. Bollert, Cassel, Ont., sired by Imp. Colanthus Abbekirk, dam Nora Bell, calved February 24th. He is an animal gotten up strictly on dairy principles, both as to form and breeding, "and one which we purchased," says Mr. C., "to keep up the high standard of our herd." We also noticed an August calf, Cornelia Tensen Netherland, which promises well to make a winner; sired by a Netherland bull, and out of Cornelia Tensen. He is a calf of substance, fine bone, and a great constitution. The balance of the young bulls (ten in number) have all been sold this spring.

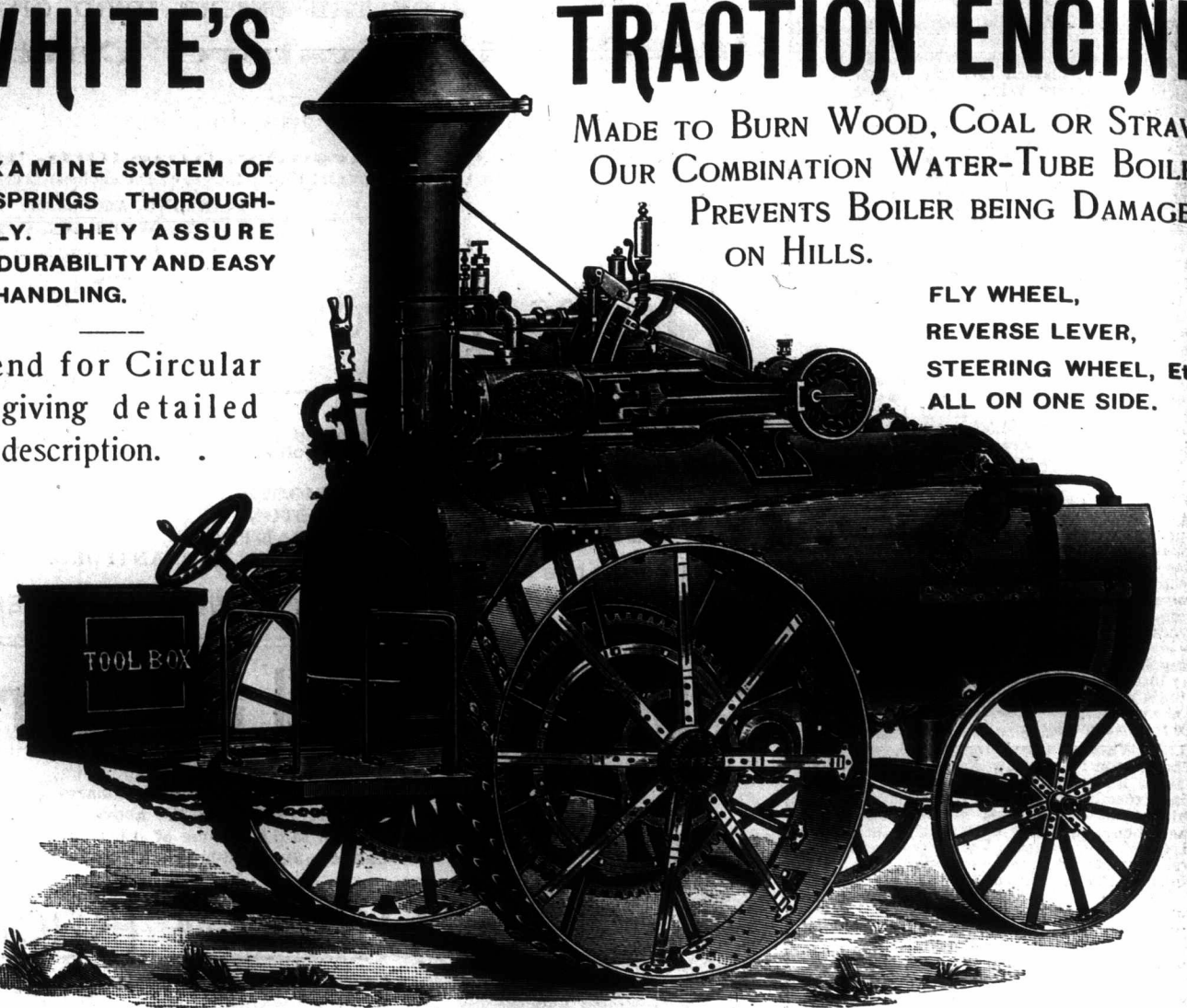
Among the cows we noted especially the five-year-old, Madge Merton, winner of the silver medal a year ago. Last fall she won first prize at the big fairs as a three-year-old, dropping her calf the day she was to have been judged at Gananoque. Queen Josephine DeKol, two years old last month, won first as calf at Toronto. She was out of Queen DeKol, sired by Empress Josephine's Sir Meechthild. This heifer is due to calve in July, and from her conformation and ancestry she should prove a marvel. Mr. C. says he is getting 85 pounds milk and made a little over 41 pounds butter per day. Mondammon's Daisy Barrington is a cow only three years old in October, with a record of 62 pounds per day—50 pounds per day for six months and 11,913 in nine months. She was sired by Orpheus Lytle, dam Mondammon's Daisy. She is a cow having great digestive powers, and she converts her food into good produce, as her record shows. Cornelia Artis, a granddaughter of Cornelia Tensen, four years old, gave as a three-year-old on ordinary feed 59 pounds per day. She is an animal of strict dairy form and a good feeder; was the winner over sixteen of the choicest animals in the world second at Toronto last fall, and first at Ottawa. Inka Rose Pietertje DeKol, now in her four-year-old form, was first at Toronto a year ago last fall, and last fall was third at Toronto and second at Ottawa. Her dam was a producer of 75 pounds per day at four years, and she is a cow of perfect dairy form. Lady Netherland DeKol, three years old, is a daughter of the full sister of the cow winning the greatest butter prize in New York last year, and shows such line of breeding all through. Queen DeKol, dam Woodland Queen, gave fifty pounds milk the day prior to our visit, and had only been calved ten days, and she was expected to reach 65 pounds in a very short time. Impose Kattie DeBoer, thirteen years old, a half-sister to Tirania, last year gave 63 pounds milk, which tested 3.80, which was equal to some three pounds butter per day. Lena DeKol, calved October 12th, out of Lady Netherland DeKol, sired by Sir Pietertje Josephine Meechthild, is a very growthy calf, having the choicest of breeding in her pedigree, and will undoubtedly be heard from later. She is of strict dairy type. Only one other animal on the farm can make in pedigree any better or as good a showing as this calf. "We have a right to expect great things of her," says Mr. Clemons. Four very choice yearlings will calve during summer and fall, one of which we consider especially worthy of notice, sired by DeKol 2nd's Butterboy, and out of Mondammon's Daisy Barrington, due to calve in Nov. She has the finest of indication, and will undoubtedly be heard from later. The herd contains thirty-three animals in all, along the same lines as the ones mentioned, from which it would be hard to make a choice, as Mr. Clemons has always exercised the greatest care in selecting only those animals having the bluest of blue blood and true to dairy type, and only chooses his breeding stock from noted producers. He strictly adheres to those principles of breeding. He also reports the demand as being very active for good stock, selling nine bulls in six weeks, after the first week in February, realizing good prices. "In fact," says Mr. C., "in some cases fancy prices were received."

Mr. Clemons, as our readers are aware, is Secretary-Treasurer of the flourishing Canadian Holstein-Friesian Association. Intimately and enthusiastically associated in all his work and breeding operations is his son and herdsman, Mr. Percy Clemons, who has the lore of the "black and whites" at his fingertips, and who bids fair to see realized in the Maple Hill herd the high ideals at which he aims.

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**EXAMINE SYSTEM OF SPRINGS THOROUGHLY. THEY ASSURE DURABILITY AND EASY HANDLING.**

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**TRACTION ENGINE**

MADE TO BURN WOOD, COAL OR STRAW. OUR COMBINATION WATER-TUBE BOILER PREVENTS BOILER BEING DAMAGED ON HILLS.

FLY WHEEL, REVERSE LEVER, STEERING WHEEL, Etc., ALL ON ONE SIDE.

GEO. WHITE & SONS, = London, Canada.

The death is announced of the well-known Jersey breeder and contributor on Jersey themes to the agricultural press, Mr. G. W. Farlee, of New Jersey.

The demand for pure-bred bulls for the Canadian Northwest is not yet satisfied, though a large number have been secured and shipped there in the last three months. Mr. John E. Smith, of Brandon, Man., made the second shipment of a carload of 23 bulls from two to four years old, from Elora, Ont., recently. Mr. McArthur, of Paisley, Ont., also shipped a carload of 25 bulls selected by him for a ranchman at Calgary.

J. G. Barron, Carberry, Man., has recently imported from the herd of J. & W. Russell, Richmond Hill, Ont., a young bull by Scarlet Velvet; also a yearling heifer by same sire, out of a Nonpareil dam, and one cow in calf to same bull. These are not in high flesh. Topman, the well-known son of Lord Stanley and the head of Mr. Barron's herd, is in fine fettle, and will take some beating at the Winnipeg Industrial. There are a number of good individuals in Mr. Barron's herd. He had sold all young bulls fit for service early in the season.

W. G. Pettit & Son, of Freeman, Ontario, write us for change of advertisement and report a good demand for stock of all kinds this spring. "The demand for young bulls has been unprecedented. We have sold ten in the last two months, and could have sold a great many more. We have a nice lot of young ones coming on for next season's trade. Since last November we have sold fifty breeding ewes, mostly to new beginners. Berkshires sell as fast as they are fit to go away. Crops of all kinds are looking exceedingly well in this locality."

At a recent meeting of the English Shorthorn Society a communication was read from the President of the French Syndicate of Shorthorn Breeders with reference to tuberculosis and the tuberculin test, and suggesting that the Council should influence English breeders to allow their animals to be subjected to the tuberculin test by purchasers. A lengthy discussion ensued, and, on the motion of Sir Nigel Kingscote, seconded by Mr. E. W. Stanforth, it was unanimously resolved: "That in view of the uncertainty of the results attending the injection of tuberculin as a test for tuberculosis, this Council are not at present prepared to take any action in the direction suggested."

In France, a new Act forbids any maker or shopkeeper to deal in butter and margarine at the same time; he must make his choice between them. Every man who chooses margarine must declare his intention to the police, announce the fact on the front of his factory in letters one foot high, and pay the expenses of the Government inspectors, who will enter at any hour of the day or night. It prescribes, for the retail sale, parcels of a uniform shape and size. Its penalties for willful breach of the Act include a sentence of three months' imprisonment, and make it the interest of the railway companies and other carriers to detect any smuggling by including these within their menage. If carriers or their servants knowingly wink at the improper conveyance of margarine (omitting to have the word on their waybills, or to see that it is permanently stamped on cases of a form prescribed), the fine is from £2 to £20. The maximum penalty for obstructing an inspector, £10, must be imposed for a second offence.

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A new implement, thoroughly tested and endorsed by prominent agriculturists. The most labor-saving tool on a farm. Send for catalogue.

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**Route Bills,** Folders, etc. Printed on shortest notice and at lowest prices.

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**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 Rantin Robin. Come and see them, or write, if you want something special. H. CARGILL & SON, Station on the farm. Cargill Stn. & P. O., Ont.

ADVERTISE IN THE ADVOCATE.

**W. G. Pettit & Son, FREEMAN, ONTARIO.**  
Telegraph office, Burlington Station, G. T. R.  
BREEDERS Shorthorns, Shropshires, and Berkshires OF  
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.  
Farms one-half mile and one and one-half from Burlington Station, G. T. R.

**FOR SALE!**  
One yearling SHORTHORN BULL, two BERKSHIRE BOARS fit for service, and a fine lot of fall PIGS. All at very moderate prices.  
**JOHN RACEY, Jr., - Lennoxville, Que.**  
17-1-y-o

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

**MAPLE LODGE STOCK FARM**  
Established 1854.  
Choice Shorthorns and Leicesters for sale now. Some well forward for showing this fall.  
JAS. S. SMITH, om Maple Lodge P. O., Ont.

# Columbia Bicycles

"A thousand dollars would not buy a better bicycle than the Columbia--nor 'just as good'--because none so good is made."



**\$100 TO ALL ALIKE**

Hartfords are next best, \$85 and \$65

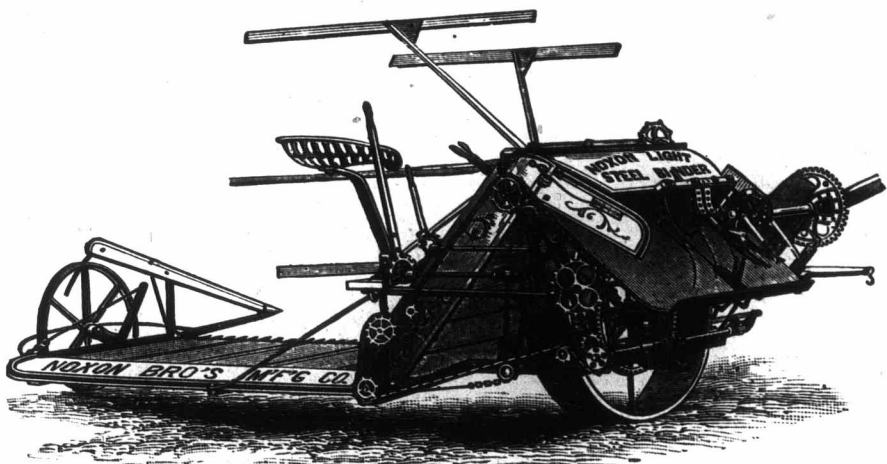
**POPE MFG. CO., Hartford, Conn.**

Greatest Bicycle Factory in the world. More than 17 Acres Floor Space. Branch House or dealer in almost every city and town. If Columbias are not properly represented in your vicinity, let us know. You should know about bicycles. Send for the handsomest bicycle Catalogue ever issued. Free if you call at any Columbia dealer; by mail from us for one 5-cent stamp.

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**Wm. Gurd & Co., London, Ont.**

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THE PURCHASE OF A **NOXON LIGHT STEEL BINDER**

will ensure this order in ample time, and secure a Binder which will please you.

**Noxon Bros. Manufacturing Co., Ltd.,**  
INGERSOLL, ONTARIO.

The **JOHN ABELL** Engine & Machine Works Co'y (Ltd.)

THRASHING OUTFITS. STEAM, SWEEP, TREAD.

VICTOR CLOVER HULLERS, THE BEST IN THE WORLD.

SEND HANDSOME CATALOGUE FREE BY MAIL.

**The John Abell Engine and Machine Works Co.**

(LIMITED).  
Toronto, Canada.

### American Jersey Breeders Meet.

The annual meeting of the American Jersey Cattle Club held in New York, May 5th, called together over fifty members in person and 270 voters by proxy. The breeders present represented the States of New York, New Jersey, Vermont, Massachusetts, Connecticut, Rhode Island, Maryland, Virginia, North Carolina, Texas, Tennessee, Kentucky, Pennsylvania, Ohio, Wisconsin, Iowa, Minnesota, and the Province of Ontario. The meeting was characterized by unanimity of action.

President Elmer A. Darling, N. Y., reported the present membership 445. There has been a decrease of 825 in the number of animals registered, and a decrease of 1,570 in the number of recorded transfers, as compared with the previous year. The number of animals registered during the year ending March 31st, 1897: Bulls 3,537, and cows 8,918.

The scheme of official tests was subjected to a thorough revision. The Board recommended that the adjective "confirmed" be substituted for the adjective "official" as applied to butter tests.

Hereafter when a person makes application for a test by the Club he shall bear all the cost thereof, which must be fully paid before the same is accepted by the Club, entered in the "Confirmed Butter Test Book," or reported.

All tests shall be churning tests, confirmed by the Babcock as hereinafter provided.

When any churning test is provided for seven consecutive days, or any greater period, is made by an experiment station or agricultural college, in conformity with Article VI., and such test is certified to by the Director of such station or college, the same shall be accepted by the Club and entered as a "confirmed test," provided the animal tested is not the property of the experiment station or agricultural college or the Director thereof.

The tester shall apply the Babcock test to all "confirmed tests" every day during the entire period of the test, making separate tests of each milking. If such application of the Babcock test practically confirms the seven consecutive days' test made by the churning the "confirmed test" may be accepted by the Club.

No test to be for a shorter period than seven consecutive days.

Each tester shall be paid not more than \$5.00 per day for each day he is necessarily engaged in conducting such test and also his traveling expenses.

All confirmed tests shall be accompanied by a chemical analysis of a sample of the butter and the butter made in such test shall be computed on the basis of eighty-five per cent. butter-fat, such analysis of the butter to be made at the expense of the owner of the cow or cows; and no test shall be accepted where the butter shows less than eighty per cent. fat.

Officers.—President, Elmer A. Darling, New York; Directors, Guy C. Barton, Omaha, Neb.; Henry B. Redfield, Elmira, N. Y.; E. Stevens, Henry, Rockville, Conn.; J. P. Fraunery, Pomeroy, O.; Treasurer, Hiram Hitchcock, New York (deputy); Inspectors of Election, New York (deputy); Paterson, N. J.; Frank E. Shaw, Dunkirk, N. Y.; George W. Sisson, Jr., Potsdam, N. Y.

At a meeting of the Board of Directors the following officers were re-elected: Vice-President, Wm. R. Wood, Potsdam, N. Y.; Secretary, J. J. Homingway, New York; Corresponding Secretary, Valancey E. Fuller, New York.

### GOSSIP.

A correspondent writes: "If your live-stock advertisers have good milking pure-bred Shorthorns, why do they not say so in their advertisements?"

The State authorities have given permission for the setting up of ten machines in the prison factory at Stillwater, Minn., to manufacture binder and other twines from common sough grass. The grass is carded and spun in much the same manner that sisal and manilla are handled. If this experiment proves successful, a long-time contract may be entered into.

Jas. S. Smith, of Maple Lodge, Ont., reports the following Shorthorn sales since the annual public sale in March: Jamie Soutar, a red yearling by British Flag, dam by Conqueror, to Mr. Alex. Gunn, owner of the old De Graff ("Lake Elvian") stock farm, Janesville, Minn., where there is a large and valuable herd, at the head of which this youngster will be placed. A fine Berkshire boar was also taken there. The roan Village Squire, rising two years, by Abbotsford, dam out of Village Blossom, went to head the herd of Mr. Geo. B. Bristol, Rob Roy, Ont., and Mr. A. F. Stewart, of Carleton Place, secured the young red Capt. Lawrence, by Calithness, dam Queen of Clandeboye, a Bates cow of marked dairy qualities, having made 15 lbs. of butter in a week. Mr. Smith also reports an unusually large inquiry for Leicester sheep, many of them coming from a comparatively new quarter in that respect, viz., Southwestern Ontario.

Messrs. B. H. Bull & Son, Brampton, Ont., have recently made a valuable addition to their herd of Jersey cattle by the selection and purchase of 15 head of high-class animals from the herd of Lieut. A. F. Ashmead, of Hazelhurst Farm, Quebec City. Among these is Princess Minette, a large light fawn cow which has been very successful in the showing and has a record to her credit of 19 lbs. of butter in a week. A daughter, two granddaughters and a grandson of this cow were included in the purchase. Also the grand show cow, Sibyl's Lass 2nd, purchased when a two-year-old from Mr. J. C. Snell, a daughter of Mrs. Jones' fine old cow, Sibyl's Lass. She is a handsome light fawn with a record of 50 lbs. of miller day, testing 8.2 per cent. butter fat, and winner of the 1st prize and gold medal sweepstakes at the Provincial Fair at Quebec, and 1st prize and gold medal at Three Rivers, in 1896. Her three-year-old daughter, Maid of Hazelhurst, a grandson and a granddaughter are also in the lot. This is a valuable acquisition to the Brampton Jersey herd, which has already secured an enviable reputation and made an excellent record in prize winning at the leading exhibitions in Canada, and the Messrs. Bull are to be congratulated on their enterprise in the endeavor to keep in the front rank as breeders of their favorite class of dairy cattle.

### SURVEYING AND MAPPING

Coal & Metal Mining; Prospecting; Electricity; Machine Design; Stationary, Locomotive and Marine Engineering; Architecture; Plumbing; Railroad, Hydraulic & Bridge Engineering; Sheet Metal Pattern Cutting; Mechanical and Architectural Drawing; Book-keeping; Shorthand; English Branches. All who study **GUARANTEED SUCCESS.** Fees Moderate, Advance or Installments. Circular Free. State subject you wish to study. International Correspondence Schools, Box 300, Scranton, Pa.



### 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—17095—(63736), by ROYAL JAMES (54972); dam ROSE-LINTY, by GRAVESEND (46461), heads the herd. Female representatives of the celebrated Mina, 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.

### Shorthorns!

TWO bulls, 20 months; two bulls, 15 months; one bull, 12 months; one bull, 10 months; six in all; colors, red and roan; good animals, in good working shape, and reasonable price.

**D. Alexander,**

BRIGDEN, ONT.

WILLOW GROVE HERD OF JERSEYS. Sweepstakes herd of 1893, 1894, 1895 and 1896.

**J. H. Smith & Son, 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), granddam 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.

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.

### Exile of St. Lambert 18657

Founder of the great EXILE family of large milk and butter producers. Fifty-four tested daughters—more than any other bull, living or dead. A few choice descendants for sale. Heifers bred to EXILE'S SUCCESSOR 42716.

**F. J. COGSWELL,**

3-1-y-om ROCHESTER, N. Y.

BRAMPTON JERSEY HERD A. J. C. C.

FOR SALE—19 registered and high-grade heifers, sired by or bred to Sir Ollie; also heifer calves; 4 registered young bulls, suitable to head a show or dairy herd; bred from imported and the best home-bred stock obtainable. Pure St. Lambert and St. Helier blood. Prices low, quality considered. Now is the time to order B. Plymouth Rock Eggs, \$3 per setting. Farm within two miles of G. T. R. and C. P. R. stations. Inspect or communicate.

**B. H. BULL & SON, Brampton, Ont.**

### MASSENA'S SON

and two choice young Jersey Bulls for sale; also eggs from choice pens of Blk. Minorcas (Rev. W. E. Scott's breeding), Plymouth Rocks and Black Langshans at \$1 for 15 eggs. Orders booked for Berkshire pigs. All of the best strains.

**W. W. EVERITT,**

Box 552, CHATHAM, ONT.

### A. J. C. C. JERSEYS FOR SALE.

Young cows and heifers in calf, heifer calves, bull calves, from rich and deep milking ancestry. Testing from 5.60 to 9%, official test. Prices to suit the times.

**H. E. WILLIAMS,**

Sunny Lea Farm, 17-1-y-om KNOWLTON, P.Q.

**W. F. BACON, - Orillia, Ontario,**

—BREEDER OF—

**CHOICE REGISTERED JERSEYS**

Young bulls and heifers of the best blood for sale. Write me for prices and particulars. 19-1-y-om

### GLEN ROUGE JERSEYS.

**WILLIAM ROLPH, Markham, Ont.,** offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 22-7-om



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**ALLAN LINES**

THREE DISTINCT SERVICES FROM MONTREAL WEEKLY.

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 Royal Mail Steamships.**

Steamer. From Montreal. From Quebec. Vancouver, June 5th, daylight, June 6th, 9 a.m. Scotsman, " 12th. " " 12th, 2 p.m. Labrador, " 26th. " " 27th, 9 a.m. Vancouver, July 10th. " July 11th, 9 a.m.

Rates of Passage—Cabin, \$52.50 to \$90; second cabin, \$34 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
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S.S. ETOLIA	3,270 "
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Steamers of the above line insure at first-class rates, and are fitted up with all the modern improvements for carrying Live Stock, Butter, Cheese, Grain, and every description of general cargo, and are intended to be despatched from Montreal as follows:

TO BRISTOL (Avonmouth).

S.S. ETOLIA	June 3
S.S. ALBERTA	" 5
S.S. LYCIA	" 12
S.S. ASHANTI	" 17
S.S. MEMNON	" 24

And Weekly thereafter.

TO LONDON.

S.S. GRANGWOOD	June 2
S.S. QUEENSMORE	" 12
S.S. MARINO	" 19
S.S. MONTEZUMA	" 26
S.S. MILWAUKEE	July 3

And Weekly thereafter.

For rates of freight and other particulars apply to **Elder, Dempster & Co.**, 219 Commissioners St., Montreal.

Toronto Agency:— R. DAWSON HARLING, 23 Scott St. Chicago Agency:— EARLE & MASSEY, 6 Sherman St.

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**LEE FARM REGISTERED JERSEYS.**

Bulls fit for service, \$50 each. Heifers in calf, 50 " Young cows in calf, 75 " Heifer calves, 30 "

Bold colors. None better bred in Canada for dairy purposes. Come and personally select, or write for description and pedigrees. E. PHELPS BALL, 17-y-o Lee Farm, Rock Island, P. Q.

**2 PURE-BRED JERSEY BULLS**

(St. Lambert strain) fit for service, one rising two years old, the other one about a year old, from a great show cow, which has made 16 lbs. of butter per week, and my stock bull, King of Glen Duart, a prize-winner at Toronto Fair. For particulars enquire of

**W. WILLIS,** NEWMARKET, ONT.

**LIVE STOCK AUCTION SALES**

Conducted in all parts of the country. Pedigree stock a specialty. Write for terms. References: J. C. Snell, Edmonton; Hon. M. H. Cochrane, Compton, P. Q.; or this office. JOHN SMITH, Brampton, 14-2-y-o

**Meeting of Executive Committees of Stock Breeders' Associations.**

A meeting of the executive committees of the Dominion Cattle, Sheep and Swine Breeders' Associations was held at Brantford, Ont., May 21st, to make arrangements for the holding of the Fat Stock Show in that city in December, and to transact other business in the interest of the associations. There were present Messrs. John I. Hobson (Chairman), J. C. Snell, F. W. Hodson, D. McCrae, Jas. Tolton, John Jackson, D. G. Hamner, Arthur Johnston, G. W. Clemons, J. E. Brethour, R. H. Harding, Geo. Green.

Live stock trade with South America.—A motion was adopted requesting Hon. Mr. Dryden, Minister of Agriculture for Ontario, and Secretary Hodson, to interview the commercial agent of the Dominion Government for Central and South America, in the event of his appointment, and to urge upon him the importance of enquiring into the possibilities of securing trade in pure-bred live stock with that country.

Transportation.—On motion, Mr. Hobson, who is about to visit the Northwest and British Columbia, was authorized to make enquiry into the rates and facilities for transportation of pure-bred stock from the East to those Provinces. The Secretary was instructed to convey to the general freight agents of the G. T. R. and C. P. R. the thanks of the breeders' associations for the improved facilities and more favorable rates on pure-bred stock shipped over their lines to Manitoba and the N.-W. T., in response to the representations of the associations in this regard.

Standards of excellence.—The Secretary was instructed to proceed with the work of collecting and compiling data for the preparation and publication in the annual report of a short history of the different breeds of cattle, sheep and swine, and a scale of points and standard of excellence for each breed, and to enlist such assistance as is necessary to get these ready for the next report. These to be submitted to the directors for approval.

Special prizes.—The Prince of Wales prize of \$48 was allotted to the dairy department of the winter show, and will be given in two sweepstakes prizes: one for the best cow over 36 months old, the other for the best cow under 36 months.

A special prize of a grain crusher given by the Gould, Shapley & Muir Co., of Brantford, value \$45, will be awarded as a sweepstakes for the best beef animal of any age or breed in the exhibition.

The Wilkinson Plough Co., of Toronto, offer a plow valued at \$15, which will be given as a sweepstakes prize for the best sheep of any age or breed in the show.

The Thom Implement Works, Watford, Ont., offer a corn and root cultivator, value \$10, which will be given as a sweepstakes prize for the best pig in the show.

The Wm. Davies Co., Toronto, offer a prize of \$25 for the three best bacon hogs, and the Ingersoll Packing Co., Ingersoll, Ont., give two prizes of \$15 and \$10 for the six best light singers in the class of hogs.

These are in addition to the specials mentioned in a former number of the ADVOCATE.

**GOSSIP.**

A model farm is about to be established by Chang Chi Tung, Viceroy of Wa Kwan, in central China. At the recommendation of Prof. I. P. Roberts, President Schurman, of Cornell University, N. Y., has named Mr. G. D. Brill, of Poughquag, N. Y., who is now taking a post-graduate course in agriculture at the university, as director. The application for the selection of a suitable person for this position came to Dr. Schurman through a missionary whose assistance the Viceroy invoked, and who writes that Chang Chi Tung is, next to Li Hung Chang, "the most progressive ruler in China." The salary is understood to be at least \$3,000 in gold per annum.

The Flock Book of the Suffolk Sheep Society, Vol. XI, has reached us. We extract the following from an article on "Suffolk Sheep," contributed by the secretary and editor, Mr. Henry Prentice, 61 Oxford St., Ipswich, Suffolk, Eng.: An interesting experiment was carried out in 1894-96 by the Colonial College at Hollesley Bay, a few aged Merino ewes being mated to a Suffolk ram. The resulting produce averaged fully a lamb and a half per ewe, and gave when slaughtered, at the age of fifteen months, an average live weight of 94 lbs. per sheep, and an average "dressed carcass" weight of 54 lbs. or 60 61 per cent. The average weight of the fleece was 6.56 lbs., the length of the staple being about 50 per cent. greater than that of the average South-down, and the wool of equally fine texture.

The heaviest wether weighed 110 lbs. and yielded 70 lbs. or 63.63 per cent. of "dressed carcass," and a fleece of 74 lbs. The flesh was of excellent quality, fine in grain, and of good flavor, with a large proportion of lean meat. The following report was received from a well-known "wool expert," Mr. J. W. Turner, of Bradford: "I have carefully examined your sample of Suffolk-Merino wool. Of its kind the wool is most excellent. It has a 'soft handle,' and is withal quite firm in staple, and would make a small proportion of 'noil.' For wool of its class it could not be beaten." The book contains the pedigrees of rams Nos. 4021 to 4411, besides a record of a large number of flocks. The secretary has enumerated in verse form 101 good points of the Suffolk sheep, the last of which is—

"Well-bred, well-fed, and kept in health, A never-failing source of wealth."



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is economical. It is easier to take care of than a dusty, heavy carpet. It is more healthful because it is cleaner. A nicely painted floor with a neat rug, gives any room a clean, tidy look.

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There is only one Farmers' Binder Twine Company in Canada—Headquarters, Brantford. Their RED STAR and BLUE STAR Binder Twine is said to be the best ever made for the Canadian market. Do your duty by your own Company, consisting of three thousand farmers in Ontario and Quebec, all stockholders. Order out Twine early and pay them promptly.

Agricultural Implements of the most improved patterns will be furnished you through this same co-operative movement in the near future at about half present prices.

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Mr. Scotten has many miles of this fence on his estate, which he has bought at the rate of ten or fifteen miles a year for the past four years. He is using more this year than ever. If Page is not the best and cheapest, Mr. Scotten would have found it out long before this, and quit buying it. Send your address to the Page Fence Company (Limited), Walkerville, Ontario, for illustrated advertising matter.

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**JAS. SMITH, SON & CO.,** BRANTFORD, ONT.  
WHOLESALE MANUFACTURERS. 24-y-om

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The English and more pursuits natural illustration. far-reaching by the e Arthur horn B view w the follow

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