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FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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EDITORIAL.

Guarding the Interests of our Readers.

Dairy farmers throughout Canada, the United States, and elsewhere, will peruse with interest the account given elsewhere in this issue of our negotiations with the "Queen" Butter Maker Company, of Ohio, and the result of the test made for us by Superintendent Sleightholm, of the Western Ontario Dairy School, of the churn which this company desired to push by means of advertising in the FARMER'S ADVOCATE. While from an immediate monetary standpoint their \$500 offer might seem tempting in these times, still when we found our first adverse judgment of the apparatus fully confirmed by the two trials made we could not do otherwise than exclude the advertisement from our columns. The policy of this paper has ever been to "hew to the line, let the chips fall where they may," and that course we propose still to pursue. To have done otherwise, in the above instance, would have been, in our belief, an injury to dairy farmers, and in the end most detrimental to our own interest. Heretofore we have enjoyed the steady and increasing support of substantial and progressive farmers, and upon that we still rely even though we have to "turn down" other \$500 orders rather than forfeit their confidence.

From Producer to Consumer.

Struggling against the ever-increasing inflow of foreign and colonial agricultural products, the English farmer has during the last two years been receiving some compensation from a few of the railroads running into Old London in the way of special inducements to direct dealing between producer and consumer whereby a good deal of intermediary expense is done away with.

The Great Eastern will take on fast passenger trains produce boxes weighing not more than sixty pounds and deliver them at the buyer's house in London at the rate of eight cents for twenty pounds and two cents for every additional five pounds. Any kind of produce is taken, and consignments of assorted lots are allowed, the only condition being that the goods be properly packed in wooden boxes of specified shape. The company itself sells boxes of various sizes of the regulation pattern at from three to ten cents each, so that the return of "empties" is avoided. This system does away with the objection to small packages, that they are difficult to handle and inconvenient to pack, and puts the small farmer on a level with the shipper of great quantities. He can now send goods for less than half the rate formerly charged, and this gets him 96 per cent. of the gross retail price of his goods.

At a recent conference between the railway authorities and the leading agriculturists in East Anglia, it was stated that during the past year no fewer than sixty thousand of these inexpensive boxes had been carried over the line, and that during the first two months of the present year the number transported was more than four times that carried during the two corresponding months of 1896. The average value of the contents of these boxes was just under \$2 each.

In the hope of developing this feature of its business and of making it income-yielding, the Great Eastern issues a directory of eight hundred producers desirous of town customers, and gives producers such information as it can about finding buyers. The South-Western and the Great Western have arrangements of a similar nature. The railroads report a growing traffic, but slowness on the part of the farmer to respond to the advances. Yet they are satisfied to continue the enterprise.

This is a feature of transportation that will yet draw attention in Canada, especially in agricultural sections within reasonable reach by steam or electric cars of the larger cities.

Deadlocks in Judging.

While favoring the one-judge system as, on the whole, the most satisfactory where really competent men can be secured, we freely admit the difficulty experienced in getting competent men in all classes who are not interested as exhibitors or do not sustain such relationships to exhibitors as to render it inadvisable for them to act. A single judge who knows his business will do the work more expeditiously than two or three, and, as a rule, will do it as well if not better. He feels the full weight of his responsibility, since he has no one to share it with him and no one on whom to shift the blame if mistakes are made, as was often done under the old system of a committee of three. Next to one good judge we approve of two good judges, with a competent referee appointed by the same authority as the two acting judges, and chosen from the list approved by the Breeders' Association. If the two differ or disagree, and one is not able to persuade the other to see differently or to yield to his reasoning, it is generally known wherein they differ, and the referee is called to decide between them as to the order of merit of the two animals in dispute. It may in such cases be known just where each of the three stands, and the responsibility can then be placed on the proper shoulders. We contend for the appointment of a referee for the reason that we know that cases have arisen and do arise in some classes nearly every year where the two judges fail to agree, and the tie is broken by a third man selected from those who happen to be around the ring at the time, and generally by agreement of the two acting judges. The objection to this is that the suggestion for the choice of the third man may come from one of the exhibitors indirectly, or may come from one of the judges who is ambitious to have his judgment or choice sustained and may in some way indicate to the third man where his choice lies. In either such case there is the element of self-interest at work, and some show of reason for suspicion that the final decision has not been based solely on the merits of the animals. In the case of the two judges differing where there is no official referee we submit that the selection of the third man should be made by the authority which appointed the acting judges, or the committee of the Association in charge of the department, and if possible from the list of judges recommended by the Breeders' Association. Such course need not block the work of judging by reason of the delay involved in consulting the committee, as all that would be necessary would be the return of the animals in dispute to their stalls to be called out later for re-examination by the umpire chosen. It is not to be wondered at if exhibitors object to submit to the selection of a referee or umpire chosen by the judges or at the suggestion of an exhibitor, and threaten to withdraw their stock rather than be placed in that position. An exhibitor finding himself in this position should appeal to the chairman of the committee for the department for the appointment of an independent and capable referee whose decision should be final.

It is reported that in France experiments have been made which have proved successful in killing wild mustard, namely, spraying the infested field with a solution of sulphate of copper (bluestone). In the French trials the solution was a five per cent. one—that is, 5 lbs. of sulphate of copper to 100 lbs. (10 gallons) of water—and a little over 200 gallons were applied to one acre. Both mustard and thistles were killed in one trial, and in another the former was either killed or so injured that it could not produce blossom. No mention is made of lime, but it is stated that the copper solution did not harm the oats or spring wheat in which the mustard was growing.

A Trip to Manitoba and the Wabigoon Country.

(EDITORIAL CORRESPONDENCE.)

It was my happy fortune to leave the hot city of London, Ont., on July 10, for Winnipeg, by the C. P. R. SS. Alberta, which sails from Windsor to Ft. William, at the head of Lake Superior. We had little more than started when the passengers—over 100—assumed a restful, contented attitude, because of the refreshing breezes, and the characteristic, comfortable equipment of this superb boat. During the first afternoon and evening hot-weather garments were quite in order, and, indeed, very comfortable, but on Sunday morning passengers who had been wise enough to provide for a lower temperature were able to sit or walk in the breezes, while very many had to remain in the cabin or other sheltered spots to avoid shivering, however refreshing it may have been in contrast with the 90° in the shade in which we sweltered a few days before. Lake Huron is a beautiful body of water, deep blue and expansive. On the 11th inst. the atmosphere was clear, so that we were never very long out of sight of land on one side or the other, and hardly an hour passed that we did not meet or pass a number of freight boats—whalebacks chiefly. Those going our way floated high in the water, while those southward bound, being loaded, rode much like a log of green timber. These were being towed in twos, while in some instances three lumber boats were being hauled by one tug. A few passenger boats were seen, but in no case did we fail to overtake and pass every one going our way. The famous "Northland" was met on Sunday p. m., but our passengers did not envy them their passage while we could ride on the Alberta. The boats of the C. P. R. line are fitted for speed and comfort, and their service is all that one could desire. The courteousness of the attendants was the cause of general remark, and quite in keeping with what characterizes their splendid train transportation service.

We reached Sault Ste Marie on Sunday evening about 4:30, and as the Canadian locks are not opened on Sundays we had to pass by the American canal. We were detained here only a very short time, and were soon facing a stiff, cool breeze which was much enjoyed. From sunset until dark a number of us enjoyed watching a very beautiful mirage in the western sky which resembled a terraced town beautifully located. On Monday night our stateroom windows had to be tightly closed, and even then it required heavy comforters to keep us warm. On Monday morning we were reminded by the temperature and the lowering sky of an October morning when we have gone out to plow wearing mittens. This day was pleasantly spent, as we had become acquainted and had nothing to do but visit. We did not meet as many boats as on Sunday, as we were out of the Duluth route. We reached Port Arthur at 4:30 p. m. and Fort William half an hour later. The former place has apparently not much of especial interest since the C. P. R. made Fort William its elevator center. They have three magnificent elevators, having in all a capacity for some 4,000,000 bushels of grain. The landscape about here is very pronounced, there being rocky points some 1,700 feet high.

There is little of special interest between Fort William and the Wabigoon country. We passed it during the night. It is a combination of rocky formation half covered with scrubby vegetation, interspersed somewhat irregularly with picturesque lakes. This embraces some 200 miles, and is believed to be rich in minerals.

CLOVER FRAGRANCE.

As we approached Wabigoon the atmosphere was fragrant with red, alsike and white clover bloom, which grows naturally in great profusion all along the line between the muscegs, which are objectionably numerous from an agricultural standpoint. For about twenty miles along the line and for some ten miles back from the railroad this condition prevails. Some six miles west of Wabigoon station is situated Barclay, which on the day of our visit lost considerable of its identity by being deprived of its railway station, which was that day moved to the flourishing village of Dryden. This is the center of the new agricultural country sometimes termed "New Ontario," and lies right alongside the Pioneer Farm, of which considerable has been written and spoken. We were much interested in this farm, and stopped off two days with its manager, Mr. A. E. Annis, who in two years, with the assistance of from one to

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three men, has converted a considerable acreage of entirely new land into fields resembling very closely older settled districts of Eastern Ontario. Some of these are surrounded by lock wire and movable hurdle fences. The hurdles are of wire and lumber, the same as those in use at the Guelph Agricultural College Farm. The first impression of the land in this district is disappointing, being very light-colored clay, which does not seem to bake, but when dug either dry or moist crumbles very easily. It is the general impression that on the higher ground all the vegetable matter has been burned off some time since the railroad has gone through. Had we not the evidence provided by the Pioneer Farm we would doubt its ability to produce crops, but what we saw there convinced us that there is a future for the Wabigoon country.

CLOVER SEEMS TO BE ITS HOPE.

Some ten or twelve acres of last year's seeding will produce this year some two tons per acre of clover and timothy hay. This was cut about July 15th. Some two acres of turnips were just about ready to single at the time of our visit, July 13th. Potatoes planted on June 9th were just coming into blossom. A portion of the patch had suffered from the wet, but we would predict nearly 200 bushels per acre from the appearance of the vines. The fall wheat, we were informed, came out from beneath the snow every plant alive, but late spring frosts had thinned it out considerably in spots, and we would now put the crop at from seventeen to twenty bushels per acre. It stood from two to three feet high, and was well headed. The barley on last year's breaking was out in head, and promises from twenty-five to thirty bushels per acre. Oats looked well, but will be late. These crops were all seeded with clover and timothy, and apparently every seed has grown. The season was evidently a late one. We were informed they had three inches of snow about June 5th.

Mr. Annis was busy summer-fallowing for fall wheat, and clearing and burning for this fall's breaking. Clearing is not a big job in this section, as there are large areas with little on them but a few loose snags and a sparse covering of scrubby shrubbery. There are no stones in the land except on an occasional gravelly, rocky hill, or in the purely rocky sections, which are outside the agricultural location.

We would just here correct a generally entertained wrong impression, that this is an experimental farm, though it may deserve the name in one sense, but properly speaking it is

A PIONEER FARM.

Mr. Annis was a very successful farmer in Eastern Ontario. He commenced here just as a judicious pioneer would. His house is built of logs, although very comfortable, and his barn is much like the smaller frame structures of Eastern Ontario. It has a comfortable but plain wooden basement beneath for the accommodation of the stock, which consists of seven ordinary grade cows and four yearlings; also ten Shropshire yearling

ewes and a ram, as well as a Yorkshire sow, her spring litter, and a Berkshire boar. The horse stock consists of three good general purpose workers about 1,400 pounds each. The cows pasture on new unbroken land, and are in good condition and milking well.

The three surveyed townships of Van Horne, Wainwright, and Eton are nearly all taken up by settlers at 50 cents per acre; and a fourth township, Sanford, is to be laid out. A number of them have already erected frame houses, and are clearing their land. All the ground that was seeded last year bears a good crop of grass and clover this year. Some few put in oats last spring on spring-plowed new land, but the crop was not very encouraging. These patches were seeded and the seed seemed to be all growing. The oats had considerable wild peas among them, which will along with the oats produce a quantity of fodder if the oats do not ripen. This clay land must be worked well the first year, and as soon as possible a crop of clover should be plowed down to supply vegetable matter. A number of the settlers who cannot wait for a year or two for returns from their farms are apparently neglecting to do any clearing and breaking, but are employing their teams at work for the C. P. R., etc. They have been employed to some extent by the Government building colonization roads. Some of these men express disappointment at what they have found, but they secured their farms easily, and the Pioneer Farm has proven the productiveness of the land, but naturally some persistent work must first be expended upon it.

WABIGOON'S FUTURE.

It is the general impression of the best settlers that the future of Wabigoon as an agricultural country depends now to a large extent upon the development of the adjacent gold fields. All along the south of the R. R. and around the Wabigoon Lake a large number of gold claims have been taken up. Work is being done on a number of these with very encouraging results. Already we hear of some \$30,000 claims, but this reminds us of Mark Twain's definition of a gold mine—"a hole in the ground and its owner a liar"; but Mark Twain has not yet visited the mining country of Northwest Ontario. We saw one of these holes and brought away a number of pieces of quartz showing considerable galena, copper, and (probably) gold. The presence of galena, we were told, is a good indication—(of disappointment, said the other fellow). Quartz from a number of these claims has assayed encouragingly, and a ton has been sent to Toronto for reduction. The results will be awaited with interest by many of the holders and speculators. If the mining results as it promises Wabigoon farmers will have a good home market for their produce, which will be chiefly meat and dairy products. If the mines prove a disappointment farming is not likely to be a great success, owing to its distance from market.

DRYDEN.

The village of Dryden may be described as of mushroom growth. A year ago two or three houses included all the buildings. It now has about forty houses, including three general stores, a hardware, furniture, flour and feed, and drug store. There are two taverns which are doing too much saloon trade to please the better class of citizens. A school of fifty pupils is just commencing, and a Methodist church is soon to be built. It is calculated that within the next few months from twenty to thirty houses will be erected. The place was very busy when we were there getting the station in place and building a 400-foot platform. There was also a dam being constructed across the Wabigoon River just at the head of a waterfall which drops in two sections some 34 feet, providing one of the finest water powers in America. This is just at Dryden and will in all probability be the site of a stamp mill or other works within the next few years. The immediate purpose of this dam is to raise the Wabigoon Lake some two and a half feet in order to facilitate navigation in some of the ports in other quarters of the Lake. This will give Dryden one of the finest navigation facilities on that extensive body of water. A line of steam tugs now ply upon its waters, and material for the dam was being brought in this way, as well as lumber for house building, etc. There is a small sawmill close to Dryden, which gets its logs by way of the river. The franchise of the settlers is being looked after for the next Provincial election. Sheriff Carpenter, of Rat Portage, was at Dryden the first day of our visit and put on the list the names of some 125 voters. At Wabigoon he found 100 voters.

OUR TRIP RESUMED.

After leaving Dryden the possibilities of agriculture are out of the question until Manitoba is reached. The physical features of this stretch of country resemble what we noted as prevailing for 200 miles east of Wabigoon. Rat Portage is passed in this distance. It is a live town of some 4,000 inhabitants, said to be rather quiet this summer since the mining boom of last winter. Nearly all the talk concerns gold, but most of it is of a prospective nature. A few mines are paying large dividends just now, but many good claims are awaiting capital to work them. About three miles away is Keewatin, the site of the Lake of the Woods mills and elevator. These are situated on what is considered one of the finest water powers of the world, being just at the outlet of the Lake of the

Woods. The mills have a capacity of 2,000 barrels of flour per day. They were running almost full blast at the time of our visit. Their high-grade flour from Manitoba hard wheat has a world-wide reputation and a ready sale. As we approached Winnipeg we saw a few pieces of wheat in head which looked well. Haying was in progress and the crop good. We have not yet come to the conclusion that Manitoba is the garden of the world, but what we will see within the next month may cause us to give up our Ontario claim for a home on the prairie. Winnipeg is a bustling city, bearing a businesslike, substantial appearance—about what we had expected to find.

J. B. S.
Winnipeg, July 17th.

Western Development as Viewed by a Prominent Ontario Agriculturist.

To the Editor FARMER'S ADVOCATE:

SIR,—Being desirous of acquiring a more intelligent knowledge of this Western country, its physical features, the system of farming carried out, its resources and possibilities, the social life of the people in the sparsely settled portions, and, above all, its suitability as a home for the surplus farming population of the East, I had resolved some time ago to so arrange my business as would admit of my taking a two months' pleasure trip between Winnipeg and the Pacific coast. In 1894 six weeks were spent in taking in all the leading places on the main line between Winnipeg and Calgary, and the country north of the last named town to Edmonton, as well as visiting to some extent the ranching country to the south. Besides taking in the localities mentioned, four days were spent in travelling through that part of the Province lying south of Brandon. With the knowledge acquired at that time added to what I hoped to gain by observation, mixing much with the people, and information to be gathered from many sources on this occasion, I trusted to be able to return home to my own Province feeling that I had a pretty good general knowledge of this great part of our Dominion. One of the difficulties found this time, as on the two former occasions when here, is the vastness of the territory to be travelled over. On the last of the two former visits I had to turn back before getting to the end of my proposed journey, time not admitting of my remaining any longer. This time, however, I was bound to see the Pacific and the towns and cities on the coast. With that end in view, after a few days spent in Winnipeg, I took train for the coast, not stopping anywhere until Victoria was reached.

Now, Mr. Editor, do not think that I am going to attempt to inflict on you or the readers of your journal an account of that trip. I know well that you keep a waste-paper basket convenient to your hand at all times. What I do purpose doing is, from the standpoint of an Ontario farmer, to give you the views and impressions left on my mind after spending considerable time in the Province of Manitoba, visiting it in many places, and seeing many sections which varied in regard to soil and local conditions. Driving through its farms, inspecting the fields, studying the systems of farming (for, as in other countries, there is more than one system followed), considering the nature of the soil, climatic conditions, and the probable markets of the future.

At the outset I wish it to be distinctly understood that I do not presume in the slightest degree to pose as a teacher. As I said before, the primary object in coming to this country was to have a pleasure trip. Next to that, I hoped, and may say, knew, that it would be instructive to myself personally, and possibly, as the result of observation and knowledge acquired by mixing with the people, I may be enabled to make some suggestions which will give food for thought. If farmers, speaking in a general way, have one failing more than another, it is that they have developed in a very strong degree the idea that they know all that is worth knowing about their own profession, and are too apt to jump to the conclusion that every man's practice that differs from their own must of a certainty be wrong. I trust that I shall keep clear of this error. Having said so much, we, however, will agree on this, that there are certain general principles which underlie successful agriculture wherever it is followed; and further, that the successful farmer will be the man who will be ready to adapt himself to changed conditions when they do arise. I have been three times in this country; twice I have had special opportunities of studying agriculture as here practiced, and have no hesitation in saying that a great many farmers, considering general and local conditions, were and are making the best of their opportunities. However, it is in the best interests of the farmer and the country that it be fully realized that conditions which have ruled in the past are fast changing. In the earlier days the land was comparatively clear of weeds, excepting in some sections, such as the older settled portions of the Red River valley, and it appeared safe to go on grain growing without much thought for the future. Now that is all changed. The land both in the Territories and in large sections of Manitoba is in danger of becoming absolutely foul with weeds, and it is only a question of a short time when many of these farmers will no longer be able to grow a paying crop. This is no fancy picture. It has taken place on some of the rich and fertile wheat-growing lands around Indian Head, and unless some check is given to it the same state of

things will soon be found to hold good in not a few other sections. To my mind it is one of the most difficult problems that has to be dealt with in this country. The Government is moving as far in the matter as it would seem possible for it to go. The laws bearing on it are wisely framed; and these laws, I am told, are enforced to an extent as far as it is reasonable to go. Very many farmers are in no way backward in co-operating with the Government and in trying to check the spread of these noxious weeds, and yet withal the state of things spoken of is becoming intensified. This appears to be more chargeable to the system of farming followed than to the farmers. So long as grain growing prevails in such a large measure in preference to a system of mixed farming, whereby stock-raising along some line will be carried out, whether it be meat producing, cheese or butter making, so long will the weeds go on increasing. Once let there be a necessity for raising large quantities of autumn, late fall and winter feed for stock—and certainly the successful farmer of the future is going to be the man who does that—then it will be found that more labor can be profitably employed all the year round, and the hoed crops which it will be found absolutely necessary to grow will, if properly handled, be a very valuable factor in clearing the land from these noxious weeds.

While there is no manner of doubt that it is very desirable that a change of system in many localities and by many farmers be gone into, we need not lose sight of the fact that there is many a farmer in Manitoba to-day who has got his farm paid for and who is in comfortable circumstances who would not have been so if it had not been for the large amount obtained from cheaply-grown grain. We might even go further, judging from what we have seen, and say that they cannot be blamed if they pursue the system a few years longer. They are simply not in a position to go all at once into mixed farming—they must grow into it gradually; but certainly the sooner they can get into it the better for themselves and the country they live in.

Perhaps after theorizing as I have done it might be well to give reasons for the conclusions arrived at. They are these: Firstly, the indications all tend to show that there are likely to be higher prices for farm stock for some years to come. Already prices have gone up at least five dollars a head on the ranch cattle; and no better evidence can be required than the great demand for stockers, and in some quarters where Canadian stockers were never wanted before. Thousands and tens of thousands have been taken from Ontario during the last eight or ten months by the feeders in the States of Pennsylvania and New York on the one hand and to Iowa and the country tributary to the Chicago market on the other. Then again, to localize it more, unquestionably there will be great developments in the mining country both east and west of Manitoba. There will be to a certainty in the near future, and to no small extent is now, a large number of people in these mining districts who will not produce a single article of food, and Manitoba and the Territories, from their geographical position, will have much of that trade.

JOHN I. HOBSON.

Crop Prospects.

Taking the Dominion as a whole, the prospects for this year's crops are decidedly favorable. With regard to some of the Provinces it is yet too early to make a forecast that may be considered reliable, while of others it may be made with considerable confidence. The late and cold spring which prevailed in all the eastern Provinces delayed seeding and made it later than usual. In consequence of this harvesting may be late, and probably will be so in the Maritime Provinces especially.

ONTARIO.

In Western Ontario the hay crop has been abundant, and new meadows have yielded immensely. In most sections the bulk of the hay was secured in first-class condition, but in some localities showers have been so frequent as to delay the work and damage the quality of the crop considerably, and in some cases ruinously. In Eastern Ontario, as reported by Mr. Joseph Yuill, Lanark Co., the conditions in regard to the hay crop have been reversed. In the last two years hay was abundant in the east, and large quantities were sold for shipment to the west. This year there is probably less than half an average crop, with no new meadows, a considerable acreage of hay land having been plowed up and sown to millet and other fodder crops.

The winter wheat crop in Western Ontario especially, and generally in the central counties, is magnificent. A full average yield is assured, as harvesting is now practically over, and the condition of the crop is all that could be desired, there being no appearance of rust or blight, the straw bright and clean and the grain plump and sound. The winter wheat plots on the Central Experimental Farm, Ottawa, proved a complete failure, being killed out.

Spring crops of grain, oats, peas and barley are a full crop in nearly all sections, the exceptions being limited to areas where drainage was insufficient and water lay upon the land after seeding. Wheat in the shock, oats and other uncut grains in Western Ontario were seriously damaged by heavy rain.

Corn is not a uniformly good crop, but has been improving latterly and will probably turn out better than anticipated. The late, cold spring delayed planting, and in many cases necessitated replanting. Some really good fields are seen, for example, in parts of Middlesex Co., Ont., where the prospect is nearly equal to 1896; but generally the crop is not up to the standard, and in some instances it cannot be written down other than a partial failure. This to not a few in the dairy districts especially will be regarded as a greater loss than that of the hay crop, and we regret to say that in some of the eastern counties, as Mr. Yuill writes us, both are deficient. Root crops are promising well in all sections of the Province.

Apples will probably not be half a crop. The bloom was abundant, but the trees have not fruited. Cherries and all small fruits have been abundant, and plums and pears promise well, especially the former. Several report peaches a failure, but a fine crop in the Niagara district.

QUEBEC.

Of the prospects in this Province, Mr. Robert Ness, of Chateaugay Co., reports the hay harvest some two weeks later than usual, there being no clover, it being wholly killed out by the frost of last winter; but timothy has picked up wonderfully in the last two weeks and is strong and of great length, especially first and second cuts. Oats, barley and peas are really splendid, and corn and roots good. Fruit will be below the average. With the late rains pastures are greatly improved, which was much needed.

Mr. John Racey, Jr., Sherbrooke Co., writes

are not as plentiful as usual. Plums and cherries are a failure, as are most of the small fruits."

NOVA SCOTIA.

Mr. G. W. Forest, Superintendent of the Experimental Farm for the Maritime Provinces, reports that owing to the cold, wet spring, seeding was the latest for 25 years. We have had two weeks of very warm weather, and all crops have made very rapid growth. Hay will be about an average crop. All kinds of grain are late, but growing very fast and promise an average crop. The apple crop will be less than half. Plums and cherries a complete failure.

Prof. E. E. Faville, Director of the Nova Scotia School of Horticulture, who has recently made a tour through Cape Breton and the eastern portions of the Province, says the hay crop is badly impaired by the great growth of buttercups and Ox-eye daisies; otherwise the crop is large and above the average. Root crops are promising very good. Corn fodder crop poor—a backward spring the cause. Cereals below the average. Apples less than one half of last year's crop; plums very light, almost a failure; pears exceedingly good; cherries and peaches, scarcely any at all.

PRINCE EDWARD ISLAND.

Mr. William Clark, Queen's Co., speaking for the Island Province, says: "Hay, taken as a whole, will be a good average crop. Old meadows were badly winter-killed, but we have had a phenomenally wet spring up to July 5th, and it brought the grass along finely, considering the prospect in May. New meadows escaped unharmed, and are a grand crop all through the Province. The various grain crops never promised better at this date on all high, dry land, but a great many fields of low to flat land will be from a partial to a total failure. Winter wheat is not grown on the Island. Root crops have done grandly the last fortnight, and promise well. The spring was very hard on the corn crop; a great deal missed all over, owing to wet and cold, but the outlook is all right for those who sowed thick, for where thick enough it looks fine, having made great growth in the last two weeks. Fruit of all kinds will be a short crop."

MANITOBA AND THE NORTHWEST.

The prospects for the crops in Manitoba are very good both for wheat and coarse grains, and a largely increased acreage has been sown. The growth was slow in the early months after seeding, and in some sections drouth prevailed for a time, but rains have been frequent of late and the weather warm, and crops have grown and developed rapidly. The probability is that the yield of the wheat crop will be equal to the average of the best years, other crops are all fairly good, and the outlook for all the West is decidedly encouraging.

BRITISH COLUMBIA.

Thos. A. Sharpe, Superintendent Experimental Farm, Agassiz, B. C., writes: "Small fruits were an abundant crop, but strawberries suffered from the very excessive and continued rains, which seriously injured the crop; but raspberries, currants, and blackberries are a fine crop. Cherries were injured by the continued wet weather, causing the fruit to crack and spoil. Plums will be a fair crop, while apples and pears will be the heaviest crop for some years. Hay has been a very heavy crop, but the rains have made curing rather difficult. Grains are looking very well in most places, but in some localities oats are reported lodged, which may reduce the yield somewhat, and will increase the labor of harvesting. The cold, wet weather in June has retarded the growth of corn fodder somewhat, but with warm weather it will soon pick up. Roots, in most places, promise an abundant yield. Potatoes look exceedingly well. On the whole, if prices are fair, this promises to be a prosperous year for farmers all over B. C."

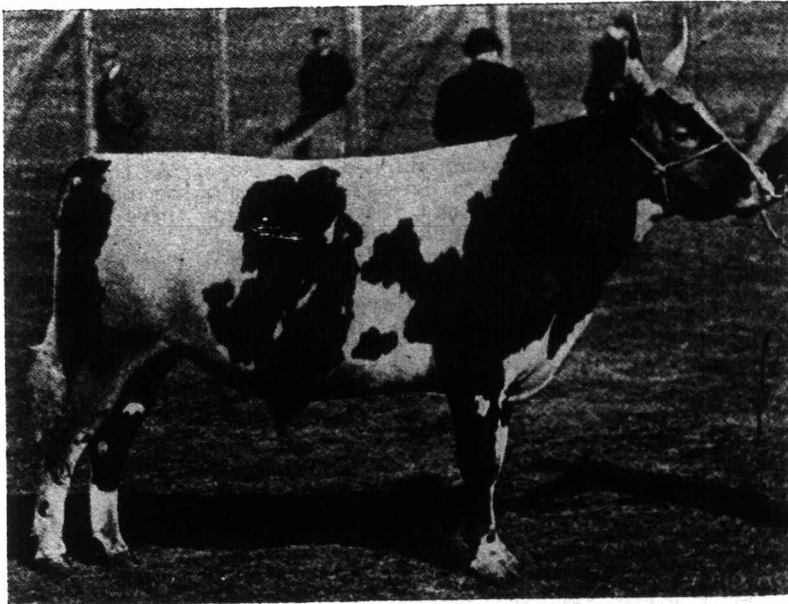
of his district: Hay a fair crop; on some farms very good, on others light; some fields being badly hurt by frost last winter. Grain is doing well, but has suffered in low places from the wet weather. At present it is growing rapidly, and much of it will probably lodge. Corn and roots are very promising. Taking it all through we shall not have much to complain of.

NEW BRUNSWICK.

Mr. Julius L. Inches, Secretary for Agriculture, of Fredericton, reports grass much winter-killed. Cold, backward weather continued through May and part of June, followed by very warm weather, which made a marvellous change in all growth and enabled sowing and planting to proceed with unusual rapidity. The grass was greatly improved. Hay promises a fair crop on all good land. Grain looking well, but too early to report crop. Roots doing well, but late.

Dairying doing well, and the quantity of cheese larger than last year. Make nearly all sold as soon as ready to ship at good prices.

Wm. G. Cameron, Kent Co., writes: "In Kent County the hay was badly winter-killed, but being a wet spring it will be better than it looked likely to be at first, and if not too much hot weather for a few days will be a fair crop in some places, but in most places will be very light. As a consequence of the wet spring, grain seeding on wet land was only finished the first week of July, so that it is too soon to form an idea what it would be like, but grain sown in good time on dry land promises a heavy crop of straw and grain also. Fodder corn where sown looks well, but there is not much of it grown. Potatoes are looking very well, and the bug did not come as early as usual. Turnips and other root crops where sown early are doing well, but a good many do not sow till July, and the hot weather we have had keeps them back. Apples



AYRSHIRE BULL, SENSATION OF LESSNESSOCK (3647).

Calved March, 1895; bred by Thomas Lindsay, Reidston, Ochiltree, Scotland. Property of Robert Montgomery; 1st at Glasgow and the Highland, and champion at the Highland, Glasgow, 1897.

Champions at the Highland Society's Show.

The following is a list of championship winners in the cattle classes at the recent show of the H. & A. S. at Glasgow: *Shorthorns*.—Bull any age—Earl of Caledon, for Sign of Riches, bred by W. S. Marr, Uppermill; cow any age—Lord Polwarth, for Wave Mist, bred by exhibitor. *Aberdeen Angus*.—Bull—Sir Geo. Macpherson Grant, for Prince Ito; cow—Wm. Nimmo, for Rose of Benton. *Galloway*.—Bull—John Cunningham, for Standard Bearer; cow—John Cunningham, for Dora. *Ayrshires*.—Bull—Robert Montgomery, for Sensation of Lessnessock; cow—Wm. Howie, for Nellie Grey, the first prize three-year-old, a white.

John Spurrell, of Sac Co., Ill., writes that the use of 1 1/2-inch hose is the surest and safest way to relieve bloat. Trim the outer sharp edge of the end of hose and open the mouth and shove it down the throat clear into the stomach, and when it reaches the stomach the bloat will come out a great deal quicker than it takes me to tell it. The hose should be about seven feet long, and one must be careful not to let the animal get hold of it with his grinders, as they will break down the hose so that it will not be stiff enough to force down the throat.

The Dingley Bill Becomes Law.

The new U. S. tariff law, called the Dingley Bill, having passed the House of Representatives and the Senate, was on July 24th signed by President McKinley. The following table gives the chief items of interest to farmers in this Bill and its predecessors:

ARTICLE.	M'KINLEY BILL.	WILSON BILL.	DINGLEY BILL (1897).
Horses under \$150	\$30	20 per cent.	\$30 per head.
" \$150 and over	30 per cent.	20 "	25 per ct. ad.
Cattle, less than 1 year	\$2	20 "	\$2 per head.
Other cattle worth not more than \$14	20 "	20 "	\$3.75 "
Cattle, more than \$14	30 "	20 "	27 1/2 per cent.
Sheep, under 1 year	75 cents.	20 "	75 cents.
" 1 year or more	\$1.25	20 "	\$1.50
Hogs	\$1.50	20 "	\$1.50
All other animals	Free.	20 per cent.	20 per cent.
Hides	Free.	Free.	15 "
Wool, per pound	12 cents.	Free.	11c. to 12c. lb.
Bacon and hams	5 " lb.	20 per cent.	5 cents lb.
Fresh beef	2 " "	20 "	2 " "
" mutton	2 " "	20 "	2 " "
" pork	2 " "	20 "	2 " "
" veal	2 " "	20 "	2 " "
Lard	2 cents lb.	1 cent lb.	2 " "
Poultry, live	3 " "	2 cents lb.	3 " "
" dressed	5 " "	3 " "	5 " "
Barley	30 " bu.	30 per cent.	30 cts per bu.
" malt	45 " "	45 " "	45 " "
" pearled, patent or hulled	2 " "	2 " "	2 " "
Buckwheat	15 cents bu.	20 per cent.	15 " "
Corn	15 " "	20 "	15 " "
Cornmeal	20 " "	20 "	20 " "
Rye	20 " "	20 "	20 " "
Oats	15 cents bu.	20 "	15 " "
Oatmeal	1 cent lb.	15 "	1 cent lb.
Wheat	25 cents bu.	20 "	25 cts. per bu.
Wheat flour	25 per cent.	20 "	25 per cent.
Butter	6 cents lb.	4 cents lb.	6 cents lb.
Cheese	6 " "	4 " "	6 " "
Milk	5c. per gal.	Free.	2 " gal.
" preserved, sterilized, etc.	2 " lb.	2 " "	2 " "
Beans	40 cents bu.	30 per cent.	45 cts. per bu.
Eggs	5 " doz.	3 cts. doz.	5 cents doz.
Tallow	Free.	Free.	3 cts. per lb.
Hops	8 cents lb.	12 "	15 " "
Straw	Free.	Free.	\$1.50 per ton.
Hay	\$4 per ton.	\$2 per ton.	\$4 " "
Honey	20 cts. gal.	10 cts. gal.	20 cents gal.
Onions	40 cents bu.	20 cents bu.	40 cts. per bu.
Potatoes	25 " "	15 "	25 " "
Other vegetables	25 per cent.	25 per cent.	25 per cent.
Castor beans	50 cents bu.	25 cents bu.	25 cts. per bu.
Apples	2 " "	20 per cent.	25 " "
Dried apples	2 " lb.	20 "	2 cents lb.
Peaches, plums, pears	25 cts. per bu.	25 cts. per bu.	25 cts. per bu.
Berries	1 ct. quart.	25 per cent.	25 per cent.
Cranberries	Free.	Free.	1 ct. per lb.
Flaxseed	30 cents bu.	20 cents bu.	30 cts. per bu.
Grapes	60 " bbl.	20 per cent.	20 " cu. ft.
Flax, dressed	Free.	Free.	\$5 per ton.
" not hack'd or dress'd	Free.	Free.	1 ct. per lb.
hacked	Free.	Free.	3 " "
Fresh water fish	Free.	Free.	13 " p. 100 lb.
Salt (packages)	Free.	Free.	8 " "
" (bulk)	Free.	Free.	4 " per lb.
Maple sugar and syrup	Free.	Free.	20 per cent.
Hides	Free.	Free.	\$2 pr 1000 ft.
Lumber posts, ties, telegraph and telephone posts, etc.	Free.	20 per cent.	20 per cent.
Clapboards	Free.	Free.	\$1.50 pr 1000 ft.
Fence posts	Free.	Free.	10 per cent.
Laths	Free.	Free.	25c. per 1000.
Florets, pallings, staves	Free.	Free.	10 per cent.
Shingles	Free.	Free.	30c. per 1000.
Manufacture of wood	25 per cent.	25 per cent.	35 per cent.
Wood pulp (mechanical)	10 "	10 "	1-12c. per lb.
" (chemical)	10 "	10 "	4c. per lb.
Plows, harrows, harvesters, reapers, drills, planters, mowers, horse-rakes, cultivators, threshing machines, and cotton gins	20 per cent. ad.	20 per cent. ad.	20 per cent. ad.

* Provision is made for doubling and trebling the duty on wool when washed or scoured.
Pure-bred stock for breeding purposes are admitted free as heretofore.

The Pest Spreading.

Mr. W. M. Orr, Superintendent Experimental Spraying in Ontario, has made a report to Hon. John Dryden, Provincial Minister of Agriculture, on the existence of San José scale, which can be found in many orchards from Chatham in the west to Niagara, affecting both trees and fruit. Mr. Orr brought in specimens of plums badly affected. It was found on trees, some 800 of which were imported from New Jersey a few years ago, and 50 of which have been located. Mr. Orr emphasizes the warnings and confirms the advice frequently given during the past year in the FARMER'S ADVOCATE, and regards the total destruction of trees as the most effective measure. We publish in this issue a further letter on the subject from Prof. Craig, of the Central Experimental Farm.

Exports of Canadian cheese and butter show enormous increases in 1897 compared with 1896, packages of the latter being nearly double. For details see our Market Department.

Queensland, the very hottest of the Australian colonies, recently shipped sixty tons of butter to the English market, and sold it at the highest price going there. It was kept at an even temperature of 30 degrees, but not frozen.

STOCK.

Horse Breeding.

BY A. G. HOPKINS, V. S., NEEPAWA, MAN.

Readers of agricultural papers, and the horse market reports in those papers, cannot but be struck by the fact that horses are going up in price, and also from the figures adduced a scarcity of horses, good ones especially, is near at hand. The progeny of mares bred this spring will not be of use till 1902, so that with a scarcity now, a horse famine in the future is not improbable. In spite of bicycles, motor cars, etc., the demand for first-class carriage, saddle, roadster, and draft horses is likely to be good. As this is the season of the year when the majority of mares are bred, an address on horse breeding will not be out of place. For convenience we will arrange the subject matter under three heads: 1st, the sire; 2nd, the dam; 3rd, the progeny. Before proceeding, I would mention three laws that govern breeding, viz., heredity, or the law "that like breeds like"; atavism, i. e., the faculty of throwing back to more remote ancestors; and evolution, which by its action sometimes compels heredity to give way to different causes, modifying both the physical and mental organism, thus placing in the breeder's hands the power of developing breeds or varieties. The laws are given in the order of their importance.

THE SIRE.—In selecting a sire you should have a clear idea of what you wish to get; in other words, select a type, and then select your sire from among the horses that come the nearest to the desired type. The securing of a good sire is half the battle. No matter how good the mare is, if a poor sire is used her influence on the progeny will be to a great extent lost, and your work will be for naught. Don't breed in a haphazard style; e. g., Clyde one year, trotter the next, carriage the next, and so on. For the general farmer I think line breeding is the safest; that is to say, classify the mare you have, and use a sire as nearly perfect of the same class as the mare. Too violent crosses are not to be commended at any time. If you follow the haphazard methods as outlined above, the results will be disappointing, to say the least. Possibly one man in a thousand by this method may get a specimen for a museum, but the other nine hundred and ninety-nine will have stock only fit to be canned and shipped to Europe. As the prices for full-grown horses for canning only range about \$5 to \$10 a head, it is readily seen there is no money in the haphazard method. We might sum up by saying "don't breed scrubs." Few intelligent people dream of using a scrub bull, but unfortunately there are yet plenty who will patronize the mongrel stallion. If you intend using a draft sire, see that he is of good size, good quality, limbs and feet the same, and that he is sound, and it won't do any harm to examine his pedigree. If possible get him strong in the points where the mare is weak, see that he has plenty of life, is a good feeder, and don't be afraid to pay a reasonable fee—anywhere from \$8 to \$20 is about the figure; a person wanting the services of a good horse for less money should not be in the business. If you use one of the lighter breeds pay special attention to the limbs, feet, and wind; not that you should overlook these points in the drafts—not by any means—but without these excellencies the lighter breeds are valueless. If you prefer the lighter breeds be sure you have size; there are far too many weedy trotters, known as "bloods," used. Size is an indispensable condition when the light horse is used as a cross, for the reason he is used is principally to give quality and speed. I might as well name the breeds of horses, and incidentally remark there is no such a breed as the "blood." The draft horse is represented by the following breeds: Clyde, Shire, Suffolk Punch, and Percheron. The lighter horses may be subdivided, according to the stock they are qualified to beget, into: (a) The carriage class, including Cleveland Bays, Yorkshire, French and German Coachers; (b) roadsters, Hackneys and Standard-breds; (c) running horses, including the Thoroughbred and Arabian. An opinion exists which I am convinced, both from observation and reading, is erroneous, that in all cases the male should be smaller than the female. While it may not be good policy to use an extremely large stallion with a very small mare, I have never known a case of dystocia or trouble in labor to arise from the use of a large male. The trouble has invariably been due to wrong presentations, debility, plethora, or faulty construction of the generative passages in the dam. To sum up, the sire must have size, style, and be sound; in fact, be a good specimen of the breed. The use of such a horse with a pedigree that further recommends him will insure you a reasonable amount of success.

THE DAM.—Choose the best mare or mares you have; don't use the cripples, unless they are so by accident; remember the law of heredity, "that like breeds like," and your choice will likely be a good one. Some people breed their fillies so that they foal at three years old. I don't advise you to follow that course, as the dam is not mature at that age; immature dams mean greater risks in foaling, besides having weaker foals. If such a method be followed, after having the first foal give her a year's rest before breeding again, and the results obtained will be more satisfactory than if the rest had not been given. Allow the mare a reasonable time after foaling before again stinting her to the horse. Having the mare in foal, give

steady work; don't use the in-foal mare to draw very heavy loads, such as separators, etc.; don't use her to back up loads, but plenty of light work will do her good; above all, don't send her out to the pasture in charge of the dog; neither is it good policy to exercise her on icy ground; feed generously, as the mother needs a good supply of nourishment for herself and the foal she is carrying. Some time before foaling give soft feed—bran mash, bran and oatmeal mash, boiled flaxseed, and, if possible, grass; by so doing, the foal will likely be healthy, and you may be able to avoid that bane of early foalhood—constipation. If it is allowable, I would like to interject a piece of advice: If you find your mare does not foal within an hour after the presentation of the bag of water, get skilled assistance. Delays at this period may mean loss of both dam and progeny.

THE FOAL.—The foal has arrived; the theories employed by you with regard to the sire and dam are at an end, and it remains with you, by the employment of good care and feed, to build up a good horse on the foundation given you. If you are present at the foaling, the navel string (umbilical chord) may need attention. Tie a piece of clean chord tightly around the navel string about an inch and a-half from the body, another cord an inch further on, then with a knife or scissors cut between these cords. If the mare has foaled in the open, the navel string will, as a rule, not need any further attention. If foaling took place inside, you may, in spite of apparent cleanliness of the box stall and surroundings, have a case of navel-ill or joint disease. Antiseptic and febrifuge treatment is called for, and if convenient to a veterinarian, seek his advice immediately; delays are fatal in cases of this kind. Two common ailments of foals are constipation and diarrhoea, the latter especially being very fatal. The first-named disease is caused by the foal not getting the colostrum (the first milk, which contains a purgative principle), and here is where the danger comes to foals whose dams were running milk previous to foaling; another cause being the mother's milk, owing to dry feeding, being constipating in its effect. Diarrhoea is very prevalent among the progeny of mares that give a large supply of rich milk; the remedy, or better, preventive treatment, is to limit the foal's allowance for the first week or two. Another cause is allowing the foal to suck the mare and get the hot, stale milk after she is brought in from work. Don't let the foal go around with her while working; it is too hard on the little fellow. If forced to work the mare put the foal in a box stall, fix up a feed-box for it, and give it a mixture of oat chop and bran made up with milk. After it is a month old, give it all the milk it will drink, and it won't hurt the mother to take some too. Should you possess more than one foal, put them in a box stall together while the dams are at work; they will do better, as a result of not fretting. With such treatment as I have endeavored to outline, you should by weaning time have a foal which gives promise of making a good horse.

Our Scottish Letter.

THE HIGHLAND AND AGRICULTURAL.

A most successful gathering of the Highland and Agricultural Society has just been concluded at Glasgow. The show of 1897 will rank as one of the most successful held by the Society for many years, and the character and quality of the exhibits left little to be desired. All the breeds of cattle, horses, sheep, pigs, and poultry reared in Scotland were exhibited, and it may be of interest to summarize these. There were Shorthorn, Aberdeen-Angus, Galloway, Highland, and Ayrshire cattle; Clydesdale, Hunting, and Hackney horses, with Hackney and Shetland ponies; Blackface, Cheviot, Border Leicester, Shropshire, Half-bred, and Oxford Down sheep; Large and Middle White with Berkshire pigs; and a great variety of poultry, but few exhibits of either variety. Besides the living stock there were exhibits of butter, cheese, and wool; and altogether the little country of Scotland gave a good account of itself. Following the order now specified a few notes and general impressions of the show will now be given.

With the exception of *Shorthorns*, all the breeds of cattle scheduled are indigenous. The red, white, and roan is an importation, but an importation of such marked merit that the native Shorthorn now surpasses the imported. In days gone by it was the unfailing custom for breeders to go south for their bulls, now they come north. No south country bull has been used in the north of Scotland at least for several years, and the reverse process is in vogue. Many of the best breeders come north to purchase what they want in that line. The championship of the breed on this occasion was secured by an Irish exhibitor, the Earl of Caledon, but this exhibit was the Scottish-bred bull, Sign of Riches 66324, which has now secured the highest possible honors in Scotland as well as in Ireland. Sign of Riches was bred by Mr. W. S. Marr, Uppermill, Tarves, at whose sale he was purchased as a calf in 1893 for £31 10s. He is a grandly-fleshed red bull, with a capital back and ribs, and he walks with wonderful freedom for his years and weight. His sire was Lord Mayor 61193 and his dam was one of the Uppermill Bessies by Athalaeasa 47359. Uppermill stock have been doing well this year. The dam of the reserve champion and the dam of the second prize two-year-old bull at the Royal were both bred by Mr. Marr and got by his famous stock bull, William of Orange. Not many bulls have

done better service than he in recent years. All the prize-winning bulls in the oldest class were of Aberdeenshire or Cruickshank breeding, except Lord Polwarth's Royal Sovereign, which was V. H. C. He is a Booth bull and a good one. An excellent two-year-old bull, named Invader 68803, won in his class. He was bred by Mr. Bruce, of Inverquhomery, and was got by the renowned Scottish Archer 50893, the Collynie stock bull. Several bulls by this sire found a place in the prize list. The champion female was Lord Polwarth's fine old cow, Wave Mist, a good roan of Booth blood—a first-rate example of the Scottish type. Mr. Charles Munro's Bessie, from Mains of Murthly, Aberfeldy, was first in the two-year-old class. She is a really fine animal, but just a little Ayrshire-like in the set of her horns. Lord Rosebery showed excellent yearling heifers got by Sittyton Seal.

Amongst Aberdeen-Angus cattle Sir George Macpherson Grant, Bart., proved almost invincible with Ballindalloch cattle. He either bred or owned four out of the seven ticketed animals in the oldest bull class, the first and second two-year-old bulls (the former of which—champion of the breed—was also owned by him), the second in the oldest cow class, and the first, second and third two-year-old heifers. The breed champion was Prince Ito 12869, and the best cow Mr. William Nimmo's Rose of Benton, bred by Mr. Clement Stephenson. The best aged bull, Fairy King 11662, was also bred in the North of England, but is now owned by the Earl of Strathmore, who took all the principal prizes for yearling heifers with a right good lot, sired by the famous bull, Siberian 5720. The Glamis herd is rapidly coming to the front and promises to maintain and improve upon the position already reached.

Galloway cattle still find enthusiastic supporters, and the most successful exhibitor is Mr. John Cunningham, Durhambill, Dalbeattie, who is well-nigh invincible. The Duke of Beuceuch and other wealthy patrons also support this hardy breed, but the young tenant farmer whose love for the breed is hereditary can beat them all.

The West Highland is never seen to rull advantage except at the Highland Society. He too has many wealthy supporters, chief among whom are Mr. T. Valentine Smith, of Ardtomish, and Lord Malcolm, of Poltalloch, in Argyllshire; the Duke of Atholl, K. T., and the Earl of Ancaster, in Perthshire. But there is a gentleman in Inverness-shire who can give them all a lead, especially with bulls—Mr. John Stewart, of Ensay, an island in the Western Hebrides. This veteran won the championship both this year and last with his grand bull Laoch, and many of the prize winners in other hands were got by another bull of his breeding named Ceathernach 642—perhaps as successful a sire as there is in the breed at the present time.

Ayrshires find many patrons, and the best at this show have been owned by Mr. William Howie, Burnhouses, Galston; Mr. Robert Montgomery, Lessnessock, Ochiltree; Mr. Alex. Cross, of Knockdon, Maybole; and Mr. Robert McKinlay, Hillhouse, Ealston. There is at present a very brisk demand for Ayrshires from Sweden and Finland, large numbers being shipped almost weekly to the Baltic ports.

Clydesdales have seldom been seen to better advantage than at this show. Alike in the male and the female sections they were characterized by much weight and substance, and the champion honors went to animals of superior quality. Messrs. A. & W. Montgomery, Mr. David Riddell, and Mr. Walter L. Park were the first prize winners with stallions, the first prize winners with mares being Messrs. Herbert Webster, Fence House, Durham, and Thomas Smith, Blaicon Point, Chester—two of the most spirited supporters of Clydesdales in England; Mr. David Riddell and Mr. William Clark, Netherlee, Cathcart, who has been chiefly identified with the bringing out of first-class geldings, but has twice in succession won first prize with a yearling filly at the Highland. The Messrs. Montgomery had first prizes with both three-year-old and two-year-old stallions, and three-year-old and two-year-old mares. The championship went to the two-year-old, an unknown colt named Sir Christopher 10286, but one of the best two-year-olds seen for many a day. The three-year-old is Montrave Sentinel 10094, a strong, heavy cart horse which this season has already been first at Kilmarnock and Ayr. Mr. Riddell was first in the aged class with a first-rate horse named Good Gift, bred by his owner, and a capital animal. The first yearling colt is Mr. Park's Royal

Leslie, bred in Aberdeenshire, a very straight-moving horse, with big, weighty, flat bones. Mr. Webster's champion mare, Lady Lothian, was bred in Cumberland and is a dark-colored, powerful animal. She was practically unbeaten as a two-year-old and three-year-old and has a strong foal at foot now. Her sire, Lord Lothian 5998, has bred splendid stock. Mr. Webster's first two-year-old filly, Lady Pride, is also practically unbeaten this season. She was got by Baron's Pride 9122. The yeld mare is Mr. Smith's Royal Rose 12494, by Macgregor, a good mare, but fine in her bones. Mr. Riddell's three-year-old, Camilla, was bred at Ken, and is a right good animal; and the yearling owned by Mr. Clark was got by Royal Garty 9864, which horse is unfortunately dead.

"SCOTLAND YET."

How I Save My Young Pigs.

There is nothing new in the method. I learned it fifty years ago on a Perthshire farm where they knew how to make the most of everything. In the first place I get on good terms with the sow. By frequently fondling her, I get her to know the touch of my hand, but especially the sound of my voice. This is very important, for even if she does not see me she knows it is me, so that however excited I can soothe her in the most trying stage with kindly words. I know there is a difference in the nature and temperament of sows, but kindness is always preferable to harshness. Of course, I mark the time and know nearly when the young pigs may be expected, but farmers know there are certain indications that fix within a few hours the act of parturition. When these appear every other interest is laid aside and attention given to render all help in saving the litter. I am not particular whether the weather is cold or warm, or whether the sow takes up in comfortable quarters or not. My sow has the run of the barnyard, and if she makes her bed in a cozy place all

The Winnipeg Industrial Exhibition.

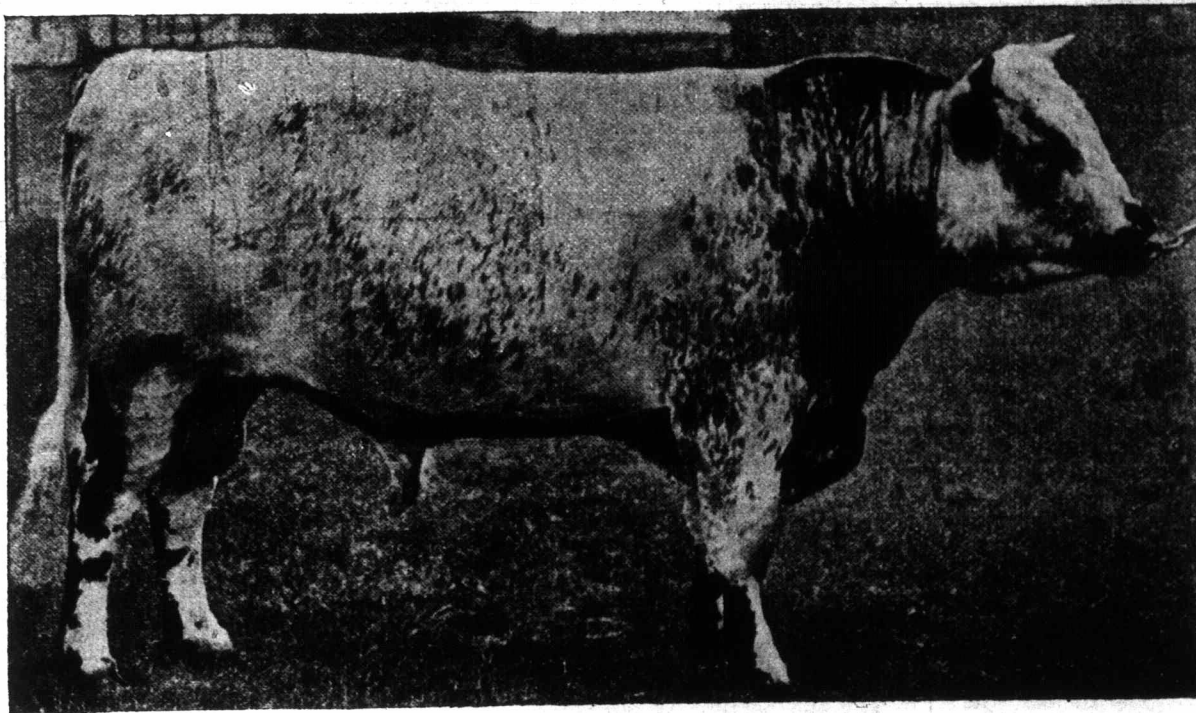
The Winnipeg Exhibition serves as nothing else can to register the progress that is being made from year to year by Manitoba and the West, and that progress as illustrated at the Industrial is truly marvellous. In nearly every department there is marked advancement, not only in the number and variety of entries, but in the average excellence and high quality of the exhibits. One of the most striking features, and one that strikes strangers most forcibly, is to find in a country whose chief industry is the production of wheat such an exhibit of live stock. This indeed is one of the most encouraging features, illustrating beyond a doubt what the FARMER'S ADVOCATE has always maintained, that this country was well adapted to live stock raising, and that the farmers were more and more realizing the importance of this branch of agriculture and devoting more attention to it. The superior quality of the exhibits as a whole was most marked. "Nothing succeeds like success," and the great success achieved in 1896 set exhibitors and exhibition management on their metal, and no pains were spared to make the exhibition just closed a record-breaker. The gates of the 1896 show were scarcely closed when exhibitors began to prepare their stock for a battle royal. Ontario's choicest herds, flocks, and studs were also drawn upon, and everything done that could contribute to the desired end. The exhibition management spared neither pains nor expense to ensure a success. Everything, in fact, ready: the best collection of live stock, agricultural, and manufacturers' products; the liveliest and cleanest programme of attractions had been secured, and the people were swarming in from every direction by every train that pulled into the city. But "the best laid plans of mice and men gang aft a-gley," and on Monday evening the atmosphere, which had for a week been storing up tons of moisture, became surcharged and a down-pour of rain continued from Monday evening till Thursday morning. More need hardly be said. The fair was extended over till Monday and Tuesday of the next week. During the last four days good crowds came forward to view the exhibits, enjoy the entertainment, and swell the treasury to a cheering point. The live stock judging was of necessity deferred till late in the week, the stock remaining until Monday evening. Below we give a detailed account of the various classes of stock.

HORSES.

It is the general consensus of opinion of horsemen at the Industrial Show that the horse exhibit was an immense success. In viewing them in the different classes as they appeared in the rings and on parade one can scarcely realize the show was a comparatively new one in so new a country. To say that there were some 350 entries made and nearly all present gives a very in-

adequate idea of the success of this branch of the exhibition. There was not one of the ten classes that did not contain good animals, and nearly every section contained very good representatives; in fact, in some cases the exhibits of the Toronto fair of the last few years were not as good as we saw here.

Clydesdales.—There were no less than nine entries present in the aged stallion class, and not a bad nor worn-out animal among them. The judge, Mr. John Guardhouse, of Highfield, was surprised at the quality and fit in which they appeared, and we do not insinuate he was slow when we say he spent a long time on each of two days placing the awards. It was not surprising that Erskine Lad, owned by John Ewen, of Morden, was present, as he won 1st last year at this show. He did the trick again this year and was not in high condition. He is a right good one from the ground up. His bone is the clear, hard sort that seldom goes wrong, while his pasterns and feet are right. He goes well and catches a horseman's eye at sight. He was bred by John Vipond, Brooklin, Ont., and got by Erskine, and out of imported Heather Bloom. Golden Hero, by Golden Gem, kept his place of 1896, as did also Sir Arthur, by Prince Adino, winning 2nd and 3rd awards. The former is owned by Geo. Cartwright, Russell, Man. He is a fairly good mate for Erskine Lad in conformation, style, and action. John E. Smith, of Brandon, Man., owns Sir Arthur, and has proved him a capital sire. He is nine years old, and therefore is not just as fresh in his feet as he once was, but he has a capital, rotund body, and flat, nice limbs. It was a mistake not to have had more than three prizes offered in this section, as some other capital horses



SHORTHORN BULL, MASTER RECORDER 69101.

Calved 1895; property of Wm. Heaton, Lostock, Bolton, Eng.; winner of 1st and Shorthorn Society's special prize as best Shorthorn bull at the Manchester Royal, 1897.

the better for me, but I have had her pig on the coldest night in winter, and in an open shed at that, and lost none by cold. My brood sow at present has ten teats and I save ten pigs every time. That is all I want her to raise. She generally has two or three more, but manages to kill some of them. That is my fault. I have a basket ready, a two-bushel basket if possible. As soon as a pig is dropped I place it in the basket, and keep doing so till all are dropped. At the close of the act the sow will generally rise and poke around for some time. By kindly soothing her she will lie down, when the young brood can be lifted out and started to suck. As they huddle together in the basket they keep quite warm and soon get dry. But the greatest danger is when the mother shuts them off from suckling and springs to her feet, perhaps very much excited, and makes the pigs fly here and there and very likely tramps on some of them. It is then the greatest attention is needed while they are sucking. I kneel in front of them with an arm at each extremity of the brood, and when the mother springs to her feet I rush them all into a heap and thus prevent the feet of the mother from harming the little ones. By continuing this for a day or two, or until all danger from this source is past, I have no difficulty in saving my young pigs. There may be other ways and better ways, but that is my way.

J. OSBORNE.

Lambton Co., Ont.

The report by our Montreal correspondent published in the Market Department of this issue shows great increases in exports of Canadian cattle and sheep this year compared with last.

had to stay outside the awards limit. Notably among these was Ellerslie Chief, by Knight of Ellerslie, a strikingly handsome chestnut-roan with cream mane and tail. He was the picture of the lot, but lacked just a little in timber and muscle.

John E. Smith showed a sweet pair of three-year-olds—Aberdeen, by Carnworth and out of Bessie, and McCarthy, by Neptune and out of Mayflower. They won 1st and 2nd, and were followed by a well-grown, strong colt, exhibited by Neil Smith, of Brampton, Ont. Four good two-year-olds constituted the next section. John E. Smith again scored on Tempest, by Sir Arthur and out of Flora Beresford. He is indeed a beautiful, flash colt, splendidly furnished. He was not, however, an outstanding winner, as Seeburn Hero, by Kintore Hero, shown by Wm. Mustard, Birtle, Man., was just at his heels. He is a gay, well-developed, well-furnished colt, with good action. Mr. Sprout, of Virden, came 3rd with Jolly Boy, by Campbellton Chief. He is a good-limbed youngster and will furnish up with age. John E. Smith had no opposition in yearlings against his McBain, by Sir Arthur. He is a promising colt.

Six brood mares filled a strong class for any showing. Clato Burns, by Montrave, and shown by J. & D. Stephenson, Wawanesa, was the pick of the company. She is a clean, fresh nine-year-old, with beautiful body and limbs, that was bred by N. P. Clark, St. Cloud, Minn. She is a free, smooth, toppy, active mare that should be the very ideal on a Manitoba farm where speed and strength are needed. J. Thompson, of Hamiota, followed next in order with Lady Almondale, by International. She was imported in dam by Graham Bros., Claremont, Ont. A trifle more bone would not hurt this mare, but her quality right through is correct. John E. Smith was again placed with Bessie of Overlaw, by MacPherson, a strong-boned mare that is a capital breeder. John E. Smith and James McKenzie, Burnside, competed in three-year-old fillies. They are much alike and quite a good pair. Smith won on Maud Russell, by Sir Arthur and out of Maid of Richmond Hill 2nd. Just two yearling fillies competed. Wm. Mustard, of Birtle, won 1st on a daughter of Floss and by Kintore Hero, a very sweet, nice mare, of good substance; followed by J. E. Smith's daughter of Kate Beresford and by Sir Arthur. Seven foals of good Clyde form filled a nice string. True, most of them were quite young, but they were mostly well-nourished and promising. J. Thompson won on Lady Almondale's foal by Auldmuir; while two beauties from John E. Smith's Bessie and Lady Kintore, and by Sir Arthur, won 2nd and 3rd. Sir Arthur repeated his last year's performance in winning the sweepstakes award for stallion and three of his get.

Shires.—Judging the Shires was neither a difficult nor a long task. Just three mature stallions were forward. A chestnut-roan, Blacksmith, owned by Rathwell Syndicate, Cyprus River, was the choice of the company. He is a strong, square, muscular horse of nice form and action. D. Munro, of Neepawa, showed a strapping fine horse in Ringmaster. He has good form and limb, but hardly approaches Blacksmith in substance. A rather fine but handsome horse called Wappingham stood next in order. He was shown by R. Patterson, Shellmouth, Man. Two entries were made in three-year-olds, but neither of them were present. James Cannon, Cyprus River, had out the only two-year-old colt in Cyprus Boy, by Errand Boy. He is black in color, a bit rangy, but has a nice set of limbs. Just one brood mare and one three-year-old were shown. The former was a strong black, by Prince Victor, shown by James Cannon, the dam of Cyprus Victor. The three-year-old was a sister to Munro's Ringmaster, and a good one she is—massive, smooth, and goes well on capital legs. She with her dam made a strong pull for a place in draft teams, but the class was a very superior one, and they were unplaced. She also came very near a place in one of draft mare and two progeny, but failed because of the excellence of her competitors.

Draft and Agricultural Horses were the best of their kind we ever saw at a show, and they are a right good kind, particularly the agricultural portion, which were mostly of light draft pattern. The section for brood mares, 1,350 lbs. and over, in foal or with foal at foot, held six good ones. Mr. D. T. Wilson, Assesippi, has exactly the correct type with which to farm in Manitoba. He had a family of four generations at the show and won several 1st prizes on them. In this section he won 1st on Daisy, by Scotchman. She is a bit rangy for some judges. She has capital feet and legs, smooth, full quarters, well-sprung ribs, very clean-cut, handsome head and neck, and moves like a Hackney. The 2nd prize was won by James McKenzie, M. P. P., Burnside, Man., on more of a Clyde stamp, quite a good, well-furnished animal. John Harper, of Brierwood, was placed 3rd on a good sort of grade Clyde mare, whose foal won 1st prize. Some very nice mares had to leave the ring unwarded. D. T. Wilson won 2nd and 3rd on grand foals by Golden Hero in an excellent class. Brood mares under 1,350 lbs. brought out a grand string of seven, ranging from heavy carriage to beautiful light drafts—just the sort with which to farm. D. T. Wilson again scored 1st on a sister to Daisy. James McKenzie followed with a more blocky, good mare; and Martin Bros., Shoal Lake, came next in order with a good sort of bay mare, by Halboush Chief. Each of the three following sections contained more than enough worthy

animals to carry off all the awards. In three-year-olds D. T. Wilson won 1st and 3rd on a bay and a gray, by Kintyre Hero. They are of the same good family as his winning mares. Geo. Michie, of Oak Lake, came between them with a dappled brown of nice sweet draft pattern. Martin Bros. won in two-year-olds on a worthy light draft mare by General Lee. Alex. Cummings, Rosburn, won 2nd, and Albert Lawson, Thornhill, 3rd. This was a strong class of well-fitted animals. Geo. Cartwright, Russell, won in yearlings, and was followed by Jas. McKenzie, M. P. P., and Martin Bros.

The draft teams of Manitoba are a credit to any country. There must be some real Scots among the population, as only they bring out such horses wearing such harness as appeared in the two classes. In the 2,800 pounds or over section there were some huge dray pairs in grand fix. John E. Smith ultimately won 1st on a Scotch-looking pair of light bays, bred in Manitoba on Mr. Smith's farm. They are square, even mares, well mated, and just the sort from which to breed sellers. Perhaps the sweetest draft harness beast in the class was the 2nd prize pair owned by R. G. Ford, Carberry. They are a bit cleaner limbed, handsome, nicely topped and good movers. A huge team owned by D. D. Aitken & Son, Winnipeg, stood 3rd. They had hardly corresponding bone with their bodies, but would have been placed up in many good rings. A good pair of pure Shires and a handsome team of grade Percherons were not placed. Teams under 2,800 pounds were a good agricultural lot of four. John Wishart, Portage la Prairie, won 1st on a solid pair of bays by Lord Coleridge and The Granite City. W. J. Edwards, Burnside, won 2nd on a well-fitted, active team, and D. T. Wilson again scored on a pair of his favorite family. His gray mare in this team is as handsome as horses grow.

The best draft mare was found in John E. Smith's Flora Beresford, and the best team in harness in this mare and her mate. These are right high-class Clydesdales of the typical Scotch pattern.

In the section for mare and two of her progeny six capital entries came forward, made up of two pure-bred Clyde trios shown by John E. Smith, one pure-bred Shire entry shown by D. Munro, and three grade lots. Owing to an ambiguity in the rules, it was not clear whether the pure-bred animals would be allowed to compete. This caused Judge Guardhouse to select the best of either sort and then decide between the winners—the final ruling of the board to decide who should claim the prize. The judge, after much hard examination and study, decided in favor of J. E. Smith's Belle Beresford and her progeny, for pure-breds, and D. T. Wilson's three, in the grades, and then decided between them in favor of the pure-breds. The same difficulty arose in the section for stallion and three of his get. John E. Smith was forward with Sir Arthur and stock, and D. T. Wilson had in Geo. Cartwright's Golden Hero and the foals of Wilson's winning mares. The contest was close, but Sir Arthur won, provided pure-bred gets were ineligible. At the time of going to press the decision was not yet made.

Standard-bred Horses.—Manitoba can well boast of her Standard-bred stock for such a new country. The entries were not large, but the quality of at least all the 1st prize winners and most of the 2nd was very fine. Dr. O'Neill, V. S., London, Ont., placed the awards as near the right place as a man could well do. In the aged stallion class, such noted sires as Wildmont, Sharper, Dan Hope, Keewadin, Oliver Bunker, and one or two others fought the battle. Wildmont has been a regular winner here, and he again lived up to his reputation, both in this section and for stallion and three of his get. He is owned by W. B. and J. T. Charlton, Portage la Prairie, who are proud of him. He is seventeen years old, and is as fresh and clean as a colt. He is beautiful in form, and a right good mover. Sharper, owned by J. L. Benson, Winnipeg, is also a fresh old horse, 15 years. He is a favorite of all trotting men who know him, as he has gone in 2:19, and has a large number in the list. He is chestnut in color, and were he a trifle bigger he would be hard to fault. He won 2nd place here, and 2nd for stallion and get. His four-year-old pacing son, Oliver Bunker, shown by McLaren Bros., Winnipeg, stood 3rd. He is a better looking horse than his sire, and is quite speedy. J. Hargrave, Winnipeg, won 1st on three-year-old, also on two-year-old stallion. They are very good dark chestnuts by Bourbonnais. Chas. Wilson, of Regina, won 2nd on a fine chestnut by Pamona, and Alfred Baxter, Suthwyn, won 3rd on a nice bay son of Bourbonnais in two-year-olds. A couple of yearlings were placed out of three entries. George Moffat, Souris, led with a breedy son of Stanton Chief, and J. W. Knittel, Boissevain, took 2nd on a sweet son of Wildmont.

Brood mares with foals were four strong, and looked ordinary at first glance, but better acquaintance improved our opinion of at least the best two. Clougher & Co., Winnipeg, showed their grand old black Guinea, by Egbert. She has a game look, and carries her age well. She won 1st, and her foal by Hermonda won 2nd. No-Né, shown by John Lusted, Stonewall, would have been our choice at first look, but she is considerably younger than Guinea, and therefore fresher. Her foal won 1st prize. A thin, plainer mare, shown by J. A. Simpson, Poplar Point, won 3rd. The 3rd prize foal was a daughter of Nutwood, shown by John McLean, Portage la Prairie. Three-year-olds and two-year-olds were represented by twos, all of

prime quality and well brought out. McLaren Bros., Winnipeg, won 1st in either case on black daughters of Wildmont, much alike. The 2nd in the older class was won by a daughter of Count Wilkes, shown by G. C. Armstrong, Portage la Prairie, and Thos. Scott, Atwell, took 2nd on his two-year-old daughter of Keewaydin. All these mares show speed and are handsome.

Roadsters.—This class was not an extra one, although we have seen worse at large Ontario shows. There were, however, a number of good things exhibited. Some half dozen entries made up the exhibit in each of the mare or gelding sections. Among these were always found enough creditable specimens to take the premiums. The gets of Wildmont and Keewaydin were among the best young things.

The double harness section may be called a fairly good one. A well-put-up pair of speedy chestnuts shown by J. L. Benson, Winnipeg, were the best team. They are dam and daughter, the latter got by Sharper. The second team were nicely mated light bays of good, useful size and good action. They were shown by Albert Lawson, Thornhill, Man. John Gleeson, Deloraine, came in 3rd on a flashy pair of white-legged chestnuts, well mated but small and not great movers. In the single class were a number of good things in the seven entries present. John A. Whitmore won first on a strong, well-gaited chestnut by Forest Membrino. A brown daughter of Sharper—shown by D. S. Campbell, Winnipeg—that can go along well, stood 2nd, and the picture of the lot was the 3rd prize mare Glean, by the Hackney Fire Fly, and owned by Chas. A. Gofton, Portage la Prairie. She was hardly in her class, but she is a real beauty.

Carriage Horses.—This class included the Coach stock in the stallion section, in which were some of the best animals we have ever seen. It included five right good animals. The popular Yorkshire stallion, Knight of the Vale, owned by J. W. Knittel, Boissevain, was as usual at the head of the list. He is quality from the ground up, and he weighs about 1,600 pounds. His action is of the correct sort; in fact, he is withal very hard to fault. His portrait and description appeared in July 1st issue of the FARMER'S ADVOCATE, 1896. He was easily 1st in his class, and also for sire and three of his get. A beautiful English-bred horse, Ingmanthorpe, shown by Chas. A. Gofton, Portage la Prairie, came 2nd. He is a very gay, smooth and strong horse, with rare good action. He was formerly owned by J. G. Rutherford, M. P., of Portage la Prairie. The Yorkshire Coach, Lord Proxy, owned by Joseph Cobbs, Baldur, was considered next best. He is a solid, heavy, well-made horse.

Mares and geldings of the various ages were well represented, and in most sections some large, useful individuals of fine quality were shown. Lack of space forbids an elaborate description of all the good things, but we desire to mention the best brood mare and a few others. She is out of a Cleveland mare and got by a Thoroughbred horse—ideal crossing. She stands about 16 hands, and is of very fine quality, strong and handsome, and a fine mover. Her owner is J. G. Hall, Portage. Her foal won 2nd prize. A son of Keewaydin was 1st in three-year-olds, and James Bray, of Longburn, won 2nd in three- and two-year-olds. A Knight of the Vale foal shown by Harry Duncan, Boissevain, was the best in the section. The pairs in harness were very ordinary, and with a few exceptions the single horses were much the same. J. W. Knittel had a very good daughter of Wildmont forward, and won 1st on her.

There was a strong pull in the section for stallion and three of his get, foaled in Manitoba or N. W. T. Three quartettes came forward, headed by Knight of the Vale, Wildmont, and Disturbance—the 21-year-old Thoroughbred shown by Fraser & Walton, Emerson. Each lot were prime good ones, but the old horse's foals from general purpose mares took the award. Judge O'Neill pronounced them the best lot of foals from one sire he had ever seen together.

Hackneys were judged by Henry Wade, Toronto. The class was small but the individuals were of rather nice quality. Mr. A. J. Moore, Swan Lake, showed Carbine 2nd and Tibenham Comet in the mature stallion class. The former is a fine, good chestnut, by Cadet, of English and American showing fame. The other horse is a black, by Comet. They were both bred in England. John Wishart, Portage la Prairie, showed a very nice two-year-old, Claimant, by False Heir. He is bay in color, quite showy, well up and moves quite well. The only Hackneys in harness were a pair of half-bred cobs shown by Mrs. Sprague, Winnipeg. They are well-mated bays, nicely mannered, and quite good actors.

Thoroughbreds.—This breed was fairly well represented by a number of fine turf-bred animals, unfortunately mostly too fine to be useful under the saddle in ordinary work. In stallions, four years and over, there were three good horses well up in years. R. I. M. Power, Carberry, won 1st on Hard Lines, a breedy, strong bay, by Umpire by King Tom. The grand old Disturbance, referred to above, came 2nd. He is by Terror by Ruric. He is owned by Fraser & Walton, of Portage, who still do a large stud trade with him. In 1884 he won the Dominion mile record, 1:43, which he held until May, '97, when it was beaten at the Woodbine, Toronto, by a horse of Mr. Seagram's. He also made a three-quarter American record of 1:15 at

Saratoga, which he held for a number of years, and in his 22nd year he is as game as a colt. Well-gate, shown by Glen Campbell, Glenlyon, won 3rd. He is a strong, useful sort of horse. Three rather fine two-year-olds include the remaining males. Miss Tax, shown by E. Becton; The Test, shown by Glen Campbell; and Imogen, shown by Becton, were the brood mares in their order. Three three-year-old fillies and a yearling of racing stamp included the remaining entries, besides the three foals which were all by Jess Philips.

The saddle class was very light, some six entries in mare or gelding and two ridden by lady. Glen Campbell's Gray Dan won in the first section and his Veracity in the latter. John Shea, of Winnipeg, won 2nd in first section on a fine rangy mare that should have been placed 1st. Miss Hurst, Winnipeg, won 2nd on a well-bred bay.

Ponies in harness, both single and double, as well as under the saddle, were well represented. In the 12 to 16 hand class, in harness, every entry was over height, but of nice quality. Some 15 saddle ponies showed; mostly of ranch stocks, but among them were some fine individuals. Just two pairs and two single ponies showed under 12 hands high.

CATTLE.

An overflow meeting it was indeed. Every barn was filled, all herds were well represented and some were exceptionally strong. A general improvement in the quality was noticed all along the line. The largely increased exhibit of grade cattle was one of the encouraging signs noticed, as an indication of the ever-increasing interest being taken in the improvement of stock and the more general use of the pure-bred sire. Throughout the pure-bred classes but one judge acted, and it may be said that as general satisfaction was given as can be looked for while types vary so widely and while men are guided by their individual opinions. Mr. Joseph G. Snell, Snelgrove, Ont., placed the awards in the dairy breeds, and Mr. John Isaac, Markham, in the beef breeds.

SHORTHORNS.

If the number of entries and the universally high quality of the stock be taken as a criterion, there can be no doubt that the red, white and roans are the most universally popular cattle in the West. Never in the history of the Industrial was the general average quality of the stock so high as at the show just closed. The interest taken in the many close contests was intense, not only on the part of exhibitors but by a very large concourse of spectators. The deferring of the judging on account of the rain till Thursday only prolonged the agony, and things were at a white heat when in response to the call for bulls 4 years or over the following four grand specimens of the breed marched majestically into the arena: John G. Barron's Topsman, Andrew Graham's Manitoba Chief, Hon. Thos. Greenway's Hilliary (sweepstakes bull in 1895, when shown by Purvis Thompson), and Walter Lynch's Village Hero. The breeding and individual characteristics of each of these bulls has been so frequently referred to in the ADVOCATE that it is unnecessary to deal at any length upon them here. The judge, after careful deliberation, placed them in the order named. Topsman undoubtedly carries a wonderful wealth of flesh on the parts of the carcass that fetch the highest price. From the front of the shoulders back to the rump he is a wonderfully good bull. Manitoba Chief is smooth and level from end to end, a bull of extra quality, but not carrying as much flesh as he might for such competition. Hilliary has a beautiful head and fore end, but is a trifle bare on the loin, and not as good on top on the hind quarters as he should be. Village Hero, the most massive bull on the grounds, might have been placed, and few round the ring would have dissented. He is in better fix than a year ago; the one serious fault is his rough shoulders, and this the judge said he could not overlook.

Three red three-year-old sons of Royal Don, the sweepstakes bull in 1894, were the only entries in the class. First went to Geo. Allison's (of Burnbank) Jubilee Chief, the best balanced of the three; 2nd to Kenneth McIvor, of Virden, on Sir Victor, rather a better bull than the 1st, except on the hind quarter; W. J. Helliwell, of Oak Lake, getting 3rd on Chief of Roseland.

A real good class of six two-year-olds faced up before the judge. W. S. Lister's recently imported Barmpton Chief, son of Indian Chief, proved too good for the rest and got the red. He is a fine roan, with wonderful fore end. Lawrence showed Cavalier, a good, thick roan, and got the blue ticket; he, also, is particularly good forward; while a big, strong, dark red son of John Millar's Aberdeen, shown by Wm. Chalmers, came in 3rd. This left Alex. Morrison's Sir Walter 3rd unplaced. He is a nice, tidy, well-balanced red, and no injustice would have been done had he been marked a notch higher. James Mitchell, a new exhibitor from Russell, showed a big, strong, useful bull in Scottish Prince, but he was in too low flesh for the company he was in; and John Menzie had forward the Korke, the winner in the yearling class in 1896. In yearling bulls there were five entries, none of them in very heavy flesh. F. W. Brown's Lyndhurst 3rd got 1st; A. and J. Chadburne's Admiral, 2nd; and Walter Lynch's What-For-No, 3rd. The latter was a smooth, lengthy youngster that with more flesh would have fought hard for a higher place. Nine bull calves contested for honors, which were finally

distributed in the order named: J. M. Wallar, of Carman, with Royal Jubilee, a very smooth, nicely-finished calf, bred by J. E. Smith, Brandon; Andrew Graham, on Forest Chief, a big, strong roan; Alex. McNaughton, of Carman, with a roan, Emperor, a very promising youngster; Hon. Thos. Greenway, with Vice-President.

J. G. Barron's Topsman got the silver medal for best bull any age, as well as the special for bull best calculated to get export steers.

Twelve aged cows lined up in front of Mr. Isaac, and a noble lot they were. Space will not permit of a lengthy review, but the pity was there were not enough prizes to go round. Lawrence got 1st and 2nd on Wimple of Halton and Leonora of Sylvan, respectively, the former a cow of marvellous merit; in fact, apart from a patchiness round the rumps, her equal is seldom seen in any showing. Third place was accorded to Graham's Missie Morton, a smooth, even-fleshed cow, but a little on the small side. This left unplaced three good, useful cows from Lister's barns, two from Helliwell's, one from Barron's and two from Greenway's, including the beautiful, massive Village Flower, 3rd prize winner at Toronto last fall, and a handsome, useful-looking entry of Graham's, in Canadian Duchess of Glo'ster 41st. Lawrence also topped the three-year-old class, with Marvel, 2nd in the two-year-old class last year. Lister's Jenny Lind 5th came second. She was not in high flesh, but a good, smooth heifer. Graham's Rose of Autumn came into third place. Six two-year-old heifers lined up, and Lawrence again drew the red on Spot, a plump, thick-fleshed red; Greenway's Bridal Belle making a strong 2nd, with his Roan Mary 3rd. They were all three right good ones. In yearling heifers, Greenway had an invincible heifer in Gem of Athelstane, bred by Groff, and winner of 1st in calf class at Toronto last fall. She is a heifer of wonderful substance, thick-fleshed and smooth, without a blotch, with a sweet head and good style. The judge found the 2nd in W. S. Lister's dark red Daisy Bright, a daughter of Indian Chief, bred by Arthur Johnston. She had not received much fitting. Lawrence's Miller-bred heifer, Marabel, came 3rd, leaving several good things, that had not received any special fitting, unplaced. J. M. Wallar, of Carman, had out four nice heifers of good quality, that make a good foundation for a herd. Seven heifer calves were topped by Florence of Clearwater from Lawrence's string. She was a sappy red and white roan, sired by Indian Warrior. Graham's Manitoba Lass, sired by his stock bull, won 2nd. She is a fine, showy little red. Third and 4th went to daughters of Village Hero, from W. Lynch's stalls—the roan, Imogene 2nd, and the red, Tiny 2nd. This left a big, strong, white calf of Lister's unplaced. Many round the ring considered her worthy of a place. The awards for bull and two of his get were placed as below: 1st, Lawrence, with Indian Warrior and the heifers Spot and Florence of Clearwater; 2nd, J. G. Barron, with Topsman and Red Baroness and a red yearling heifer; 3rd, Graham, with Manitoba Chief and Forest Chief and Manitoba Lass. In cow and two of her produce, Lawrence also scored 1st with Leonora of Sylvan and Spot and Charlie—the same two as won last year; 2nd went to a good, strong, useful trio, shown by W. J. Helliwell.

The herd prize went to the Lawrence string, consisting of Sittyton Stamp and the females Wimple of Halton and Leonora of Sylvan, 1st and 2nd aged cows; Marvel 1st, three years old, and Spot 1st, two years old, a strong combination indeed. Greenway, Lister and Graham had strong herds out, and each had backers round the ring, the Greenway herd being rather in favor, but the judge thought otherwise, and sent the blue to Graham, Greenway's coming 3rd. Graham's herd was made up with Manitoba Chief, Missie Morton, Canadian Duchess of Glo'ster 41st, Rose of Autumn 17th, and Manitoba Lass. Greenway's herd was headed by Hilliary, attended by Village Flower, Bridal Belle, Roan Mary, and Gem of Athelstane.

For bull and three females, females bred in Manitoba or N.-W. T., four herds pulled out—Lawrence, Barron, Helliwell, and Lister. First went to Barron's lot, headed by Topsman. The Dominion Shorthorn Breeders' Association specials for sweepstakes bulls was won by Barron's Topsman, 1st, and Graham's Manitoba Chief, 2nd. Females—Lawrence's Wimple of Halton, 1st, with Greenway's yearling, Gem of Athelstane, 2nd. The sweetness and freshness of the latter would have captivated many judges, and had the decision been reversed few spectators would have dissented. Lister got the Dominion Shorthorn Breeders' special for young herd, with a very nice lot; 2nd place being taken by J. M. Wallar, his herd of four heifers being headed by the first-prize bull calf, bred by J. E. Smith. The special for bull over two years old, best calculated to get export steers, was won by Barron's Topsman.

POLLED ANGUS.

In numbers, the blackskins do not increase at the Industrial as they should, but certainly the quality of the entries was much superior this year. The exhibitors were John Traquair (Welwyn), Alex. Cumming (Rossburn), Hon. Walter Clifford (Austin), F. J. Collyer (Welwyn), and Purdy Bros. (Moosomin). Traquair's year-old bull, Athelstane of Griswold, won in class and also the diploma. He also won 2nds on aged cow and two-year-old heifer. Cumming won on aged bull and bull

calf, two-year-old heifer, one-year-old heifer, heifer calf, and herd. Clifford won with aged cow, and Collyer on three-year-old cow.

GALLOWAYS.

J. A. Simpson exhibited in this class. Wm Martin, who usually makes a good exhibit, was absent.

HEREFORDS.

Wm. Sharman, Souris, exhibited a good herd of whitefaces—a good, smooth, even lot, shown in nice form, showing a considerable improvement over former exhibits in this class. The two-year-old bull, Valentine, got first in class and diploma, and all the female prizes went to this herd. Geo. McAllister, of Dugald, showed a couple of bulls.

DAIRY CATTLE.

Holsteins.—This breed was out in force, and while there were many good animals brought out there were also a good many weeds that would have been as well at home. Herds were forward by Roderick McKenzie, High Bluff; James Glennie, Orange Ridge; J. T. Hutchinson, Hayfield, and Jas. F. Hindmarsh, Cannington Manor; the two latter being new exhibitors here, although several of the Hayfield entries had been formerly shown by W. J. Young. Seven aged bulls lined up, but none were strong enough to down McKenzie's old Emperor of Canada, and later on he repeated his last year's victory and won the diploma for best bull. Age, however, is beginning to tell, and he is looking a little worn. Glennie's Mink's Mercedes King was 2nd, and R. J. Mitchell's Capt. Tempest, 3rd. Hutchinson's Prince Clothilde, a nicely-brought-out two-year-old of good dairy quality, headed a list of four; McKenzie's Vida's Prince, 2nd, and J. A. Fraser, of Portage la Prairie, 3rd. In year-olds, Hutchinson again scored with Hayfield Champion; A. B. Potter, Montgomery, getting 2nd. In bull calves, Glennie got the red on a real good calf out of a daughter of Daisy Teak's Queen; 2nd going to Hutchinson. Eight aged cows were in the ring, the judge finally sending the red to Hutchinson's Tempest 3rd, Glennie's Daisy Teak's Queen suffering her first defeat, but she was not shown in good form. In three-year-old cows, Glennie's entry, Lady Darling, a heifer of good substance and quality, came in first, with Hutchinson's Queen of Maple Grove following.

Jerseys.—Two herds of Jerseys were forward this year, those of James Bray, Longburn, and Neil Smith, Brampton, Ont. They made a fairly good showing. Bray captured the following: 1st and 2nd on aged bulls, 1st and 2nd on bull calf, 2nds on aged cow, three-year-old cow, two-year-old and yearling heifers, and 1st on heifer calf. Neil Smith got 1st on two-year-old bull, 1st on three-year-old cow, 1st on year-old and 2nd on heifer calf and the herd prize. Geo. Smith, Grimsby, Ont., showed several head of females, winning 1st place on cow. James Walsham, of Portage la Prairie, had the honor of sending in the silver medal bull in the first prize yearling, a very handsome, stylish youngster, imported from Mrs. Jones, of Brockville, Ont.

Ayrshires.—A good showing was made in this favorite milk breed. Herds were entered by Steele Bros., Glenboro; J. S. Cochrane, Crystal City; Hon. Thos. Greenway, Crystal City; W. M. & J. C. Smith, Fairfield Plain, Ont. In aged bulls there were four entries. Steele's What Care I, sired by D. Drummond's Silver King, out of Blossom, got 1st, and afterwards won the sweepstakes. John Lawrence, Morden, had forward the 2nd prize winner in Ontario Chief. In two-year-olds, Smith's Richard B., by Tom Glen, out of Gurta 18th, defeated Cochrane's Smythe, out of Gurta 11th. In one-year-olds, Smith again won with Surprise of Burnside, by D. Drummond's Glencairn, out of Nellie Osborne; Greenway's Leo of Rockton, bred by McCormick, getting 2nd place. Steeles got 1st and 2nd on bull calves. Great interest centered in the aged cow class. Again and again have the Smith Bros. (from Ontario) won the premier position with their famous old cow, Gurta 11th, the 2nd prize winner at the World's Fair. At last she met her Waterloo, and did not win a place in the class. Age is beginning to tell, and she is by no means as fresh as she was. J. S. Cochrane's Maud, a big, strongly-constituted cow, swinging a marvellous udder, was justly accorded 1st place. She afterwards captured the special for best dairy cow any breed. One of Steele Bros.' showiest and best cows, with a good udder and lots of dairy quality, got 2nd place. Steeles also got 1st in three-year-olds and in heifer calves, and finally won the breed prize. Hon. Mr. Greenway had the winning two-year-old in Flossie, and the winning one-year-old in Lassie Jean. The Smiths got 2nds on three-year-old cow and on yearling; Andrew Mutter, Brandon, getting a close 2nd on two-year-olds, and Cochrane a 2nd on heifer calf.

The Lieut.-Governor's special for herd—bull and four females—open to all dairy breeds, was won, in strong competition, by Steele Bros.' Ayrshires.

SHEEP.

Fortunately for the exhibitors of sheep, they had an excellent building in which to show their animals. Sheep and swine were the only stock, except the poultry, that could be judged during the first three days because of the incessant downpour of rain which commenced on Tuesday morning. The Fair Board deserve praise for having constructed such an excellent and roomy building. We have seen all the large exhibition sheep pens of Canada,

and unhesitatingly say that this one surpasses them all. The walls are of 6-inch slats, sloping in such a manner as to prevent rain from coming through. It is splendidly lighted by numerous large skylights, so that even on very cloudy days the judging was satisfactorily done in the large court in the center left for that purpose. This building was illustrated in our August 15th, 1896, issue.

The judging was done by Mr. Arthur Johnston, of Greenwood, Ont. Except in the Shropshire class the task was light, but here there was exceedingly strong competition between flocks exhibited by the following gentlemen: Hon. Thos. Greenway, Crystal City, Man.; Grogan & Peters, Swan Lake, Man.; J. A. S. Macmillan, Brandon, Man.; John Oughton, Crystal City; and Peter Fargey, Manitou, Man. The exhibits of any of these men were creditable to any country or any exhibitor. In aged rams four grand sheep competed. A new importation shown by Macmillan was the victor, but his margin was not extraordinary. He is not overloaded with flesh, but has great scale and smoothness, together with an even, fine fleece, which covered his face and legs quite enough to make him a suitable head for any good Shropshire flock. A ram of a bit coarser pattern, shown by Grogan & Peters, was placed 2nd. He is quite a lengthy sheep and compared favorably with the 1st prize winner. He heads a capital flock that have only to be seen to know its owners are one or both shepherds. Mr. Oughton won 3rd on a nice sheep procured from Hon. John Dryden, Brooklin, Ont. In ordinary competition he would have stood higher. The first look at the shearing class caused the judge to wish there were five 1st prizes to offer so good were each of the competitors. They were very carefully looked over on Tuesday afternoon, but were sent to their pens and called out again next morning, when the awards were made. The 1st prize animal was not hard to decide upon, and was found in one of Macmillan's three numbers. He is truly a superior sheep from end to end, which may also be said of the others, but with hardly as much emphasis. A blocky sheep that won 3rd at the English "Royal" in 1896 was placed 2nd on this occasion. He is a real mutton-maker and has a good coat which had been washed too near the exhibition to look and feel just right. Macmillan came 3rd on a choice individual; while a worthy pen companion, as well as a choice ram shown by Mr. Fargey, had to return to their pens with only complimentary awards and the admiration of spectators. The six ram lambs that came out to be judged looked small at first sight, but a second thought brought to mind the earliness of the season compared with the time of our Eastern shows. Another month will put a different look on these lambs, which are of good quality and in thriving condition. Macmillan's was placed 1st, D. E. Corbett's (Norquay) 2nd, and Fargey's 3rd. We concluded, finally, the class was a credit to any show. The best ram of the breed at the show was found in Macmillan's aged sheep.

Ewes.—Some cracking fine pairs of aged ewes came forward. Among them were some real show sheep well brought out. Grogan & Peters won 1st on a well-matched, highly-fitted pair. They were a becoming length of well-dressed wool, slightly colored in the English style. The 2nd prize went to a highly-fitted, heavy fleeced exhibit shown by Mr. Oughton; while the 3rd went to a pair of Greenway's that showed at a disadvantage because of their having been so lately washed. Three good pairs of Macmillan's new importation had to leave the ring unrewarded. They were evidently shorn quite late in the season, and were not in high show condition. Four fine pairs of shearlings competed. Macmillan won 1st and 2nd on ewes that would stay well with the best usually seen at the Toronto Industrial. Grogan & Peters stood 3rd on a pair fitted and successfully shown last year by D. G. Hammer & Sons, Mt. Vernon, Ont. Three pairs of ewe lambs were young but fancy; Macmillan won 1st and 3rd, and Oughton 2nd. The sweepstakes ewe was found in Macmillan's best shearing pair. Mr. Oughton had no competition in American-bred pen, one year old or over, of ram and three ewes registered in the American Shropshire Record. Two lamb quartettes consisting of a male and three females registered in the American Record were shown by Macmillan and Oughton, and placed in the order mentioned. Macmillan won the diploma for best pen of ram, two ewes any age and two ewe lambs; also for best pair—ewe and ram.

Southdowns were perhaps the next class, as far as competition was concerned, but these were not striking in excellence. There were just two flocks, one owned by R. Shaw & Son, Glanworth Station, Ont., and the other by D. Fraser & Son, Emerson, Man. The Ontario sheep had had some fitting, but were mostly small and plainish, while the Manitoba competitors were evidently brought right from the field, and were of only medium quality to commence with. Shaw's sheep took all the 1sts, except on ram lamb. There was competition in every section.

Oxfords were well represented, but Mr. P. B. McLaren, Clearwater, had it all his own way, as he had no competition. Almost every section was represented by one or more entries. The sheep are fairly good specimens of the breed, but were in only ordinary field condition.

Lincolns were much the same of their breed as were the Oxfords of theirs. They were exhibited by Wm. T. Lytle, Beaconsfield, Man.

Horned Dorsets filled a fairly good class in field condition; Mr. Ed. Vance, of Emerson, had them forward. Another year may bring competition in this useful breed at the Winnipeg Industrial. A notable fact in this class was the winning of the female sweepstakes award by a ewe that had her second crop of lambs for 1897 at foot.

Fat Sheep were well brought out. Three pairs of well-finished two-year-old wethers competed in their section. D. H. Preston, of Glennen, won 1st on a strong pair of apparently Shropshire grades. D. Fraser & Son won 2nd on a gray-faced pair that carried a good wealth of flesh, and a pair of Leicesters of good breed form and in good mutton condition, shown by Jas. Murray, Lyleton, Man., won 3rd prize. A lone pair of well-brought-out Oxford grade shearing wethers, shown by P. B. McLaren, Clearwater, filled the next section. The aged and shearing fat ewes were all pure-bred Shropshires. In the former, Grogan & Peters stood ahead, Greenway 2nd, and Preston 3rd. In shearings, Greenway came 1st and Grogan & Peters 2nd and 3rd. These sheep were all of nice Shrop. breed pattern. McLaren and Vance competed in fat ewe lambs. They won in the order named on Oxfords and Dorsets.

Leicesters.—The Leicester breed was well represented by a full class of well-brought-out sheep. True, they were not in high show fix, but they were mostly of good quality and size, plenty fleshy for breeding stock, and wore good fleeces of seasonable length. The principal exhibitor was James Murray, of Lyleton, who won five 1st, three 2nd, and three 3rd prizes, besides the three sweepstakes premiums for single ram, single ewe, and pen. Neil Smith, Brampton, Ont., showed a shearing ram and ram lamb, winning 1st on each. D. H. Preston, of Glennen, showed a nice little flock and won in a few instances.

SWINE.

The total number of entries in this department was in excess of 1896. The judge, Mr. Arthur Johnston, of Greenwood, Ont., performed his duties to the very general satisfaction of the exhibitors, although the circumstances under which he had to labor were of the most trying kind, rain falling during a portion of the first afternoon and the ground upon which the judging had to be done was completely water-soaked.

Berkshires were the first class called and the entries throughout were of exceptional quality. Not a bad pig was brought out. Five entries were forward in the class for aged boars: two from the pens of F. W. Brown, Portage la Prairie; two from those of R. McKenzie, High Bluff; and one from J. A. McGill's, Neepawa. They were a good lot, well brought out. Brown's Tippicanoe repeated his victory of a year ago by heading the list, and was afterwards awarded the sweepstakes diploma as best boar any age, and first with four of his get, and along with Bonnie Queen won the Sheep and Swine Breeders' Association diploma as best pair. He is a hog of good size and quality and worthy of the honors won. McKenzie's Milton Lad made a close second, being lengthy, smooth and level, and in McGill's Hero, a Baron Lee hog, the judge found a good third, considerably younger than the others. He had not the size, but was full of quality. In boars one year and under two, three fine young hogs competed and got places in the order named: Hon. Thos. Greenway, with King Clere, winner of 1st under a year last year; F. W. Brown, with Black King; and R. McKenzie, with Performer. McKenzie had two entries in boar over six months and under one year, Prince and Proud Victor, the latter of Snell's breeding, the former bred by themselves, sired by Prince of the Bluff, a son of Baron Lee 4th. Prince is a wonderfully good pig, lengthy and level, nice head, and standing well on good legs and feet—so good, in fact, that some good judges round the ring thought him entitled to the sweepstakes. The call for boars under six months brought out four good youngsters, McKenzie scoring another red on Prize Winner, 2nd going to F. W. Brown's High Clere Prince, and 3rd to McGill's Jubilee Joe. Five capital sows responded to the call for sows two years and over. Brown's Bonnie Queen, winner of so many hard battles, again proved invincible. She is a great sow, long, deep, smooth, and level, with good bone and plenty of quality. She also won female sweepstakes. McGill's Nora, sired by Snell's Star I, is a well-proportioned sow, brought out in fine fix, and was in every respect a worthy 2nd. Brown's second entry got 3rd place. In sows one year and under two Brown again scored with a very winsome sow, Lady Clifford 10th. The honor was closely contested, however, by McKenzie's entries, Nora 2nd, bred by the exhibitor, coming 2nd; with Silver Maid, bred by Geo. Green, of Fairview, Ont., 3rd. Six entries in sows under a year were headed by McKenzie's Maid, a sow of nice quality, full sister to the winning boar of same age. Andrew Graham got into 2nd place with a nice thick little sow, with McGill's Dimple a good 3rd. In sows under six months McGill had a good lead, getting 1st and 2nd on Jubilee Belle and Jubilee Bet. Brown's two-year-old sow, High Clere 20th, won 1st in sow and litter of four. McKenzie got 2nd place on boar Milton Lad and four of his get.

Yorkshires.—This section holds up well in numbers and quality. The principal exhibitors are: A. B. Potter, Montgomery, Assa.; Jas. Bray, Longburn; Hon. Thos. Greenway, Crystal City; Andrew Graham, Pomeroy; Joe Callin, Whitewood, Assa.; Dr. S. J. Thompson, Carberry.

But two aged boars were forward, Potter's Montgomery Prince, of Bray's breeding, getting the red, and Graham's entry 2nd. Jas. Bray's year-old got 1st in his class. Graham got 1st and 2nd on boars of his own breeding under one year, with Hon. T. Greenway's entry 3rd, the latter bred by Joseph Featherstone, Streetsville, Ont. Boars under six months—Callin got the red on a nice smooth pig. Graham's young hog, Yorkshire Bill, won the sweepstakes as best boar any age. He was a smoothly-finished, handsome hog, possessing good Yorkshire character. Eight sows two years and over came out and proved a difficult class to judge, as they varied considerably in type. The judge was evidently looking for the large Yorkshire type coupled with quality, and finally placed the red on Bray's entry, Milly 3rd, bred by Brethour, last year's winner and the favorite round the ring; 2nd going to Oughton's Oughton 1st, winner in the year old class a year ago, and 3rd to a big strong sow shown by Potter. She was not in as good fit as she might have been, and some of those round the ring would have given preference to one of the unplaced entries. Jas. Bray had the 1st and 2nd winners in the year old class, both nice smooth sows out of old Nancy, a 1st prize winner in 1895; with a fine entry from Graham's pen in 3rd place. Bray again came to the front in under one year, taking 1st and 3rd on sows out of the aged winner Milly, both good typical Yorks.; 2nd went to Greenway's entry, a good sow with extra nice hams. The other entries were shorter and scarcely of the Large Yorkshire type. In sows under six months the winner came from Greenway's pens. In sow and litter Potter got 1st with the 3rd prize aged sow and litter. Graham got in 1st place on boar and four of his get with Snowman and his get, Yorkshire Bill (the diploma boar), Yorkshire Tom, and Margery 13th and 14th. Best pair, boar and sow, any age, also went to Graham.

Chester Whites.—The exhibit in this class was hardly as strong as a year ago. The exhibitors were: R. S. Preston, Pilot Mound, whose winnings were 2nd on aged boar and 1st on same boar with four of his get. He is a lengthy, level, good-sided hog, a little thick on shoulders, but with good head. Second and 3rd on aged sows, both fine sows, the one in 2nd place being extra good, lacking, perhaps, in length. First on boar under a year, a full sister getting 1st in female class; very nice, smooth pigs. First, 2nd, and 3rd on a smooth, even trio of sows under six months, and 1st and 3rd on boars under six months. Ed. Vance, of Emerson, had forward the 1st prize and diploma boar in his aged sire Greenway, and along with Lady Greenway got also the red ticket; getting 2nd on boar and four of his get, being beaten by his own son, Kenneth McLeod, of Dugald, had the 1st prize aged sow, and she also won the sweepstakes. She is a grand, deep-bodied, lengthy sow, good on feet and legs, smooth and even, but her head is coarse and not just what we like in a Chester. Matthew Oughton, of Wood Bay, got 3rd place on sow and litter, his only entry.

Poland-Chinas.—W. M. & J. C. Smith, Fairfield Plain, Ont.; D. Fraser & Sons, Emerson, and M. Oughton, Wood Bay, showed in this class. The Ontario entries were brought out in nice finish, and were a uniform lot of good quality. They captured most of the red tickets. The Frasers showed some good strong entries, but their pigs were not in high finish. Oughton also got a share of the prize money on the few entries he had forward.

Tamworths.—This breed does not seem to increase in popular favor very rapidly, judging by the small number of entries made at this show. They cross well with Berkshire sows and deserve more general use for breeding packers' hogs. There were but two exhibitors; Neil Smith, Brampton, Ont., having forward some real good entries, and E. H. Carter, of Portage la Prairie.

Duroc-Jerseys were shown by Gillespie and Snarey, and among them were some fairly good specimens of the breed.

FARM.

Preparation for Wheat.

As the season for sowing fall wheat is approaching, a few words as to the preparation and seeding may be timely. The fact that winter wheat this year has proved a good crop generally throughout those portions of the older Provinces where it is usually sown may have the effect of inducing the seeding of a larger area than usual, a course which will not be wise if it is sown upon land improperly prepared or deficient in fertilizing material, either in the form of clover, barnyard manure or commercial fertilizers of some sort. If the land is rich or in good heart and can be got into a good condition of tilth, we see no objection to devoting a fair proportion of the farm to wheat, although the prices ruling are low and it is a crop that is subject to a good many vicissitudes, having to run the gauntlet of the winter and early spring months, which often prove disastrous to it, thus rendering it an uncertain crop. The cultivation for wheat serves to divide and equalize the work on the farm during the year, and it is generally considered the best crop on which to secure a good catch of clover and grass seeds, which is an important consideration in many sections where seeding with spring crops has of late years been very uncertain. The old system of summer-fallowing for wheat has generally been abandoned, and perhaps on the

whole it is for the best, although we can well see that in some cases where the land is specially in need of cleaning from noxious weeds, the fallow may be used to advantage, but it may also be made to include a system of green manuring by plowing down some crop which will increase the fertility of the land and make a good preparation for wheat and also for the grass which is supposed to follow it. Clover sod, or even timothy sod, plowed soon after a crop of hay has been taken off, or where it has been pastured, makes a good preparation for wheat if it is rolled immediately after plowing and the surface cultivation has been such as to solidify the land and at the same time keep it in a moist condition. Wheat may follow peas to good advantage when the latter have been sown on inverted sod; and if the land is reasonably clear of thistles, it is usually unnecessary to plow for wheat if thorough surface cultivation is given. Peas gather nitrogen from the atmosphere and store it in the nodules near their roots, and when harvested with a mower these are left on the land for the use of the succeeding crop, and thus prove doubly useful. If wheat is to follow barley or oats, it is essential that the land be rich and the cultivation such as to well pulverize the soil to the depth of the plowing; and if not rich, a top dressing of short manure should be worked into the surface by means of harrow and cultivator, to furnish the necessary nourishment for the wheat crop and the clover to follow. It seems to be essential in late years that seeding of wheat should not be later than the first week in September for Ontario conditions in order to get good results. As to varieties, it is best to sow what has given most general satisfaction in your section after a fair trial, and to adopt new varieties only on a small scale until fairly tested. Wheat is such a clean and pleasant crop to handle we do not wonder at the favor it receives from so many farmers; and where the soil and conditions are favorable for its growth, it may well fill a place in the rotation of crops in many sections of Canada profitably, but do not sow more acres than you can properly prepare, and do not sow on land from which you have not good reason to expect a fair crop. In this connection the timely letters of several of our readers on this subject will repay perusal.

Central Experimental Farm Methods in Winter Wheat Growing.

To the Editor FARMER'S ADVOCATE:

SIR,—Fall wheat is scarcely ever grown by farmers in this district. On the Exp. Farm we have been experimenting with the leading varieties and hybrids, and they have generally done well, but the past season every plot was winter-killed. During the autumn of 1896 there was a very long and severe spell of cold, freezing weather before any snow came, which was partly the cause of our failure, and what was not killed by frost was smothered later by snow.

Fall wheat should follow either meadow or pea land.

Implements.—Gang Plow, disk harrow, smoothing harrows, and seed drill.

Preparation of the soil.—Meadow. Gang plow very shallow as soon as the hay is off, disk harrow and harrow with smoothing harrows thoroughly so as to cut all the sod and kill any weeds that may germinate, and keep up this cultivation at intervals until the last week in August, then plow eight inches deep and harrow thoroughly before sowing. On pea land use the cultivator and harrow instead of the gang plow and disk harrow up to the time of sowing, then plow before sowing.

Manure.—If I have any well-rotted I apply fifteen tons per acre on light land; on heavy clay, well drained, I have had excellent results from plowing under pure straw. I do not use green manure nor commercial fertilizer for fall wheat.

Dates for sowing.—The last week in August or first week in September.

Quantity.—One and one half bushels per acre.

Varieties.—I am sending you the results of 1894 and 1895, there being no report on wheat, 1896.

Soil.—I would prefer sandy loam, but I have had good crops off clay loam well drain.

J. FIXTER, Farm Foreman, Carleton Co., Ont. Central Exp. Farm.

[NOTE.—In 1896, Dawson's Golden Chaff topped the list, with a yield of 45 bush. 20 lbs. per acre (61 lbs. to the bush.); Hungarian, 44 bush. (64 lbs.); Genesee Giant, 43 bush. (61 lbs.); Democrat, 42 bush. (63 lbs.); Bailey, 41 bush. 20 lbs. (61 lbs.); Manchester with Democrat, 40 bush. (61 lbs.); Early White Leader, 38 bush. (59 lbs.); Jones' Winter Fyfe, 36 bush. 40 lbs. (62 lbs.); American Bronze, 36 bush. 40 lbs. (60 lbs.); Golden Grass, 34 bush. 40 lbs. (63 lbs.); Manchester alone, 33 bush. 20 lbs. (62 lbs.); Early Red Clawson, 33 bush. (61 lbs.); Surpriss, 30 bush. 40 lbs. (60 lbs.).—ED.]

Winter Wheat Culture -- Methods and Varieties.

To the Editor FARMER'S ADVOCATE:

SIR,—The fall wheat crop has done exceptionally well under almost all conditions this year. The principal causes of failure noticeable are lack of drainage, want of care in the preparation of the soil, and a deficiency of plant food to nourish the growing and tender plant. To get the best conditions for autumn growth of wheat should be a constant aim of the successful wheat grower. A good rich sod land will, I think, be found the best. Whether it is pasture, meadow or alsike stubble

makes very little difference, but if you can get a good sward of grass to plow down, so much the better. In my own practice I like to plow a good furrow with a medium wide plow, about eight inches deep, and then without harrowing haul and spread evenly from eight to twelve loads of farmyard manure per acre, then work it well into the surface soil with whatever implement will do the work best. Sometimes the gang plow is needed, in many cases you can do it well with a disk or acme harrow, usually so if your manure has been turned and well decomposed before putting it out, then roll thoroughly and sow about six or eight pecks per acre of perfectly clean seed. If you have any symptoms of smut, don't fail to wash your seed with the copper sulphate solution. About the first week of September I regard as the best time to sow, but seasons may vary this a little, but I regard it as being quite risky to sow after September 10th.

In varieties I have had very little experience. For the last year or two have been growing Dawson's Golden Chaff as a general crop and have reason to be pleased with it; but I think it is losing its identity somewhat, and soon it will be difficult to distinguish it from the old Clawson, from which I believe it originated. Democrat is pretty generally sown here and is considered a better wheat than Golden Chaff for light soils, growing a heavier straw, but it is noticeable that it is not standing up as well under the heavy rains that we have had recently as Golden Chaff. Golden Cross has been grown here to some extent and yields well under very favorable conditions, but is not regarded as being very hardy. Early Genesee is being tried in small quantities this year, and in most instances is quite promising, although from my own observation I would hardly like to pronounce it an improvement on the older sorts. Our soil here is rather a light loam than otherwise, but in some places we have quite heavy land on the same farm that we have the light soil, but both kinds, with proper cultivation, seem to reward the desire of the husbandman. JOHN BURNS, Perth Co., Ont.

Good Drainage the Key to Wheat Growing.

To the Editor FARMER'S ADVOCATE:

SIR,—Our crop of wheat this season is exceptionally fine. I don't think we ever had a better. It is splendid this season wherever it was sown on loamy, well-drained land, but in some localities where the land was clay and badly drained it was plowed up or is a failure.

We prefer to sow wheat after beans, as the soil is in the best possible condition for wheat, if the beans have been properly cultivated. We simply cultivate or gang plow the land after the beans are harvested and drill in the wheat. Usually the land is heavily manured in the spring for the beans. This insures a splendid crop of beans and a good crop of wheat. Have had no experience with commercial fertilizer.

Date of sowing.—From the 1st to the 20th of September. We prefer to sow nearer the former than the latter date.

Seed.—From 1 to 1½ bushels per acre, according to the strength of the land. We usually sow 1½ bushels per acre.

We have three varieties this year, viz., Dawson's Golden Chaff, Genesee Giant, and McGarvin wheat. The latter is of local origin and a very heavy yielder of high-testing wheat. I think this season's crop shows clearly that good drainage is the main key to successful wheat growing.

Kent Co., Ont. W. A. MCGEACHY.

Seasonable Farm Work.

In some sections of the country rains have fallen so frequently and copiously as to delay harvesting, and it is often difficult to decide just what work it is best to undertake in the interval while the harvest fields are drying. If winter wheat is to be sown, there is no work that can be done to better advantage at such times than plowing for wheat, and the advantage that may be taken by prompt action at such times can hardly be over-estimated. For a few days after a good soaking rain the land is moist to the bottom of the plowing, and the draft on the team is light compared with what it would be when the land is dried out. The weather is likely to be cooler for a few days after a heavy rain, and this will also be favorable for the teams, so that the plowing can be pushed on rapidly. The roller and harrows should follow immediately after each day's plowing. If this is delayed for a few days the land will become dry and hard, and will require much more labor to make it fine, and the moisture will have evaporated and will be lost, while it might have been retained if the work of harrowing had been promptly attended to. If the land has been plowed some time and not harrowed, advantage should be taken of the circumstance of a good rain to reduce the surface of the soil to a fine tilth immediately after by the use of the harrow. It is also important that the seed be sown soon after a good rain. Then the ground is moist and everything favorable for the sprouting and the vigorous growth of the young plant. Much depends upon a good start. It may make all the difference between success and failure. The writer last year sowed a crop of wheat on ground that had just enough moisture to sprout the seed, but not enough to keep it growing vigorously. About half the plants died and the remainder made feeble growth. The result is half a crop, and that on ground rich enough to have produced a full crop had the con-

ditions been favorable. If we had our way no seed should be sown just before a heavy rain. It may be merely a notion, but we have always thought that a crop sown then did not make the healthy, vigorous growth that it does when sown just after a good rain. The conditions necessary to the healthy growth of plants are air, moisture, and warmth. If the ground is packed and crusted by a heavy rain just after sowing the air is excluded from the roots of the plants and they become bound and restricted in their growth. The packed surface also allows the moisture to become evaporated rapidly. On the other hand the drilling or working in of the seed after a rain is as good as one cultivation and the plants are left free to grow, the surface being prevented from crusting, evaporation checked, and moisture retained. We are fully persuaded that good results will follow harrowing the wheat after a rain which has packed the ground, even if the wheat has sprouted or is up above the surface. It will be found to relieve the plants and promote their growth, loosening the soil and retaining the moisture.

Homemade Lightning Rod.

To the Editor FARMER'S ADVOCATE:

SIR,—I have lately made and put up a lightning rod and would like to tell you about it, as it may be of interest to some of the numerous readers of your paper.

The rod made.—The rod was made of nine strands of No. 8 galvanized wire twisted together. For each length of rod that was needed the wire was measured and cut. Then each wire was bent at one end hooked on to the short crank of a grindstone and made fast. At the other end each wire was put through a separate hole in a short piece of board, pulled evenly tight and bent to keep from being pulled back. Then one turned the grindstone and the other held the board and in a very few minutes it was twisted firm.

Ground connection.—By means of a two-inch well auger a hole was bored eight feet deep into wet quicksand and the rod put down to the bottom.

Attachment to building.—Three-cornered cedar blocks about three inches across were nailed to the building and to these in a notch across the center the rod was nailed. A sufficient number of blocks were used to keep the rod from touching the building. Each rod was brought in as straight a course as possible to the ground.

Points.—The points are on the ridge of the barn, are about 20 feet apart and 10 feet high. To get the height, light cedar poles 6 feet long were set up perpendicularly and stayed with wire, to these the rod was fastened. Each point (except one which was spliced to the rod leading from another point) has separate ground connection. At the actual point the three center wires are left a little longer than the others and point straight up, the other six are bent outwards at a slight angle.

Labor, weight, and cost.—It took two of us (green hands) a little less than a day and a half to make and put up 240 feet of rod. Per foot it weighs ½ of a pound, and cost for wire 1½ cents.

Middlesex Co., Ont. THOMAS BATY.

NOTE.—We have submitted the above description to a couple of men who have made a study of this special subject, asking them to indicate any points wherein the plan might seem inefficient, or to offer suggestions whereby it might be improved, and we append their replies. Owing to the frequency with which buildings are destroyed by lightning, the generally recognized value of properly constructed rods, and the extortions practised by many so-called "lightning rod men," the subject is very important, and any additional light which other readers can give will be welcomed.—EDITOR.

"The first thing that strikes me on reading this is that the insulation is imperfectly provided. Why might the rod not as well be stapled to the barn as to the cedar blocks. The frequency with which currents are reported to follow the eavestrough and conductors would lead to the belief that Mr. Baty's wire conductor would lead off light discharges without insulation, but I do not think his method of attachment commendable.

"In comparing the efficiency of this with the rods on market the relative conductivity of iron wire and copper or amalgam rods is an important question.

"The points as constructed may be fairly effective. I should think proper platinum or steel points could be wired into the cable at the ends so as to make connection. These could be added to the wire points. Of course this rod is very cheap. If it is not capable of doing much work, it cannot, I think, so long as it has ground connection with wet quicksand, be a source of danger.

"London, Ont. JOHN DEARNESS, I. P. S."

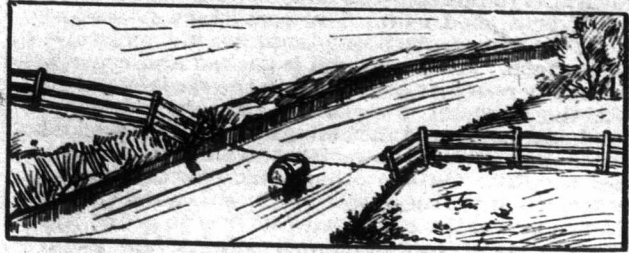
DEAR SIR,—Your letter of July 2, referring to a note sent to Mr. McAdie regarding a homemade form of lightning rod, has received attention in this office. The twisted wires make up a rod having much more superficial area than any solid rod of same weight per foot. This is a distinct advantage, because in the very rapid oscillations attending a discharge of lightning the induction is practically confined to the surface, penetrating only a fraction of a millimetre, and hence solid rods are of much less value than ribbons or a bundle of wire. The insulation, or cedar blocks, only strikes us as insufficient to stand the strain of induction, and this should not be allowed.

WILLIS T. MOORE, Chief of Weather Bureau, U.S. Department of Agriculture, Washington, D.C.

July 15th, 1897.

THE HELPING HAND.

Buoy for River Wire.



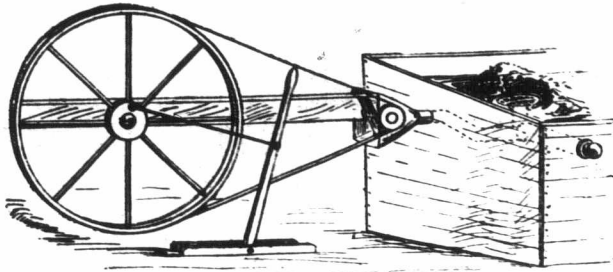
E. F. AUGUSTINE, Lambton Co., Ont.:—Having to maintain two line fences enclosing a pasture through which a small river runs, it has troubled us for years to keep the strand of barb wire which we stretch across the stream from sagging into the water.

As the bed of the river is composed of rocks, it is impossible to drive stakes to uphold the wire, which becomes very dangerous to stock when invisible beneath the surface of the water.

This spring we hit upon the device shown in the accompanying sketch, which answers the purpose to perfection. The wire is simply stapled to a small barrel or keg, which acts as a buoy in upholding it. This is superior to fastening to a stake in the middle of the stream even when practicable, as the barrel will cause the wire to rise and fall with the stream, thus permitting driftwood to pass underneath it, which would otherwise lodge and break the wire or pull out the stakes. For a wide river several barrels could be used as floats.

A Homemade Forge.

Many farmers find it profitable to do some of their own blacksmithing. Portable forges are generally costly, but we find this difficulty entirely overcome by Mr. Stead, of Bradwardine, Man. In this simple contrivance the blast is obtained by a fan on the same principle as a grain-cleaning mill. It is about six inches in diameter and made of pieces of shingle about three inches wide nailed to a block of wood. The drum consists of a piece of old tin, connected with a pipe which conveys the blast to the bottom of the forge, where a piece of an old grate is placed. There is a small hole to the front,



[Stead's homemade forge.]

which is kept plugged. When it is required to clean out the ashes that fall through the grate, a piece of wire is used to pull them to the front, and the hole is again closed. Mr. Stead says the only difficulty likely to fall in the way of a novice in using this forge is through not leaving plenty of coal between the grate and the metal requiring to be heated. If this precaution is not taken, the cold blast strikes the metal and keeps it from heating, however good may be the fire.

DAIRY.

The "Queen" Butter Maker.

TRIED AND FOUND WANTING—A TEST CONDUCTED FOR THE "FARMER'S ADVOCATE" RESULTS IN THE REJECTION OF A \$500 ADVERTISEMENT.

Early in May of the present year the FARMER'S ADVOCATE received an application for advertising space from the Queen Butter Maker Company, of Cincinnati, Ohio, together with copy of advertisement of a new churn which it was claimed would make butter in from 1½ to 5 minutes, and, moreover, produce "more butter of a finer quality." Our reply was that we had no confidence in the churn whatever, and declined to accept the advertisement of what we believed would prove an imposition upon dairy farmers. In their next letter the company told us that science had been making rapid strides in labor-saving machinery, the inference being that the FARMER'S ADVOCATE was not keeping up with the procession, and we were enclosed a lot of testimonials and alleged copies of original letters, along with a proof of a clipping from a Chicago religious paper, "The Free Methodist," that had been convinced of the merits of the machine, and a further assurance that if we would look the matter up thoroughly we would be doing our readers a favor by inserting the advertisement. In response to this we wrote the company that the parties they named were all totally unknown to us, but that if the company cared to send us on a

churn to be tested by a competent dairyman personally known to ourselves, and it proved satisfactory to us, bearing out the claims made for it, we would then enter into a contract for advertising. We insisted that no "toy" churn, but one of general utility, be forwarded. The company next wrote as to advertising rates, told us they were shipping hundreds of the churns every week, that it was a perfectly legitimate article, and urging that the acceptance of their offer and the insertion of the advertisement be no longer delayed. Again, on May 27th, they wrote consenting to ship us a No. 1 five-gallon "Queen" churn to be tested by us and ordering \$500 worth of advertising space, giving directions as to style of advt., etc. On June 19th they wrote us that the churn had been shipped, and on the 22nd written and printed instructions were forwarded as to how it should be used, ripeness of cream, etc., the belief being expressed that we would soon be an enthusiastic in its praises as anybody else who had used it. In a few days the churn came to hand in good working order, though the interior was somewhat inferior in finish, the cream receptacle being something like the old dash churn, larger at the bottom than at the top. The agitation—certainly very great, at least of a portion of the cream—was produced by a small propeller screw near the bottom, driven by a large crank wheel, shaft and gearing. In order that there might be no question about our having a fair, thorough and independent test, we decided to submit it to trial by Mr. F. J. Sleightholm, Superintendent of the Western Ontario Dairy School and Creamery, previously of the Guelph Agricultural College Dairy School, and widely known throughout the country as a thoroughly practical dairyman by reason of his successful conduct of the Ontario Traveling Dairy, and for some years a contributor on practical dairy and other subject to the columns of the FARMER'S ADVOCATE. Mr. Sleightholm kindly consented to undertake the test, and we impressed upon him the necessity of observing the directions and reporting impartially as to its actual merits, being prepared to give the company and the public the benefit of the result of the test. We requested him to note carefully the matter of speed, quality of the butter made, and the thoroughness of churning as shown by test of the buttermilk. Mr. Sleightholm's report is as follows: Messrs. Wm. Weld Co., London, Ont.:

GENTLEMEN,—I have made two tests of the "butter maker" or churn sent me, and beg to report as follows:

TEST NO. I.

Cream, 1½ gallons.
Temperature of cream, 69° F.
Per cent. of fat in cream, 32
Length of time churning, 11 minutes (eleven).
Test of buttermilk, three (3) per cent. fat.

TEST NO. II.

Cream, 1 gallon.
Temperature of cream, 65° F.
Per cent. of fat in cream, 32.
Length of time churning, 12 minutes.
Test of buttermilk, one and nine-tenths (1.9) per cent. fat.

The butter in each test was quite white and very soft; so soft, indeed, that it was wholly impossible to print or pack it. By holding it until the following day in the refrigerator we were able to print it. The butter being so soft when it "comes," it is not possible to wash the buttermilk out of it satisfactorily. It is, therefore, wholly unlikely that the butter will keep well; however, we will give it a trial.

We have followed very carefully the directions given by the makers in all particulars; and as the report shows, we have not been able to churn in less than eleven minutes. We are quite satisfied that with as rich and ripe a cream as was used in these tests, and as high a temperature, any ordinary little barrel churn would have brought the butter in as short a period.

The report also shows an excessive loss of fat in the buttermilk. The principle on which the agitator of the churn works and the high temperature account for this. The cream used in these tests was exactly the same as we churn day after day in our own trunk churn, with the exception of temperature. With a temperature of 50° F., our buttermilk showed nearly one-tenth of one per cent. of fat (1); one-nineteenth and one-thirtieth respectively of the quantity found in the buttermilk from the churn you sent us. We usually churn about an hour. We look upon the churn you sent us as valueless.

I should have stated earlier in this report, that the cream used throughout was a nicely-ripened cream.

If at any time in the future I can be of any service to you in matters along the line of my work, I shall be pleased to hear from you.

Strathroy, July 22. F. J. SLEIGHTHOLM,
Western Dairy School.

Upon receipt of the above we at once wrote the Queen Butter Maker Company that we did not feel justified in allowing the FARMER'S ADVOCATE to be made a means of promoting the sale of the churn, and finally declining the \$500 advertisement, and advising them that we held the churn subject to their order as per agreement. Dairy farmers generally are certainly under obligations to Mr. Sleightholm for the full and careful report he has made for us, and which will certainly prove a timely safeguard to their interests.

POULTRY.

A Hen Catechism.

BY MRS. IDA E. TILSON, OF THE MINNESOTA FARMERS' INSTITUTE CORPS.

1. How many hens can be kept in a yard 75 x 100 feet, and a house 12 x 20 feet, latter 8 feet high? Ans.—Good authorities recommend, per confined fowl, 100 square feet yard room, and 8 square feet of house room.

2. We have a good, high henhouse, built as a lean-to on our barn. Would it be well to finish off the loft for our hens to lay in? Ans.—I have seen lofts furnished with nest boxes, etc., but no such room was very accessible or easy to clean, and cleanliness is the first condition of poultry success. I should judge it would be a cold place in winter and hot in summer; therefore not attractive to hens nor good for eggs. The main room below, however, would be much more comfortable with a small inclosed loft above it.

3. When henhouses are built double walled, with an air space between, do you find the latter a harbor for insects? Ans.—Insects could hardly penetrate the building paper which lines each side of air space in my house built thus. Early, strict, constant cleanliness, by means of a broom, whitewash, fumigation, sprayer, etc., prevents any great accumulation of insects anywhere.

4. Can a force-pump be used for cleaning the henhouse and for other purposes, too? Ans.—Those who keep force-pumps as window cleaners, fire extinguishers, etc., naturally do not wish kerosene and whitewash used. Many emulsions sprayed on fruit trees are similar to the insecticides for henhouses. Some years ago I used the same pump for the last two purposes.

5. Should the perch for chickens be round or flat? Ans.—A broad, flat perch prevents the breast bone from crooking while it is young and tender. Fat adults and large breeds prefer the same, but smaller kinds seem to like a round perch.

6. Do you favor putting nest boxes on the ground? Ans.—Yes, for Asiatics. Egg eating prevails almost exclusively among smaller breeds, like Leghorns, Minorcas, etc. A nest box 18 inches from the ground cannot be peered into as they walk about, and they are able to fly up when they need to lay.

7. In raising 200 or 300 chicks, would you advise the use of incubator? Ans.—I would rather raise that number by hens. But if your fowls are wild, and you do not understand feeding them to cause early sitting, and you like machinery, and have safe, suitable places for incubator and brooder, you may prefer the latter.

8. Which is the best incubator and the best brooder, and where are they made? Ans.—No one could answer that who had not tried all. There are many well-tested machines.

9.—Is it advisable to try artificial incubation by placing eggs in manure beds? Ans.—A man lately selling directions for such a scheme has been widely condemned by the poultry press. That method, said to have been anciently and extensively practiced in Egypt, is not practicable for our colder, changeable climate.

10. What is the best material to set a hen on? Ans.—One year I tried several hens on widely differing materials, hay, sawdust, earth, etc., but with eggs of the same age, kind, etc. Each hatched just nine chicks. The character of the eggs is most important. A hot, dry country and season require, however, more moisture about nests than under ordinary circumstances.

11. What is the trouble with hens when they will not sit their time out, or wish to change nests? Ans.—Probably lice, mites or bedbugs annoy them. Possibly they are "new" hens, and want a larger sphere.

12. Does a sitter merely turn her eggs over, or does she also move them from outside in, and vice versa? Ans.—She is not perfectly regular about either operation, but both turns her eggs over and moves them back and forth. The latter is proved by watching a sitting composed of differently colored eggs. The incubators, therefore, which have their racks taken out and inverted as a whole, thereby also changing relative locations of eggs, are scientific, but require a warmer situation for such cooling operations, than do machines with inside device to turn each egg in its place.

13. Is a cellar a good place to put little chicks? Ans.—Not unless exceptionally dry and warm. I knew one attempt where sore eyes and many deaths resulted.

14. Do small chicks thrive as well on a floor as on the bare ground? Ans.—In a damp climate sitting on the ground gives chills and rheumatism. A dry climate would not furnish that objection, but rats and skunks easily work into a floorless coop. I use a little dried sand and chaff to remedy the hardness of boards, on bottom both of coops and brooder.

15.—Is cracked corn good for little chicks? Ans.—Yes, for broilers. To future layers I would give cracked wheat and rolled oats instead.

16. How are corn and oats for laying hens? Ans.—Corn favors richness but not number of eggs. It is very heating and fattening; therefore suitable to feed winter nights. Oats are fine as an occasional winter ration, but their indigestible, clogging hulls make them most suitable for summer, when constipation does not prevail.

17. I have been told not to cut up raw vegetables in winter, because a hen's mouth is large, and she

can swallow chunks which stay and freeze in her crop. Ans.—There is no danger if vegetables are chopped reasonably fine. An English veterinarian, who has examined scores of diseased crops, never found a case like above.

18. Why not put cayenne pepper in their food to make hens lay? Ans.—Pepper, like everything else which is a stimulant and not a food, needs to be cautiously used.

19. Is there danger of feeding too much ground bone? Ans.—There have been reports of untimely moulting caused thus, but few poulterers are able to buy or prepare enough for harm. I feed one ounce per fowl every third day.

20. Are ground clam shells as good as bone, if you can get them as cheap? Ans.—Shells contain more carbonate of lime and answer for layers, but are not nearly so valuable for growing chicks as is ground bone, containing phosphates of lime like their own frames.

21. If I give ducks fresh water they set to work at once making it muddy as fast as they can. Do they need pure water, the same as chickens? Ans.—I supply fresh water twice daily for both ducks and hens, and all thrive well.

22. What is the best breed for an inexperienced person? Ans.—Probably some general-purpose breed, like Wyandottes and Plymouth Rocks.

23. In full-blooded Plymouth Rocks, are the male and female of the same shade? Ans.—The "American Standard of Perfection" still requires same color of plumage in both, but there is considerable discussion on the matter, because the pullets naturally run darker than the cockerels, and thus two breeding pens are often necessary in rearing show birds.

24. What is the origin of the Plymouth Rock? Ans.—It is a cross of Dominique and Black Java, with probably other slight admixtures. The breed is said to have been first exhibited in 1867 by its originator, D. A. Upham, of Wilmerville, Conn. Some strains by similar crosses may have been produced independently of his work.

25. How would a cross between Brown Leghorn and Plymouth Rock do for laying? Ans.—The cross would, probably, make a better layer than the Plymouth Rock and a poorer one than the Leghorn.

26. What breed will mature the earliest broilers? Ans.—Probably Wyandottes, but crosses are usually employed because they have special vigor.

27. What cross would you recommend for early maturity, together with heavy weight and fine flavor? With good care, what would the chicken weigh at three months? Ans.—White Leghorn or White Wyandotte on Light Brahma. They have often been made to weigh two pounds in two months, and that size is more popular than a larger broiler.

28. What is pyrethrum? Ans.—An insecticide, made from flowers of different species of camomile growing in Persia and Dalmatia; hence the name; also Persian insect powder and Dalmatian insect powder.

29. What is good for scurfy legs? Ans.—Clean the legs in soap and water; then anoint with sweet oil or hen's oil containing a little sulphur.

30. Why did my little turkeys die when I greased them for lice with kerosene, as told to do in a book? Ans.—I, myself, never advise kerosene; it is too severe. Scaly legs dipped in it often become lame. Fowls are made crazy by applications on the head, etc. Better use pyrethrum for lice.

31. What do you give fowls with gapes? Ans.—Purer drinking water and cleaner yard, because gapes are usually caused by a little red worm found in water and dew. Air-slaked lime sprinkled over yard will purify latter. If the fowl swallows a piece or two of raw salt pork, size of corn kernels, that may dislodge worms.

32. What is a cure for cholera? Ans.—Joseph Wallace says there is no specific for genuine cholera. I would advise killing bad cases at once. Give the others a little lime or alum in their drinking water. If they mend, feed on bread and milk and table scraps at first. Give the poultry quarters, the well and the water dishes a better cleaning than ever before.

33. What causes spots of blood in eggs, and how may we prevent them? Ans.—Generally, the hens are too fat; hence, egg organs are crowded and there is a rupture of some tiny blood-vessels while the egg forms and passes.

34. What is the best method of preserving eggs for winter use? Ans.—Acting Director Van Slyke, of the Geneva (N. Y.) Experiment Station, sent me the following: "The most convenient and reliable method we tried for keeping eggs, where cold storage would not be available, was about as follows: Mix four quarts of finely-slaked lime (we mention the lime by measure, as it can then be used very wet or partly dry) and one quart of common salt in five gallons of water. Stir thoroughly several times, and after all is dissolved that is possible (better let stand over night) decant the clear liquid into a glazed earthenware or wooden vessel; then add one-half ounce of boracic acid. The eggs are placed in this solution. It is well to keep the liquid at the depth of three inches above the eggs. The vessels containing the eggs should be kept in a cool place and not disturbed until the eggs are taken out for use. Eggs having cracks in the shells, or with thin shells, will, of course, be spoiled in this solution. It is always essential to have eggs with clean and perfect shells, and absolutely fresh, if they are to be preserved. Eggs kept for six and seven months, and even occasionally much longer, have been found in good condition."

GARDEN AND ORCHARD.

Modern Fertilizing of Orchards.

BY E. E. FAVILLE, DIRECTOR OF THE NOVA SCOTIA SCHOOL OF HORTICULTURE.

In treating of the fertilizing of orchard lands and the sustaining of fertility in the soil, the food of the plant is necessarily of first importance— from whence it comes and of what it consists. By study and experiment it has been determined that plants receive their food from two general sources very closely related: first from organic or air received elements, second from the inorganic or soil received elements, constituting two distinct classes entering into the composition of plants, causing life growth and development. In the first case we find coming from the air oxygen, nitrogen, and hydrogen, which are taken either directly or indirectly from the air and utilized by the plant as food. They make up the greater part of plants, forming over 90 per cent. of their entire weight. Only small quantities of plant food may be said to come directly from the air; but these air elements mentioned are always present in the soil combining with other elements waiting for proper conditions of the soil so as to form plant food taken up as such by the plant roots.

Elements of the second class are potassium, phosphorus, sulphur, chlorine, iron, sodium, silicon, manganese, calcium, and magnesium. Although it is found upon analysis of plants that these elements make up only a small portion of the plant body, they are, however, no less important in making up plant tissue and in the formation of fruit.

It is striking to note that of the seventy or more chemical elements known to modern science, only fourteen, or nearly one-fifth, appear to be essential to plant life, and since a very large proportion of these elements named are taken up by the plant through the soil, the care, fertility, and preservation of a fertile soil is of prime importance.

The disintegration of rocks through the forces of nature and the intermixture therewith of organic matter resulting from the decay of animal and vegetable remains constitutes soil, which may vary much in fertility and texture, due to the difference in composition of rocks and the variable proportions of organic matter they contain, thus creating a large variety of soils, making the soil problem a most complex one.

If we examine a well-constituted soil, we find it made up of numerous porous particles arranged with interstices between them serving the purpose of passageways for air and water, carrying with them valuable air elements, thus permitting of the chemical combinations of the fertilizing elements mentioned, producing plant food. In order that this fineness of soil texture may take place it is necessary that proper drainage and tilth be practised, making a proper mechanical condition of the soil in which the seed or plant is deposited.

The physical as well as the chemical status of all soils is of paramount importance, for where the proper physical texture is neglected the setting free of valuable fertilizing ingredients is retarded and the introduction of plant food where it might be needed is of little avail. Science has gone far enough to discern that certain germs aid in producing food for plants by their peculiar action in the soil; and it has been further proved by a long series of repeated experiments that these germs are most active when the soil admits of proper amounts of air, moisture and temperatures. This physical condition then stands first. Experience time and time again has taught that a lumpy, hard soil is disastrous to all crops, and that often may be found locked up in these lumps valuable deposits of plant food. In all farm practices of cultivation this condition of the soil is repeatedly found requiring for a remedy drainage and tilth.

These several fundamental principles cited form the foundation of success in the growing of all crops, as they are of great worth in general farming; even more so are they valuable in fruit culture, for in general farming stock-raising is engaged in largely and the products from the soil are utilized as food and returned to the soil in the form of manures; while in fruit culture crop after crop is removed with no rotation, the product going to the market and returning nothing to the soil. Even if stock manures are applied they are not always the best, especially in full-bearing orchards, tending as they do to one-sided rations.

European countries as found to-day should teach every American farmer a lesson. There a gradual depletion of soil fertility has been going on for centuries, until the virgin condition of the soil has been almost entirely removed, and farm and orchard lands become ruined or worthless only brought back to bearing condition by the expending of large amounts of capital and the application of the so-called commercial fertilizers. In the eastern portion of this continent this same practice has been too freely indulged until to-day we find a similar state of affairs in the Eastern and Southern States, and Eastern Canada, spreading rapidly westward, causing the farmers of these localities to grapple with the soil problem as all-important in farming, growing more complex year by year.

The diversity of soils in our orchards often makes soil tests needful. While this may seem impractical for the average fruit-grower, and almost impossible, still some of the best results have come from accurate, thorough tests carried on by fruit-

growers, furnishing data of a very practical nature. Adhering to general principles as a guide, coupled with keen observation, has resulted in most intelligent work being done that could have been obtained in no other way.

As animals require balanced food rations, so do plants; as animals are injured by overfeeding, so are plants: thus the relation existing in their treatment as to food and feeding bears a striking similarity.

It is found that of the fourteen elements used by plants for food three are principally removed in crops, viz., nitrogen, potassium, and phosphorus. The following compiled table will give an approximate estimate of the amount per acre of these fertilizing materials removed by a full crop of fruits, together with vegetables that are often sown in young bearing orchards where the intensive system has been practised, which system is usually the best if the soil is properly cared for and given sufficient food.

Crops per acre.	Nitrogen, lbs.	Potash, lbs.	Phos. A. lbs.
Apples, 15 tons	30	45	3
Pears, 10 tons	12	36	10
Plums, 2 tons	16	8	2
Peaches, 8 tons	16	33	6
Grapes, 4 tons	13	40	12
Berries, 1½ tons	Trace	7	2½
Carrots, 20 tons	70	160	18
Mangolds, 20 tons	90	160	18
Turnips, 20 tons	32	26	23

In the above table no account is taken of the plant foods that have gone into foliage, twigs, and new wood. By the table will be seen the strong drain upon the soil, differing in different fruits. Supposing the orchard to be growing a harvest crop of grass, it would not take long for the one element, potash, to be exhausted, which, as is seen, makes up one of the chief fertilizing ingredients. Omit cultivation and large amounts of these plant foods would never be set free. Hence it will be seen the great need of judicious feeding of the balanced rations in young bearing orchards where the intensive method is carried on, aiming to produce the largest crop from the least given area. Where this method is in vogue certain root crops are often sown which reduce the soil fertility rapidly, requiring the soil to be fed with large quantities of available plant food.

To submit a general food ration suitable to all soils on which fruits are grown is impossible owing to the various requirements of the fruit and soils, for in the selection and application of balanced food rations there are many questions to settle.

[TO BE CONTINUED.]

Planting Evergreens in August.

There is often a great deal of incredulity displayed by those who are told by planters that August is a good month in which to plant evergreens; but the fact remains that for certain kinds there is not a more suitable month in which to do the work. The reason why it is such a good time is this: The soil is quite warm. It is often quite moist, and if not it can be easily made so. Such conditions favor root action; and repeated experiments show that new roots form, under such conditions, in a few days. In August, while much of the growth for the season has been made and fairly well hardened, root action is still most active; and, properly planted, an evergreen becomes securely established in its new position in a few days.

It will not do to transplant all evergreens in August. The selection must be confined to those known to make many small roots. Pines constitute the bulk of those not to be planted; but even with these there are exceptions. The white and the Bhotao, *Pinus strobus* and *excelsa*, respectively, are fairly fibrous rooted and may be safely planted. All others that I call to mind now have but few roots in comparison with tops, and are not apt to do as well at any other time as they will in spring. In a general way, I would name the following evergreens as good subjects for August planting: Hemlock and all other spruces, Chinese and American arbor-vitae, Lawson and other cypress, and retinosporas. For my own part, I would include as well, junipers, yews and firs, especially if good transplanted stock, as then they have a fair supply of small root.

I do not think evergreens could be transplanted safely in August if had from a long distance. The boxing of them at that time of year would be against them. Late September would be a better time. But where but a day or two's journey, with a propitious season, losses would be but few, especially if a small ball of soil be left to the roots.

To detail the method of summer planting, I would say that its success depends largely on water. This must be used freely, as it is the warm, moist soil which is to bring out the fresh roots.

The hole to receive the tree is dug as at any other season. The tree is dug with some ball to it, placed in its new position and filled in with soil until the ball is about covered. Water should then be filled in freely, and it may be stirred around with a stick until of the consistency of mush, so that it may be carried in closely about all the roots. In the case of evergreens with no balls, I have often made a "mush" puddle in the hole first, setting the roots directly in the puddle, and uniformly with the greatest success.

There is no tramping of the soil required when this system of planting is properly followed. The weight of the water carries the soil directly to the roots, tightly incasing them, which is what tramping is for under other systems. It is an advantage in

the planting in summer that too much water cannot be used, because of the warmth of the soil. After the soil and water have well settled, say in four or five hours, fill in the remainder of the soil required, place a mulching of cut grass or something similar around the roots, and probably nothing more will be required. Should the tree be larger than about six feet in height, a sprinkling of water at night for a few nights would be of benefit to it, but generally this is not required.

The character of the season has much to do with the success of August planting. The latter part of the month here, which is the time preferred for the work, is usually warm and moist. Should it be excessively hot and dry, with a likelihood of its continuance, it is better to wait a week or two, or until the great heat abates, as evaporation from the foliage of a transplanted tree is very great at such times.

A great deal of planting could be satisfactorily done in summer and fall, and with more pleasure than it brings in spring, when every one about a place has more to do than can be well accomplished. —Joseph Meehan, in *Country Gentleman*.

ENTOMOLOGY.

Another Warning re the San Jose Scale.

To the Editor FARMER'S ADVOCATE:

SIR.—After a visit to another orchard infested with San José scale in Lincoln Co., Ont., and noting the astonishing rapidity with which this insect has multiplied and is breeding in infested areas, I feel compelled to again call the attention of farmers and fruit-growers through the columns of your paper to the gravity of the situation. Some two or three years ago there was doubt expressed by entomologists that the San José scale would endure the rigors of the Canadian climate, even in the southernmost portions of Ontario. There is now undoubted evidence that the insect has been in the Province for three and possibly four years. That it has adapted itself to our conditions and is apparently enjoying the situation is fully evidenced by the fact that it is now breeding so freely in infested localities. In an orchard which I examined last week I found multitudes of scales of the first brood firmly set on fruit, young wood and leaves of plum trees. A single half-grown plum carried 400 young scales. One leaf, by careful estimate, had on its upper surface fully 4,000 scales, and the examination of a female scale with a high-power microscope showed her to be carrying and ready to give birth to from 40 to 50 young. It is probable with favorable conditions this year that there will be three or possibly four broods in Southern Ontario. At the rate which they are now multiplying one infested tree would be sufficient to stock a whole county. The situation is indeed a serious one, and no effort should be spared to impress upon fruit-growers and farmers the necessity of inspecting their orchards and fruit trees immediately. Although the insect is somewhat inconspicuous, yet if present in considerable numbers its injurious effects are readily noted in the abnormally gnarled and stunted appearance of the infested trees and the incrustated condition of the bark. Growers should examine with care all stock received from the United States during the past three years, and particularly stock which has come from New Jersey nurseries, notably the Parry and Lovett nurseries of that State. The best advice is, undoubtedly, to cut down and burn all infested trees. Growers may think this a great hardship, but it is certainly practising the wise maxim of "a stitch in time," and they are acting not only in their own interests, but in the best interests of their neighbors and of the community in following this course. All trees adjacent to others which are infested, but upon which the scale has not been found, should be sprayed with kerosene emulsion immediately, and this fall after the leaves drop should be treated with a strong mixture of whale oil soap and water. Suspected specimens should be sent in for identification. A bulletin recently issued by Prof. Panton, of Guelph College, will be of much assistance in guiding fruit-growers in their search for this minute and dangerous pest.

JOHN CRAIG, Horticulturist.

[NOTE.—The above subject was also very fully dealt with by Prof. Panton in the FARMER'S ADVOCATE for July 1st, page 297.—EDITOR.]

APIARY.

No 7.—Cessation of Honey Flow—Surplus Bees as Consumers—Robbing Moth, etc.

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

With the third or fourth week in July ended the honey harvest, which began about the second week in June, and those who failed to obtain a honey crop then must now wait another year before the opportunity for obtaining such is presented again. In the few exceptional localities where buckwheat and fall flowers are abundant, bees will continue to work, but it is best that the product from these sources should be allowed the bees themselves for breeding purposes and winter stores, so that they may be in the best of condition for wintering and consequently to catch the honey flow from clover and basswood the season following, rather than taken from them and placed on the market as a second grade honey.

During August there is but little work to be done in the apiary, and it is but little that the bees do themselves; in fact, they do not generally gather sufficient to supply their present needs, and hence have become in reality consumers instead of gatherers.

There are two ways in which the apiarist can have his bees spend their working energy: (1) In brood rearing, (2) in honey gathering. To force the working energy of our bees into brood rearing while the honey flow is on in June and July, by allowing the queen all the comb she can fill with brood, is but to waste the working energy of our bees in brood rearing at a time when it should be spent in honey gathering, to bring into existence a large force of bees when they can only be consumers in August instead of honey gatherers in June and July. From the time the queen lays the egg until the young bee is ready to go to the field is nearly five weeks. Now, the practical part I wish the beginner to take from all this, is that he should never expand the brood chamber of a hive in order to give the queen more room to lay after five or six weeks previous to the close of his honey flow in July. Whatever space in the hive is occupied with brood on the first week in June, confine the queen to that throughout the whole of the clover and basswood honey flow following.

All surplus honey which has not previously been removed must be taken off the hive as soon after the close of the honey flow as it is ready, but because of the honey dearth which follows, if there is not sufficient honey in the brood chamber of the hive (and if a colony has been properly worked there will not be) to supply the requirements of the colony, then sufficient of the surplus honey should be allowed to remain on the hive to supply the colony's needs until it is fed for winter, about the twentieth of September.

Do not attempt to increase the number of your colonies in August, but rather move the weak and queenless ones together and unite them, destroying the inferior queens. Reduce as soon as possible your apiary to the number of colonies which you intend to carry through the winter, so that they will not have to be disturbed, especially their brood chambers, late in the season, and the bees will have plenty of time to get their stores and combs arranged to their liking for winter.

When there is no honey to be gathered the disposition of the bees is to rob whenever an opportunity is presented, and August is one of the worst months for this. The best cure for robbing is never to allow it to get started; truly "an ounce of prevention is worth a pound of cure." In order to do this never leave any honey about where the bees may gain access to it. In handling the bees be scrupulously careful not to leave uncovered for a moment any combs or hives which are not protected with smoke. Because of the disposition of the bees to rob in time of scarcity, and the consequent difficulty in handling them at such times, we should plan as far as possible to have everything requiring handling done while the honey flow is on and it can be done with ease. Colonies which are queenless, and those which are weak, are the most liable to be robbed. All such should have their entrances contracted at once, and soon as possible be united with each other or some other colonies. If when working among the bees the robbers become bad and follow about the yard it is best to quit work for a while. If, however, a colony must be opened for some purpose, then carry it inside where robbers cannot get, and do so, closing it up again before replacing it on its stand. Some place a movable tent over the hive where it stands before opening it, but this I do not recommend, especially if a hive is light and readily movable, as it should be.

The moth is to some who are inexperienced, and have black bees, quite a menace. It usually begins its work early in August, sometimes ending with the destruction of the colony in the fall. The remedy for this is to keep nothing but Italian bees or those which are crossed with them. Those who recommend moth traps, or some form of hive as moth proof, either do not understand what they are talking about or are trying to deceive.

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.

THE RIGHT OF A PATENTEE.

C. F., Halton Co., Ont.:—"Would you kindly inform me in next number what are the legal rights of those holding patents. Could they prevent one from making a machine from their pattern and running it for their own benefit?"

[The gist of the Canadian patent law is contained in the following clause, which is a plain negative to the question of our enquirer: "Every person who, without the consent in writing of the patentee, makes, constructs, or put in practice any invention for which a patent has been obtained under this Act or any previous Act, or who procures such invention from any person not authorized by the patentee or his legal representatives to make

or use it, and who uses it, shall be liable to the patentee or his legal representatives in an action of damages for so doing; and the judgment shall be enforced and the damages and costs that are adjudged shall be recoverable in like manner as in other cases in the court in which the action is brought."—35 V., C. 26, S. 23.]

Veterinary.

WAS IT TUBERCULOSIS?

F. M., Frontenac, Ont.:—"I lost a cow this spring with some of the symptoms of tuberculosis. She had no cough or wheezing, began to fail very gradually, appetite fair for about two weeks but failed in flesh and milk. After about two weeks longer died suddenly. A large amount of brownish water filled the cavity about the lungs. What would you call it?"

[The identity of the disease could only have been established by a post-mortem examination conducted by a competent professional veterinarian. The symptoms were not unlike those of some forms of tuberculosis, which is not always confined to the lungs nor accompanied by a cough, but may be found affecting the bowels, liver, kidneys, uterus, or udder. It would have been well to have tried some simple treatment, such as that prescribed in FARMER'S ADVOCATE for July 15th, page 318.]

DIARRHOEA IN CALVES—LAMB AILING.

J. W. C., Brant Co., Ont.:—"1. I have a calf six months old which has had diarrhoea and indigestion for some time. It bloats up quite often. I got some powders from a V. S., but they did not cure it. Have given it salts and linseed oil. It will take the bloat down, but in a few days it will return. Have stopped diarrhoea with essence rennet, but it will bloat every few days in spite of all I can do. Is getting very thin. It had milk up to three weeks ago. Have changed to water now, but can see no difference in what I feed. It runs on pasture all the time.

"2. I have a lamb which seems to be stiffened up so it can hardly walk. When you try to catch it it will start to run, and tumble on its side with its legs straight out, and will lie for a moment and get up. Eats and chews its cud all right. What is the cause, and what can I do for it?"

[1. Diarrhoea in calves is generally the result of indigestion brought on by feeding too much milk at a feed when young or by giving the milk cold. The milk should always be warm when given to the calf, and it is much better to err on the side of giving it too little than too much milk. When the first indications of diarrhoea are noticed the quantity of milk should be reduced, and a dose of castor oil administered. This will generally stop the trouble. In this case it has become chronic, and is difficult to deal with. We would give castor oil first, say 1½ oz. or 6 tablespoonfuls; then give warm milk or warm water and milk in small quantities. After this give common soda, 1 teaspoonful in water once a day for three days, and lime water, 1 ounce or 4 tablespoonfuls, for a few days. Keep the calf in a dark, cool, dry box stall; give a little dry bran and whole oats, and a little good clover hay. Keep box clean and well bedded.

2. Give the lamb a dose of raw linseed oil, or castor oil, say 4 tablespoonfuls. If you have rape turn it in there. Rape often has a good effect on such cases.]

BLIND STAGGERS.

P. J.:—"I have a valuable mare in good condition. Some five years ago she had an attack of blind staggers, and had no signs of it again until this spring, about a month ago, when she had quite a bad turn. Would you kindly let me know, at your earliest convenience, if there is any cure, and what is the cause?"

[There is no cure for confirmed megrims, or blind staggers. It is due in most cases to a badly-fitting collar, which obstructs the circulation of the blood to the head, and so produces vertigo. For immediate treatment give a dose of purgative medicine, and have the collar fitted to the shoulder by fresh padding, and be sure that there is sufficient room to pass your hand down between the channel of the neck and collar. In confirmed cases the disease may arise from the presence of tumors within the brain cavity. DR. WM. MOLE, M. R. C. V. S.]

[NOTE.—Such cases are also frequently due to indigestion, the result of overfeeding, and for such a less generous diet should be given, and one tending to relax the bowels by frequent mashes, and a general tonic treatment such as bicarbonate soda, 1 oz.; pulv. gentian, 1 oz.; and pulv. nux vomica, 2 drams. Divide into 12 doses, and give one night and morning. Three times weekly give one dram potassium iodide and 2 drams bromide in feed.—EDITOR.]

POLYPUS IN COW'S TEAT.

G. A. H., Grey Co., Ont.:—"I have a valuable young cow. Soon after calving there got something wrong with one of her teats; the milk did not come down right when milking. I can get it with a tube. She has failed some in her milk. Please let me know what is best to do for her, and oblige."

[Apply the following ointment to the teat once a day, and use great care in passing the tube, which must be kept very clean: Potassium iodide, 1 dram; iodine crystals, ½ dram; lard, 2 ounces. A polypus has formed in the teat, and must be absorbed.]

Miscellaneous.

CRIMSON CLOVER—MAMMOTH CLOVER—SWAMP HAY.

A. MANSON, Lanark Co., Ont.:—“(1) Would crimson clover be a profitable crop to sow on sandy soil in spring to be cut for hay in same year? (2) Is Mammoth clover more productive and equally as good in other respects as common red clover? (3) Does millet draw as much strength from the soil as oats or peas? (4) Could you produce figures to show the relative fat-producing qualities of millet, clover, peas, and oats, all cut green and fed in the usual form as hay? (5) I also send you a sample of two kinds of swamp hay which I would like to know the names of. Which of these would be the most profitable hay crop to raise? Could the seed be procured from a seed merchant?”

(1) Crimson clover is an annual. It is usually sown in August alone and is fit to cut the next year early in June or plowed in for green manure. If sown early in spring alone on rich and well-prepared land we see no reason why it should not grow high enough to cut for hay in the same year, but we have had no experience. A sandy loam soil is best suited for it. In the FARMER'S ADVOCATE of August 1st, 1896, a subscriber in Essex Co. gave a very favorable account of his experience with crimson clover, which he sowed at the rate of fifteen pounds per acre on black sandy land, Sept. 1st. It was in full bloom by May 8th, standing two feet high, was ripe for seed June 12th, and estimated at eight to ten bushels per acre. This is the most favorable report of it we have seen in this country, many having tried it with unsatisfactory results.

(2) Mammoth clover is considered more productive than red, but is coarser and does not make as good fodder on this account. If sown very thickly this objection may be obviated to some extent. It is said to be very suitable for plowing in as green manure.

(3) If all are allowed to ripen seed there is little difference, but peas, being a nitrogen gatherer, will leave the soil richer for succeeding crops than the others.

(4) The analysis of these green fodders shows the relative fat constituents in this order: Millet, 1.1; clover, 0.70; peas, 0.60; oats, 0.55; and the total constituents as respectively: 55.24, 47.18, 37.0, and 34.73.

(5) No. 1 is reed canary grass or ribbon grass (Phalaris arundinacea), suitable only for pasture on wet, swampy land. In early growth it is eagerly eaten by stock, but becomes woody when mature. One of our staff reports it growing this season luxuriantly along flats by creeks on farms in Middlesex (Ont.) County. No. 2 is blue joint, small reed or sand grass (Deucia Canadensis), a valuable grass for low, undrained lands, and will grow on land too wet for red-top. Commonly found in marshes or beaver meadows, but may be grown on cultivated land. It remains green even after the seeds are ripe, and is relished by stock at all stages of growth, affording nutritious pasturage and fairly heavy and palatable hay. We are not aware that seed of either of the above grasses can be obtained from dealers.]

COW HARD TO MILK.

F. M., Frontenac Co., Ont.:—“Is there any way in successful use to cause a cow that is hard to milk to give a larger stream, or to enlarge the passage. Is this difficulty inherent in any breed?”

[We do not know that this difficulty is prevalent in any one breed more than others. It can only be remedied by mechanical means. A piece of whalebone may be filed into a proper shape, as shown in the accompanying illustration, both to enlarge the duct and to be retained in its place, without danger at the same time of penetrating too far so that it cannot be withdrawn. Whalebone is to be preferred because it is hard, smooth, elastic, and cannot be broken. It should be well oiled before it is inserted into the teat.]

HORTICULTURAL PERIODICAL.

H. O. LAMB, Ohio:—“Is there any Canadian publication devoted to horticulture and general gardening in Canada; also state price?”

[The Canadian Horticulturist, published at Grimsby, Ont. Editor, Mr. L. Woolverton. Price, \$1 per year.]

BINDWEED.

ENOCH M. WEBER, Waterloo Co., Ont.:—“You will find enclosed a sample of a weed that threatens to make considerable trouble. It was first noticed last summer on both my farm and my neighbor's. It grows in the shape of a vine, coiling itself around grain stalks, etc. It does not grow very early, but when it comes no other vegetable matter seems to bother or hinder its progress. The blossom is somewhat similar to morning glory, only much smaller, and the soil is filled with a complete network of roots. The leaves are of a dark green, pretty fine. My neighbor put three bushels of salt on a patch of about eight or ten feet diameter, which resulted in killing everything except this weed, which again made its appearance. I have made no investigation in regard to the depth of the root. It kills the grain by spinning around the stalks, thus binding them dead. After plowing,

the surface is again nearly covered with its vines in about a week. Please give information how to act, and what is its name?”

[The specimen sent us is Convolvulus arvensis, or bindweed, sometimes called wild morning glory, a perennial from Europe, common in North Atlantic States and Canada. It increases rapidly from rhizome, an underground root or stem, each small broken particle of which is good for a new plant. It is a great pest, and once well-established exceedingly difficult to eradicate. Its seeds are distributed in grain, and also by being carried from place to place in water, so that it is often found thick in bottom lands. It is also distributed in manure. If it infests grain fields, drop grain out of the rotation till they have been subjected to a thorough cleaning process. After harvest, plow shallow and cultivate and continue autumn cultivation till growth is past, but plow deep at last. In spring keep the surface stirred, and put in a hoed crop, such as roots or corn. Persistent and careful work will be needed to get rid of it in one season, and it may take two. It is said that, where practicable, sheep will greatly check its growth, but for this we cannot vouch. However, we have seen it successfully dealt with (barring a few left about the fences) the last two seasons on the farm of one of our contributors by the plan above suggested.]

TOP-DRESSING GRASS WITH HORSE MANURE.

IGNORAMUS, Vancouver, B. C.:—“I should like to know whether there is any danger in applying new horse manure to grass land from now on? This manure is from very highly-fed horses, and I want to spread it to prevent it burning in pile. Have not time to turn it and mix it, as I have manure from twelve horses to handle, and only one help. I want to take it right out directly hay is off. Have been told it will burn up the grass. Please reply through your paper.”

[There is no danger in such application of horse manure in reasonable quantity, and the effect upon the grass is certain to be good. Spread the manure well and evenly, and not at a heavier rate than 10 to 12 tons per acre, and it will be all right.]

SHOWS AND SHOWING.

Hints from the Highland Show.

A feature of the proceedings at the late Highland and Agricultural Society's Show at Glasgow, and which has been observed at each of the annual shows of the Society since 1892, was a Sabbath service on the show ground for the herdsmen and attendants, conducted by the Chaplain of the Society, Rev. Archibald Scott, D. D., of Edinburgh. There was a large attendance, the directors, the showyard committee, and the officials being represented, as well as the stockmen and caretakers. A concert for the entertainment of the exhibitors and attendants was also given on the grounds on the Tuesday evening of the second week, which was greatly appreciated.

Summer and Autumn Exhibitions.

Table listing various exhibitions with dates and locations. Includes entries for Brandon, Virde, Fort Qu'Appelle, Stanstead, Montreal, Syracuse, Sherbrooke, Toronto, Columbus, Ohio, Three Rivers, Grand Rapids, Mich., Williamsstown, Perth, Des Moines, Iowa, London, Richmond, Yankleek Hill, Belleville, St. John, Guelph, Renfrew, Bowmanville, Ottawa, Peterborough, Gederich, Charlottetown, P. E. I., Collingwood, Prescott, Stratford, Kemptville, Whitby, Almonte, Springfield, Ill., Halifax, N. S., Maxwell, Ont., Kildonan and St. Paul, Birtle, Beachburg, St. Louis, Mo., Wapella, Man., Russell, Man., New Westminster, B. C., Markham, Melita, Man., Chicago Fat Stock and Horse Show, New York Horse Show, Ontario Fat Stock Show, Brantford.

Surpassing all Past Exhibitions.

“Peace hath her victories No less renown'd than war.”

sings Milton in his sonnets. An annual victory in this sense is Toronto's exhibition, this year appropriately termed Canada's Great Victorian Era Exposition and Industrial Fair. So successful is it each year, so typical of the growth and development of the country, so attractive in all its many features and branches, that it always appears as if in the succeeding year it would be impossible to outstrip the past. Yet every year is this accomplished. Every year are new and surprising features presented. Every year is the stranger from afar, as well as the native at home, delighted with an opportunity to see on one ground at a minimum of cost the wonders not alone of this glorious country, but of the world. To say that the exhibition of 1897, the most memorable year in the history of the British Empire, will eclipse in power of attractiveness the eighteen other annual exhibitions that have gone before seems like trying to realize in advance on an unfulfilled prophecy. But we do venture to say that the great Victorian Era Exposition and Industrial Fair to be held at Toronto from August 30th to September 11th next will put in the shade all that have passed. We say this because in the first instance the directors have ever shown themselves to be not only abreast but ahead of the times. We say this because we are advised that the application for space and the notification of entries already received are ahead in number of any other year. We say this because the awards to be made have been greatly increased. We say this because considerable improvements have been made to the buildings and to the grounds themselves. We say this because the management have contracted for the production of the greatest outdoor spectacle that has ever been attempted in this or in any other city outside the great capital of Europe. Visitors to London of every race and nation unite in declaring that the Diamond Jubilee procession was the most gorgeous, most brilliant, most vari-colored demonstration ever held. It must therefore lend itself to reproduction. Of course all the mighty personages who paid tribute to the Queen will not be in Toronto, but facsimiles of their costumes will be, with all the fanfare of the pomp of peace and the glittering trappings of war. There will be many hundred marching soldiers, there will be flags, flowers, banners and bunting galore, there will be the joyful sounds of music, and, best of all, there will be reproduced actual scenes on a most realistic scale of the ceremonies at Buckingham Palace, along the line of march, at St. Paul's Cathedral, and at the Mansion House. It will be a panoramic pageant of unsurpassed beauty and magnitude. At night the effect of this great feature will be heightened by illumination and fireworks, the set-pieces of pyrotechnics showing the illuminations as they appeared on the night of never-to-be-forgotten June 22nd on the prominent buildings in London. One of the handsomest pieces will be the Queen's gracious and touching message to the people of Canada: “From my heart I thank my beloved people. May God bless them.”

But amid all this promise of excellence in entertainment sight must not be lost of the more material features of the Fair, nor of the fact that entries for live stock and all classes of manufacture close on Saturday, August 7th; of grain, field roots, and horticultural products, Saturday, August 14th; of poultry, Saturday, August 21st; and of dogs, on Thursday, August 26th, with manager Hill at 82 King St. east, Toronto.

Canada Central Fair, Ottawa.

The officers and directors of the Ottawa show to be held September 17th to 25th are leaving nothing undone that can be done to make their fair a success. They have been steadily winning favor with the people in the last few years, and stockmen agree that they are treated as well at Ottawa as any place they go. Secretary McMahon is level-headed, clever and kind. The superintendents are courteous and obliging. The directors take a live interest in all the exhibits and in the comfort of the exhibitors as well as of their stock. The grounds are clean and dry, the buildings for stock are now among the most complete, comfortable and convenient in the Dominion, and the grounds are easily accessible both for stock and visitors. The cheap excursion rates from Toronto make this a very favorable opportunity to visit the capital, and a sight of the public buildings and the view from Parliament Hill, which is one of the finest in the Dominion, will well repay the expense of the trip. The prize list this year is the best they have ever offered, and includes over 30 gold medals given as specials by citizens of Ottawa.

Attendance at the English Royal.

The aggregate attendance at the Manchester Show has been greater than any before recorded at any of the shows held by the Society. As the numbers who visited the show held in Manchester in 1869 were larger than at any show held up to 1896, it will be seen that the city has beaten its own record. On Tuesday up to five o'clock 22,036 persons paid for admission. Soon afterwards a heavy storm of rain broke directly over the ground, and at the close of the show the total recorded as having paid for admission was 22,621. That number brings up the total of persons who paid for admission to the remarkable figure of 217,980. The previous highest total was reached at Manchester in 1869, namely, 189,002. The attendance at the show which ended on Tuesday was therefore 28,978 higher than the previous highest total. At Leicester in 1896 the total was 146,277, or 71,703 below the total this year. Appended is a list of the number of persons who paid for admission at different times of the day at the shows held since 1892, with the figures also of similar attendances for the Manchester Show held in 1869. It will be observed that they include separate admissions to the implement yard up to this year. This

distinction was done away with at Trafford Park. It should be added that from 1891 until this year the show was opened for five days only:

Table with columns for Implement yard only, Day's total, and various years (1897-1896) for different locations like Manchester, Warwick, Chester, Cambridge, Darlington, Leicester.

MARKETS.

Toronto Markets.

The market dragged all day. The supply of cattle was ample for most demands. Prices remained the same. The shipments per C. P. R. and G. T. R. were heavy this week, twenty-five cars for export via Montreal.

Export Cattle.—Our chief exporters were indifferent and not anxious buyers. Waiting for returns from the Old Country was the chief cause. Prices ranged from \$3.90 to \$4.40 per hundred pounds.

Butchers' Cattle.—There was a good demand for anything really choice in butchers' cattle. Prices continued firm during the day at from 3 1/2c to 3 3/4c per pound.

Sheep.—Export sheep fell off in price 50c per head. Many were sold at 3c. The Old Country market is overstocked just at present. Butchers' sheep are quoted at from \$2 to \$3 per head.

Lambs.—There has been good demand for lambs; prices firm at from \$2.75 to \$3.50 per head, but they show a tendency to fall in price.

Milk Cows.—A large number on offer. Somewhat bargains were picked up. Trade dull. A pair of choice cows only realized \$35. One very choice newly-calved cow fetched \$40.

Hogs.—Those who have followed the lead of this department must feel on velvet. We foretold hogs would go to \$6 in August last November, and advised a crop of hogs for this month.

Wheat.—Receipts of grain continue small, and prices rule firm. One load of white sold at 73c; one load of red at 73c.

Hay.—The supply of new hay exceeds the demand, 20 loads on offer. New sold at \$6.50 to \$7 per ton; old hay at \$11 to \$12 for choice.

Wool.—There never has been a year where so much wool was out of the hands of the growers and exported. Our principal exporters urged the farmers to market their wool so as to get as much as possible into the United States before the passage of the new tariff.

Hides.—There is evidence of improvement in this market; the offerings are small. There is a good demand and prices are firm at 8c for green, 8 1/2c for cured. Calfskins—10c for No. 1. Lamb skins—50c to 60c each.

Butter.—Market steady, and demand fair for all classes of choice butter. Dairy tubs, 11c to 12c; in pound rolls, 15c to 16c.

Cheese.—Small lots of new make are quoted at 8 1/2c to 9c per lb.

Straw.—Straw sold at \$6 to \$7 per ton. Baled Hay, \$7.50 per ton. Baled Straw, \$4 per ton.

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being an upward one of a cent and a half. The condition of the market is not responsible for this, however; it is just a difference of opinion between the dealers, some of whom are trying to crowd others out, but so far they are only out of pocket themselves. Green salted hides are now held at— to butchers—8c to 9c per lb. for No. 1. Calfskins—No. 1, 8c; No. 2, 6c per lb. Lamb skins and clips, each 25c.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.)

Following are the current and comparative prices for the various grades of live stock:—

Table showing Range of Prices, Present, and Top prices for CATTLE, SHEEP, and HOGS. Columns include Range of Prices, Present, Two weeks ago, 1896, and 1895.

The big coal strike has not yet had any appreciable effect upon the live stock and packing business, but as the railroads usually keep only about 30 days' supply on hand, and as the increased industrial activity throughout the country is calling more heavily on coal supplies, there is some anxiety to have the difficulty settled.

Canadian stock and feeders continue to arrive here with considerable freedom. L. Banks Wilson, of Creston, Iowa, had three carloads of Canadian cattle pass through the city one day recently.

Cattle feeders are feeding much more systematically than they used to do, and a good many of them aim to keep their pens and lots full all the time. A man who brought in several loads of fat cattle bought several loads of thin cattle to put on feed.

Ripe fat cattle averaging over 1,400 lbs. met with a very limited demand and were outsold by 1,250-lb. cattle not nearly so good. The English markets are discriminating against the big cattle.

July 16th the first Western rangers arrived from Velva, North Dakota. They belonged to M. M. Muus and sold as follows: Forty-nine feeders, 1,023 lbs., \$3.85; two feeders, 1,075 lbs., \$3.50; twenty cows, 990 lbs., \$3.35; one cow, 740 lbs., \$2.75.

Hog receipts for a week were disappointingly low, and dealers could not understand what it meant, unless that hogs ready for market had been heavily drawn upon and prices quickly bounded upward, advancing 25c and 30c in a few days, best heavy reaching \$3.30, and light \$3.85, with both buyers and sellers looking for \$4.00 or more in a short time.

The quality of the hogs at the Missouri River markets continues excellent, probably as good as ever known at this season of the year. The quality at Chicago is rather uneven and is not up to the standard of last month.

All sheep bought for feeders to be shipped out of the State must be dipped. Some of the purchasers don't like this idea, but the order is imperative and no sheep are exempt except those passed for export and feeders shipped to points in this State.

Sheep are getting scarce. Traders lay the cause to the fact that the red sheep have been marketed and owners of the grass sheep are holding back to get their sheep in better condition. There seems to be plenty of lambs, but a dearth of sheep.

Canadian Live Stock Export.

The following are the live stock exports for the week ending Wednesday, July 14th and 21st, as prepared by R. Bickerdike, of the Live Stock Exchange, Montreal:

Table showing live stock exports for various locations like Huron, London, Belgian King, Greician, Baltimore, Liverpool, etc.

July 15.—Carlisle City... London... 208 cattle... 586 sheep. July 17.—Kildona... London... 350 cattle... 180 sheep.

For week ending Wednesday, July 28: July 25.—Gerona... London... 300 cattle... 499 sheep.

July 25.—Rosarian... London... 278 cattle... 449 sheep. July 25.—Queensmore... London... 412 cattle... 517 sheep.

July 25.—Oakmore... Liverpool... 672 cattle... 922 sheep. July 22.—Ashanti... Liverpool... 376 cattle... 116 sheep.

July 23.—Kastalia... Glasgow... 161 cattle... 196 sheep. July 27.—Norwegian... Glasgow... 351 cattle... 453 sheep.

July 23.—Escalona... Newcastle... 220 cattle... 220 sheep.

The British Markets.

There has been a slight reaction in the London and Liverpool markets this week, but it has only been of small moment—quoted as it is, but is in reality only a stiffening of the market. Choice States cattle made 10c in London yesterday (July 26); Canadian, 10c. Liverpool 1c lower on States stocks; steady on Canadian. Sheep 9c per lb. Glasgow advices received to-day (27th) were very poor. The cables giving little prospects of any immediate advance and advising shippers to go cautiously for several weeks.

Live Stock Shipments.

Live stock shipments from Montreal are keeping up, last week's numbering 5,500 cattle, 4,000 sheep, 400 horses, which, compared with the corresponding week of 1896, show a big increase. Last year for the same period the shipments were 3,500 cattle, 600 sheep, 160 horses, and the total to date for both years as follows:

Table comparing Live Stock Shipments for 1896 and 1897, showing Cattle, Sheep, and Horses.

Canadian Dairy Shipments.

Shipments of butter and cheese show a big increase from this port this season over the corresponding period of 1896. What these shipments are and the heavy increase in business will be seen by the accompanying table of figures:

Table showing Canadian Dairy Shipments for Butter and Cheese, comparing Week ending July 24, 1897 and 1896.

Boats for the Cattle Trade.

Accounts are to hand of the launching of two magnificent new steamships for the Elder-Dampier Company of Liverpool and Montreal. One was launched at Wallsend-on-Tyne, and christened the Monarch, and the Liverpool Journal of Commerce states that she is a sister ship to the steamer Milwaukee which was launched last year by the same builders for the same owners, and which was the largest carrying English-built steamer afloat. Since then no larger steamers have been launched in England, and these two vessels still retain the distinction of being the largest steamers yet built in England.

MISCELLANEOUS.

The Dauphin District.

North and west of Winnipeg 175 miles stretches the newly-opened Dauphin district, inviting the pioneer settler to come in and tickle its fertile plains with the plow, promising a rich reward at the golden harvest time. By a reference to the recently issued map of the Province it will be observed that a 175-mile radius from Winnipeg across the western portion of the Province would touch at Napinka, Virden, Shoal Lake, and Dauphin. The new railroad by which the Dauphin is reached branches from the Manitoba Northwestern at Gladstone and runs through a wet, poor country lying east of the Riding Mountains until the Ochre River is reached. Here and along the valley of the Vermilion, which is known as the Dauphin district proper, the land is level and the soil generally a heavy, rich vegetable deposit on a clay subsoil. The present town site of Dauphin is situated where the railroad crosses the Vermilion River and about half way between the original town site and Gartmore. A wheat field in 1896—in 1897 a flourishing town with upwards of 600 inhabitants, and built up with houses, stores, hotels, livery stables, etc. Such is the mushroom-like growth of the new northwestern metropolis. One of the loveliest natural parks is formed by a bend of the river, almost encircling 30 acres of beautiful woods, magnificent oaks, elms, green ash, maple, a few birch, and many of the small shrubs, etc., with a profusion of ferns and wild flowers growing everywhere. Mr. Burrows, M. P. P., the Land Commissioner, has done much to make this lovely place a convenient resort for the public. The railroad is being extended to Lake Winnipegosis. The agricultural country tributary to the town may be defined as an extensive level plain, gently sloping towards Lake Dauphin, its eastern boundary. The south and west are skirted by the high range of hills known as the Riding Mountains, and to the northwest loom up the Duck Mountains. The altitude at Dauphin is about 900 feet above sea level, with a gradual rise as you go westward, the western portion of the plain being some 300 feet higher. From the heavily timbered surrounding hills numerous rivers have cut their way across the prairie level in a northeasterly direction to the lake. Beginning at the southern end of the lake, there is the Turtle River, then a little further west the Ochre, the Vermilion, the Wilson, and the Valley rivers, so that the whole district is well drained and well watered. Much of the land now being broken up is covered with a heavy growth of willow and scrub; further west on the Gilbert plains the land is more open and prairie-like; the soil is also sharper, especially on the northern side of the district; that on the north of the Valley River being much lighter. The whole country has undoubtedly at no very remote date been heavily timbered, but successive fires have destroyed most of it, leaving it ready for the plow breaking of the homesteaders. In many districts there is no sod on the ground, simply a luxuriant growth of weeds and wild flowers. Good timber, poplar and spruce, and tamarac, are available for building, fuel, fencing, etc.



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

(Continued from page 321.)

We now went back to the house and ascended the main stairway, which led up to a large central hall. The first chamber we entered was a good-sized one, neatly furnished, containing a bedstead with uncovered mattress and pillows. Opening a closet door, Mrs. Lecks exclaimed: "This is a man's room, Mr. Craig, and you'd better take it. Look at the trousers and coats! There's no bedclothes in here, but I'll see if I can't find some." In a few minutes she returned, bearing blankets, sheets, and a pillow-case. With Mrs. Aleshine on one side of the bedstead and Mrs. Lecks on the other, the sheets and blankets were laid with surprising deftness and rapidity, and in a few moments I saw before me a most inviting bed. While Mrs. Aleshine held a pillow in her teeth as she patted on the pillow-case with both hands, Mrs. Lecks looked around the room with the air of an attentive hostess. "I guess you'll be comfortable, Mr. Craig," she said, "and I advise you to sleep just as long as you can. We'll take the room on the other side of the hall, but I'm first goin' down to see if the kitchen fire is safe and to fasten the doors." I offered to relieve her of this trouble, but she promptly declined my services. "When it's rowin' or swimmin', you can do it, Mr. Craig; but when it's lookin' up and lookin' to fires, I'll attend to that myself." My watch had stopped, but I suppose it was the middle of the afternoon when I went to bed, and I slept steadily until some hours after sunrise the next morning, when I was awakened by a loud knock at the door. "It's time to get up," said the voice of Mrs. Lecks, "and if your clothes are not entirely dry, you'd better see if there isn't somethin' in that closet you can put on. After a while I'll make a big fire in the kitchen, and dry all our things." I found my clothes were still very damp, and after investigating the contents of the closet and bureau, I was able to supply myself with linen and a light summer suit which fitted me fairly well. I even found socks and a pair of slippers. When I entered the kitchen, I first opened my eyes with delight, and then I burst out laughing. Before me was a table covered with a white cloth, with plates, cups, and everything necessary upon it; at one end was a steaming teapot, and at the other a dish of some kind of hot meat; and Mrs. Aleshine was just taking a pan of newly baked biscuits from a small iron oven. "I don't wonder you laugh," said Mrs. Lecks, "but our clothes was still wet, and we had to take just what we could find. I'm not in the habit of goin' about in a white muslin wrapper with blue ribbon trimmin'; and as for Mrs. Aleshine, I did think we'd never find anythin' that she could get into; but there must be one stout woman in the family, for that yellow frock with black buttons fits her well enough, though I must say it's a good deal short." "I never thought," said Mrs. Aleshine, as she sat down at the teapot, "that the heathens and Dutch ovens. For my part, I always supposed they used their altars for bakin', when they wasn't offerin' up victims on 'em." "Have you got it into your head, Barb'ry Aleshine," said Mrs. Lecks, looking up from the dish of potted beef she was serving, "that this house belongs to common heathens? I expect that most of the savages who live on these desert islands has been converted by the revelations a good many times be take 'em from Genesis to Revelations a good many times before they'd get 'em to the pint of havin' force-pumps in their kitchens and spring mattresses on their beds. As far as I've seen this house, it looks as if the family had always been Christians, and probably either Catholics or Episcopalians." "On account of the cross on the mantelpiece in our room, I suppose," said Mrs. Aleshine. "But whether they're given to idols or prayer-books, I know they've got a mighty nice house; and considerin' the distance from stores, there's a good deal more in that pantry than you'd expect to find in any house I know of, when the family is away." "It is my opinion," said I, "that this house belongs to some rich man, probably an American or European merchant, who lives on one of the large islands, not far away, who uses this as a sort of summer residence." "I thought it was always summer in this part of the world," said Mrs. Lecks. "So it is in effect," I replied, "but there are some seasons when it is very unpleasant to remain in one of those towns which are found on the larger islands, and so the owner of this house may come up here sometimes." "Or it's just as like," said Mrs. Aleshine, "that he lives somewhere up in the iceberg regions, and comes here to spend his winters. It wouldn't do just as well. But, whichever way it is, I can't help thinkin' it's careless not to leave somebody in the house to take care of it. Why, for all the family would know about it, tramps might break in and stay as long as they like." "That's just what's happenin' now," said Mrs. Lecks, "and for my part I ain't goin' to find no fault. I don't suppose the people would have been so hard-hearted as to turn us away from the doors, but I've seen enough of folks in this world not to be too sure about that." "How do you suppose," said Mrs. Aleshine, addressing me, "that the family gets here and goes back? Do they keep a private steamboat?" "Of course they have a private vessel of some kind," I answered, "probably a yacht. It is quite certain that ordinary steamers never touch here." "If that's the case," said Mrs. Lecks, "all we can do is to wait here till they come, and get them to send us away in their ship. But whether they've just gone or are just a-comin' or back depends, I suppose, on whether they live in a freezin' or a burnin' country; and if they don't like our bein' here when they come back, there's one thing they can make up their minds to, and that is that I'm never going to leave this place on a life-preserver." "Nor me, nuther," said Mr. Aleshine, finishing with much complacency, her third cup of tea. When breakfast was over, Mrs. Lecks addressed Mrs. Aleshine, who had begun to gather together the cups and the plates. "Now, Barb'ry Aleshine, touch a single thing to wash it up, to clear off the table, nor touch a single thing to do now, before Mr. Craig goes out to prospect around and see what else is on the island, which I suppose he'll be wantin' to do. It's come to me," speaking very gravely, "that it's no use for us to talk of the family bein' here or bein' there, as far as gone over this house. If we find that they have, as far as we know, gone away in good health and spirits, that's all we want, but if anythin' happened in this house, I don't want to be here with what's happened—at least without knowin' it; and when we do go over the house, I want a man to go with us." "If you'd talked that way last night, Mrs. Lecks," exclaimed Mrs. Aleshine, "I'd never slept till after sun-up, and then got up and gone huntin' round among them frocks and petticoats to find somethin' that would fit me, with the quiet pulse I did have, Mrs. Lecks!"

To this remark Mrs. Lecks made no reply, but, rising, she led the way out of the kitchen and into the house. The rooms on the first floor were very well furnished. There was a large parlor, and back of it a study or library, while on the other side of the hall was a dining-room, and an apartment probably used as a family room. Then we went up stairs, I leading the way, Mrs. Lecks following, and Mrs. Aleshine in the rear. We first entered one of the front chambers, which was quite dark, but Mrs. Lecks unfastened and threw open a shutter. Then, with a rigid countenance and determined mien, she examined every part of the room, looked into every closet, and even under the bed. We next visited the chamber recently occupied by my two companions, which was now undergoing the process of "airing." "We needn't stop here," remarked Mrs. Aleshine. But Mrs. Lecks instantly replied, "Indeed we will stop; I'm goin' to look under the bed." "Merciful me!" exclaimed Mrs. Aleshine, putting her hand on her friend's shoulder. "Supposin' you should find somethin', and we sleepin' here last night! It curdles me to think of it!" "It's my duty," said Mrs. Lecks severely, "and I shall do it." And do it she did, rising from the task with a sigh of relief. My room was subjected to the same scrutiny as the others; and then we visited some smaller rooms at the extreme back of the house, which we had not before noticed. A garret, or loft, was reached by a steep stairway in one of these rooms, and into its dusky gloom I ventured by myself, said Mrs. Lecks, "till you're sure there's nothin' there. Of all places in the house that cock-loft, after all, is the most likely." I had none of the fears which seemed to actuate the two women, but I had a very unpleasant time of it, going about in the darkness and heat. I made myself quite sure, however, that nothing had happened in that loft, unless some one had suffocated there, and had dried up and become the dust which I raised at every step. "I'd go wash up the breakfast things; and if you want to take a walk, to see if there's any genuwine heathens or anybody else a-livin' in this island, we're not afraid to be left alone." For the whole of the rest of the morning I wandered about the island, but I never did see any sign of habitation or occupation, except at the house which had given us shelter, nor any opening through the surrounding reef, except the barred passage-way through which we had come. When I returned to the house, I found that Mrs. Lecks and Mrs. Aleshine had been hard at work all the morning. They had, so to speak, gone regularly and systematically to house-keeping, and had already divided the labors of the establishment into two parts. Mrs. Aleshine, who prided herself on her skill in culinary matters, was to take charge of the cooking, while Mrs. Lecks assumed the care of the various rooms and the general management of the household. This arrangement was explained to me at length; and when I remarked that all this seemed to indicate that they expected to remain here for a long time, Mrs. Lecks replied, "We've made up our minds that the right thing to do is just to go along and attend to things as if we was a-going to stay here for a month or two; and it may be even longer than that before the people come back. And I don't think they'll have anythin' to complain of when they find their house in apple-pie order, their windows washed, their floors clean, and not a speck of dust anywhere." Mrs. Aleshine, "I don't see what they've got to find fault with, anyway. I look on this as part of the passage. To be sure we ain't movin' a bit on our way to Japan, but that's not my fault, nor yet yours, Mrs. Lecks, nor yours, Mr. Craig. We paid our passage to go to Japan, and if the ship was steered wrong and got into one here, but here we are, to do with it. We didn't want to come here, but here we are, and I'd like to know who's got any right to find fault with us, and I'd like to know who's got any right to find fault with us." "As far as I'm concerned," added Mrs. Aleshine, "if this island was movin' on to Japan, I'd a great deal rather be on it than on that ship, where, to my way of thinkin', they didn't know much more about housekeepin' than they did about steerin'." "I think your plans and arrangements are very good," I said. "But how about the provisions? Are there enough to hold out for any time?" "There's pretty nigh a barrel of flour," said Mrs. Aleshine, "a good deal of tea and coffee and sugar, and lots of things in tins and jars. There's a kind of codfish outside where they keep things, and there's more than half a keg of butter and wash it out, and work it over, and salt it, and make it just as good butter as any we got on board the ship." "But," said I, "you have given me nothing to do. I shall not be content to stand about idle and see you do all the work." "There's nothin' in the house," said Mrs. Lecks, "which you need put your hand to; but, if you choose to go out into that garden, and see if there's anythin' that can be done in it, or got out of it,—that is, if you know anythin' about garden work,—I'm sure we'd be very glad of any fresh vegetables we could get." I replied that I had been accustomed to garden work in an amateur way, and would be glad to do anything that was possible in that direction. "I never used to that garden," said Mrs. Aleshine, "but of all the foolish things that ever came under my eye, the buildin' a wall around a garden, when a pale fence would do just as well, is the foolishest." I explained that in these countries it was the fashion to use walls instead of fences. "If it's the fashion," said Mrs. Aleshine, "I suppose there's no use sayin' anythin' agin' it; but if the fashion should happen to change, they'd find it a good deal easier to take down a barbed-wire fence than a stone wall." In the afternoon we all visited the garden, which, although a good deal overgrown with luxuriant weeds, showed marks of fair cultivation. Some of the beds had been cleared out and left to the weeds, and we found some "garden truck," as my companions called it, with which we were not familiar. But there were tomato vines loaded with fruit, plenty of beans of various kinds, and a large patch of potatoes, many of which had been dug. From the lower end of the garden Mrs. Aleshine gave a shout of delight. We went to her, and found her standing before a long asparagus bed. "Well!" she exclaimed, "if there's anythin' that settles it firm in my mind that these people is Christians, it's this bed of grass. I don't believe there ever was heathens that grew grass." "I thought that was all settled when we found the bakin' powders," said Mrs. Lecks. "But this clinches it," answered her companion. "I can't tell from the asparagus-bed what church they belong to, but there no idolaters." The next morning I delivered to the genial Mrs. Aleshine a large basketful of fresh vegetables, and we had a most excellent dinner. Somewhat to my surprise, the table was not set in the kitchen, but in the dining-room. "Me and Mrs. Aleshine have made up our minds," said Mrs. Lecks, "that it's not the proper thing for Mrs. Lecks, in the kitchen, nor for us neither. Here's table-cloth, and good glass and china, and spoons and forks, which, although they're not solid silver, are plated good enough for anybody. Neither you nor us is servants, and a kitchen is no place for us." "That's so!" said Mrs. Aleshine. "We paid our money for first-class passages, and it was understood that we'd have everything as good as anybody." [TO BE CONTINUED.]

THE QUIET HOUR.

Personal Work.

All persons have their own particular work in life to do, and it must be accomplished by their own individual labor. No other helper can relieve them of the responsibility or share in the work given them. Others may encourage and sympathize, but they cannot take part in the work. What is done by each one may be much or little; the quantity does not count for as much as the spirit with which the work is entered upon and the faithful devotion to its performance. It is God's will and purpose that His personal work should be done personally, and His name is more truly glorified by everyone who does his own work in his own sphere, without asking for or expecting another to do it for him.

"The best men, doing their best, Know peradventure least of what they do; Men usefulest in the world are simply used; The nail that holds the wood must pierce it first, And he alone who wields the hammer sees The work advanced by the earliest blow."

Life's Opportunities.

"God never put one man or woman into the world without giving each something to do in it or for it—some visible, tangible work, to be left behind them when they die."

"To take up the Cross of Christ is not one great action, done once for all. It consists in the continual practice of small duties which are distasteful to us."

"As years form circles in the forest tree, Each year we see, Within us, out of sight, Maketh a circle for eternity, Dark or bright."

"The finest life lies oft in doing finely a multitude of unromantic things."

"If you want a field of labor, You can find it anywhere."

"Every man's task is his life-preserver. The conviction that his work is dear to God, and cannot be spared, defends him."

Erimæus entertained Ulysses believing him to be only a beggar, but discovered that he was his long-lost master. There will be more wonderful discoveries by and by; for many humble-minded Christians, who have taught the little ones or comforted the desolate ones, will receive the commendation of the Master: "Inasmuch as ye did it unto the least of these my brethren, ye did it unto Me."

Death in Life.

Do we ever think, as we walk about this beautiful earth which God has given us to live in, as we enjoy our health and strength which the very air itself seems to yield us, that it is death after all which gives us our greatest blessings? Yet such is the fact. Individual life in nature never yet has been continuous, but is interrupted by death; and all forms of life grow and flourish in greater luxuriance upon the death of the living beings which have preceded them. Where would be the thick green grass were it not nourished by the dark mold which has been formed year by year through the decay of just such grass as at present grows with so vigorous a life? The butterfly, which is often used as a type of immortal life, comes from the burial of the worm in its silken shroud. The air we breathe is charged with death, the death of millions of cells of organic nature, which die to enable some other organic form of nature to absorb again and feed upon that carbonic acid which is its life. The very sun is dying, gradually losing its vital heat, and in its death the warmth which it sheds is giving life to the myriads of creatures which must either have sunlight or perish.

We start from nature, from what we see on every side around us, from the beauty which is so constantly before our eyes, that, though we forget it often, we are of necessity held in its enchantment. We start from nature, from the beauty of the light that fades, of the ice that melts, of the leaves that fall, and we find beyond nature in the realm of faith that the same law holds. Death is life! We do not need to ask for the supreme example of the working of this law. Christ died for us. He, who ever liveth, died to give us life.

A Life of Service.

Thousands of men breathe, move, and live; pass off the stage of life, and are heard of no more. Why? They did not a particle of good in the world, and none are blessed by them; none could point to them as the instrument of their redemption; not a line they wrote, not a word they spoke, could be recalled, and so they perished—their light went out in darkness, and they were not remembered more than the insects of yesterday. Will you thus live and die? Live for something. Do good, and leave behind you a monument of virtue that the storms of time can never destroy. Write your name by kindness, love, and mercy on the hearts of the thousands you have come in contact with year by year, and you will never be forgotten. No, your name, your deeds, will be as legible on the heart you leave behind as the stars on the brow of evening. Good deeds will shine as bright on the earth as the stars of heaven—Dr. Chalmers.



THE CROW.

From Farmers' Bulletin, No. 51, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.

The Crow.

The common crow is one of the best known of our birds and at the same time one of the most unpopular. Many are the sins laid to his charge, and of the bulk of them he has been proved guilty. He destroys young chickens, robs the nests of small birds, pulls up the sprouting corn, and eats those harmless creatures that are useful in devouring insects, such as frogs, toads, and small snakes.

With such an evil reputation, they must, however, have something in their favor, as the farmer rarely or never seeks to destroy them and their numbers do not seem to decrease as the country becomes more densely populated. In the immense quantities of insects the crow consumes he fully makes amends for all his other sins, which after all are not as black as they are painted. In the more thickly settled parts of the country the crow certainly does more good than harm, especially when ordinary precautions are taken to protect the young poultry and freshly planted corn from his depredations. If these precautions are neglected, however, losses will surely be incurred. So the hens and turkeys should not be allowed to roam any distance from the farm buildings with their brood, and tarring the seeds not only prevents them tearing up the young corn, but also compels them to turn their attention to insects.

The cultivated fruits are seldom touched by the crows, though they eat some of the wild varieties, and are partial to the seeds of the different kinds of sumac.

During the spring and early summer beetles constitute their principal food, and vast numbers of them fall a prey to the voracious bird. Later on their diet consists chiefly of grasshoppers, varied with caterpillars and spiders. They have a trick of trying almost everything eatable, especially when food is scarce. They eat the frozen apples found on the trees in winter, as well as any pumpkins, turnips, and potatoes which have been overlooked. They will even eat mushrooms when nothing more palatable can be found.

The Bluebird.

The bluebird is among the first of the migratory birds seen here in spring, and always meets with a warm welcome, being regarded as an omen that winter is over. It generally builds its nest in a hollow tree in the garden or orchard, though it depends little on either to supply its wants, seeming to prefer the wild fruits and berries found on various shrubs and creepers. It is by no means an epicure, as it invariably gives the preference to whatever is most abundant. Beetles, grasshoppers, and caterpillars form the chief insect diet; in the months of August and September nearly one-half of their food is grasshoppers. So vast quantities of these injurious insects are destroyed by the bright little bird. Being a useful inhabitant of the garden and orchard, the bluebird should be encouraged there, and as they are always willing to take advantage of nesting boxes, it is an easy matter to have any number of them about the premises.

The Wren.

No complaints can be made against the house wren on the score of robbing orchards, as it subsists entirely on insect food. It is a prolific breeder, rearing from twelve to sixteen young in a season, so a family of these birds must ensure a great reduction in the number of insects in a garden.

Wrens are most diligent foragers, searching every tree, shrub and vine for caterpillars, and examining every post and rail of the fence for spiders and insects. As they always work near their nests, they are invaluable in gardens and orchards, and by providing suitable nesting boxes it is easy to have them wherever they are most needed. Every effort should be made to induce them to build their nests near the house, it being impossible to have too many wrens, as the good they do is incalculable.

THE CHILDREN'S CORNER.

The Golden Fleece.

(Continued from page 323.)

The moon threw its bright beams over the plowed field, where as yet there was nothing to be seen. Any farmer would have said that Jason must wait weeks before the green blades would peep through the earth. But by and by, all over the field, there was something that glistened like drops of dew. These bright objects sprouted higher, and proved to be the steel heads of spears. Then appeared a vast number of polished brass helmets, beneath which were the bearded faces of warriors, struggling to free themselves from the earth. Next were seen their bright breastplates; in every hand there was a sword or spear or shield. Wherever a dragon's tooth had fallen,

there stood a man armed for battle. They clashed their swords against their shields, and eyed one another fiercely, for they were boiling over with the red-hot thirst for battle. Then they began to shout: "Show us the enemy! Death or victory! Conquer or die!" Then they caught sight of Jason, and, crying with one voice, "Guard the Golden Fleece!" they ran at him with uplifted swords and protruded spears. Jason prepared to die valiantly, but Medea bade him throw a stone among them quickly. The armed men were now so near that Jason could see their flashing eyes, when he let fly the stone, and saw it strike the helmet of a tall warrior who was rushing upon him with his blade aloft. The stone glanced from this man's helmet to the shield of his nearest comrade, and thence flew right into the angry face of another, hitting him smartly

part, with my nine and forty comrades."

"You never would have succeeded in this business, young man," said the king with a scowl, "if my undutiful daughter had not helped you. Had you acted fairly, you would have been, at this moment, a black cinder or a handful of white ashes. I forbid you, on pain of death, to make any more attempts to get the Golden Fleece."

Jason left the palace in great sorrow and anger, but as he hastened down the steps, the Princess Medea called him back. Her black eyes shone with such cunning that he felt as if there were a serpent peeping out of each of them.

"What says my royal and upright father?" inquired Medea, smiling. "Will he give you the Golden Fleece without any further risk or trouble?"

"On the contrary," answered Jason, "he is very angry, and positively refuses to give up the Golden Fleece, whether I slay the dragon or no."

"Yes, Jason," said the princess, "and unless you sail from Colchis before to-morrow's sunrise, the king means to burn your ship and kill you and your comrades. But the Golden Fleece you shall have. Wait for me here an hour before midnight."

At the appointed hour they made their way to the sacred grove, in the center of which the Golden Fleece was suspended to a tree. Gleaming among the oak trees it shone with a radiance like the golden glory of the setting sun.

"How gloriously it shines!" cried Jason. "Let me hasten onward and obtain the prize."

But, just at that moment, an antelope came bounding fleetly through the grove. Suddenly there was a frightful hiss, and an immense head was thrust forth which swallowed the poor antelope with one snap of its jaws. Then the horrible head came waving through the air almost within arm's length of Prince Jason. Medea had in her hand a magic sleeping potion, contained in a golden box, which she tossed into the monster's wide-open throat. With one tremendous wriggle, which shattered the trees around, the dragon fell motionless on the ground. Jason snatched the Golden Fleece from the tree, and rushed straight to his galley. The nine and forty Argonauts were ready, with oars held perpendicularly, and as he leaped aboard they gave a mighty shout, and the ship flew over the water, homeward bound. N. H.

Avoid Trifling Disputes.

A woman whose goodness and tenderness make her loved by all who know her, once said to an impatient girl friend: "My dear, learn to allow others to be mistaken. It is a difficult lesson to acquire, but it is one that will make you and all who come in contact with you happier."

The wise advice often occurs to me while listening to discussions and heated arguments upon utterly unimportant matters.

Nobody likes to be told that he is wrong, and few of us will believe it of ourselves when we are told of it. When there is no principle involved, it is wiser, gentler and kinder to let a trifling error pass unnoticed. If a friend has bought the material for a portiere, and has had the curtain made by a seamstress under the fond conviction that she has saved money by so doing, why tell her that she could have bought a pair of ready-made portieres for what she has paid for the material and the making of one? It will only lessen her enjoyment in her property, and do neither her nor you any good. When a mistake is made and past changing, let it alone. It is a great undertaking to try to right the world, and those whose temerity permits them to attempt the task should be careful that the so-called righting is not in itself a mistake.



THE BLUEBIRD.

From Farmers' Bulletin, No. 51, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.

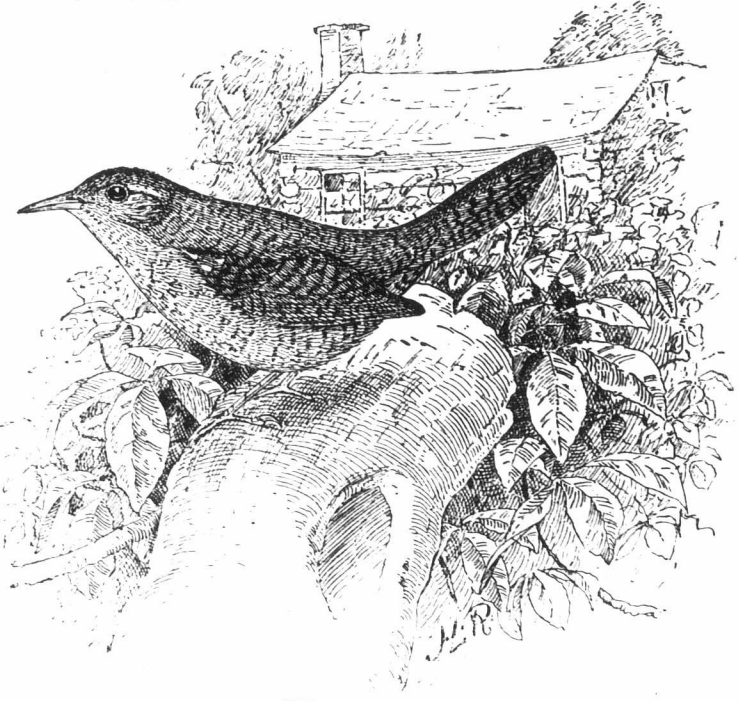
between the eyes. Each of the three took it for granted that his next neighbor had given him a blow, and they at once began to fight among themselves. The confusion spread, and in a moment they were all hacking, hewing, and stabbing at one another, lopping off arms, heads, and legs, and doing such deeds of valor that Jason was filled with admiration. In a very short time all but one of the heroes of the dragon's teeth were stretched lifeless on the field. The last survivor had just force enough to wave his crimson sword over his head, and give a shout of "Victory! Victory!" when he too fell down dead.

"Let them sleep in the bed of honor," said the Princess Medea, with a shy smile at Jason. "The world will always have simpletons enough, just like them, fighting and dying for they know not what."

Next morning early Jason went to the palace of King Aetes. Entering the presence-chamber, he stood at the foot of the throne, and made a low obeisance.

"Your eyes look heavy, Prince Jason," observed the king; "you appear to have spent a sleepless night. I hope you have concluded that it would be wiser not to get yourself scorched to a cinder in attempting to tame my brazen-lunged bulls."

"That is already accomplished, may it please your majesty," replied Jason. "The bulls have been tamed and yoked; the field has been plowed; the dragon's teeth have been sown; the crop of warriors has sprung up, and they have slain one another to the last man. And now I solicit your majesty's permission to encounter the dragon, that I may take down the Golden Fleece from the tree, and de-



THE WREN.

From Farmers' Bulletin, No. 51, by F. E. L. Beal, B. S., Assistant Ornithologist, U. S. Dept. of Agriculture, Washington.

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,— I think old Sol must have had a double force of workmen on duty during the past month. Such heat!! The mere memory of it is enervating. You must have suffered severely from the "hot waves," especially if you were weeding or picking fruit. In the city one got the concentrated essence of it, for there everything combined to increase it—the walls, windows and pavements seemed to rival one another in attracting and returning to one fourfold the genial rays so prodigally dispensed by his majesty the sun. Many a poor workman, overcome with the heat, dropped his task, never to pick it up again; in crowded tenements and narrow alleys it was still more suffocating. There, no tree cast its friendly shade, no fresh breeze came to grant even a moment's respite to the suffering creatures trying to exist (one cannot call it living) in such misery. This is an everyday tale in large cities. The larger they are the more common are such cases—those great cities that foolish, discontented country youths regard as a sort of earthly paradise, into which one has but to enter to be happy.

They complain of the monotony of rural life. Do they suppose city sights never become wearisome to the eyes? The same streets and the same buildings, the same wealth on one side and the same poverty on the other, the continuous struggle of man against man, and the repeated "going under" of the weaker. Where, in all these, do you find the spice of life—variety? Your town and city cousins may call you "hayseeds," and even commiserate you for being caged in the country; but you enjoy a greater share of freedom than they do, and worse things than "hayseeds" may cling to one in city life.

Your lack of variety in work cannot compare with that of the city worker, whatever his position and duties may be, for he must do the same thing every day throughout the year. Every season, every month brings you a change of work; while nature, the greatest of all artists, is constantly laboring to place new pictures in her ever-open art gallery for your especial benefit. There may be more novelty in city life, but it often becomes drudgery, and I ask with George Eliot:

"What novelty can be compared with that sweet monotony where everything is known, and loved because it is known?" Many of you have been trying the entrance or higher examinations, and I trust you will prove that country brains are able at least to keep pace with their city kindred, if not to leave them in the rear.

I hope many of you will take an active interest in the competition announced in our last issue. It will prove both entertaining and profitable, and it will give me much pleasure to hear from a large number of old and new friends. The girls have kept ahead in the puzzles. Where are you going to be this time, boys? Your loving— UNCLE TOM.

Puzzles.

1-CHARADE.

(As sung by the lover.) I've a feeling in my heart, Daisy fair; And I love you more than art Can declare. Every moment of the day, You among my thoughts do stay; But your father answers "nay," To my prayer. When the sunset shadows steal O'er the sea, Haste, my love, and on your wheel Fly with me. Every star will shed its light, To disperse the gloom of night, And assist us in our flight To be free.

Chorus (as sung by the father).

ONE, TWO, THREE, woe is me! Pure and free, ONE, TWO, THREE, I would give my life and all Willingly. But my daughter's base deceit, Since they've run away COMPLETE, Makes me falter to repeat, "Charity." CHAS. S. EDWARDS.

2-WORD SQUARE.

MY FIRST are used in winter, and are made of iron strong. MY SECOND is to soften, towards many who do you wrong. MY THIRD, a lovely kind of cloth, so exquisite and fine. MY FOURTH is used at supper-time, and sometimes when you dine. When lovely Albani sang, my FIFTH was shouted many times. MY SIXTH is a very easy word, and with my FIRST it rhymes. MURIEL E. DAY.

3-CHARADE.

MY FIRST is in strong but not in weak. MY SECOND is in love but not in hate. MY THIRD is in most but not in least. MY FOURTH is in true but not in false. MY FIFTH is in play but not in work. MY SIXTH is in virtue but not in vice. MY SEVENTH is in sow but not in reap. MY TOTAL the founder of an illustrious ancient city. THOS. GRAY PHELAN.

4-CHARADE.

Of nothing can my FIRST be the WHOLE. Of nothing is my SECOND the top; If hung till quite ready to drop. THOS. GRAY PHELAN.

5-NUMERICAL ENIGMA.

My 1, 8, 9 is a fire-arm. My 5, 7, 8, 9 is not sober. My 3, 4, 5 is a conjunction. My 1, 2, 3, 4, 6 is a gift. My 7, 8, 9 is to move quickly. My WHOLE is a magnificent valise used by many travellers. EDITH BROWN.

6-SQUARE.

- 1. A dramatic representation. 2. Of volcanic origin. 3. To declare. 4. A Mediterranean three-masted vessel. THOS. GRAY PHELAN.

Answers to July 1st Puzzles.

- 1-Heart, earth, tear, rate. 2-Madrid. 3-LOVE. 4-QUIT. 6-ROVE. 5-Shubenacadie. UNDO OVER IDEA VEER TOAD ERRS

SOLVERS TO JULY 1ST PUZZLES.

Maggie Scott, Mabel Ross, John S. Crerar, "Kit," Edith

Brown. Answers were also received from Kincardine P. O., but no name accompanied work. D. W. Campbell sent answers to June 15th puzzles. Winners for solutions: 1st, \$1, Maggie Scott, Trent Valley Farm, Meyersburg, Ont.; 2nd, 75c., D. W. Campbell, Linton, Ont.; 3rd, 50c., Clara Robinson, Markham, Ontario.

A COUSINLY CHAT.

M. W. S.—No, she lives in Renfrew Co. You have your hopes fulfilled. T. G. P.—Very acceptable. Write puzzles in form in which they should be printed, number them and sign name to each. Give answers on a separate sheet. M. R.—Glad to hear from you; come again. M. E. D.—Where's Lily? Why not try solutions? "Kit" will attend to your request. Write often. A. A.

A Song of the Farm.

(President Harris, of the Maine State College at Orono, in an address before the State Legislature, asked the question: "What are the farms fit for, if not for raising boys?" His words were at first misunderstood, but afterwards applauded.)

A word to the restless people—to the fast and feverish age: A perfect manhood is better than any wealth or wage. Some are for gold—some glitter; but tell me, tell me, when Will we stand for the farm and the college, that go for the making of men?

Yes, what is the old farm fit for? The word is wisely said; There is room for stumps in the pasture, and the house may be a shed. But what if a Lincoln or a Garfield be here in this boy of ten? And what should the farm be fit for, if not for the raising of men?

'Tis a scanty soil for the seeding, but here we win our bread, And a stout heart may grow stronger where plow and harrow are sped; Then break up the bleak, high hillside, and trench the swamp and fen,— For what should the farm be fit for, if not the raising of men?

The crop by the frost is blighted, a niggard the season seems; Yet the ready hand finds duties, and the heart of youth has dreams. The bar and the senate, to-morrow; to-morrow the sword or the pen; For what should the farm be fit for, if not the raising of men?

And what if our lot be humbler—if we on the farm abide? There is room for noble living, and the realm of thought is wide: A mind enriched is a fortune,—and you will know it—when You see that the farm is fit for the rearing of noble men.

We tread the hills that the Holy, that the Beautiful has trod; We till the fields of the Infinite, we dress the gardens of God: The seer, the sage, and the poet—they utter the word again, And ask what the farm is fit for, if not the rearing of men. —Country Gentleman.

How to be Happy.

Keep your temper. Gain a little knowledge every day. Make few promises, and speak the truth. Give full measure and weigh with a just balance. Consent to common custom, but not to common folly. Be cautious of believing ill, but more cautious of reporting it. Have courage to wear your old clothes until you can pay for new ones. Think of heaven with hearty purpose and strong hope to get there. Do good to all, that thou mayst keep thy friends and gain thy enemies. Count your resources. Find out what you are not fit for and give up wishing for it.

GOSSIP.

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

The Toronto Poultry, Pigeon and Pet Stock Association has decided to hold a winter show from December 16th to 20th.

Mr. A. H. Warran, breeder, Ovid, Michigan, called at the FARMER'S ADVOCATE office a few days ago. He is taking home with him half a dozen good Lincoln ewes purchased from Gibson & Walker and Mr. R. W. Stevens.

A. W. BRANDOW'S TAMWORTHS.

A. W. Brandow, Walsingham Centre, Ont., showed us some strong, useful Tamworths when we called upon him, the herd now consisting of some twenty animals, at the head of which is the highly-esteemed stock boar, Rob Roy 410, by Buffalo Bill 143, and out of Daisy 147, by Revell's boar (imp.) 106. He has been in service in the herd over two years, and has proven himself a sure and worthy sire, possessing much superiority of quality. The brood sow list now numbers four members: Susan 440, a four-year old sow, by Nimrod (imp.) 174, and out of Linnel Queen (imp.) 421. She has raised five litters; an animal possessing sufficient substance to weigh in condition over 600 lbs., and possessing true Tamworth conformation—having length and depth of body. She is at present suckling seven, the balance of the litter being sold. An unnamed yearling sow, by Rob Roy, and out of Belle 575, possesses much true Tamworth quality to recommend her as a matron and show sow; supposed to be safe in pig. There are also a pair of two-year-old sows by Jack and out of Susan, one having ten and the other twelve as their last litters, part of which are now on the farm. Mr. Brandow has been breeding Tamworths for over five years, and has succeeded in making the breed quite popular in his section, as he has been receiving ten cents per hundred over the market price in the market, dealers finding it to their advantage to ship the popular, deep-sided hogs now so much sought in the English market. Of late enquiries have been numerous, and the fall stock will equip this establishment with sufficient stock on hand to meet the increasing demand.

MANORFIELD HERD OF JERSEYS.

Adjoining the beautiful town of Orillia, Ont., is the home of William Bacon, breeder of Jerseys, whose herd now numbers some 20 registered animals, as well as some well-kept grades. The two stock bulls are Kaiser Fritz Jr. 43981 and Exile of Manorfield, Kaiser Fritz Jr. is a solid gray, bred by Kaiser Fritz 2439, and out of Oriondo's Madrid 40378, a cow imported by Mr. Cochrane, Compton, Que., from Connecticut. Kaiser Fritz is an animal of strong type of indisputable quality and breeding, and as a show animal has been a frequent winner in strong competition, winning at London in 1895, while in 1896 he won first place in Toronto without previous preparation. This is his second year's service in the herd, his calves coming true to dairy conformation. He possesses a grand constitution, and has a good disposition. Exile of Manorfield 40732 is a double grandson of the great Exile of St. Lambert 13257, sire of 55 tested calves. He was imported two years ago from Mr. E. Griffith, Mansfield, Pa., one of the most extensive herds in the State. He is a silver-gray and lemon-fawn on the sides; is a great feeder, and has a grand constitution. In 1896 he won second in London and third in Toronto. His two years' service in the herd has proven him a sure stock getter. Present among the cows we noticed the six-year-old light fawn Sylva, by Romeo Rex, and out of a St. Helier bred dam. She has the appearance of being a strong, rugged, good feeder and worker, with good constitution. Of her four calves one was sold to head a herd at Cannington. No record has been kept of her milk, but it has been estimated that she is capable of producing 19 lbs. butter per week on grass alone; her milk tests 5.8. Her three-year-old daughter, Sylvetta, by Massena's Darby, is a handsome silver-gray, with black points. She now carries her second calf to Kaiser Fritz Jr.; has a well-balanced udder, which is supplied by massive and wide-spreading veins. Her test at the Guelph college shows 6 percent. The two-year-old full sister, Massena's 2nd Glory, is of broken color, like her grandam, the great Massena. She has just dropped a beautiful heifer to Exile, and for her age has a well-developed udder. Pet 50511, by Canada's John Bull 8388, and out of Bessie 18657, is now ten years old, and was a first-prize winner several times at Toronto. She is a rich olive-fawn color. Her skin looks as though it were saturated with cream. Of her Mr. Bacon says she gives from 40 to 45 lbs. milk per day, testing 7.6. She has been on the farm two years, and raised a bull and a heifer calf, the latter now being on the farm, due to

calve in August to Kaiser Fritz. Judith Brocq 123343 is a yearling by Brocq St. Lambert 2nd 46230, by Judy Brocq. She was bred by Wm. Rolph, Markham, and possesses much quality, is of striking dairy type, and from extraordinary ancestry. Salina of Snelgrove 15512, a promising calf by Massena's Duke 30643, and out of Seraphine 14117, by Nabob's John Bull, was bred by J. C. Snell, Snelgrove, Ont. Faith of Brampton 122838, by Bonanza Pogis 33172, and out of Jetsam's Faith 35720, grand dam imp. Jetsam, was bred by A. Hutson & Son, Brampton. Half a dozen promising yearlings are in the herd, and are all being bred this summer. The calf pens contain three bulls and four heifers, among them being Pet's Jubilee, out of Pet of Exmoor, a member of the sweepstakes herd in 1893, and by Kaiser Fritz Jr., the dam of the calf giving in the season of 1895 and 1896 43 lbs. butter, her milk showing a test of seven per cent. The calf was dropped April 6th, and has made good progress; has a deep, smooth body, of silver-gray color. Belle's Exile, W. J., out of Oriondo's Belle and by Exile of Manorfield, also looks as though he would make his mark, dropped March 15th. He possesses a deep body, strong hips and a beautiful flat thigh, his dam being a cow of exceptional quality. Fern of Exmoor's Kaiser, by Kaiser Fritz Jr., and out of Fern of Exmoor, a very superior cow, is a calf which, although very young, promises well, possessing much superior quality and good conformation. A very prominent feature in this herd which has not been overlooked is the thirteen-year-old cow Alberta Queen 20631, by Alberta Rex 7724, dam Pyrrha 2nd 9561, by Duke of Darlington 2169. Her pedigree notes say she is conceded to scale more points of perfection than any known individual of the day. At five years old she made 71 lbs. in 31 days, and three months later 65 lbs. and has a record of 18 lbs. 14 ozs. in seven days. In conformation she is wedge shaped throughout, having great lung capacity; rich, mellow, loose skin; deep, capacious udder, supplied with large teats. For her Mr. Bacon says: "Her owner, Mr. A. W. Dodge, New York, paid \$325 when a heifer."

NOTICES.

The Deering Harvester Company advises us that they advertised a serious typographical error in their advertisement published in the FARMER'S ADVOCATE for July 15th, where it stated that "American and Canadian" farmers were imitating their machines, instead of "American and Canadian manufacturers." Do not overlook their announcement in this issue.

MODERN WELL DIGGING.

There is a marvelous difference in the way wells were dug in our grandfathers' day and the way they are rapidly and neatly sunk by perfected machinery in this advanced age. Our attention has been called to what is said to be one of the most complete and practical machines for this purpose yet introduced, namely, that manufactured by the American Well Works, of Aurora, Ill., who supply the machine complete, with steam, gasoline or horse power (mounted or down) for operating it. When a well has been completed, the derrick is swung out of position for moving to the next job, and it is ready for drilling as soon as it gets there.

It sinks wells of any formation, either by jacking the drill, revolving, hydraulizing, or it will take out a core by the use of adamantite instead of diamonds, for prospecting. It won four gold medals at the World's Columbian Exposition at Chicago, nine in New Orleans, La., and two in Kansas City, Mo. In a list of wells dug we note one to the depth of 3,067 feet, and among others one 88 feet put down in three hours at Scotland, South Dakota; 800 feet in 46 hours at New Orleans; 390 feet in ten hours, Sierra Valley, Cal.; 500 feet in seven hours at Beckwith, Minn. Note their advt., and for further information address The American Well Works, at Aurora, Ill.; Chicago, Ill.; or Dallas, Tex.

FOR SALE! 25 CLYDESDALE STALLIONS and MARES.



Nearly all prize-winners at Toronto, Montreal, Ottawa, and Chicago World's Fair. Most of our young stockaresired 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. 62y-om D. & O. SORBY, Guelph, Ontario.

GOSSIP.

R. L. BURGESS & SON.

The home of Mrs. R. L. Burgess & Son, Burgessville, Ontario, was visited and the stock of Southdown sheep, Berkshire and Yorkshire pigs looked over. At present the flock of sheep number some 45 head, composed of three two-shear and three shearing rams, nineteen breeding and six shearing ewes, and the balance of this year's crop of lambs, eight of which are rams. The foundation of the flock was purchased from such breeders as Baker, Jackson, Simminton, and T. C. Douglas. The stock ram was imported from the flock of a Mr. Lucas, England, by Mr. Douglas, and as a sire and show sheep has been very successful, winning wherever shown, while the stock ram employed the year previous was also an active competitor for first honors in many large showings. He also was purchased from Mr. Douglas, and possessed much quality to recommend him as a sire, being particularly well covered. Among his show winnings were first at The Royal, as well as Toronto and London. The shearlings on the farm are his produce, which are an even, strong, well-covered lot, possessing size and evenness of quality, being now in the pink of condition. The lambs compare well with those we have seen elsewhere, and although they came in March, have attained a good size. The shearing and two-shear rams should quickly attract the attention of parties requiring a stock sheep, as also should the bunch of shearing ewes and buck lambs now held for sale.

In the Berkshire pens we saw two stock boars, seven brood sows, and nine three-months' pigs, the foundation stock of which was obtained from Mr. Gen. Green, Mr. Teasdale, and Mr. A. Wilson. The demand for this stock has been very active; and although all sows gave good-sized litters last spring, the stock has been greatly reduced; but as they are all to farrow again this fall, the firm will be in a position to meet a good demand for this class of stock. The stock boars are both creditable, well-marked animals of very superior breeding, a point which Mr. Burgess places great stress upon in all his stock, as is plainly shown by the animals now on the farm.

The Yorkshire herd was founded upon Brethour-bred stock, and number some fifteen animals, at the head of which is the stock boar Merry Diamond, a descendant of the second prize hog at the World's Fair, while the two brood sows are directly descended from imported stock on both sides, and are due to farrow in August and September to Merry Diamond. Much demand was also found for this breed, and from the class of stock which Mr. Burgess has on hand we predict for him a brilliant future as a stock breeder, so long as he keeps up the standard of the stock now in the possession of the firm.

J. H. SMITH & SON'S JERSEYS.

At the home of J. H. Smith & Son, Highfield, Ont., we found a very extensive Jersey herd, numbering some sixty animals. The stock bull, King of Highfield, by Hugo Alpha of Oak Hill, and out of Signal's Rosa May, is now four years old. He was at the head of the first prize herd last fall at Toronto, and was placed first at Ottawa and Montreal, beating the Toronto sweepstakes bull; in fact, has only been placed second once, although having been shown at all the large fairs since a calf of four years old. He was at the head of the first prize herd last fall at Toronto, and was placed first at Ottawa and Montreal, beating the Toronto sweepstakes bull; in fact, has only been placed second once, although having been shown at all the large fairs since a calf of four years old. He was at the head of the first prize herd last fall at Toronto, and was placed first at Ottawa and Montreal, beating the Toronto sweepstakes bull; in fact, has only been placed second once, although having been shown at all the large fairs since a calf of four years old.

CIVIL ENGINEERING
 Surveying and Mapping; Mining; Prospecting; Architecture; Mechanical and Architectural Drawing; Electricity; Metal Pattern Cutting; Railroad, Municipal, Hydraulic & Bridge Engineering; Mechanics; Plumbing; English Branches; Bookkeeping; Shortland; Marine, Stationary and Locomotive Engineering. 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.

SIMMONS & QUIRIE.
 Shorthorn Cattle, Berkshire Swine—Money-making Sorts.
 The imported bull, BLUE RIBBON—17995—(63736), by ROYAL JAMES (5972); dam ROSE LINTY, by GRAVESEND (4646), 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.

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

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 Telegraph office, Burlington Station, G. T. R.
BREEDERS Shorthorns, Shropshires, and Berkshires
 Have on hand and for sale twenty choice one and two year old rams, four pair of extra good yearling ewes, and a nice lot of Berkshire boars and sows from two to six months old. 127 Farms one-half mile and one and one-half from Burlington Station, G. T. R.

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. om

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.

JOHN SHRIGLEY, Allandale, Ont.,
 Breeder of Shorthorns and Herefords, Shropshire sheep, Berkshire and Yorkshire pigs. A choice bunch of Shropshires, also a few Shorthorn and Hereford females now for sale. om

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

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

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

WANTED! Married couple (German preferred) to take charge of small farm. Must both be willing to do the work in every particular. House furnished; references required. Good home for right kind. Address J. H. BROWN, 37 State St., Detroit

week, and possesses good feeding qualities. The five-year-old dark fawn Unora May, by Hugo Alpha of Oak Hill and out of Signal's Rosa May, was in the first prize herd until last year, and in her class has always won first honor. Her owners claim for her a record of 61 lbs. of milk in one day. Her three calves are owned on the farm. The young females are represented by six two-year-olds, nine yearlings, and fifteen heifer calves; among them being the two-year-old heifer Carlo's Alta, purchased at J. C. Snell's sale, an animal possessing much quality to recommend her, having good strength of constitution combined with the choicest of quality. She was sired by Carlo of Glen Duart, and out of Arkian's Alta, by Rioter's Pride, son of Stoke Pogis 3rd and imp. Pride of Windsor, g-d. Florist's Caroline. At the Peel Co. show last fall she won first over the first prize winner at the Toronto fair. Her sire was champion over all Canada three times. A full sister won first at Toronto, Ottawa, and the Provincial Dairy Show in 1895, so that she comes honestly by her exhibition qualities, and great things are expected of her, under being well developed and well balanced, her legs large and well placed, and her whole appearance very attractive. Others worthy of mention are Bessie, Jennie, and Muriel of Highfield, all promising young cows. The yearlings too are a really good bunch, and one is expected of Zilla and Lily of Highfield; in fact, they are an exceptionally good herd of the brood, possessing much strong breeding and showy conformation, and judged by their well-formed udders are unquestionably workers of high order. Five bull calves are now in view, and will undoubtedly find ready admirers as soon as they arrive at serviceable ages.

JOHN SHRIGLEY'S HERDS AND FLOCK.
 Some three miles southwest of the village of Allandale, Ont., adjoining Barrie, is the extensive breeding establishment of John Shrigley, where attention is given to Shorthorn, Berkshire and Yorkshire sheep, Berkshire and Yorkshire pigs. To deal first with the Shorthorns, we saw the very superior, well-built, dark red two-year-old bull, Gracchus 21540, by Lord George 13555, and out of Sibyl Grace 20128, by imported Michigan 1115. He was bred in the famous herd of Col. R. Tyrwhitt, Bradford, Ont., and was used as a sire last season, proving himself sure and worthy, as is shown by his calves, which are an even, thrifty lot. Among the five matrons now milking we noted specially the seven-year-old roan cow Druclilla, by General Booth 4925, and out of Belle Queen 2nd 16681, by Bonnie Dundee 4299, a cow possessing true breeding qualities, and in condition raised by her dam, Gracchus 2nd 2904, has raised three dark red heifer calves, all of which are on the farm, and possess much quality; her sire was considered the best sire that ever was owned in the section, says Mr. S. The bulls employed were mostly owned by Dr. Morton, and obtained from the most noted herds of Ontario, and none but gilt edged animals were used. This crop of five heifer calves are a good, growthy, even lot, and more cows to hear from this fall. The Herefords now number a dozen, at the head of which is a young bull bred by Mr. H. D. Smith, Compton, Que., and succeeding Young Ingleside 2nd, the sire of this crop of calves; the cows now being in calf to the late importation. A very choice three-year-old cow in calf was shown that was bred on the farm. The origin of the herd was obtained from C. C. Bridges, Shanty Bay, when in '91 a cow was purchased which proved herself a producer of females, which have mostly been retained on the farm, and some extraordinary young animals are the result. This year's crop of calves are one heifer and one bull, and are of a high quality, and to hear from; and, taking them as a herd, they are a very strong, even lot, and when bunched together present a very creditable appearance. The Shropshires were founded upon stock obtained from C. C. Bridges, and now number over sixty breeding ewes with their lambs, twenty shearing ewes, and two shearing rams, one of which was purchased from John Campbell, and is a get of the World's Fair prize-winner, and is a strong, well-covered fellow, possessing much quality. A home-bred shearing by a Campbell ram is a strong, rangy fellow. That the flock has been well kept up is evinced by this year's crop of well-matured and well-covered lambs, among which we saw animals from which show stock could be selected, and Mr. Shrigley now offers a few aged ewes, ewe lambs and ram lambs for sale.

The herd of Berkshires includes some half a dozen Berkshire brood sows, three of which will farrow this fall. They are the descendants of Teasdale and Linton stock, while the stock boar was bred by J. G. Snell, which speaks for their merit of breeding, and some well marked young animals are now offered for sale. Of the half-dozen Yorkshire brood sows four are safely in pig to a very well-made animal bred by Mr. Wilson, Orillia, and of this breed some choice young sows are now offered for sale that are eligible for registration. Mr. Shrigley offers for sale any or all animals on his farm, and intending purchasers will do well to visit the premises and make their selection, and will at all times be made welcome, and a strong, healthy-looking stock to select from will be found.

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 Handsome Chromo for advertising costs only a little more than cheap printed bills, but they draw the crowd, thus protecting the pockets of the committee.
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TOO MANY WATCHES ON HAND AND NOT ENOUGH MONEY CAUSE THIS OFFER.
 Send me \$6, either in cash or registered letter, or by postal or express orders, and I will mail by return a full jeweled stem wind and set watch, warranted for at least one year, but which should last at least ten, with proper care.
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 I have now for sale a choice lot of young bulls and heifers of fine quality, and bred from best milking strains. Particulars on application.
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 Breeder of high-class AYRSHIRES. Young stock always for sale; bred from the choicest strains procurable. Breeding stock selected from the most fashionable strains and prize-winning stock of the day. Farm located at Howick, Que. 5-1-y-0

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A grand lot of each on hand, including a nice lot of in-calf heifers, and **EIGHT BULLS** six to eighteen months old. Write us now for bargains. Prices away down.
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 AYRSHIRE BULLS fit for service; one out of Ada No. 882, winner of first and two special prizes at Provincial Dairy test, Guelph, Ont., 1895. Imp. POLAND-CHINA pigs of all ages.
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Ayrshire Cattle and Berkshire Pigs.
 Traveller of Parkhill at the head of herd, while my herd is descended from cows purchased of Mr. David Henning; are modern in type, and are of the choicest milking strains. Write for prices of young bulls and heifers.
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 Stations—Cornwall, G.T.R.; Apple Hill, C.P.R.

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The bull TOM BROWN and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester Sheep and Berkshire Swine. 5-1-y-0
DAVID BENNING, Glenhurst Farm, WILLIAMSTOWN, ONT.

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 Breeders of high-class Ayrshire cattle; choice young stock of either sex and any age always on hand. Our herd contains a number of Columbian winners. 21-1-y-0

KAINS BROS. BYRON, ONTARIO, LONDON STATION.
 Breeders of AYRSHIRE CATTLE.
 Several fine young bulls, including the first prize yearling at London, second prize bull calf, and other good ones; also choice heifers of various ages. Prices right. 1-1-y-0

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Steamer. From Montreal. From Quebec. Scotsman, July 17th, daylight, July 18th, 9a.m. Labrador, June 31st, Aug. 1st, 9a.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.

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Young cows and heifers in calf, heifer calves, bull calves, from rich and deep milking ancestry. Testing from 3.60 to 9.00, official test. Prices to suit the times.

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

MRS. B. L. BURGESS & SON

Burgessville, Ont., breeders of pure-bred SOUTHDOWN SHEEP, the descendants of imported stock. BERKSHIRE and YORKSHIRE Pigs of superior quality. At present we offer 3 shearlings and 3 two-shear lambs, half a dozen shearing ewes and a band of 24 lambs.

TO CANADIAN FARMERS—

Chicago, U. S. A., July 15, 1897: Our attention has been repeatedly called to statements made in writing and by word of mouth by our competitors to the effect that the machines which we are selling in Canada are not the same as those sold to farmers in the United States, and that Canadian purchasers will have difficulty in securing repairs for our machines in years to come. At first we paid little attention to these statements, recognizing them as unmistakable indications that our machines were making serious inroads on the sales of the firms uttering them. But the firms in question have become so fertile in "imagining vain things" against us, and so bold in publishing them broadcast, that we have come to a point where patience ceases to be virtue.

We therefore wish to say plainly and once for all that THE DEERING PONY BINDERS, THE DEERING IDEAL MOWERS, THE DEERING STEEL HAY RAKES, AND THE DEERING CORN BINDERS WHICH WE ARE OFFERING TO OUR CANADIAN CUSTOMERS ARE EXACTLY THE SAME MACHINES AS THOSE WHICH ARE SWEEPING EVERYTHING BEFORE THEM DURING THE PRESENT HARVEST IN THE UNITED STATES. They are the original roller and ball bearing machines which carried off the highest honors at the World's Columbian Exposition at Chicago in 1893, with improvements made since then; the machines which forced American and Canadian manufacturers, after three years of crusading against roller and ball bearings, to adopt a form of roller bearing to their own machines.

AS TO REPAIRS: We have a permanent branch house—DEERING HARVESTER CO., LONDON, ONT.—where a complete stock of repairs for every Deering machine is always on hand. At Toronto, Ottawa, Montreal, and Quebec we have transfer houses, from which also our agents may draw their supplies without a moment's delay. Besides these general supply stations we have hundreds of local agents in all parts of the Dominion who keep supplies of repairs on hand adequate to meet the demand of their customers.

WE ARE IN CANADA TO STAY, and a realization of this very fact is doubtless what leads our Canadian competitors to circulate reports intended to injure our trade.

Canadian farmers have welcomed our draft-saving, crop-saving, labor-saving, ball-bearing machines, and the spontaneous growth of our trade in the Dominion has not only discomfited and alarmed our competitors, but has surprised ourselves. In one year our trade has acquired a momentum which no amount of opposition and misrepresentation can overcome, and it is morally certain that our business will continue to grow at this rate until we have a resident agent in every farming community of the Dominion.

Some of our Canadian competitors ask Canadian farmers to patronize them from patriotic motives. Patriotism is the noblest of all sentiments and the foundation of national greatness, but to our mind THE HIGHEST PATRIOTISM LIES IN ENCOURAGING FARMERS TO SELECT THE MACHINE WHICH SHALL GIVE THEM THE BEST, MOST ECONOMICAL SERVICE, NO MATTER WHERE THEY ARE MADE, and an appeal to a farmer's "patriotism" on the part of a manufacturer is a virtual confession that he has no argument to offer based on the merits of his machines.

But is it more patriotic to buy a Canadian machine? Every Deering machine shipped into Canada pays the Canadian Government an import duty of 20 per cent. of its value, indirectly reducing taxes just so much, while the Canadian manufacturers have been for years pocketing just so much in excess of their reasonable profits. If you must pay 20 per cent. will you not rather pay it to your Government than to a private corporation?

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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. MCALLUM, Mgr., DANVILLE, QUEBEC. 9-y-on

Single Driving Harness

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GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lambert), out of tested cows. Grand individuals. Prices right. 22-y-on

Geo. Hindmarsh, AILSA CRAIG, Breeder of high-class SHROPSHIRE SHEEP

the blood of which was obtained from the noted flocks of both England and Canada. Ram lambs of the choicest breeding for sale.

Oxford Down Sheep.

A fine lot of Young Stock for sale. A few nice Yearling Rams and Ewes. Prices reasonable. Inspection invited. Herbert Wright, 22-y-on Box 4, GUELPH, ONTARIO.

NOTICES.

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

Readers of the reports of the leading Old Country shows this season will have noticed that the Shorthorn stock bred by or descended from animals bred by Mr. W. S. Marr, at Uppermill, have greatly distinguished themselves. The champion of both Scotland and Ireland this season—Lord Calton's Sign of Riches—is an Uppermill bull right through. The dam of the reserve champion at the Royal and the dam of the second prize two-year-old at the Royal—Marengo—were both bred by Mr. Marr, and got by his well-known stock bull William of Orange. Few bulls in the history of Aberdeen Shorthorns have bred more good stock than this Uppermill bull.

The solution of the fencing problem has been going forward by leaps and bounds ever since the use of wood, because of its scarcity, became in so many instances impracticable. Not only has a considerable degree of efficiency been reached in wire fencing, but the cost of a very good structure is now not beyond the reach of any. McGregor, Banwell & Co., of Windsor, Ont., defy competition in wire fencing in what is known as the "Gem Wire Fence," which is not a factory-made fence, but when constructed is entirely adapted to its situation, and very strong and stock proof. This firm sells the Gem Fencing Machine, which is used to weave twisted, braided, barbed or plain wire together by means of a strong ply of wire, which is twisted three times around each longitudinal strand. These binding strands can be put on any desired width apart by one man at the rate of from 40 to 60 rods per day. For a first-class general purpose farm fence use nine No. 11 galvanized wires with a coiled, twisted, barbed or heavier wire on top, woven together every two feet with No. 11 galvanized wire. This can be very cheaply put up, and answers well for ordinary purposes. The weaving machine only costs \$5, and farm rights can be secured for two cents per acre. W. C. Yawker, of Detroit, Mich., is putting up five miles this summer.

ISAAC USHER & SONS' CEMENT WORKS.

We had the pleasure of being shown through the extensive cement manufacturing establishment of Isaac Usher & Sons, Queenston, Ont., whose name throughout many sections of Canada has become a household word, and were much impressed by the conveniently arranged and businesslike appointments of the concern, to say nothing of its efficient management. To commence our description of the plant it might not be out of place to mention that Mr. Isaac Usher, the senior partner, is an experienced contractor formerly connected with the firm of Drake, Stratton & Usher, doing heavy contracting, chiefly railway, and railway bridge construction in United States and Canada; in fact, the writer remembers having personally inspected some of the finest work in New York State, which would do credit to any such concern now in existence. Mr. Usher, seeing a great future in this country for a first-class cement, withdrew from the firm with this one object in view, of developing the present plant which is situated on the mountain side some two miles south-west of the celebrated Brock Monument at Queenston, Ont., a rich vein of the choicest cement rock being located there. About thirteen years since the plant was started, doing only a very limited amount of business, until some four years ago the present firm commenced a much more extensive development.

The genuine cement rock lies in a vein running from six to eight feet in thickness at varying depths from the surface, and at some points being as much as sixty feet deep, and forms a portion of the rock construction of the mountain. Overlying the vein is the deposit of limestone of varying thickness. Consequently in order to gain access to the required substance it is necessary to commence mining in from the edge of the mountain, or as in this particular case, from the bottom of an abandoned quarry. And in order to procure the material desired it is necessary to employ steam drills of varying capacity. The ones most employed are capable of drilling one hundred feet each per day. Steam is supplied from a special boiler and conveyed to the drill through pipes, the exhaust steam being similarly conveyed to the outside of the mine, so as to avoid annoyance. Holes are drilled into the rock at convenient intervals and of suitable depth, and into which a charge of dynamite is placed and exploded after the workmen have completed their day's work. The product of the explosion, being broken to suitable size, is drawn in carts to the kilns at the edge of the mine, which are kept constantly burning, fed from the top by coal which we may state is deposited from a switch on top of the mountain from the Grand Trunk Ry. A layer of rock is laid, followed by a layer of coal, and so on as is found necessary, each kiln being 32 feet high and 9 feet across. The burning occupies about three days, after which the material is assorted by experts, all underdone and refuse rock being thrown out and only the select material being allowed access to the mills, which are arranged still farther down the mountain side. The grinding process is similar to the old-fashioned stone chopping mill, the ground cement then passing through bolts to the packing room where it is bagged or barreled, as the case may be. The paper sacks hold one third of a barrel, and the jute, half of a barrel each. Barrels are also employed in the transportation and are made on the premises, a cooper being constantly employed. At present the capacity approaches 300 barrels per day, but the increasing demand necessitates a corresponding increase in output, and to meet this the plant will be enlarged to 500 barrels per day before next season's work commences.

All through we were much impressed with the convenient arrangement of the plant, and the labor-saving, the storehouses being at the extreme foot of the mountain and beside the Michigan Central Ry., a switch leading to the very door of the packing room; the warehouses having a capacity of about 100,000 barrels, which are filled after the building has closed. At present the demand for cement is increasing, and the construction of silos, floors, walls, and wherever else cement is used.