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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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A NEW STOCK BARN.
THE PROPERTY OF CAPT. D. MILLOY, PARIS, ONT.

EDITORIAL.

Prepare the turkey for Thursday, Nov. 28th, Thanksgiving Day.

The English dairy Shorthorn seems to have been queen of the butter tests at the great London show reported in another column.

On many occasions in the past we have urged the more general use of parchment paper, not only for wrapping butter prints, but for lining the larger packages as well. Australia has found the 56-pound parchment-lined shipping-box most desirable for the export butter trade, and a detailed description of their construction and use appeared in the FARMER'S ADVOCATE for Nov. 2nd. We understand that this plan will be adopted by many in Canada next year.

The idea of testing dairy cows at local shows is commended by a firm of leading dairy farmers, in another column, and the subject is still open for discussion. Some local shows can secure the services of the regular dairy instructors under the different associations to conduct these tests. We would also suggest that the graduates of the Guelph and other dairy schools, who are familiar with the use of the Babcock test, would be suitable persons to entrust with this work. The services of competent cheesemakers could also be obtained, as suggested by Messrs. Rice.

Federal and Provincial Relations with the Dairy Industry.

We notice that the Kingston Dairy School, heretofore manned under the direction of the Dominion Dairy Commissioner, is now under the general directorship of President James Mills, of the Ontario Agricultural College, with a resident superintendent, as is the case with the Strathroy Dairy School; the one serving the needs of the extreme east, and the other the western section of the Province, the main seat of dairy instruction, which will draw its students not only from the central portion of Ontario, but from all quarters of the Continent, being in connection with the College at Guelph. The tendency appears to be to leave the educational aspect of Government work on behalf of the Canadian dairy industry (as it is applied to the production of milk, cheese and butter) mainly to the Provincial authorities. This, we think, is right, and is now practically the case in Ontario, New Brunswick, and Manitoba.

As Mr. Andrew Pattullo, M. P. P., stated in his outgoing address as President of the Western Ontario Dairymen's Association last winter, there should be no overlapping of Federal and Provincial operations, nor duplicating of agencies at work in the same fields. In fact, on general principles the purely educational work referred to ought to be more effectively carried on by the local authorities, just as is the case with our ordinary educational system. Some of the Provincial authorities have, therefore, legitimate scope for their efforts, not only in the direction of dairy education, but of agricultural education generally. In regard to the former, for example, the opportunities for a good dairy school in the Maritime Provinces very naturally suggest themselves.

During the past few years the Federal Dairy Department actively extended educational work where there seemed to be a specific need for it, as in Prince Edward Island, the Northwest, British Columbia; also in connection with the winter buttermaking movement, and the Dairy School at St. Hyacinthe, P. Q. Certain educational work the dairy branch of the Dominion Department of Agriculture will yet do, but mainly through the channels or facilities of the Provinces, rather than duplicating work through agencies directly under Federal control. Prof. Robertson, the Dairy and Agricultural Commissioner, is now giving the largest share of his energies to that aspect of the industry where it becomes more especially a matter of trade and commerce. We think it well that there should be such a friendly, businesslike understanding between Provincial and Federal authorities, that there will be no needless overlapping, but rather such uniformity of procedure and methods devised in the various Provinces (subject to minor local conditions) that the general output of Canadian dairy products will reach a maximum degree of excellence, and if the distinctive cognomen, "Canadian," be branded or imprinted thereon, it will be a passport to the palate and the gold-lined pocket of the consumer wherever he may be found.

Thanksgiving Day Reflections.

BY J. C. SNELL.

The near approach of our national Thanksgiving Day naturally leads the mind of the farmer to a retrospective view of the past year, to a consideration of his present position and of the outlook for the future. It is true that times have been hard and prices low, and many discouragements have found a place in the farmer's experience, but when we contemplate what might have been, and compare our circumstances with those of other countries, we shall find very much to be thankful for. Perhaps first in the list of our blessings we should class that of a healthful climate and freedom from epidemic diseases. Few countries in the world enjoy a more pure and wholesome atmosphere and such general good health as Canada. Not only does this apply to mankind, but also to our live stock on the farm. Our herds and flocks, on which we are so largely dependent, are peculiarly exempt from contagious diseases, and the rate of mortality among farm animals is probably as low as in any other country and lower than in most. These are conditions of immense importance to a people, and are worthy of grateful recognition. The blessing of peace within our own borders and of peaceful relations with our neighbors is surely cause for thankfulness. Early in the year the relations between our nation and the neighboring Republic were painfully strained, and on our horizon there appeared the outline of a war cloud, which, but for the prevailing of wise counsel, might have grown into a storm involving Canada in serious trouble, making her the scene of battle and all the horrors of war. Let us be thankful that civilization has reached that high stage of advancement where, by arbitration, the differences of nations may be amicably settled and white-winged peace prevail.

The harvest for the present year, though, perhaps, on the whole not above the average of former years, has in most sections of the Dominion been very satisfactory. It is true that in some districts protracted drouth prevailed, rendering the crops short and the supply of fodder light; but this applies to only a limited area, and it is safe to say that a great extent of the country was blessed with sufficient rain to produce good crops of grain and grass, and, on the whole, we believe that winter feed for stock is in much better supply than at the beginning of winter a year ago, while bran and oil cake are lower in price than for many years. Our orchards have been unusually fruitful. They have produced in lavish plenty and of excellent quality, and if prices are low the excessive supply will help to make up for the unsatisfactory price. It is true the prices of grain have been too low. This has no doubt been largely due to the abundant production in grain-growing countries; but the recent substantial rise in the price of wheat seems to be based on the solid ground of the law of supply and demand, and not on speculation. A short crop in most of the wheat-growing countries of the world is reported, and there is good reason to believe that for wheat the advance price has come to stay for some considerable time. The rise in wheat naturally effects the price of other grains, and the last few weeks has seen an advance all along the line, making present prices considerably better than those of a year ago, with a good prospect of being higher yet. The price of dairy produce has not, in some lines, been as satisfactory as we could have wished, but did not fall as low in proportion as grain and other products, and the approach of winter has brought an advance which will no doubt be improved on in the next few months. The substantial rise in the price of cheese, coupled with a heavy make in the latter part of the season, was cheering to the factory districts and has put good heart in the industry for next season. The efforts of the Dominion Minister of Agriculture to stimulate this interest by granting money to encourage the building of cold storage accommodation and to secure better shipping facilities for butter should prove helpful to dairymen generally, and in this connection we find that good cows are in demand and are bringing satisfactory prices.

The discovery of gold and other valuable minerals in the western portions of the Dominion will no doubt be the means of bringing in foreign capital to be used in developing our mines, which are practically inexhaustible. This will be followed by an influx of population, making a home market for farm produce and filling up the blanks in the settlement of the Northwest—a need which has long been acknowledged.

The presidential election campaign in the U. S. has had more than the usual effect on business, the uncertainty of the result paralyzing trade for months, but the suspense is ended. The Republic has declared for sound money. Confidence has been restored in business circles and many branches of trade have been stimulated into activity. The President-elect is known as a champion of protection, but reciprocity is a prominent plank in his policy, and there is every reason to believe that if our Government makes an honest effort a satisfactory treaty may be arranged giving us the benefit of free trade relations in stock and farm products at least and access to the markets of that country, which we can at times use to great advantage. The rival growers of the States, anticipating the result of the election, have been buying freely of our sheep, and now that McKinley's election is sure we may count on something like a boom in the sheep trade. The probability is that the quarantine on cattle and sheep will soon be abolished, and this will give a fresh impetus to business in these lines and be mutually satisfactory. Vigorous efforts are being made, and with some prospect of success, to secure more favorable rates of transportation for breeding-stock on the railways, which would no doubt result in an increase of business both to the transportation companies and to stock-breeders.

The future looks promising. There are signs of business activity all along the line. Capital is seeking investment at lower rates than ever before. The prospect is hopeful. The hard times may prove to have been to some extent a blessing in disguise if they have served to teach us lessons of prudence and economy, but confidence in the future is needed, and if our forecast proves well founded, as we hope and believe it will, the part of wisdom will be to take the tide at its flow and seek to rise with it to higher ground, for in business as well as in other matters the proverb often proves true, "There is that scattereth and yet increaseth, and there is that withholdeth more than is meet and it tendeth to poverty." Let us enjoy our Thanksgiving Day with glad hearts. We shall find, on reflection, that we have very much to be thankful for, both in the experience of the past and in the prospect of the future. Let us profit by our mistakes and failures, making them stepping-stones to better things.

An Experimental Farm for Eastern Manitoba.

Considerably over one-fourth of all the cultivated land in the Province lies within what is known as the Red River Valley, or in that part lying east of a line running from Morden to Portage la Prairie. Throughout this district the soil is the richest, deepest, and most lasting in character of all the prairie region—in nature a strong black loam, resting on an impervious clay subsoil, the surface being generally level and the rainfall much more generous than further west. One of the difficulties in cultivating the land, in fact, is the getting away of the surplus surface water. This will be largely overcome when the Local Government or municipalities adopt some systematic plan of drainage. In addition to the above natural advantages of rich soil and plentiful rainfall, wood and good water are within easy access (over large areas flowing wells of finest water can be had), pastures are luxuriant and hay meadows practically unlimited. The whole region is well supplied with railroads, which converge to the center, giving easy access to the principal market of the Province. And yet, in spite of all these advantages, the district, especially in the immediate vicinity of the capital, does not progress as rapidly as, for instance, does the southwestern portion of the Province. One of the chief drawbacks is the difficulty of working the soil. It requires not only more horse power but more brains to manage successfully the heavy black loam, for if too moist it becomes as pasty and sticky as glue, and if too dry is apt to be hard and baked; and yet its productiveness under proper conditions is simply marvellous, and without a doubt an acre will produce an average yield over a number of years far in excess of the lighter, more easily worked soil of the higher lands to the westward. Owing to the character of the soil and to the fact that much of the land was occupied many years before the opening of the rest of the Province, weeds have got a very tenacious grip on this part of the country, and several varieties have for years been defying the efforts of many farmers to eradicate them. The Experimental Farm at Brandon, while it renders a service invaluable to the

whole Province, does not, and cannot under the circumstances, demonstrate the best method of cultivating Red River Valley soil. A well-conducted experimental farm would prove of inestimable value in assisting to solve many of the perplexing problems in connection with the cultivation and management of these lands. Such a farm, centrally located and representing a fair average of the conditions of the district, would, if within convenient reach of the City of Winnipeg—the gateway of the West—serve a splendid purpose in illustrating the capabilities of the country to newcomers and visitors. It would at the same time be more easily within the reach of all residents of the country than if located elsewhere. Such a farm would not necessarily be a large or very expensive establishment—160 acres would answer all purposes. Indeed, it might be conducted as a branch of the Brandon Farm, as it would be a special purpose farm rather than a general experimental one, there being no necessity for repeating all the experiments being carried on at the two western farms. In Ontario, fruit farms have been established at several points in order to make more satisfactory tests of varieties and conditions suited to each locality. In Minnesota and Dakota, branch experimental farms have been started in order to meet the varied conditions of soil, location, etc.

The ADVOCATE has no interests in any particular section, and the only purpose it has to serve in this matter is for the general advancement of the country. We are glad to see in this connection that the business men of Winnipeg are alive to the desirability of such an institution. At a recent meeting of the Board of Trade a resolution was passed urging upon the Dominion Government the importance and necessity of such an undertaking. We trust the Government will appreciate the importance of such a step and that before another season passes Eastern Manitoba will possess an experimental farm.

Captain D. Milloy's New Barn.

In July 15th issue of the FARMER'S ADVOCATE was published a very brief description of Capt. D. Milloy's splendid barn, then in the preliminary stage of construction. The structure being well forward toward completion, we had the opportunity, on Nov. 2nd, of visiting Oak Park Stock Farm, which comprises some 600 acres of choice, gently undulating, clay loam land, with gravelly subsoil, situated on the Brantford road some three miles from the highly picturesque town of Paris. A drive over the farm, accompanied by Mr. H. B. Wells, the farm superintendent, led one to forget for the time being what we have heard so much about, that agriculture was not a highly prosperous business. The broad, rich fields, surrounded with almost new board fences, standing as plumb as possible, broken here and there with a purely white painted gate, was in striking contrast with many an Ontario farm scene. A number of the large pasture fields are studded here and there with beautiful spreading oaks, which are also growing in profusion along the shore of Grand River, in profusion along the shore of the farm. In this skirting the west boundary of the farm. In this grove we found a number of Berkshires feeding and thriving well upon the falling acorns, hickory nuts, and pasture. The cattle which are to occupy the new stables are largely of Shorthorn breeding of good families. The several bunches of very fine Shropshires grazing in different fields added beauty to the landscape and testified to the choice of their owner.

The barn referred to and illustrated on the front page is an imposing structure. Our engraving shows the south side. Not only is it of large proportions, but the artistic finish and beauty of the external coloring is quite in keeping with the general

character of its surroundings. The general color of the barn is a dark cream, trimmed with a delicate shade of light brown. As the illustration shows, the lumber of the old barn had not all been cleared away when the photograph was taken, but it is the intention of Capt. Milloy to enclose a roomy yard for the advantage of the stock. To the east and north of the barn is a range of horse and sheep barns which are to be refitted inside and out and painted in tasty style. Next summer, we understand, there is to be erected as fine a hogpen as can be planned. To the north and west of the main barn stands a neat, well-equipped blacksmith shop, large corn crib, feed-boiling house, henhouse, and brick icehouse. The dwelling, which shows in the right background of our engraving, was referred to in July 15th issue as being equipped with every modern convenience; and it assuredly is, from cellar to attic, finished and furnished as one would

run smaller pipes to each row of mangers, and up from these pipes come the 1 1/2-inch pipes to each beast's drinking-cup, shown in the corner of each stall. The position of two cistern taps is shown in either root compartment. These taps are approached from the passage. There are two spring water taps in the feed-mixing room. The two bull boxes have each two water cups, which may be used if two cattle were tied in either of them. The three large boxes forming one range of stalls have each three mangers, so that three cattle may be tied in each should such be desired. The six calf boxes at the ends are roomy and light. In each of two is to be placed a set of stanchions hung on hinges, to be used for pail-feeding calves. They can swing round against the wall when not in use. Their main feature is to hold the calves for some time after feeding, to prevent their sucking each other. The stalls in which the animals are tied are all double and the same width throughout. It will be noticed, however, that the platforms upon which the animals stand are of three lengths, viz., 5 feet, 5 feet 6 inches, and 5 feet 10 inches, to accommodate the different sizes of cattle. The passages, both for feeding and cleaning out, are amply wide. The gutters are from 15 to 18 inches wide, 7 inches deep against the stalls and 4 inches on the side against the passage.

The ventilation system is simple, and cannot but be very effective. In the south calf box at either end of the stable will be noticed a square box ventilator. Each of these consists of a hole, about 8 by 12 inches, through the wall just above the floor. The air thus admitted is conducted up

through a box 10 inches across, 20 inches wide, and 5 feet high. Each of these boxes has a lid which may be left open or closed as desired. Near the top of the wall, directly above each box ventilator, is an opening about 15 inches square, fitted with Venetian blinds or shutters. These, too, can be opened or closed at will. The lower and upper openings are shown in the end of basement in the front page illustration. At the bottom of each of the end doors of the long passage is a hole out, which may be opened or closed at will. The plate glass windows, 28 by 40 inches, swing on side pivots, so that when the top is drawn open inwards the weight of the upper portion above the pivots keeps it there. These, too, serve as ventilators. The doors are not divided across in the ordinary way, but in each is a small door, 18 by 30 inches, opening inwards.

The posts in the basement supporting the upper floor are of 7 by 7 inch oak. The facing on the front of the stalls is of matched 2-inch plank, covered with matched inch stuff, breaking the joints. The feed chutes from the passages to mangers are of 2-inch plank, running lengthwise, faced on the upper side by inch matched stuff running up and down. This is capped with an oak top of artistic design. The openings into the mangers are 13 inches, for the admission of feed. The mangers in the box stalls have, in front of each, a door which opens outwards to admit the feed.

The drainage system is most complete. Along outside the south stone wall is a drain of 6-inch tile. This follows the east wall till it unites with a 4-inch drain which takes the overflow water of the cisterns, tank, etc., and the water of the two drains

is carried away in a 9-inch pipe. **Additional points.**—The inside of the stone wall is to be plastered, and the ceiling is of narrow matched inch pine. The division between the root rooms and the stable is double boarded 6 feet high, above which are 5-inch slats, 3 inches apart, so that the temperature of each compartment will be alike. (We will be interested in knowing how the roots keep in such quarters. There is a possibility of the best temperature for the cattle being too high for the roots.) The whole of the interior woodwork is to be fastily painted, so that the completed structure may well be called a live-stock palace in appearance and utility, a monument to the enterprise of its owner.

Now is the time for the readers of the ADVOCATE to get up a club of new subscribers and secure some of our premiums.

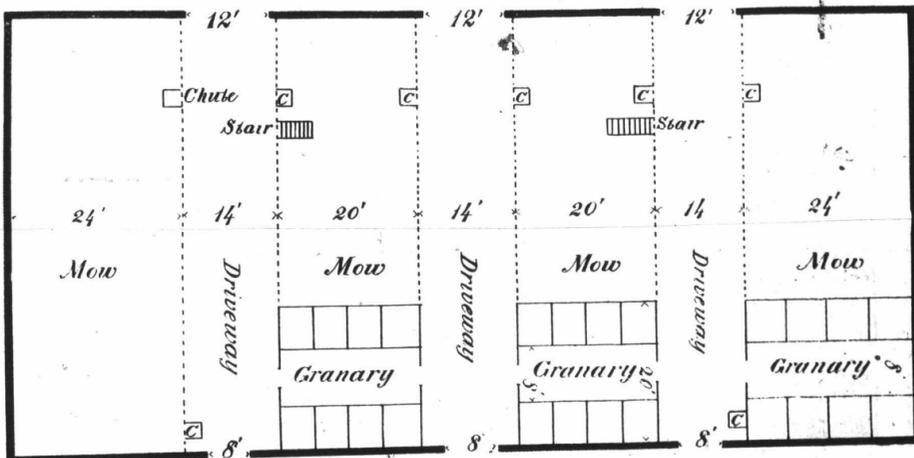


FIG. I.—BARN FLOOR PLAN.

expect to find a wealthy city residence.

The barn is 130 feet long by 60 feet wide. The basement (the ground plan of which is shown in Fig. II.) is, rightly, we think, not in a bank, but stands on level ground, having 12 foot walls of splendid masonry. The posts of the barn are 24 feet long, so that the building has large capacity for crops of grain and fodder, and the ample-looking contents of the generous "bays" and granary bins spoke volumes for the productiveness of the adjacent fields. The barn is sided with novelty siding, similar to that frequently used upon residences. As Fig. I. shows, the barn has three driveways and three granaries, and a number of chutes down through the floor into the roothouses, feed rooms, and stables. The windows in the barn, as in the basement, are of plate glass, and sufficiently large and numerous to admit all the light desirable. Three wide bridges on the north side of the barn afford means of entrance to the upper floor, which is uni-

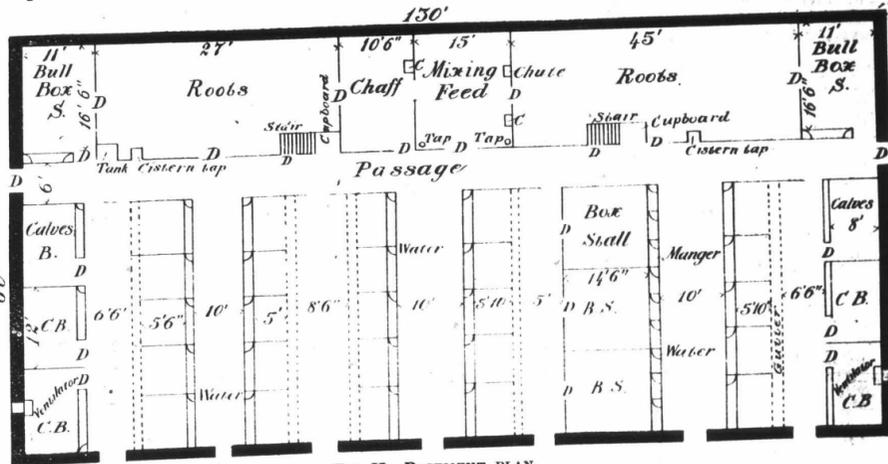


FIG. II.—BASEMENT PLAN.

form throughout; nor are there any "breast girls" dividing driveways from bays as in the old-fashioned barns.

The basement, as Fig. II. shows, is exceedingly well arranged. The whole floor, mangers, and gutters are made of cement. The water system is being put in by an American expert. Besides two large cisterns beneath the barn-approaches on the north side, there is a spring water supply of copious quantity. It is forced to the buildings, over 4,000 feet, by means of two hydraulic rams. The position of the tank (5 ft. long, 4 ft. wide, and 2 ft. 8 in. deep) is shown in the corner of the smaller roothouse. (Capt. Milloy, as the plans disclose, still pins his faith to roots.) The inflow of water is controlled by a float. From the tank is laid, beneath the cement floor, a two-inch galvanized iron water pipe, the whole length of the main feed passage, running from end to end of the basement. From this pipe

The Iowa Experiment Station Mutton Test.

The bulletin setting forth the details of the test conducted at the Ames (Iowa) Experiment Station, by Prof. C. F. Curtis, of the relative values of different breeds of sheep for fattening, has been issued and contains a deal of information worthy of careful consideration; in fact, the conclusions arrived at are the result of well-directed effort along the most practical lines. A preliminary report, giving the general results, appeared in the ADVOCATE of May 15th issue, page 208. The following are results not included in Prof. Curtis' previous letter in our columns:—

The test, it will be remembered, was with ten lambs each of the following breeds and crosses, and five yearlings (Shropshire): Southdowns, Shropshires, Oxfords, Suffolks, Lincolns, Cotswolds, Leicesters, Dorsets, National Delaine Merinos, cross-bred Shropshire and Merino, and range grade lambs. Most of them, as our readers know, were bought in Canada. The period of the test extended over ninety days. The lambs arrived upon the farm early in November as rams and were castrated soon after arrival. Ram lambs were secured because first-class wethers of the different breeds could not be obtained.

In the latter part of Nov. the lambs were separated into lots of ten each, according to breed, and put into permanent quarters for the winter feeding experiment. These quarters consist of plain board shed, room 12x14 feet, and an open yard adjoining, about 12 x 30 feet, for each breed. Hay was fed in racks inside the shed, and grain in troughs in the open yard. An ample supply of bedding was kept in both shed and yard, and the door between continually open, but so arranged as to avoid injurious drafts of air. A box of salt was always before each lot. The main grain and hay feeds were given night and morning and a feed of roots at noon. The hay was fed first, morning and evening, and the grain followed. Water was given about 9 o'clock a. m. each day, and again before the evening feed of hay. All feed was carefully weighed in, and everything left was weighed back and deducted. Seldom, however, was any feed left over. The grain troughs were cleaned each time before feeding and the hay racks cleaned as often as necessary. Every breed was fed to its full capacity—a ration uniform in composition to all. Such was the care exercised throughout the whole experiment, which may be taken as being ideal treatment, economical of labor and food in view of the excellent results obtained.

During the preliminary period, Summers' Worm Powders were fed once a week to all the lambs. The range lambs were dipped, and during the winter the entire number was treated with pyrethrum powder, which effectively destroyed all ticks and lice.

During the preliminary period, until January 10th, the grain food proportion was 50 pounds of bran, 200 of oats, and 200 of shelled corn. During the middle of January the ration mixture was gradually changed to 25 pounds of bran, 50 of oil meal, 200 of oats, and 200 of shelled corn. This feed was continued to the close. Each lot was fed to its full capacity of this ration, together with roots and hay.

January 1st the daily grain ration ranged from 1½ to 2 pounds per lamb for all breeds except the range; these ate only 1 pound of grain each. At the close of the experiment the lambs, excepting range, were eating from 2 to 2½ pounds of grain per head daily. The range lambs were then taking 1½ pounds. The yearlings ate from 2 to 3 pounds of grain per head daily. The total amount of hay eaten was about two-thirds, by weight, of the total amount of grain. The roots ranged from one-half to one pound per head daily.

The following table shows the daily gain, dry matter per pound of gain, cost of food per pound of gain, and live weight price obtained per pound for the different breeds:—

BREED.	Daily Gain	Dry Matter Per Pound of Gain.	Cost of Food Per Pound Gain.	Live Weight Price Per Pound.
Southdown	.45	7.38	2.93 cts.	4.75 cts.
Shropshire	.48	7.18	2.88 "	4.625 "
Oxford	.52	7.40	3.03 "	4.50 "
Suffolk	.55	7.40	2.95 "	4.25 "
Lincoln	.55	7.29	2.89 "	4.50 "
Leicester	.52	7.49	2.93 "	4.50 "
Cotswold	.62	6.53	2.60 "	4.50 "
Dorset	.48	7.85	3.05 "	3.75 "
Merino	.29	9.35	3.78 "	4.25 "
Cross-bred	.41	7.02	2.82 "	4.50 "
Range	.37	6.84	2.71 "	4.50 "
Shrop. yearlings	.33	11.00	4.40 "	4.25 "

Apart from the lessons taught regarding the merits of the different breeds, it will be noticed that the gain for each and all of them was rapid and cheaply produced. Especially is this true of the lambs as compared with the yearlings. We are also shown that it pays to feed heavily when a well-balanced ration is used. Comfort without over-warmth, regularity of attention, and freedom from insect pests no doubt materially aided the fattening process. The conditions and care (except the weighing) accompanying this experiment were not more elaborate or expensive than any farmer can afford; in fact, one of the features of practical importance is the ordinary conditions in connection with the whole affair.



THREE REPRESENTATIVE SOUTHDOWNS.
No. 4—Bred by John Jackson & Sons, Abingdon, Ontario, Canada.
No. 9— " Jas. Scott, Aberfoyle, Ontario.
No. 5— " Wm. Martin, Binbrook, Ontario.

The Dominion Minister of Agriculture in Prince Edward Island.

ADDRESSING THE FARMERS AND BUSINESS MEN OF THE PROVINCE—FARMING AN EXALTED OCCUPATION—INTELLECTUAL ACTIVITY ESSENTIAL TO SUCCESS—ANGLO-SAXON SELF-RELIANCE—RESPONSIBILITIES OF PEOPLE AND GOVERNMENT.

Charlottetown, P. E. I., Nov. 10.—The Hon. Sydney Fisher, Canada's first farmer Minister of Agriculture, accompanied by Dr. Wm. Saunders, Director of the Dominion Experimental Farm system, has just made a tour of the Island in connection with his visit to the Maritime Provinces,



THREE REPRESENTATIVE SHROPSHIRE.
No. 11—Bred by Hon. John Dryden, Brooklin, Ontario.
No. 18— " Richard Gibson, Delaware, Ontario.
No. 12— " Joseph Edgerton, Nassau, Iowa, U. S.

delivering a series of addresses, in which he confined himself mainly to questions of practical farming and the establishment of the cold storage system.

A RESPONSIBLE POSITION.

In one of these addresses he frankly acknowledged the serious responsibility which he felt was involved in his position as Minister of Agriculture. People now expect a great deal more than was formerly the case. It was therefore necessary and proper that a Minister of Agriculture should know something about the business of the farmer with whom he is called upon to deal. There was no doubt that it was because he was a farmer that he was now Minister of Agriculture, and he was proud

that he had been selected to occupy his present position. He was prepared to magnify the position he now filled, for in Canada, an agricultural country, and especially in this Province, the interests of the farmer are paramount; but he felt that he was doing work for the business men, the traders, and the professional men, as well as for the agriculturist.

BRAIN POWER NEEDED.

It has long been the habit of many to believe that farming was a lower employment than commerce and the various professions, but to-day he ventured to say that there is no industry in this country that requires half as much brain work and intellectual activity as that of the successful farmer. This may startle some in a city audience, but looking at the way we now have to use our best brains justifies me in saying that if there is a young man in the community who shows a little capacity or is a little smarter than his competitor at school, he can safely turn his attention to the farm for the use of his best brain power. Under these circumstances, agriculture is a pursuit that our young men can enter. They can stay at home and make a successful livelihood in our own community and build up our industries instead of going into a foreign country. This is one of the reasons why the attention of the people of the country is so largely turned to the improvement of farming.

I am glad to know you have in this Island so largely taken up

DAIRY FARMING.

First, because it is that branch of farming which so generally gives the greatest opportunity for successful work. If you feed the animals well and convert their milk into butter and cheese, you are engaged in a process of manufacture which will repay you for your enterprise and skill, just as in the olden time those engaged in other manufacturing operations were paid more highly for their labor than those engaged in ordinary pursuits. Besides this the farm is more highly improved and cultivated by the use of the additional manure from stock. The butter and the cheese contain in a less bulk more value than any other kind of farm produce. In former days the farmer sent away in certain crops a large proportion of the nutrition of the soil of his farm, which was lost forever. But the man who engages in dairying is keeping at home a large proportion of the richest portion of the soil which he cultivates, and his farm, instead of becoming poorer, becomes richer, and he himself becomes a better man, a better farmer, and a better citizen. Dairying is, in fact, the highest development of agriculture; and this is another reason why I am glad to see that it is taking up so large a proportion of the attention of the people of this Province.

INTERCHANGE OF IDEAS.

I wish to impress you with the fact that the interests of farmers are mutual and that they cannot neglect their work in any one department without, in some measure, injuring the whole community. By mutual consultation and frequent discussion an immense advantage is gained. Wherever there is co-operation and a frequent interchange of ideas the farming industry will be benefited. The soil of this Province is such that if you play tricks with it and deal with it carelessly it is apt to get poor and run out. The result in such a case would be that in a few years the farmer would find himself minus his profits. The better way would be to keep on hand a good stock, and instead of selling roots and grain, feed them to animals, obtain an abundant supply of manure and keep up the fertility of the farms.

WINTER DAIRYING.

Mr. Fisher next gave an interesting account of his own experience as a dairyman, and spoke of the great advance made in "the Eastern townships" (P. Q.), which, through co-operation and the adoption of the newest and best methods, had now one of the finest lots of butter factories in Canada. During the summer season it is profitable to make the milk into cheese, but later in the season it is better to make it into butter, and he was glad that the people of this Province were now during autumn and winter running a number of butter factories. It is proper that cheese and butter making should go hand in hand. The cows which in the summer season produce milk that is made into cheese will later in the season produce milk which can profitably be made into butter. You cannot make your farms pay if you allow the winter to become a dead season, during which neither cheese nor butter is made. In winter we can produce milk for butter at a good profit. It is important in dairy farming that you will have a fair return of milk all the year round; that some of your cows will produce milk while others are resting, for you cannot keep all of your cows

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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A Personal Request.

The busy season in our Subscription Department is at hand and we request all our readers to favor us with their RENEWALS promptly; also, to aid us in extending our list of NEW SUBSCRIBERS. Show this issue to a friend, it is a fair average sample. In practical value the FARMER'S ADVOCATE is pre-eminent now, and we have planned many improvements for the future. The best is none too good for our readers. Renew to-day.

SPECIAL FEATURES IN THIS ISSUE.

- Thanksgiving Day Reflections.
- Capt. Milloy's New Stock Barn (Illustrated).
- Result of a Sheep Feeding Experiment (Illustrated).
- Speech by the Canadian Minister of Agriculture.
- Report of the London (Eng.) Dairy Show.
- Common Ailments of Dairy Cows.
- A Day in a Silo District.
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- The Apple-Tree Borer (Illustrated).
- Production of Winter Eggs.
- Cream Separation and Ripening.
- Canadian Honey for England.
- Parasitic Bronchitis Among Kent Co. Swine.
- Experimental Farm for Eastern Manitoba.
- Farm-yard Manure—Its Nature, Composition, and Treatment.
- Practical Questions Asked and Answered.
- Our Great Premium Offer—Bagster's Teacher's Bible.

COLD STORAGE.

At the Charlottetown gathering he said before him he saw a large number of the commercial men of the Island, in whose hands was the trade of the Province, and he believed that during the present year about 20,000 boxes of cheese would be exported. In addition to that, a large quantity of butter of the highest quality. The demand for it is in proportion very large. These two products of the dairy are very important items in their exports. Yet they are reckoned among perishable food products, and which, if not preserved in the condition in which they are first made, deteriorate in quality to a very considerable extent, and when sent to the English markets do not give us a good profit. For this reason our cousins in Australia have given the matter their careful attention. We have not done so up to the present time, and they have been getting the best of us. Australia is three or four times as far from England as we are, and yet their trade in articles requiring cold storage is in a much more satisfactory condition than ours. They have made ample provision for cold storage, while we have not. The benefits conferred by cold storage are that perishable food products are stored in a chamber in the cars or on board vessels in which the temperature is kept down to a certain point and decay is absolutely arrested. Eggs five or six months old kept in this way are as good as those fresh laid. Butter kept for months in this way is as good as when first made. Cheese can be landed in England in as good condition as when first manufactured. Meats also have been taken out of cold storage in a condition absolutely fresh and good. By providing for this the Australians have cut us out, as we have been less active than we ought to have been. But I am glad to say that we are now taking steps providing for cold storage. I am making arrangements in my own Department to accomplish this. But we want the people of this country to help themselves in this matter.

WE CANNOT EXPECT THE GOVERNMENT TO DO EVERYTHING,

and we find the business men, as well as the farmers, like to have a hand in this business themselves. Under these circumstances, he said that while the Government is prepared to do something to supply cold storage, it behooves the business men and the farmers to aid them in every way possible to make the provision for cold storage in every way absolutely successful. If you take things out of cold storage for a week in hot weather you might as well not have had them in it at all. It is therefore



THREE REPRESENTATIVE OXFORDS.

Nos. 30 and 29—Bred by Henry Arkell, Arkell, Ont.
No. 23— " " John Phin, Hespeler, Ont.

The Dominion Minister of Agriculture.

(Continued from page 472.)

milking at the same time. Cows are machines of a delicate nature, and if you don't give them an abundance of food you cannot expect them to produce much milk. They must be kept warm and have enough food to keep them in good condition and good heart. It is only by a superabundance of food and thorough provision for their comfort that they will give you sufficient milk to pay you for your trouble.

IMPROVEMENT OF DAIRY STOCK.

A good beef cow is not a good dairy cow. You want a good breed for dairying purpose, but don't try to make milk out of a beef breed. I am glad to know that several of your people have imported some thoroughbred stock, such as Ayrshires, Guernseys, and Jerseys. Nothing is more necessary than a good dairy bull for the purpose of improving stock. If you put good food into a good animal you will have a profitable return. Not so in the case of inferior animals. Perhaps there is nothing more closely allied to dairying than

HOG-RAISING.

This industry is one of the most profitable of many connected with the farm. Perhaps you will say that at prices for which pork is selling just now this statement is not correct. But even at present prices, the man who makes the best use of the materials at hand, and particularly of the whey from the dairy, can make pork-raising a success. There is no way in which the farm can be so well supplied with fertilizing material as from raising hogs. He ventured to say that a little money judiciously spent in procuring a good breed of hogs, and feeding them well on shorts, bran, and pea meal, will give a larger quantity of good manure at a lower price than anything else you can possibly purchase; and producing pork of a higher quality than the States corn-fed article. He believed that there is at present a good chance for improvement in prices. In Manitoba, wheat has jumped from 40 to 60 cents per bushel. This means that in future the farmers of the Northwest will sell their wheat for exportation instead of feeding it to their hogs so largely as they have been doing.

WITH YOUR CO-OPERATION

in erecting a cold storage warehouse here the owners of vessels can bring their ships here and load directly from that warehouse. This is the only way to make it a success. The Dominion of Canada is now running creameries here and in the Northwest, and some months ago Prof. Robertson shipped to England some butter through the cold storage system and some in the ordinary way. On the former article he realizes two cents per pound more than on the latter. You know the great amount of butter shipped from Canada every year, and that if a profit of even one-half or one cent per pound could be realized by cold storage it would be of

IMMENSE VALUE TO THE PEOPLE.

Thousands of pounds of butter have been sent to England in cold storage, and the arrangement was so satisfactory that gentlemen in Montreal have established two cold storage establishments for butter and cheese in that city, and have placed their cheese in them even in the winter season. This fact shows that the cold storage system has repaid its promoters for the money which they have expended upon it. And I wish to say that this Island will reap the benefit of any expenditure made in that direction. I have confidence enough in the people of this Province to believe that its merchants and farmers will be able to work out this idea and put the necessary machinery in motion to make it a success. The Government of which I am a member will facilitate every means

sow a large quantity at the first. It should be tried everywhere. If it is better than the grasses that we now have we ought to know it, and we can only find out how it will grow on our soils by trying it. The seed may be had from any of the leading seedsmen - *The Northwestern Farmer, Minnesota.*

Reconstruction of Old Roads.

BY A. W. CAMPBELL, C. E., PROVINCIAL (ONT.) INSTRUCTOR IN ROADMAKING.

Much that is written regarding the making of roads no doubt seems to many as applicable only to roads which are being newly constructed, roads which from the first survey have remained unused except as common sheep pastures or cow paths, on which the trunks and stumps of the old forest trees remain, and the hollows and hillocks are still covered with their native sod. Or the question is asked, Are we to tear up the old roads, throw away all the work already put on them, level them out from fence to fence and commence anew? There is no doubt that much of the work put on some roads, throwing the dirt from the sides to the center, grading them up to a dangerous height, had better be undone. But we must look at the matter in a practical light and see what for the present we can afford.

Roads which have received no gravel whatever had better be regarded as new roads, and all future construction carried on according to the best principles. There can be no doubt but that in a case of this kind the cost of grading is so small, compared with the other portions of the work, that the extra labor involved will be amply repaid by the greater durability of the roadway.

With an old road which has received coatings of gravel from time immemorial, the matter is different. Here we have a driveway usually too flat on top. During the summer it is hard and serviceable after the furrows created by the traffic of fall and spring have been worn away. The sides of the road are square shoulders and the open ditches frequently deep and dangerous. In very few cases can we afford to throw away this construction, nor is it necessary to do so, the question becoming one of how to make the best possible use of it?

Good roads are largely a matter of good drainage. We do not mean by this that the gravelling is unimportant, not that a hard, smooth, rounding surface is unnecessary, but that these are in a great measure a part of the system of drainage. The first thing to be attended to, then, is to see that the open ditches have a constant fall and are provided with outlets. Drains to be of any service to a road must carry the water away as rapidly as possible; if they are merely receptacles for water, the subsoil of the roadway absorbs it and is softened, and in the wet weather of fall and spring traffic forces the gravel covering downward and the mud to the surface.

To keep the subsoil or natural earth under the roadway as dry as possible is exceedingly important. As a rule, the open drains will not be deep enough to lower the water line sufficiently. In low land, or if the soil is of a retentive nature, it is absolutely necessary to provide a means for carrying away the water from the subsoil, and rather than deepen the present open drains, by far the best means is to use tile underdrains placed beneath the existing open drains. If the earth subsoil of a roadway is kept dry it will sustain any weight placed upon it. An ordinary dirt road is a good road while dry. The object of gravelling, draining, and other improvements is to make a good road for wet seasons.

As previously intimated, the majority of the existing roads are too flat on top, and the next step will be to cut off the square shoulders at the edge. On a recent visit to a municipality of the Province, noted for its good roads, the writer found that the road grader had been run along the sides of the road, the corners cut off and this material brought into the center of the driveway. Here we have a hard gravel surface buried under dirt, sand, and very light gravel which had washed down from the center. In this a very grave mistake was made, since by far the greatest use of a road covering is to shed the water to the side ditches and to protect the earth subsoil by preventing the water penetrating to it. The covering of this road is now of such a nature that water will be absorbed and retained instead of being at once shed off. Clean gravel and broken stone, when consolidated into a smooth, rounding surface, form such "roofs," but when mixed with sand the benefit to be derived from the covering is largely lost. This shoulder, instead of being brought to the center of the road, should have been thrown outside of the ditch and used in levelling the roadside, or otherwise dis-

posed of in such a manner that it would at least not be injurious to the road.

The driveway of the road will probably need still further crowning and rounding up. It will be advisable to first run a scraper over the surface to remove mud, sand, and the other soft, fine stuff. Then apply a coating of gravel, nicely spread and, by all means, if the municipality can afford a roller, thoroughly consolidated.

Besides scraping the road, it is advisable to pick up the surface lightly to permit the new covering to unite with the old. Municipalities owning steam rollers accomplish this very easily by the use of steel points projecting from the cylinders. With these attached, the roller is passed over the road and the entire surface loosened. A harrow is next used to further break up the surface. The

and so combine the different constituents in the best form to be applied to the land. Other absorbents are used. Among the most convenient and suitable may be mentioned sawdust, shavings, loam or dried muck, and peat, any of which serve a good purpose, but the last named has a special value in being able to retain soluble nitrogen compounds, which are very volatile under ordinary conditions.

Horse Manure is the most uniform of all manures made upon the farm, the reason for which is that the food given horses, being chiefly hay and oats, varies very little. It is estimated that the daily amount made by a horse, together with the straw necessary to absorb it, contains about .19 lbs. nitrogen and 1.15 lbs. mineral matter, or from 5 1/2 to 5 1/2 tons of manure per year, containing 69 to 73 lbs. nitrogen and 420 to 460 lbs. of mineral matter. In order to retain all its manurial constituents, drainage and volatilization must be avoided; therefore an impervious floor and a judicious use of litter are very important. Horse manure is particularly liable to rapid fermentation, which means a loss of the most valuable constituent, nitrogen, except a provision be made to fix it. Just here is where the use of a chemical "fixer" is particularly valuable. Gypsum and magnesium sulphate, if spread upon the heap or in the stable, form stable compounds. The former fixes the nitrogen, and the latter the soluble phosphoric acid.

Cow Manure is less constant in quality, due to more varied food and the large amount of water consumed. It is estimated that a cow consumes in winter four parts, by weight, of water to one of dry food, while in summer the proportion is as six to one. The daily excrement of a cow, together with necessary litter, is from .274 lbs. to .286 of nitrogen and from 2.046 to 2.278 lbs. of mineral matter, which in one year amounts to from 100 to 101.4 lbs. of nitrogen and 746.8 to 831.5 of mineral matter. Cow manure being watery and poorer than horse manure, is much slower in fermentation. When applied alone its action is very slow, its influence being felt for three or four years. If cows are richly fed, the manure decomposes more rapidly. The risk of loss of volatile ammonia is less than with horse manure, although the same preservatives can profitably be used.

There are advantages gained from allowing the manure to remain in the stall (box stalls) for a considerable time: 1st, the more thorough absorption of the urine by the straw, and consequently the more uniform mixture; 2nd, a certain retardation of decomposition effected by the treading under foot of the manure; 3rd, the protection of the manure from rain and wind and securing uniform temperature. Even in this case the judicious use of chemical fixers, previously referred to, may do much to save volatile gases and thus keep the atmosphere pure and healthful.

Pig Manure, like cow manure, varies in composition because of the varied character of the food given them. When the food of the pig is rich, then the manure may be quite equal in quality to the other manures. In 24 hours it is estimated that a pig makes, together with necessary litter, .06 to .074 lbs. nitrogen and .545 to .772 lbs. mineral ingredients, which amounts in one year to 22 to 27 lbs. nitrogen and from 200 to 250 of mineral matter. Pig manure, being poor in nitrogen, is cold and slow to ferment.

Sheep Manure (dung and urine), weight for weight, is the most valuable of all farm animal manure. A sheep's daily manure, with litter, contains .0429 lbs. nitrogen and .264 mineral matter, which in one year amounts to 15.66 lbs. of nitrogen and 96.36 lbs. of mineral constituents. Being rich in nitrogen it is particularly liable to ferment, although hardly as liable to heat as horse manure. Artificial fixers are strongly recommended for sheep manure.

Fermentation.—More than 30 years ago Pasteur showed that fermentation of urine was due to a minute organism which develops most rapidly in a plentiful supply of oxygen. Other organisms are also present which develop in the absence of oxygen, which too carry on the fermentation, internal and external, of the manure heap. The conditions influencing fermentation may be summed

up as follows: The higher the temperature the more rapidly will go on the fermentation; also, exposure to the air has a hastening effect. Dampness, too, has an important influence by lowering the temperature, thus hindering "fire-fanging." It also retards fermentation by limiting the supply of atmospheric oxygen in the heap.

The composition of farm-yard manure varies most from the different proportions of water contained at different times, and which may be at from a minimum of 65 per cent. in fresh to 80 per cent. in well-rotted. Total organic matter may be taken at from 13 to 14 per cent., containing .4 to .65 per cent. of nitrogen, .4 to .7 of potash, and .2 to .4



THREE REPRESENTATIVE LEICESTERS.

No. 61—Bred by E. Gaunt & Sons, St. Helen's, Ont.
No. 69— " Peter Thompson, Salem, Ont.
No. 70— " Watt Bros., Salem, Ont.

driveway is then shaped, the new gravel or other metal put on as required, and the whole again consolidated.

The greatest improvements needed on existing gravel and macadam roads, and which are within the reach of all municipalities, are tile underdrains, cutting away the shoulders, more perfect crowning, and better outlets and grades for the open drains.

Farm-Yard Manure.

(Compiled for the FARMER'S ADVOCATE from the popular treatise by Dr. C. M. Aikman, Lecturer on Agricultural Chemistry, West of Scotland Technical College.)

Farm-yard manure is the oldest, and is still, with the general farmer, undoubtedly the most popular



THREE REPRESENTATIVE COTSWOLDS.

No. 52—Bred by D. McCrae, Guelph, Ont.
Nos. 56 and 57— " Robt. Müller, Brougham, Ont.

of all manures. It has stood the test of long experience, and has proved its position as one of the most important of all our fertilizers. That it should prove a valuable manure is scarcely to be wondered at, as it is originally formed from vegetable substances, and it therefore contains all the elements present in the plant itself.

The composition of farm-yard manure varies with many conditions. It would perhaps be difficult to get two samples exactly alike. It is composed of solid excreta, urine and litter. The sort of litter most generally used and which answers the purpose admirably is straw, which should be used in sufficient quantities to absorb all the liquid manure

of phosphoric acid. Thus one ton of farm-yard manure contains from 9 to 15 lbs. of nitrogen, about the same amount of potash, and from 4 to 9 lbs. phosphoric acid.

The Value of Rotted Manure is weight for weight more than that of fresh manure. This statement must not be taken as proving that it is more economical to use farm-yard manure in a rotted condition than in a fresh one. Direct experiments have shown that 100 cwt. of fresh farm-yard manure is reduced to 80 cwt. if allowed to lie till the straw is half rotted; 100 cwt. of fresh manure is reduced to 60 cwt. if allowed to ferment till it becomes fat or cheesy; 100 cwt. of fresh manure is reduced to 40 to 50 cwt. if completely decomposed. This loss not only effects the water and other less valuable constituents, but also its most valuable fertilizing ingredients. Completely decomposed common manure has thus lost about one-half of its most valuable constituent. This can be minimized by adopting careful means of hindering drainage and volatilization of soluble substances.

Uniformity of quality is one of the first considerations. It is therefore important that the excrements of the different farm animals be thoroughly mixed together. By the intimate corporation of the "hot" horse dung with the "cold" cow and pig dung uniform fermentation is secured. Fire-fang, or too rapid fermentation, may occur from this not being properly done and from the manure being too dry. The great point to be aimed at is to ensure regular fermentation. What has to be especially avoided is any sudden exposure of the manure to large quantities of water. The result of such a washing out of the soluble nitrogen is to retard fermentation, besides incurring the risk of great actual loss by drainage.

Application to the Field.—The safest and most economical method is to spread the manure evenly and finely upon the land immediately before it is to be plowed in [NOTE.—The reference here is to Old Country conditions.—ED.], as then there is no chance given for undue drying out or leaching beneath heaps, both of which are undesirable. Distributing in small heaps is not approved, because it increases loss by volatilization, causes unequal application and improper fermentation. The practice of putting it out into large piles in the fields is often attended with loss, unless they are covered with soil and not allowed to remain standing more than a few weeks. As to the depth to which it is advisable to plow the manure, it may be here noticed that it should not be too deep, because the tendency of the soluble substances is to wash down into the subsoil and drainage water.

The influence of the fermentation of manure in the soil is very great. This is especially so in soils whose texture is too close, such as heavy clayey soils. It opens up their pores to the air and renders them more friable. Therefore, on clayey soils manure should be applied in a fresh condition, so that the maximum influence exerted by the manure in this direction may be experienced. On light soils, on the contrary, whose friability and openness are already too great, and which do not require to be increased, the manure will be best applied in a rotten condition. It adds, further, greatly to the heat of the soils by its decomposition. Thus, on cold, damp soils it effects a very marked benefit. As its indirect and mechanical properties are greatest when in its fresh condition, it is better to apply it in that condition to soils most lacking in these mechanical properties.

The rate at which farm-yard manure should be applied remains yet to be discussed. This, of course, should naturally depend on a variety of circumstances: the amount of artificial manure used as supplementary to the farm-yard manure, the frequency of its application, and the nature of the soil. There is a strong probability that the rate at which it has been applied in the past has been grossly in excess of what could be profitably employed. Opinion is gaining ground among practical farmers that smaller and more frequent applications would be fraught with better results than the applying of large dressings at one time. A famous old German writer, Thaer, regarded 17 or 18 tons as an abundant dressing, 14 he called good, and 8 or 9 light. Other German authorities speak of 7 to 10 as light, 12 to 18 tons as usual, 20 or more as heavy, and 30 tons as a very heavy application.

The desirability of manuring the soil and not the crop is, in this age of keen competition, no longer believed in, and the Rothamsted experiments have shown that it is highly doubtful whether even the soil benefits to anything like a commensurate extent by the application of large quantities of farm-yard manure.

The Agricultural and Experimental Union.

The next meeting of the Ontario Agricultural and Experimental Union is to be held at the Agricultural College on the 10th and 11th December next. The coming meeting promises even to surpass those held on former occasions. The co-operative work for 1896 is more extensive than heretofore. In agriculture alone there were 2,260 farmers throughout Ontario conducting co-operative experiments during the past season. The Committees on Horticulture, Apiculture, Dairying, Live Stock, and Botany and Entomology have all been active in their work. The reports submitted at the meeting should be of great practical value. We are very pleased to note that addresses are expected from Chas. E. Thorne, Director of the Agricultural Experiment Station of Ohio; Thos.

been most successful. I certainly anticipate that it will exert a wider and wider influence as the years go by."

Excursion rates on the railroads are being arranged for, and those who attend the Experimental Union can also visit the Fat Stock and Dairy Show and the meetings of the live stock associations to be held in Guelph the same week.

DAIRY.

A Day in a Silo District.

Reference was made in an article in our November 2nd issue, upon "The Production of Milk for Winter Buttermaking," by Mr. J. B. Muir, to the fact that a large proportion (some thirty-five or forty) of the Avonbank Creamery's patrons use corn ensilage for winter feeding. Hundreds of new silos have gone up in Canada this year, and many more will be erected in 1897. The subject is therefore a live one. There is also the existing prejudice against feeding ensilage to dairy cows on the score that it may impart an objectionable flavor to the milk and indirectly to the butter. We were therefore led to have one of our staff spend a day visiting the factory and as many as possible of the ensilage-feeding patrons.

The Avonbank factory makes cheese in the summer and butter during the winter months. It was the first in Ontario to commence this method independent of Government assistance, and has carried on the twelve months' operations each year since beginning in this way.

As to the factory and surroundings we must speak in the highest terms. There is a tidiness and orderliness, indeed, conspicuous both outside and in. In summer a few flowers about the windows add to its attractiveness. No doubt these characteristics are carried into the manufacturing operations of the products and have much to do with the very high standing of both the cheese and the butter turned out. With regard to the quality of the butter made last winter from the milk of ensilage-fed cows, we were shown a letter from the firm that has handled the Avonbank butter for a number of winters, which reads as follows:—

Toronto, June 2nd, '96.

Avonbank Butter Co., Avonbank, Ont.:
GENTLEMEN.—Herewith we beg to hand you statement of account, together with our cheque for \$1,260.42, being balance due you.

This ends our season's business together. The prices last winter and this spring were not as high as you probably would have liked, but this is attributed to the large volume of stock that was continually being offered in this market, which necessitated our selling at the low prices that were prevailing. We have to testify to the excellent quality of your butter, and hope next season to have the privilege of marketing same as usual. Wishing your Company every success in their cheese operations this summer, we beg to remain, Yours faithfully,

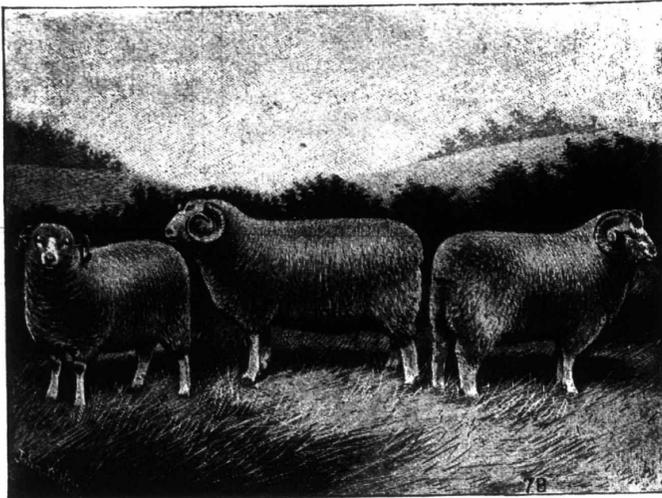
PARK BLACKWELL & CO., LTD.

This letter speaks for itself. The reference to the quality of the butter, entirely unsolicited, shows that good ensilage may form a considerable per cent. of the ration of cows without imparting any objectionable flavor to the butter. In fact, Mr. Muir had no hesitation in saying that the quality of last winter's butter was superior to their make of any former winter, when less ensilage was fed. Unfortunately, the day and roads were not in the most favorable condition for making good time, but we visited quite a number of representative farmers and learned their opinions and methods of feeding. We regret that the weather prevented our seeing many old friends of the ADVOCATE in that locality.

Mr. James Rodgers farms about 200 acres. His milking herd usually runs about twenty-four cows. He has fed ensilage for four winters and considers that good, sweet ensilage is one of the great boons to the dairying industry. His practice is to feed twenty pounds of ensilage to each cow morning and night, with a little chop added, and straw at noon. Mr. Rodgers expressed a preference for hay over straw, but has not been able to obtain sufficient of it to feed his cows for the last two seasons.

Mr. Chas. Baird, on his 150-acre farm, milks twenty cows. He has fed ensilage for four winters and is loud in its praise for the profitable production of milk. His feeding ration is much similar to that of Mr. Rodgers. When straw forms the dry fodder Mr. Baird uses oil-cake meal or pea meal, with bran. He has two wooden silos, one 13x15 and 20 feet deep, the other 11x17 and 23 feet deep. They have stone foundations and are of double inch hemlock lining, with tar paper between. Each of these silos cost from \$35 to \$40, besides the labor which Mr. Baird's men did in slack times. Mr. Baird's herd consists of Holstein, Jersey, and Ayrshire grades. The Holsteins have the preference.

Mr. Adam Oliver keeps twenty-one good milch cows on his 150 acres. Last winter was his first

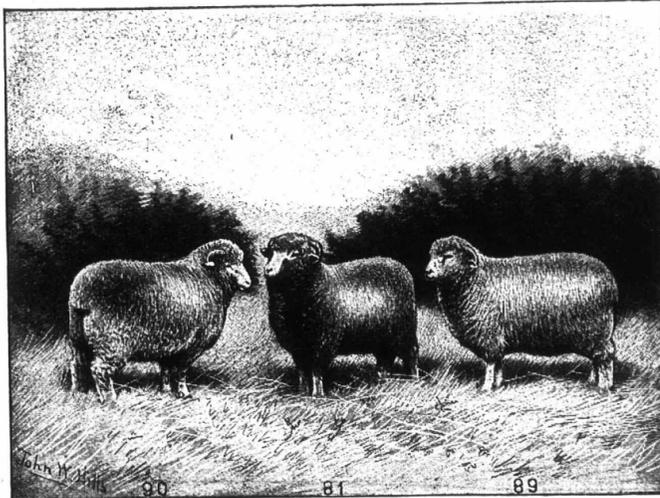


THREE REPRESENTATIVE DORSETS.

Nos. 73 and 78—Bred by John A. McGillivray, Uxbridge, Ont.
No. 71— " R. H. Harding, Thorndale, Ont.

Grenier, La Salle, New York (author of "How to Make the Garden Pay," etc.); Mrs. Hoodless, Principal of School of Domestic Science, Hamilton, Ont.; Hon. Sydney Fisher, Dominion Minister of Agriculture; Hon. John Dryden, Provincial Minister of Agriculture, and others have consented to be at the meeting and deliver addresses.

Prof. Thorne, in reply to the invitation to the meeting, wrote Mr. C. A. Zavitz, Secretary, as follows: "I am in receipt of your kind invitation to attend the next meeting of the Ontario Agricultural and Experimental Union, which I assure you it gives me much pleasure to accept, as there is no group of agricultural educators and investigators



THREE REPRESENTATIVE MERINOS.

Nos. 90, 81, and 89—Bred by Jos. Edgerton, Nassau, Iowa.

in America in whose work I have felt greater interest than those connected with the Ontario Agricultural College."

Prof. L. H. Bailey, Cornell University, Ithaca, New York, who is one of the best authorities in horticulture in America, and who addressed the annual meeting of the Experimental Union in 1892, speaks in high terms of the work of the Union in a letter of recent date, which reads as follows: "I have watched the reports of the Experimental Union with much interest, especially since the time when it was my privilege to address the organization. I know of nothing like it in this country. It seems to me to be an excellent conception, and from all that I can learn of it the management and the organization of the body have

experience with ensilage, when he fed forty pounds to each cow at noon. In the mornings they received straw and chop, and in the evening hay and a few roots. Mr. Oliver's silo is double-boarded and inside the barn. He expressed himself well satisfied with his first season's experience.

Mr. John Roxburgh, although an excellent dairy farmer, has not as yet put up a silo. His chief reason for not doing so is the rush of pressing work on the farm just at the silo-filling season. Mr. Roxburgh grows a great deal of fodder corn (which he cuts in foot or 18-inch lengths with a broadaxe), which he finds is cleanly eaten by the cows. At the time of our visit Mr. Roxburgh was feeding his cows oat sheaves, besides the pasture. To the use of oat sheaves he credits having scored about the highest quality of milk delivered to the factory.

Mr. C. W. Taylor, in speaking of his silo, said, "The farmers in this neighborhood have been slow in taking up the silo idea." (What would he say about any other vicinity.) He has fed silage one year (twelve months) and considers it more valuable in summer than in winter. Mr. Taylor feels confident that his silo paid for itself the one year he has used it. He milks twenty cows and feeds twenty pounds of silage to each cow twice daily. He also feeds straw and some grain. Mr. Taylor is one of six neighboring farmers who have adopted a system of filling their silos with very little expense to any of them. One of the farmers owns a horse-power and cutter, for which he charges twenty cents per hour for its use. The whole six farmers turn in and fill all the silos, one after the other, as they would at a threshing. The plan is a commendable one. We would not forget to mention that Mr. Taylor was having a well drilled at the time of our visit. We understand there are a number of such wells in the locality.

Mr. John Finnie has fed ensilage for three winters to his herd of twelve milking cows. He feeds twenty pounds to each cow twice daily, besides straw and a few roots. When the corn is not well cobbled and well matured, Mr. Finnie feeds bran and chop. He referred to a corn binder used in his neighborhood, and expressed his preference for men with hooks when they can be obtained.

Mr. C. D. Swanson, proprietor of "Linden Brae Dairy," although not a patron of the Avonbank Creamery, is considered by his neighbors to be a first-class dairyman. From his twenty-six cows he usually makes from 6,000 to 7,000 pounds of butter annually, which he sells to Toronto firms. He has fed ensilage for five winters, and does not see how dairying can be profitably done without it. His daily winter ration for each cow is thirty pounds of silage, eight pounds of hay, eight pounds of straw, from one to two pounds of oil-cake meal, and some bran. Mr. Swanson is a great advocate of the balanced ration. He finds bran at \$8 a ton and oil-cake meal at \$17 per ton very profitable feed to supply the necessary protein of the ration. Mr. Swanson cuts all his straw and mixes twenty-four hours' feed at once. The bedding is all cut and very carefully used. The cattle are kept clean and comfortable by the constant care of a man about the stables in the winter season. The moisture in the gutter behind the cows is absorbed by the litter cleaned out of the horse stables. This is a common practice in that neighborhood.

We found one silo, belonging to a Mr. Thompson, particularly worthy of mention. It is eight-sided, having the bottom twelve feet, of Queenston cement, let well down into a bank. The top eighteen feet is double boarded, with tar paper between. The silo is sixteen feet across and is considered one of the best in the vicinity. Unfortunately, Mr. Thompson was away from home, so that we had no opportunity of learning his methods.

A striking characteristic of every farm we visited was an appearance of thriftiness. With hardly an exception, every farm has a substantial stone basement barn, and the fences, which are a good index to the prosperity of a neighborhood, were in creditable condition. No doubt the thrift and judgment shown in these things are carried into the production of fine milk, having its effect upon the quality of the butter so highly spoken of.

Our Sheep Illustrations.

The series of illustrations in this issue (the cuts for which were kindly furnished us by Prof. C. F. Curtiss, of the Iowa Experiment Station) represent the animals used in his famous feeding test. Most of the lambs used were from Canadian flocks. The Delaine Merinos represented may appear to some as being padded somewhat, but such is not the case, as the artist followed nature strictly, making no exaggerations whatever. The Merinos were from a flock that has for years been carefully bred for mutton and long, bright wool; hence their lack of that thin and wrinkled appearance looked for in Merino sheep.

The London Dairy Show.

The British Dairy Farmers' Association held their 21st annual show on Oct. 20th and 23rd, inclusive, at Islington. One of the new features of interest was the attendance of a staff of foreign experts in fancy cheese making, who demonstrated the art for which they are famous. This not only gave the fancy cheese consuming visitors an insight into the manufacture of one of their favored foods, but also awakened the interest of many farmers to the possibility of combating foreign competition in the fancy cheese industry. In most of the competing sections of cheese and butter there was a decided advance over former years. The contest in Cheddar classes was particularly keen. A notable feature was the strong rivalry between Scottish and English products, which resulted in a

animals. The first prize cow was Lady Lavina 5th, an inbred cow of superb conformation and quality. The second prize winner was Syringa, a noble individual to whom the Blythwood Bowl was awarded for being the best Jersey bred in England. In the Jersey butter test neither of these cows won a place of merit, although they both contested. In this trial a five-year-old cow, Opal, shown by Dr. H. Watney, was awarded the gold medal and £3 for best performance. Her milk yield was 47 lbs. 10½ ozs., from which was made 2 lbs. 10½ ozs. of butter. Her nearest opponent came within half an ounce of her in butter yield in one day. She was Beauty, a five-year-old cow shown by Lord Rothschild. The bronze medal cow was also shown by Lord Rothschild, and gave 2 lbs. 9½ ozs. in the twenty-four hours.

Guernseys, Ayrshires, and Red Polls were few in numbers, but Kerries and Dexters made a creditable exhibit with their fifteen entries present. In the mixed breed butter test the Ayrshire, Primrose, shown by J. Holm, headed the list by giving 2 lbs. 8 ozs. of butter in one day. The second cow in order of merit was a cross-bred, which gave 2 lbs. 5½ ozs. of butter; and the third was a Red Poll, which yielded 1 lb. 13½ ozs. in the twenty-four hours. There were a number of Guernseys and Holsteins in this class, but none of them received tangible recognition.

What we never see in the show-rings of this country—a goat competition—was one of the features of this dairy show. There were three types in competition, the Anglo-Nubian, English, and Toggenburg, which were closely matched.

Cheese.—In products of the dairy at the London Dairy Show, cheese holds the banner position. In Cheddars there were 50 entries of 20 cheeses each, surely a great competition. Although it is claimed by Englishmen that the best Cheddars are made in the South of England only, yet this year much of the honor went to Scottish makers, mostly from the Galloway district. Seventy-four entries contested in the four-cheese Cheddar class.

The fancy brands were not all as well represented as one would expect in that country of highly-flavored cheese consumers. Stilton had 24 entries, Cheshire 11, Double Gloucesters 12, Leicester 7, Wiltshire 18, Wensleydale 6, cream cheese 55, of good quality, and of British soft cheese there were 21 entries, all of which were of poor quality. It is supposed that the proper bacteria for ripening this sort of cheese is wanting in the districts where these were made. The class for 1895-made Cheddar cheese had just three entries.

Butter.—The display of butter in the ordinary classes of this show is always large and excellent. The work of the British Farmers' Dairy Association has educated the dairy counties throughout the land to know good butter and how to make it. With scarcely a single exception the butter exhibited was of very high quality. English butter-makers know that it is useless to send to the dairy show an exhibit of butter that is not first-class. One of the pleasing features of the butter room was the novelty of pastures of young grass, growing and succulent, in the midst of which the butter was displayed. The adaptation is without doubt singularly appropriate.

The class open to pupils of the British Dairy Institute had only ten entries, the prizes being won by ladies. Fresh butter from fresh cream made a strong competition with its fifty entries, having a high degree of merit. Fresh butter from ripened cream had eighty entries, and nearly all of superior quality. Slightly salted butter from fresh cream had sixty entries, forming one of the best classes in the room, while slightly salted butter from ripened cream had no fewer than ninety-three competitors. The entries of slightly salted butter from scalded cream reached thirty-five. The section for 24-pound boxes (packages to be considered) had a score of commendable entries. Here Old Ireland scored first in the entry of the Co-operative Dairy of Ballypatrick, Tipperary, while the second, third and fourth premiums all went to lots from the Verdant Isle. In cured butter, Wales scored first and third, while Ireland stood between them. Ornamental designs are not so prominent as of yore. The half-score of charming entries this year were cleverly arranged.

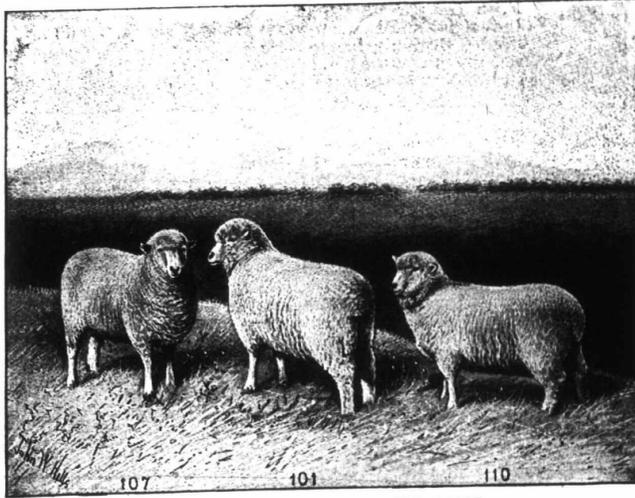
The classes for cream, bacon and hams, skim-milk bread, honey, roots, implements and vehicles were all well filled. Among new inventions the most important were milk sterilizers, to which four out of the twelve medals given were awarded. A very simple sterilizer, suitable for farmers' use, was awarded a bronze medal. By it the milk is sterilized (in bottles placed in a cabinet) by steam or by a furnace underneath, at choice, and the stoppers are drawn in by the vacuum created in the necks of the bottles when the operation has been completed. A silver medal was awarded to a



THREE REPRESENTATIVE CROSSBREDS.
Nos. 96, 100, and 94—Bred by Wm. Worthington, Thornburg, Iowa.

number of victories for the northern competitors. The following is a list of entries; the total foots up to 1,433 more than last year:—

Cattle	198
Milking and butter tests	180
Goats	43
Poultry	3,081
Pigeons	2,472
British cheese	319
Bacon and hams	68
Butter	420
Cream	64
Skim-milk bread	170
Honey	167
Egg packages	22
Buttermaking appliances for cottagers	6
New and improved inventions	28
Railway churns	8
Vehicles for conveying milk	21
Roots	111
Buttermaking contests	165
Total	7,541



THREE REPRESENTATIVE RANGE LAMBS.
From Wyoming; breeder unknown.

Cattle.—There were twenty-three entries of Shorthorns, many of which are highly spoken of for their individual and producing excellence by the British agricultural press. In the Shorthorn butter test, Messrs. R. Sheppard and A. Merry won first and second prizes. The 24-hour records made by them were 3 lbs. 2 ozs. and 3 lbs. 1 oz. of butter from 46 lbs. 11½ ozs. and 55 lbs. 12 ozs. of milk. The first prize cow was five years old and calved last in August, and the second was seven years old and calved in September.

Jerseys always fill a strong class at this show. The cow class had about forty entries, very few of which were anything but very finely bred, good

direct steam sterilizer for dealing with milk in bulk, a very ingenious apparatus consisting principally of three parts—the heater, the sterilizer, and the cooler. In the process steam is forced into the boiling milk, causing such an ebullition that any adhesion of milk to the sides of the vessel is claimed to be impossible. As the milk is kept above the boiling point of water, it is impossible for any condensation of steam to take place, thereby thinning the milk. The steam makes its exit through a pipe, taking with it any evil-smelling gases generated by the milk. It is claimed that the boiled flavor in milk which has been sterilized is not developed in this process. Other excellent sterilizers were also awarded medals. The last silver medal was awarded for a very ingenious invention in the form of a milk-can attachment. The apparatus consists of a small plate, only four inches long by about two inches wide. In the center is a little socket, and the milkman on his morning rounds has but to press the can against the socket, when the can, the handle, and the lid become automatically locked in such a way that the receptacle cannot be removed, neither can the lid be opened until the house door is opened. To the left of the socket is an indicator, by the turning of which the figures 0, 1, 1½, 2, and so on, indicate what quantity of milk is required. The shutting of the door places the indicator beyond interference and the attachment all in readiness for the milkman. In the event of a family being from home, or no milk being required, the servant or householder places a small button in the socket, the button becomes automatically locked, and the milkman would be prevented from leaving a can at that house, supposing he were about to do so in error.

Separation, Care, and Ripening of Cream—Skim Milk Treatment.

BY J. B. MUIR.

Tempering the milk for separating is the first point necessary at this season of the year. The most thorough skimming will be done during the winter season by separating at a temperature of 90 or 95. This can be best accomplished by heating the milk in the receiving vat to 60 or 65 and finishing in a channel tempering vat. Sudden heating should be avoided, as milk so heated separates harder than milk that has been gradually heated. When the milk has been raised to the desired temperature it is ready to separate. The separator should be started when the milk starts coming in, and by the time sufficient quantity is received to fill the tempering vat the separator will be at full speed and ready to let the milk flow into it.

The operator will do well to remember that the separator runs at a high rate of speed and needs good care. Be sure that the bearings are all well oiled before it is started, and especially is this necessary with a new machine, as the parts are all new and they fit close. As there are so many different kinds of separators, the best way is for the operator to follow carefully the instructions sent with the separator.

To those using belt machines I would recommend filling the bowl with hot water, and put on all belts before starting and bring up the speed with the engine. After full speed has been reached turn on the milk and give careful attention to the machine, and see that full speed is maintained until the separating is finished, so that there will be no loss of butter-fat. After the milk is all through flush out the bowl two or three times with warm water so as to remove all the cream.

I would strongly urge every buttermaker to test the skim milk every day. Have a bottle and catch a sample every fifteen or twenty minutes during the run, then take sample from it for the tester, as you cannot afford to lose any fat. A machine that will not skim to a trace every day will not pay any one to run, as a loss of .2 of 1 per cent. in a run of 10,000 lbs. of milk per day means a loss of about \$4.00 at present price of butter.

Care of the Skim Milk.—All creamery-men should make provision for heating the skim milk to a temperature of 165 or 170, as it will keep sweet a day or two longer, making it much more valuable to the farmer for feeding calves. This can be done at very little expense to those using belt machines by utilizing the exhaust steam from the engine. Hang a ten-quart tin pail over the skim milk vat, with a cover which has two holes in it, one for the skim milk pipe and the other for the steam pipe, and a hole at the top of side for the milk to escape; then put a tie on the exhaust pipe at engine and conduct pipe into pail; put a valve on both pipes so that steam can be shut off from milk and allowed to escape when not wanted. By using the pail there is such a small quantity of milk that it does not cause any back pressure on the engine.

Ripening the Cream.—This is the most important part in the manufacture of fine butter, yet this point is often neglected and left to be done in a "happy-go-lucky" manner. If cream is left alone to ripen spontaneously a chance is given to all kinds of bacteria to develop, and the result depends

upon the "survival of the fittest," so that I am satisfied the best results and more uniformity can be attained by using a starter prepared from sweet skim milk. In the morning before you start separating break up the starter, either by pouring or stirring, and put into the cream vat the amount necessary to ripen the cream in the time desired, so that the flavor will become fixed in the cream before any undesirable bacteria develops. I would recommend using plenty of starter and ripening at a temperature of 70 or 75, then the cream will be sufficiently ripened before night to cool to 60 deg. or below, and by leaving some cold water or ice around it, it will be down to about right churning temperature in the morning.

Kingston Dairy School.

Several issues ago we stated that Mr. J. A. Ruddick had severed his connection with the Dominion Dairy Commissioner's staff, and had been reappointed Resident Superintendent of the Kingston Dairy School, which is now under Provincial supervision and under the directorship of James Mills, M. A., L.L. D., President of the Agricultural College, Guelph. The teaching staff for the season 1896-7 are: J. A. Ruddick, Supt. and Lecturer; W. T. Connell, M. D., M. R. C. V. S., Lecturer in Bacteriology; G. G. Publow, Instructor in Cheesemaking; J. A. Kinsella, Instructor in Buttermaking. Milk testing will also be taught by a competent instructor. The grounds and buildings have been much improved since last year. The courses provide for practical instruction, the students being required to do the work under the direction of the several instructors. The cheese and butter departments are separate. Instruction in either may, if desired, be taken separately. Milk testing is included in each course. The lectures will deal with

A Champion Berkshire.



"FRITZ LEE" 4148.

The unbeaten Berkshire boar, Fritz Lee 4148, herewith illustrated, heads the famous Golden Link herd of Berkshires owned by Mr. T. A. Cox, Sunny Side Stock Farm, Brantford, Ont. The cut shows him as in life, it being a direct reproduction from the photograph. This ideal Berkshire was sired by Baron Lee 4th 3144, bred by W. H. Gentry, Mo., U. S.; while his dam is Heather Bloom 2790, bred by J. G. Snell & Bro. This sow was by imported Royal Winnie. Fritz Lee was shown at eight fairs this year, including Toronto Industrial and London Western, and won eight (8) first prizes and headed the herd that won the medal at the "Western." He is now seventeen months old, and weighs 650 pounds, while his quality and sprightliness are all that may be desired.

the following subjects: "Milk, Its Nature and Composition"; "Milk Testing"; "Principles and Practice of Cheesemaking"; "The Cheese Curing Process"; "The Separation of Cream from Milk"; "Buttermaking"; "Packing and Handling of Butter"; "Dairy Bacteriology"; etc. Courses in cheesemaking commence December 7, January 1, January 15, January 29, and March 12. Students may enter the butter department at any time, but it is recommended that they select the dates on which the cheese courses open as the time to begin. Students may remain at the school as long as they wish. Each will be required to pay a registration fee of \$2, which will entitle him to free tuition for four weeks, and for each additional two weeks, or part of two weeks, a fee of \$1 will be charged.

Winter eggs give a substantial profit when produced in liberal quantities. To this end some preparation before winter sets in is a necessity; that is, when conducive conditions are not already present. Early pullets are the ones looked to for business. These should therefore be pushed along reasonably fast. A house ten feet by ten feet should accommodate twenty hens fairly well, but more space would be decidedly better. In going about the country we frequently find henhouses joining the cattle stable, having a slatted door between them, so that the temperature of each is kept alike. A run in a warm barnyard during sunny days has good features. Do not forget the green food, as recommended by Mr. Meyer in the *Advocate* for Nov. 2nd.

The quantity of butter made at the Government Dairy Station, Prince Albert, N.-W. T., during the past season was 27,108 lbs., and at Indian Head, 32,322 lbs. It has all been shipped.

VETERINARY.

Common Ailments of Dairy Cows.

DISEASES AND ACCIDENTS PECULIAR TO PREGNANT COWS AND IMMEDIATELY FOLLOWING PARTURITION.

(BY V. S.)

(Continued from page 452.)

In our last we considered briefly some of the causes which were productive of certain diseases in pregnant cows, and now we will look briefly at the conditions themselves, their nature, causes, symptoms, and treatment, and, as far as possible, their prevention.

Abortion.—Taking them as we find them (first, those conditions noticed before calving), we find abortion holding a high place. When pregnancy is interrupted by expulsion of the ovum or its foetus at a stage when it has not attained sufficient development to live external to its parent, abortion is said to occur; but when the foetus is expelled before the ordinary period for parturition, yet with all the organs sufficiently perfected to enable it to exist for at least some time in the external world, this is designated premature birth. There is no accurately defined limit between abortion and premature birth, and especially when the latter has been brought about by causes which produce the former.

Of all the domesticated animals that abort, the cow heads the list as losing the foetus most frequently. Abortion may be either sporadic or epizootic. When cases occur here and there over the country without any relationship as to causes they are called sporadic or accidental; but when all the cows in a village, on a farm, or over a large section of country, and all due to the same cause, it is called epizootic abortion, and attracts a great deal of attention and is a great source of loss and annoyance.

Causes.—The causes of sporadic abortion are numerous, and may be classified as external and internal. Among the external causes, atmospheric influences, bad weather or irregular seasons, sudden cold when applied to the body; hence the importance of avoiding drafts where pregnant animals are standing. Cold rains and exposure are very dangerous in this respect. With regard to food and ingesta there can be no doubt. Food of bad quality, indigestible, or containing injurious ingredients, is well known to be dangerous. Indigestible foods which ferment in the stomach, causing a pressure on the uterus, produce this accident. Upon the other hand, too great an abundance of easily digested foods, inducing plethora and a congested condition of the uterus, has been set down as another cause. Frozen food and cold water, when taken in large quantities, especially if the stomach is empty; filthy water; some plants, such as beet-root leaves, ergotized grasses, etc., are also justly blamed. Overexertion, kicks, falls, squeezing through narrow doorways, keeping animals standing on inclining floors, are all dangerous.

Of the internal influences that are said to produce this effect, very fat animals are said to abort frequently, and in some animals there seems to be a special predisposition to abort from a very trifling cause. Acute inflammatory diseases which are attended with high fever of a long duration, such as pneumonia, pleurisy, bronchitis, which produce coughing or diseases, accompanied with great pain, are fertile causes of the accident. Excitement, fear, anger, heavy thunder, fear produced by dogs, are not uncommon causes.

The symptoms of abortion need not be dwelt upon, as the average herdsman is too well acquainted with the appearance of its approach. You will generally notice an uneasy whisking of the tail, a restless, anxious expression of countenance, more or less discharge from the vulva. Very soon labor pains are present and the foetus is expelled. The secretion of milk is generally affected and usually stimulated.

Treatment.—The treatment must be preventive and remedial. Regarding preventive treatment, we must avoid as far as possible those causes enumerated as productive of the accident. With regard to those animals in which there appears a predisposition, they should not be bred again. Remove the herd from animals which have recently aborted (without delay), disinfect the premises with a solution of carbolic acid, or sprinkle lime freely. Never allow an afterbirth to remain in the presence of pregnant animals, nor a cow which has not delivered her afterbirth. If delivery is prompt and the afterbirth is promptly discharged, and no abnormal discharge present, but little medical interference is necessary or advisable; upon the other hand, if the foetus is not promptly delivered, or is in the advanced stage of decomposition, then assistance will be found necessary; and, all decayed portions of foetus and afterbirth removed, the womb should be thoroughly cleansed and a weak antiseptic injection employed. Much harm may be and often is done by the use of strong, irritating injections into the uterus, and none but experienced men should attempt the operation in case a quali-

fied veterinarian is not at hand; and for the benefit of those who are not favorably situated, a good uterine injection will be found in the following: Corrosive sublimate, 10 grains; carbolic acid, 30 drops; warm soft water, 2 quarts; a fountain syringe being preferable. Keep the animal in comfortable quarters and allow none but a light diet, and chilled water to drink.

Regarding epizootic abortion, many baffling and conflicting statements have been set forth, but in European countries where it has been at times very prevalent, it has been noticed mostly in wet seasons, and I feel safe in stating that the majority of authorities have concluded that it is due to a specific germ which attacks the genital organs of possibly all females, pregnant and otherwise, and apart from washing the tail and vulva of pregnant cows with the foregoing antiseptic daily, I have nothing to suggest.

Parturient apoplexy.—Immediately following normal parturition we meet with one of the gravest and most dreaded diseases which attack cows, parturient apoplexy. Imagine a case. A fine seven-year-old cow—in fact, the choice of the herd—in pink of condition, is delivered of a calf and afterbirth as easily and normally as nature could intend. At the end of 24 hours or less she commences to become uneasy, gets unsteady on her feet, is restless, becomes rapidly worse, the secretion of milk stops, she loses the power of standing, and finally, all in the space of two or three hours, loses all consciousness, is unable to move or swallow, and dies without a struggle, or is left to die; but if more fortunate, may be on her feet taking care of her calf at the end of 24 or 36 hours, improving as rapidly as she was attacked. What is the meaning of all this. Here much has been said and written, and, to my mind, something has yet to be said. This malady has been known for a very long time, but the first accurate description of the symptoms was given by Skillet, in 1807, who named it milk fever or dropping after calving.

Causes.—The unanimous opinion with regard to this disease is that it is peculiar to the parturient condition, and that it has a close relation to the state of the cow previous to parturition. It is noticed most frequently in breeds which are heavy milkers, in which the secretion is abundant. Such cows in high condition are its subjects. Such are kept for their milking qualities and are fed with a view of obtaining the greatest quantity, regardless of consequences. It is unnecessary to enter further into details regarding the symptoms, and almost useless to suggest any of the various methods of treatment other than to state that those men who base their treatment on stimulants appear to have better success, yet no specific appears to have been found for it.

[TO BE CONTINUED]

The Pros and Cons of Dehorning.

BY A. B. CAMPBELL, V. S., WATERLOO CO., ONT.

When the idea of dehorning was first brought before me I was very much opposed to it, and, living in a large city (Toronto), was influenced to some extent by the views of humane societies. But after engaging in the veterinary profession, and coming in contact with the subjects of the operation (which most members of humane societies never do), I was convinced that dehorning was commendable on the score of humaneness. The operation itself is not a very painful one. When I first started to operate (using clippers) I invariably had the animals fed with coarse food immediately after, and a very small percentage refused to eat heartily. There are some animals, however, that have a nervous temperament, more highly developed than the majority, and show more effects of the operation, but nothing serious has followed in the case of any animal on which I have operated. When I began operating I used a wad of canvas and pine tar to control hemorrhage, but soon saw that there was too much blood turned into the cavities or sinuses of the head, which had to decompose before escaping, and when the owners would not remove these wads in time (and in some cases when the wad was removed the tar formed a covering to the opening), a gas was formed which caused pressure and severe headache. I have abandoned the practice altogether, allowing the hemorrhage to control itself, which, except in rare cases, I find takes place in from half an hour to two hours. In a few cases I have found excessive hemorrhage, which is generally controlled by simple methods; also, secondary hemorrhage from injury a couple of weeks after the operation. I also had some trouble by operating too late in the spring, the flies attacking the wound, causing maggots. Those are all the points that I have met that I would consider would score against the operation. In favor of it, I would consider it under two heads: 1. From a humane standpoint. 2. As a source of profit. Regarding the first, dehorning has been denounced as "murderous," "uncalled for," "sinful," "inhuman," and also that "if the Creator wanted the cattle without horns He would make them so." My answer is that I have proved to my satisfaction that it is not a very painful operation. Considering the small space into which our cattle are crowded during the winter months, which is the longest half of the year, the general method of watering, where one or two animals get plenty of drink for themselves and then use their beautiful ornaments to prevent the rest of the herd from having any, I now consider it very inhuman to allow them to have their horns. I have witnessed

a cow go all the way across the barnyard and chase another away from the water trough, when she had had all she wanted herself some time before. I dehorned a cow of this nature for a man who, some time previous, when vexed at her horning, struck her on the horn, separating the horn tissue from the sensitive structures within, thus causing more pain than if he had cut her horns off in inch pieces with the dehorning clipper. As to injury caused by goring, in my short practice I have witnessed more pain suffered by animals gored, but not killed, than the pain caused to all the thousand head I have dehorned, to say nothing of the numerous deaths which occur yearly in almost every township. To be gored severely enough to cause death must, to any sane mind, be more inhuman than to deprive every animal in the herd of their horns, when they will not lose one feed over the operation.

Referring to the creation of animals with horns on, they were certainly put there for a purpose, but that purpose has vanished with years of domestication. They are the cow's weapons of offence and defence. For defence when, after the creation, the cow was wild like other animals, and was provided with those powerful weapons to defend herself, and if they were used to attack a weaker of her own tribe that one had plenty of space to get out of the way. Besides, we have many tribes of cattle, like the Galloways and Angus, which are naturally hornless.

Taking up the question of profit from dehorning. In the first place it prevents the total loss incurred to the stock-owners yearly through goring to death, and also where death does not take place there is generally a nice little account sent in by the veterinarian. (I firmly believe that dehorning is a loss to the veterinarian.) The value of stock lost annually in each county by goring would run into the hundreds of dollars. It is an acknowledged fact that the animal is quieter after being deprived of the weapons of offence and defence. What effect has that on the milking cow? She will either give more milk or keep in better condition on the usual amount of nutrition, for every action of the body requires a certain amount of force to perform it, and that force requires nutrition to originate it. Consequently, if those unnecessary actions are prevented, the force and nutrition required to perform them are either stored up as muscle or fat cells or go to increase the flow of milk. The same argument applies to stockers. The quieter the animal the better he lays on flesh, which the above reasons prove. In this line the profit is greater than can be imagined without accurate figures.

There is one more strong point in favor of dehorning; that is the danger to which attendants are exposed continually when attending to cattle with horns, even by accident, to say nothing of ferocious attacks of the animals at times, of which not a few occurred in this very county. I may cite a few within a very short period: No. 1, loss of an eye by an accidental poke of a horn; No. 2, woman almost gored to death by a bull when gathering eggs; No. 3, woman and child knocked over and trampled on—the milk pail becoming fast on the horns prevented further injury until assistance arrived; No. 4, man attacked in woods by cow newly calved, who says but for the assistance of a collie dog he would have been seriously injured.

The Kent County Swine Disease Not Hog Cholera.

To the Editor FARMER'S ADVOCATE:

SIR,—Your letter of November 5th to hand, and in reply would say, in regard to the disease among hogs along Lake Erie, in the Ridgeway district, first, the disease is known to some as parasitic bronchitis, and is not an entirely new disease, as is claimed. The disease in question is of the family Nematodea, and is known as the St. Paradoxus. The undeveloped parasite is matured in the host in which it lives after having undergone a more or less lengthened period in the soil. This period is lengthened more or less by the quality of the land and amount of heat and moisture present. The spores are taken into the mouth, thence into the stomach, from where they pass into the blood, and thence into the lungs (where it has a habitat), and can be found in no other organ. The parasite, when fully developed, is from one to one and one-half inches in length, and about the thickness of a thread. It is found different in color, sometimes white and other times of rather a dark shade, the darker ones always being smaller. It is supposed to be caused from eating apples (which are very abundant in this locality), but I am of the opinion that apples have nothing to do with it, as I have visited farms where the hogs never got apples, and still found the disease. It has also been given out to have come from Walpole Island, as a number of hogs were brought here from there last summer; but I do not think it can be due to that, as quite a number from there were not affected at all. I have visited thirteen affected farms up to the present time, and have found that one hundred and eighty-three hogs have died, and that quite a number are suffering yet and likely to die. It is confined to a district of about five or six miles wide, and appears to be abating, as I have not heard of any new outbreaks.

Symptoms.—Animal dull, appetite gone, temperature increased (in some cases I found it as high as 107, 106½, and 104, showing considerable fever), generally a cough when made to move about, and

in some cases breath very foetid; after a while partial paralysis (sometimes of the hind and sometimes of the front quarters), and occasionally complete paralysis of all the limbs. The victim generally lasts from ten to twelve days. When animals have been treated in time they may get over it, but a large majority of affected animals die.

Treatment.—One bright V. S. reported curing nearly all cases by giving soda hyposulphate, but upon inspection I found the animals dying off rapidly after his prescribed treatment had been given. The line of treatment which I recommend is proper care in cleaning all runs, pig houses, troughs, etc.; a good supply of clean water; and closing the hogs in a house and fumigating it with sulphur, about a tablespoonful to a medium-sized house, letting the animals inhale the fumes. This treatment may be used as a preventive. The houses and troughs should be sprinkled with lime. I know of one case where a farmer used the lime alone and gave his hogs a good supply of charcoal, and he has not had any symptom of disease. There has been some difference of opinion as to the nature of the disease, some claiming it to be hog cholera; but I say emphatically that there is no hog cholera in the townships of Orford, Howard or Harwich. Post-mortem appearances of these diseases are entirely different. In hog cholera the cæcum and large intestines are ulcerated, which are the marked indications of the disease; but if an animal dies from the hemorrhagic or acute form there may not be time for the formation of ulcers—then you may only see the hemorrhagic condition of the parts. But by far the greater number of cases of hog cholera show the ulcerations. I have made numerous post-mortem examinations along with Dr. Cowan, of Galt, Government Inspector, and found none of these indications in the present disease, but found the lungs badly congested and full of parasites, the liver in most cases being diseased and of a light blue color; spleen and other organs normal. In conclusion, I may say that good, nourishing food and proper care as to cleanliness, etc., will do much to help nature throw off the disease. J. A. STEVENSON, V. S., Government Inspector.

POULTRY.

The Production of Winter Eggs.

From evidence given by Mr. A. G. Gilbert, manager of the Central Experimental Farm, before a committee of the House of Commons, on Agriculture, we glean a few points of practical value.

With regard to the treatment of hens to obtain winter eggs, Mr. Gilbert considers it important that they should be treated so as to get them over their moult early in the autumn. The next point to be remembered is that when the fowls get their new feathers they must not go into winter quarters overfat, or they will give an unsatisfactory yield of eggs. Of course, early-laying pullets must have been hatched early. As soon as the hens have their new feathers, the same generous feeding that should be given during the moulting season should be continued. Besides the regular feed, this may consist of soft food three times a week and cut bone twice a week. Then as the cold weather approaches stimulate them still more by feeding the green cut bone in small quantities every day and dropping the soft ration to twice a week.

Mr. Gilbert has found the best egg ration to consist (for morning) of warm mash composed of ground wheat, ground oats, ground barley or ground rye and bran—a little of all sometimes, and again only three of the ground grains. Enough of this feed to satisfy but not to gorge the hens. Noon—A little grain of some kind to keep the hens busy scratching. Afternoon—A liberal ration of wheat or buckwheat, mostly the former. The green bone may be fed in the morning, followed immediately by grain thrown among litter to start the layers scratching. At other times the green bone may be fed in the afternoon, with grain afterwards to entirely fill the crop before going to roost. They should be kept scratching for food from morning till night. The philosophy of this may be illustrated in this way: "Say a hen is running at large and there is a ton of wheat before her at a certain point. She won't fill her crop with the wheat at once. She will pick up a few grains, leave it, and run to probably catch a grasshopper; then she takes a ramble into your neighbor's flower garden in her search for worms. Then she will take three or four more kernels of wheat and a large amount of green stuff; then pieces of grit, lime, etc., and in this way she will fill up her crop gradually with all the essentials to make eggs and eggshells. Now, it is our object at the experimental farms to imitate the action of the hen while at large in our winter treatment of her."

With regard to green food, Mr. Gilbert speaks well of boiled roots and potatoes. Cabbages are also fed liberally by suspending them by a string, so that the hens have to jump for them.

Mr. Gilbert was questioned as to housing-space and yard-room, to which he claimed that twenty-five hens should have no less house space than fifteen by twelve feet. The roosting-room might be five or six feet high. The object is to conserve the animal heat of the fowls during the night, when the temperature is going down. The ceiling of the living and scratching room should be higher. These twenty-five hens should have twenty by fifty feet of yard-room.

ENTOMOLOGY.

Apple-Tree Borers.

E. Copley Thompson, British Columbia, writes the *ADVOCATE* as follows: "I have a pet apple tree that dropped the fruit this fall rather mysteriously, and afterwards the leaves turned brown before the others. On examining it closely I find that the stem is riddled with holes, as of a borer of some kind. I tried following them up with a wire, but couldn't strike any of them. Most of the holes are about half way up the stem, and I am told the apple borer works only just above the ground and thence downwards. What is the matter with the tree? Do you think it will survive? It is now rising five years old and is the most forward of an orchard of about fifty."

It is impossible to say from Mr. Thompson's description which of the apple-tree borers is the culprit that is injuring his tree. I fear from what he says, however, that he may lose his pet tree. As is well known, all injurious insects are apt to attack unhealthy or weakened trees in preference to those which are sound and healthy. For this reason, the first thing to do in such a case as he describes is to invigorate the tree by feeding and cultivation. If standing in sod the ground should next spring be plowed up beneath the tree and for some distance around the roots and a good liberal dressing of barn-yard manure worked in. This may be followed the following spring with a dressing of hardwood ashes.

The size of the holes made in the trunk by the borers is not stated, consequently there is some doubt as to which of the apple-tree borers is infesting Mr. Thompson's tree. There are two species of beetles which commonly attack the trunk, viz., the flat-headed apple-tree borer (*Chrysobothris femoralis*) and the round-headed apple-tree borer (*Saperda candida*). In addition to these, in British Columbia there is another kind—the bronze apple-tree weevil (*Magdalis aeneas*), which has been frequently sent to me as the cause of serious injury.

The Flat-headed Apple-tree Borer.—During June and July active flattened bronzed beetles about half an inch in length and of the shape shown at figure *d* may be found laying their eggs upon the trunks and large limbs of the apple, mountain ash, and some other trees. The eggs soon hatch into the curious flat-headed or horseshoe-nail shaped grubs shown at *a*. These for a time feed in the sapwood just beneath the bark, where they hollow out broad, flat channels. As the grub becomes full-grown it bores into the solid wood and then works back again towards the outside, eating nearly, but not quite, through the bark. It changes into a pupa inside its burrow, and the beetle emerges during June of the season after the egg was laid. The burrows and the exit holes of these beetles are easily recognized by their flattened oval shape. The presence of the grubs in young trees may be easily recognized after a little experience by the flattened and discolored appearance of the bark over the burrow or by a slight exudation of sap and the red sawdust-like castings which are pushed out by the larva. When these indications are seen the bark should be shaved off and the grub destroyed. If they have penetrated the wood it may be necessary to make use of a piece of wire, as described by Mr. Thompson.

The Round-headed Apple-tree Borer.—This borer nearly always works near the base of the tree it infests, for which reason it is in some places called the "collar worm." This grub is much thicker than that of the flat-headed borer, and takes three seasons instead of one to complete its changes. The eggs are laid in June, near the base of the trunk of the tree, and, like that of the previous species, the grub remains for some time feeding in the sapwood, where it hollows out large, flat, shallow cavities which are filled with sawdust-like castings. When, as is sometimes the case, there are several of these in the same tree, the tree is girdled and dies quickly. As in the last species, the presence of this borer in young trees may be detected from the bark becoming darkened. It also frequently dries and cracks sufficiently for some of the castings to fall through. On the approach of winter the grub burrows down towards the root. It returns, however, the following spring and resumes its work, when its presence can again be detected by the castings at the base of the tree. The beetle which is cylindrical in form, of a pale brown color above and with two white stripes running the whole length of the body, is three-quarters of an inch in length. It makes its appearance in June of the third season after the eggs are laid. While the flat-headed borer is most active in hot sunshine, this one is nocturnal in its habits and seldom seen. The holes through which the beetle eats its way out through the bark are perfectly round, and thus quite distinct from those of the flat-headed borer. They are about a quarter of an inch in diameter. As in the case of the former, when the presence of the grub is detected the bark should be cut away and the insect destroyed by knife or wire.



The Bronze Apple-tree Weevil.—Little is known for certain about the periods of the life-history of this insect, and the fact that it is infesting trees is generally made known only when it is too late to remedy the evil. The holes of exit are very small, only about one-tenth of an inch in diameter; the beetle itself being less than a quarter of an inch in length, of a bronzy black color, elongated pear-shaped in form, with the head terminating in a slender beak.

For all these borers undoubtedly the best remedies are of a preventive nature, and consist of applying to the trees some material which will not injure the bark, but which will keep off the female insects at the time they resort to the trees to lay their eggs. There are several well-known alkaline or poisonous washes which are very effective for this purpose.

Of these probably the best-known is the "Saunders Wash," which consists of soft soap reduced to the consistency of thick paint by the addition of a strong solution of washing soda in water. If applied during the morning of a warm day this will dry in a few hours and form a tenacious coating not easily dissolved by rain.

Another good wash which has given good results against the peach bark-borer is: Five pounds of washing soda, three quarts of soft soap, enough water to make six gallons, air-slaked lime sufficient to make the mixture of the consistency of thick paint. To this is added three ounces of Paris green and one ounce of carbolic acid. This is then painted on to the trunks of the trees with a white-wash brush, and one application will last for the whole season. It certainly pays all fruit-growers to apply a preventive wash to their trees every year as a regular practice, whether they know borers to be present or not.

JAMES FLETCHER, LL. D.,
Dominion Entomologist,
Central Experimental Farm.

APIARY.

Canadian Honey for England.

To the Editor *FARMER'S ADVOCATE*:

SIR,—In reply to your inquiry of the 7th, would say that last year our Mr. Holtermann was requested by the Hon. John Dryden to send a case of our comb honey, and extracted also, to the Department of Agriculture, Toronto, to be forwarded to the Imperial Institute at London, England. We gladly complied with the request, feeling that the quality of Canadian honey would give that product an opening in the British markets if only the attention of the consumer and dealer in Great Britain could be drawn to it. Since that exhibit was sent we have a letter from the Imperial Institute in London saying they thought there would be a good opening for the article, recommending an exhibit of honey on a larger scale to be sent, and stated that there was a feeling in England which would give the preference to Canadian products. At the same time, they want to know if we would be in a position to supply large quantities of honey the year round to dealers in Great Britain. Canada, or, more properly, Ontario, has a surplus for a few months in the year, which finds its way to distant parts of the Dominion, but we are not yet producing enough for export to any extent. Mr. Holtermann called upon the Department of Agriculture in Toronto, which decided to pay freight on the exhibit of honey to the Imperial Institute; and our Company has sent 100 packages of honey to be used as an exhibit and as samples to the leading dealers in Great Britain. The honey is our own production, from the County of Brant, and is a fair sample of Ontario honey. As we are anxious to see connections made with the British dealers, at the request of Mr. Holtermann we sent 50 packages in the name of the Ontario Bee-keepers' Association (of which he is president), and filed with the exhibit a list of members of the Ontario Bee-keepers' Association. In this way we have done the best in our power to bring the Ontario honey producer in touch with the British buyer, and also to draw attention to Canadian honey. We feel quite sure there is an opening in bee-keeping which few recognize at present. We trust the above will be pleasing to the *FARMER'S ADVOCATE*, which is always ready to do anything in its power to advance the agricultural interests of the country.

GOULD, SHAPLEY & MUIR Co. (Ltd.)
Brantford, Ont., Nov. 10, 1896.

GARDEN AND ORCHARD.

Protecting Trees from Rabbits.

Prof. J. L. Budd, of Ames, Iowa, gives in an exchange, in answer to an enquiry, the following recipe for protecting trees from rabbits: "The consensus of opinion of all who have used grease or oil on fruit tree bark is that it results in serious injury. The best wash known to the writer is prepared as follows: To one gallon of stale urine add one quart of fresh lime. Then heat, if the lime does not make it hot enough, and add one pint of pine tar. Then thicken with sulphur until you have a bright yellow color. We have not known this to fail, and it does no harm to the bark."

In the Northwest Assembly, at its recent session an amendment to the License Act was passed prohibiting the sale of liquors or beer at agricultural fairs or industrial exhibitions.

Cold Storage and Better Transportation for Fruit Products.

To the Editor *FARMER'S ADVOCATE*:

SIR,—Allow me to call the attention of the readers of your paper and the fruit-growers of Canada to the fact that the subject of how best to preserve and transport the annually increasing fruit product of the Dominion with the greatest advantage to the grower is now being carefully considered by the Department of Agriculture. The Hon. the Minister of Agriculture has expressed his keen interest in this matter and wishes to obtain the views of fruit growers and shippers as to how these more or less perishable products may be taken from the orchard of the grower and placed before the foreign consumer in the best possible condition and manner and with the greatest profit to the producer. I would advise growers and shippers who have ideas upon this question to correspond with the Agriculture and Dairy Commissioner, Department of Agriculture, Ottawa. I would also suggest that a full discussion of the picking, packing, storing, and transportation questions take place at the annual meeting of the Ontario Society, to be held in Kingston, December 1st and 2nd. This discussion would undoubtedly bring out apt and useful information for the guidance of those who may be interested in the carrying out of such cold storage arrangements as may be decided upon.

JOHN CRAIG, Horticulturist,
Central Experimental Farm, Ottawa.

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.

TRUSTEES AND TEACHER.

W. S., Peel Co., Ont.:—"B, who is holder of a second-class Normal certificate, applies personally for a school. He secures the promise of the school, in the presence of a witness, from two of the trustees. At the meeting held some time after one of the two sides with third one, thus leaving only one in favor of B, and, to simplify matters, the two agree to cast lots for which teacher should be engaged. The names of the different teachers were placed upon slips of paper and put in a bag and shaken. The one drawn was C. Can B hold the trustees to the bargain, or what course could he pursue legally?"

[Until the agreement between teacher and trustees is signed by them, and bears the incorporate seal, the section is in no way responsible for their promises. If B can prove that he has sustained an injury by reason of the promise made to him by the two trustees, he can collect damages to the extent of the same from them personally.]

Miscellaneous.

APPLE-TREE SUNSCALD.

W. B., Warkworth, Ont.:—"Kindly tell me the most successful way to treat Northern Spy apple trees now dying from sunscald? They are about 16 years old; about 50 are affected."

[In this instance, as in many others in the successful culture of fruits, prevention is much easier than cure. High-headed trees, with long, unprotected stems, are frequently sunscalded, especially those not quite hardy. 1. Among preventives are: (a) low heads, planted with a southern inclination; (b) wrapping the stems in building paper in the autumn; (c) shading the stems by means of laths or cornstalks. 2. When trees have become injured: (a) cut away the affected bark, paint the bared wood surface with some material which will prevent the absorption of water; (b) when trees are badly affected they might as well be replaced at once, as their profitable life tenure is certain to be brief. Trees in well-drained soils, on northern slopes, are usually less affected than those having southwesterly aspects.

JOHN CRAIG,
Central Exp. Farm. Dominion Horticulturist.]

A. M., Skead's Mills, Ont., asks for a selection of 50 apple trees suitable for planting at a point near Ottawa?

[In making up an orchard of 50 trees on your farm, I would recommend the following trees: 10 Yellow Transparent, 10 Wealthy, 5 McIntosh Red, 10 Duchess, 10 Golden Russet, 5 Pewaukee. In the Experimental Farm report for 1895 you will find information relative to the planting and cultivation of the orchard. There are more summer apples in this list than I would recommend were you distant from a good market.

J. C.]

FALL PRUNING AND PROTECTION OF GRAPEVINES IN EASTERN ONTARIO.

A. D., Russell Co., Ont.:—"Do you cut all of this year's growth off or leave some of it on? What is the best way to put them down for the winter—to cover them over with straw manure or cover them with earth? How do you put cuttings down, in the fall or in the spring?"

[In cutting back the vines in the autumn we endeavor to first remove the weakest of the old bearing wood, with a view of replacing it by the strongest shoots of the last season's growth. The new shoots are generally cut back to within two buds of the old wood. All weak shoots about the

base or crown of the vine are cut out completely. In pruning the vines each year such attention should be given to the work as will allow of the canes—that is, in the colder sections of the country—being depressed to the ground in the autumn, so that they can be the more easily and effectively covered. Earth is the best covering material. Straw manure or straw may heat before uncovering, and cause rotting of the buds, which will surely follow the heating of the manure. Cuttings needed for planting out next spring are made this autumn, three eyes each, and tied into neat bundles and buried in the soil. They are set out the next spring in nursery rows, as early as the ground is in working condition.

APPLES FOR CENTRAL PRINCE EDWARD ISLAND.

E. C., Hunter River, P. E. I.:—"I am thinking of setting out an orchard, and I would like advice with regard to the kind of stock to plant; I am thinking of planting winter varieties only. Would you kindly let me know which of the varieties you would recommend on the Island? The location is high and dry, the soil of a sandy nature. Would you recommend such as Nonpareil, Northern Spy, Golden Russet, Bishop Pippin, or King of Tompkins? Would you recommend planting all of one sort, or a mixture of the different varieties? Would you prefer using stock grown on the Island, or from nurseries in the other Provinces? Are the Russian varieties preferable to stock propagated from English scions?"

[I would plant mainly winter varieties on Prince Edward Island for the foreign market. Your selection is a good one. I would replace Bishop Pippin with Hubbardston Nonsuch and Ontario. A fine, high-colored apple is the McIntosh Red, but it does not keep later than midwinter, and must be sprayed to prevent "scab." Do not plant many trees of Nonpareil. Intermingle the varieties in orchard. Other things being equal, buy your trees as near home as possible. In buying trees look out for healthy two- or three-year-olds free from oyster-shell bark-louse. There would be no objection to buying stock of English growth, but I would prefer good home-grown trees. Russian apples, as a class, are of no value to the Island fruit-growers. You can grow others of better quality.

PROPAGATING THE EDIBLE CHESTNUTS.

H. T., Durham Co., Ont.:—"Is it practicable to graft Spanish or edible chestnuts on horse-chestnut trees?"

[Edible varieties of chestnuts can only be propagated with reasonable success by whip grafting them upon American sweet chestnut stocks. This is the method adopted by nurserymen. The stocks may be grown from seed planted in the fall, or kept in boxes, stratified with sand, buried in a location safe from squirrels and mice. The principal reason that named varieties of chestnuts are so expensive is that their propagation is difficult; rarely more than 50 per cent. of the grafts take. The stocks to be grafted should be three or four years of age, and well-established in nursery row. Whip grafting is done in early spring. Horse-chestnuts could not make a suitable stock. They might unite and even grow for a few years, but would be certain to prove unsuccessful. The American chestnut only is hardy at Ottawa. The Japanese varieties kill back each winter, and are carried through with difficulty.

CARE OF SCIONS.

J. P., St. Roch l'Achigan, Que., asks when scions intended for root grafting should be cut, and how they should be cared for?

[All scions intended to be used for root grafting during winter, or for top grafting or crown grafting in spring, should be cut before severe frosts arrive in the autumn, but not before the leaves have fallen and the process of wood ripening has been thoroughly completed. The scions, after being cut from last season's growth, are tied neatly in bundles, each bundle being carefully labelled, and are then packed tightly in boxes with dry forest leaves and stored in a cool cellar. In this way, if the leaves are tightly tramped down and the box closed, they will remain in perfect condition till the following spring. It is better to keep them somewhat on the dry side, rather than have them too damp. Better success always attends the use of scions which have been kept in this way than those which are packed in soil or damp sawdust.

Manitoba Fruit.

To the Editor FARMER'S ADVOCATE:

SIR,—A correspondent residing at Morden, Man., has furnished me the following list of fruits exhibited at the Rockwood Fair a short time ago. This exhibition of fruits was brought about by the efforts of Mr. T. Frankland, of Stonewall, Man., one of the pioneer fruit-growers of the Province, and is of special interest and value to farmers who intend to plant fruit in Manitoba. Apples: Wealthy, Anisim (Russian), Whitney, October, Duchess, Sweet Russet (Russian), Tonka, Excelsior, Recumbent (Russian). The list of crabs is quite extended: Hyslop, Transcendent, Virginia, General Grant, Montreal Beauty, Yellow Siberian, Red Siberian. The plums include native and American varieties, among the latter De Soto and Luedloff. Of grapes, fruit of native seedlings and Moore's Early were shown. The principal exhibit-

ors were: A. P. Stevenson, Nelson, Man.; W. B. Hall, Headingley, Man.; Nelson Bedford, Glencross, Man.; J. O. Graham, Portage la Prairie, Man.; J. J. Routledge, Miami; Jos. Tottle, Stonewall, Man.; W. Sanderson, Souris, Man.

JOHN CRAIG, Horticulturist.

Central Experimental Farm, Ottawa.

LIVE STOCK MARKETS.

Toronto Markets.

The supply of cattle shows too large a proportion of half-fed, immature, third-rate beasts, which keep the trade quiet and dragging. The usual sale records show a very slight increase in price. Many of the cattle on offer would probably pay better to keep until after the New Year. Only nine loads of cattle for Montreal.

Export Cattle.—Cables, best price 10c.; an increase on my last quotation of 2c. per lb. Most of the space on shipboard is taken for the present season. Prices paid to-day ruled from 31c. to 34c. per lb. nothing went up to fat.

Butchers' Cattle.—Dealers are willing to pay advanced prices if they can get the quality of cattle desired, but too much poor stuff is coming. Prices rule from 24c. to 3c. per lb.; some of the poor cattle sold down to 2c. per lb. The receipts are not large, still buyers fight shy of taking more than enough to do them from one market to another. To-day's market is taken for the most part on record for the last seven years. Only fifteen carloads of cattle came in. Two carloads were detained at Bracebridge by a severe snowstorm and did not arrive until midday. Receipts for the week ending Nov. 7 were: Cattle, 2,102; sheep and lambs, 2,301; hogs, 6,152.

Stocks and Feeders.—Most of the buyers have been supplied and the sheds filled. Messrs. Dunn Bros., 700; Sheridan & Thompson, 300; Jesse Dunn, 300; Thos. Crawford, 300; I. Lunneson, 300. The returns are not all in at present, but there will be about the same number as last year—5,000 at all the distilleries. The prices paid are from 2c. to 2 1/2c. per lb. Some farmers are operating, and good feeders fetch from 2 1/2c. to 3 1/2c. per lb. No more stockers wanted.

Bulls.—Stock bulls are quiet, at 2c. to 2 1/2c. per lb.; some shipping bulls went up to 3c. per lb. Very few best class of bulls offer; good ones sell.

Calves.—Choice veals wanted. Prices run from \$2 to \$7 per head; supply very limited; \$3.50 to \$5.50 may be said to be the ruling price.

Sheep.—Good mutton sheep are scarce and well looked after. They should be in their best season; export demand is increasing; the Buffalo market promises to take all our export as soon as the line is removed; at present the fees and charges are restrictive. Shipping sheep continue to sell at from 2c. for bucks to 2 1/2c. per lb. for good shipping ewes and wethers. Lambs are quoted at \$2 to \$3.25 per head. The market opened with a more active demand. Butcher sheep fetch about \$2.50 per head.

Milk Cows.—Everything was picked up in this line, and a few cows are being sold. Prices ruled from \$20 to \$40 per head. Good cows and early springers in demand.

Hogs.—The pig trade is on the upward turn and better prices are in sight. Notwithstanding the advance in the provision trade, the receipts are not at all excessive, and dealers are beginning to realize that marketable hogs are not very plentiful. Choice selections of bacon hogs fetch 3c. per lb., weighed off; receipts are firm at \$3.50. Choice singlers weighed off; receipts not so heavy as at this time last year; quality not quite up to the average.

Wheat.—Prices for Manitoba wheat have been above export basis ever since new wheat began to boom; prices to the farmer were advanced 5c. per bushel, from 65c. to 70c. At one or two points \$1 per bushel was paid on Wednesday the 29th of October, but on Friday the price dropped again to \$1.00. The London market predicts that wheat is going to rule at \$3.75 per quarter of eight bushels, nearly \$1.10 per bushel. For the first time in years America now holds the key to the situation. Every bushel of wheat she can spare will be wanted in Europe. At the very least calculation 160,000,000 bushels of wheat will be required.

On the Toronto wheat market, wheat sold at 86c., and 88c. was offered for the next load, but it did not reach the market before closing. One hundred and fifty bushels of red at 86c.; goose, 65c. per bushel.

Oats.—Firmer; recovering what it lost last week to 26c.; 700 bushels to-day 25c. per bushel.

Barley.—Upwards of 3,000 bushels were sold to-day at 33c. for best malting.

Butter.—Poor stuff is still offering at 8c. Good butter is in demand at 18c. per pound rolls. Dairy rolls are offering at 18c. to 20c.

Cheese.—Five hundred boxes offered at 10c.

Hay.—The supply small. Ten loads on offer at from \$11.50 to \$13.50. Market firm. No export.

Straw.—Nine dollars per load; \$10 for bundled; supply small, and in demand.

Beef Hides and Skins.—The outlook is exceedingly encouraging. Beef hides are scarce and the market advancing. No. 1, green, 6c. per lb.; steer, 7c. per lb.; No. 2, 5c. per lb.; No. 3, 4c. per lb. Calf skins, No. 1, green, 6c. to 7c. per lb. A rumor is in circulation that the United States Leather Co. has bought up \$2,000,000 worth. It is argued from this that an advance of hides is certain in the near future.

The feeling in wool is much better. One house negotiated 60,000 pounds of wool for export. Fleeced combing, 20c. to 21c. per lb.; tub washed, 18c. to 19c. per lb.

Montreal Markets.

Cattle.—For the first time in a good while this market has seen a partial clearance of live stock this week, and the prospects for better prices in the near future are better than they have been for a long time. Of course this can be easily upset if drovers persist in crowding cattle in to the market. To-day saw the lowest number of cattle offered for many a long day; but as buyers were present, they were not heavy enough buyers to force prices up any, but pretty well cleaned the market up of all suitable stock. The next few markets should be fairly good, provided the run of cattle does not exceed 400 head—to-day's offerings. A few of the best made up to the 31c. per lb., but the range for good beef was more within 3c. to 3 1/2c. per lb.; medium to fair, 2 1/2c. to 2c.; inferior and culls, 1 1/2c. to 2c. per lb. No export demand.

Sheep and Lambs.—A very good trade would be done if the offerings of sheep and lambs were heavy enough to induce buying for export, but this they are not, only about 500 head being offered to-day, the greater part of which were unfit for export; consequently only a few were taken to complete a shipment, at 2 1/2c. per lb. Lambs, which since last writing, had declined from 25c. to 35c. per hundred pounds, were again firm at former quotations, 31c. per lb.; butcher sheep from \$2 to \$2.50 each.

Calves were unchanged, at fairly good demand, ranging from \$3 to \$9 each, as to quality.

Live Hogs.—A slight decline of value from 10c. to 15c. per cwt. took place this week, and choice hogs only made up to 4c. per lb.; good mixed lots from \$3.80 to \$3.90 per cwt.; sows and stags, 3c.

The cool weather will undoubtedly be the cause of dressed hogs being brought in freely from now on, and we understand some are expected a little later on this week.

The Space Market.—The near approach of the close of navigation has caused a mild excitement in ocean freight, space to London and Liverpool being advanced to 55 shillings per head, and 45 shillings to Glasgow, on cattle; and 45 per head to Glasgow and Liverpool, and 41 to London, on horses. This increase in freights has had the tendency to drive shippers across the line, where engagements for some distance ahead have been contracted by Canadian shippers, already a large number being shipped from the U. S. ports by the latter. The rate has been kept close.

Hide and Skin Market.—The recent advance noted of 1c. per lb. has been maintained, and during the past week a number of butchers who kill heavily each week have been advanced another 1/2c. per lb. on these figures in order to keep them, although not really given in quotations. Quotations are now 7c. to 7 1/2c. per lb. for No. 1; 6c. and 5c. for Nos. 2 and 3; 4c. to 5c. per lb. advanced on these figures by dealers to tanners. It may be worth mentioning that tanners are still represented personally by buyers, which has something to do with these stiff prices being maintained.

Lamb skins are also shade stiffer, selling from 60c. to 65c. each; calf skins unchanged, 6c. for No. 1, 4c. for No. 2.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.)

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

Table with columns: CATTLE, Present Prices, Top prices two weeks ago, 1895, 1894. Rows include 1500 lbs. up, 1350 @ 1500, 1200 @ 1350, 1050 @ 1200, 900 @ 1050, Fat cows and heifers, Canning cows, Bulls, Calves, Texas steers, Western steers, Western cows & bulls, Hogs, Mixed, Heavy, Light, Pigs, SHEEP, Natives, Western, Lambs.

Prices for fat cattle are rather low, and yet there is a pretty good margin of profit, at the present relative value of corn and bullocks. As the banks will now let farmers and feeders have about all the money they need for cattle feeding, it looks as if the "crop" of cattle after about ninety days ought to be quite large. For awhile, however, it is safe to count on good ripe cattle being comparatively scarce. In the natural course of events receipts would now be decidedly heavy, but there may be some holders who think they can afford to continue feeding cheap corn awhile to see if better prices will not come later. However, it should be borne in mind that until the mills and factories get actively to work and begin paying out money there cannot be expected to be any big gain in the consumptive demand for meat, and the trade at present is rather tame where it could not well stand excessive runs without temporary depression in prices. On the other hand, it is very evident that stocks of meat are very small, there being no vast quantities of frozen range beef put away this year, and buyers from now on will not have Western range or Texas cattle in any quantities to depend upon.

The cattle market is in fair shape. Late sales included common to fair 1,000-lb. to 1,250-lb. steers at \$3.40 to \$3.90; good Texas steers at \$3.80 to \$4.15; plain 1,400-lb. steers, \$4.30; good 1,750-lb., \$4.85; 1,850-lb., \$4.60; and choice 1,000-lb. to 1,191-lb. at \$4.75 to \$4.90; choice 1,180-lb. to 1,500-lb. steers, \$5.10 to \$5.25; Western range steers, 1,100 lbs. to 1,300 lbs., \$3.50 to \$4.05.

A prominent hog dealer says: The swine plague still exists in a great many sections of the country, but we believe it has run its course for this season. What the ravages have been will not be apparent until later in the season, but from our best advices we think it has been quite fatal in many sections of the so-called hog belt. With a material let-up of the swine plague and with a return of confidence among producers and feeders of hogs we do not look for very heavy receipts in the near future, and still believe that the packers and others who are figuring on excessive receipts this month and next will be disappointed.

Hog prices are now not much different from a year ago, but it must be remembered that they were on a lower basis then, considering the prices of corn. The 6,250,121 hogs received at Chicago the first ten months of 1896 averaged 245 lbs., or 19 lbs. more than during the corresponding time in 1895. People are very free in throwing out corn this year when it is cheaper for fuel than coal in many parts of the great West.

There seems to be a distinct improvement in the demand for well-bred horses lately, and it is a well-known fact that the supply is not large. The price of hides has advanced almost one cent per pound within the past fortnight. Short supplies of cattle and the improvement in general business are given as the reasons.

Dr. D. E. Salmon, Chief of the U. S. Bureau of Animal Industry, says Canadian cattle have been allowed to cross a portion of the United States for export from Portland, Me., and that no contagious disease has been discovered among them by our inspectors. The Department of Agriculture, he says, has never received any satisfactory evidence that pleuropneumonia exists in Canada, or that it existed in 1892, when the English inspectors claimed to have found cases, and does not consider that there is any danger of the disease being introduced into the country by Canadian cattle.

There has been a good deal of opposition among the big exporters here to the course of the U. S. authorities in allowing Canadian cattle to go through Portland and Boston when United States cattle are not permitted to go by way of Canadian ports with the same freedom. The talk about the opposition being based on fear of disease, however, is nothing more than talk.

The British Markets.

London cables are unsatisfactory, sales to-day showing a decline of 1/2c. to 1c. per lb., compared with a week ago, occasioned by heavy receipts and slow demand. Best American cattle, 10 1/2c. to 10 3/4c. per lb.; best Canadians, 9 1/2c. per lb.; sheep unchanged at 10c. per lb.

Liverpool advices were hardly of as bad a nature, although a slight decline was noted in sales; States cattle, 10c. to 10 1/2c.; Canadians, 9 1/2c. to 10c. per lb.; ranch cattle, 9c. per lb.

Last advices received from Glasgow were also of a weaker nature, and no prospect of immediate betterment.

East Buffalo Markets.

Cattle.—Market strong, but nothing fancy offering. Export cattle 15c. to 25c. higher than last week. Prices range from \$3.25 for common to \$5.25 for fancy; stockers, \$2.75 to \$3.35; fresh cows, \$6.00; veals, \$3.50 to \$7.75.

Sheep and Lambs.—Trade weaker, closing easy. Sheep for export, \$3.40 to \$4.00; culls, \$2.25 to \$2.85. Canada lambs, \$4.00 to \$4.75 (for fat and of good quality up to 70 lbs. and over).

Hogs.—Market strong and prices higher. Heavy grades, 300 lbs. and up, \$3.65 to \$3.70; medium, 200 lbs. to 250 lbs., \$3.70 to \$3.75; Yorks, 110 lbs. to 200 lbs., \$3.80 to \$3.85; pigs, 100 lbs. to 120 lbs., \$3.85 to \$3.90.

ERICK BROS.



THE HOUSE ON THE MARSH.

A Romance.

BY FLORENCE WARDEN.

CHAPTER I.

"WANTED, a Governess; must be young." I cut out the advertisement thus headed eagerly from the *Times*. I was eighteen, and my youth had been the great obstacle to my getting an engagement; now here was some delightful advertiser who considered it an advantage. I wrote to the address given, inclosing my photograph and the list of my qualifications. Within a week I was traveling down to Geldham, Norfolk, engaged to teach "one little girl, aged six," at a salary of thirty-five pounds a year. The correspondence had been carried on by my pupil's father, who said he would meet me at the station at Beaconsburgh, the market-town nearest to Geldham.

It was about five o'clock on an afternoon in early August that I sat, trembling with excitement and fright, at the window of the railway-carriage, as the train steamed slowly into Beaconsburgh station. I looked out on to the platform. There were very few people on it, and there was no one who appeared at all like the gentleman I had pictured to myself as my future employer. There were two or three red-faced men who gave me the impression of being farmers, and at one end there were two young men engaged in securing a large mastiff, which was bounding about in great excitement at sight of the train. I got out and spoke to the station-master.

"There is Mr. Rayner himself, ma'am," said he, pointing toward the two young men with the dog.

One of them was now looking about, as if in search of somebody; and I walked timidly toward him. He seemed puzzled as his eyes fell upon me; then suddenly he raised his hat.

"Miss Christie!" he said interrogatively, growing very red.

"Yes," said I, bowing and blushing too.

"Will you come and show me which is your luggage?"

I was surprised and rather confused to find Mr. Rayner so much younger and less self-possessed than I had expected. I followed him and pointed out my boxes.

"The dog-cart is waiting outside," said he; "let me carry your bag."

I followed him through the station. He helped me into the dog-cart, carefully wrapped me up with a rug, and then, instead of getting in himself, stood by me talking.

"I am afraid you will find the country dull. You will miss the gaiety of London."

"I haven't led a very gay life," said I; "I don't think poor people are very gay anywhere."

"But you haven't been shut up in a schoolroom before. I can't think how you will stand it. I always hated schoolrooms; and it's a fact that I was never in a school without being told that I was a disgrace to it."

"I hope your daughter does not share her father's dislike of school routine," I broke out anxiously.

He started and looked up at me, coloring vividly, and then said, with some amusement in his tones—

"Did you take me for Mr. Rayner?" The next moment he seemed sorry for my evident confusion, and added, looking away, "My name is Reade. Mrs. Rayner sent her brougham for you; but a wagon ran into it and took one of the wheels off; so I put my cart at your disposal. I hope you don't mind driving in a thing like this?"

"Oh, no," I said.

"That was Mr. Rayner on the platform with me," he went on. "His dog rushed out just as the train came up, and he asked me to see to your luggage while he held him. I don't know why he is so long."

As he spoke, Mr. Rayner himself came out of the station, letting his mastiff loose at the door. I saw in a moment that he was a few years older than my companion, and that, while they both wore round hats and Norfolk jackets, he bore the impress of town breeding as clearly as Mr. Reade did that of the country. He was slight, well made, with delicate features and a dark golden beard and mustache. He came up, raising his hat, and shook hands with me.

"You have been marveling at the barbarism of Norfolk manners, Miss Christie, and asking 'When is the next train back to London?' But I have been warned by my wife not to make my appearance at home without a certain parcel from the 'Stores,' which has been due at this station about ten days, but has for some unaccountable reason failed to turn up hitherto. Now, Laurence, my boy, if you want us to get home before the mist rises, we had better start."

Mr. Rayner sprang up behind; Mr. Reade got up in front by my side, and took the reins; and off we started, with the five dogs bounding, barking, and growling along the road as we went. The scenery was not particularly pretty; but I had never lived in the country, and everything was new and interesting to me. Mr. Rayner was occupied at the back with letters and papers, and Mr. Reade at my side listened to my comments with flattering interest and appreciation.

"How beautifully green everything is!" I remarked presently.

"Es, rather too green," Mr. Reade rejoined ruefully. "We have had a wet summer, and now we are going to have a wet autumn, I believe, and this place will be nothing but a swamp."

"Don't set Miss Christie against the place, Laurence," said Mr. Rayner rather sharply.

We passed through a low-lying village—some of the houses of which were flooded in winter. Mr. Reade told me—up a hill, down a hill, and up another sloping road, at the side of which stretched the marsh again.

"There is the Alders, Miss Christie," said he, pointing with his whip to a pretty red house, half covered with ivy and surrounded by trees, which stood below the road, on the borders of the marsh.

"Here, Laurence, I'll get down and take the short cut," said Mr. Rayner.

There was a foot-path which led from this point of the road straight to the house through a couple of fields and a plantation. After Mr. Rayner had alighted, Mr. Reade and I drove on by the road.

"What a lovely place!" I cried enthusiastically.

My companion remained silent.

"And, oh, what a beautiful pond! I do believe it has water-lilies!" I exclaimed, turning round half breathless at such a glorious discovery.

"I wouldn't have that stagnant water near my house for my children to play about for something!" said he, in an energetic growl which surprised me.

I said no more until we drove slowly down the sloping carriage-drive through the trees which led to the house; and then again my admiration broke out.

"Oh, how delightfully cool it looks, with the ivy all over it to keep out the hot sun!"

"Yes, and to keep in the cold moisture, Miss Christie. That ivy hasn't been cut for the last five years; and it ought to be torn down altogether to make the place fit to live in. It is no better than a pest-house!" he went on, getting more and more excited. "I wouldn't let a laborer live in it."

"A laborer won't have a chance until my lease is up, Laurence," said Mr. Rayner, dryly, coming out of a path among the trees. And the two men exchanged looks which showed that at the bottom of their hearts they were not friends.

But then it was not likely that Mr. Rayner would care to hear his beautiful home called a pest-house.

We drove slowly down to the hall door, which was open, and a gaunt, untidy-looking servant came out and carried in my boxes. Mr. Reade helped me down and stood by me, apparently examining the harness, while I looked in an ecstasy of admiration at the dark red house thickly covered with ivy.

Then he seized a moment, when Mr. Rayner was speaking to the servant, to stoop and say to me quickly, in a low voice:

"Don't let them put you near Mrs. Rayner's room. I could not answer, would not ask why, for the next moment he was calling out good-bye to Mr. Rayner, and, raising his hat to me, was walking by the side of the dog-cart up the steep drive that led through the garden to the road. I was sorry he was gone. I wanted to ask what he meant by his strange warning. Mr. Rayner had gone into the house, forgetting to invite me in; the servant had disappeared with my last box. Instead of following her, I stood waiting at the dog-cart and its owner out of sight, until a harsh woman's voice startled me.

"Won't you come in? I'm to show you to your room."

It was the gaunt servant who addressed me. I turned, blushing, and followed her into a low, long hall, dark, cool, and old-fashioned, such as the outside of the house had prepared me for; up an oak-lined staircase; through a few of those short and inconvenient passages to a corner-room, shabby, dark, and bare-looking, where my boxes were already installed. I sat down on one of these and began to cry. I thought of Mr. Reade's words, and began to wonder with a new sense of dread what Mrs. Rayner was like. Was she an invalid? Was she mad? If not, why had she left the correspondence about her child's governess entirely to her husband? My tears dried slowly as I went on puzzling myself uselessly about this mystery, and I was scarcely ready when the servant returned to tell me that tea was waiting for me. But my curiosity was only to be sharpened. Tea was prepared for me alone, the servant saying that Mr. Rayner was busy, and had had his taken into the study. Not a word about Mrs. Rayner—no sign of a pupil! So great were my anxiety and curiosity that I forgot how hungry I was, and in a few minutes I had finished my tea, and was standing by the window looking out into the garden.

On the side of the dining-room a mossy lawn stretched from the roots of the trees right up to the French windows. I opened one of these and made my way round to the front—

from here one caught glimpses of the marsh through the thick trees. I followed a grass-path cut through them until I came to the pond which had excited my admiration from the dog-cart. The water was half covered with smooth green duckweed and water-lilies, and the reeds and rushes, which grew tall and thick, and the margin, had encroached much upon the level sheet of water. The path I had followed was continued through the trees, within a few feet of the pond, to the foot-path along the borders of the marsh, the short cut by which Mr. Rayner had reached the house before us that afternoon.

I heard a low crooning sound which seemed to come out of the ground at my feet. Looking about I saw, sitting at the very edge of the water, a tiny, elf-like-looking child, about two years old, in a dirty white frock and pinafore, with a small pale wringing and thin straight red hair, who rocked herself as if without seeming at all disturbed by the appearance of a stranger. She only stared at me when I told her that she must not sit so near the water; but, when I stooped to lift her up, she proved her humanity by screaming loudly; and, not quite knowing what to do with her, I carried her, still screaming, to the house, where I met the servant whom I had already seen.

"I heard this child sitting with her feet nearly in the pond!" I said, tragically.

"Oh, yes, miss, there's no keeping her away from the pond! She's there pretty nearly all day by herself. Come, now, Mona, it's time for you to go to bed. Dirty little girl, look at your pinafore!"

She took the child from me, thankful to have been spared the trouble of hunting and catching the little wild thing, and carried her off, leaving me wondering whether my pupil would be as eerie a creature as her sister. I went out again, this time to explore the side of the house which faced the marsh. Here the grass grew untrimmed and rank up to the very walls; and, as I made my way through it, my feet sank from time to time into little unclean pools and swamps, which wetted them up as I could, until, pushing aside the low-hanging branches of a barberry-tree, I found myself within a few feet of a window so heavily shaded by gnarled and knotted ivy that for a few moments I did not notice a woman's face staring at me intently through the glass. As soon as I caught sight of the sunken face and large lusterless gray eyes, I knew, by her likeness to the child at the pond, that Mrs. Rayner. I retreated to the window to give one more look at the scene under a new aspect. The mist was dense under my window, on the very grass that I had waded through a couple of hours before. As I looked out, a shiver passed over me, and I drew in my head with a sudden change of thought.

"How cold it is! Mr. and Mrs. Rayner must be devoted admirers of the picturesque to live in a house that must be so very damp!"

CHAPTER II.

I was down in the dining-room the next morning at the sound of the breakfast-bell. Mr. Rayner came in, handsome, cheerful, but rather preoccupied; and I was listening to his bright small-talk, when I discovered, without having heard any sound, that Mrs. Rayner was in the room. She had glided in like a ghost, and was standing at the table, waiting. I was thankful to see that there was no trace in her eyes now of the steadfast, eager gaze which had disconcerted me on the night before, nothing but the limpest indifference to me in the way in which she held out her hand when her husband introduced me.

"She must have been pretty ten years ago," I thought as I looked at her thin face, with the fair, faded complexion and dull gray eyes. There was a gentleness about her which would have been grace still if she had taken any pains to set off by a little womanly coquetry her slim, girl-like figure, small, thin hands, and the masses of long brown hair which were carelessly and unbecomingly dragged away from her forehead and twisted up on her head.

Then the door opened, and the servants came in to pray, with the elfish baby and a pretty delicate-looking child, blue-eyed and fair-haired, who was presented to me before breakfast as Haidee, my pupil.

Nobody talked during the meal but Mr. Rayner, and the only other noticeable thing was the improper behavior of the baby, who kept throwing bits of bread at her father when he was not looking, and aimed a blow with a spoon at him when he passed her chair to cut himself some cold meat. He saw it and laughed at her.

"It is a most extraordinary thing, Miss Christie," said he; "but that child hates me."

I thought he spoke in fun; but, before I had been long at the Alders, I found that it was true that this most unpleasant baby's strongest feeling was dislike of her father. She would not even take sweets from his hand.

"You do not yet know what primitive people you have come among, Miss Christie," said Mr. Rayner during breakfast. "We dine here at half-past one. If we were to suggest late dinner, we should have to prepare our own food, like excommunicated persons. It is hard as it is to keep our modest staff of three servants. They say the place is damp, which, being interpreted, means that it is too far for their 'young men' in the town to come and see them. Were you not surprised at the wording of my advertisement?"

"Yes, Mr. Rayner."

"The fact is, the lady who has just left us, quite a typical instructress of forty, with prominent teeth and glasses, nearly frightened our lives out: She said she was dying of rheumatism, and threatened to prosecute me for deceiving her to such a damp place. So we registered a solemn vow that we would have nothing to do with anything antiquity again."

"How could she say anything against such a lovely place?" said I.

"Well, now, Miss Christie, I grant she had a show of reason on her side. I have sometimes thought the place damp myself; but my wife has got attached to it; haven't you, Lola?"

"Yes," said she, without a sign of feeling or interest.

"You must know," Miss Christie, that I am a penniless wretch, dependent on my wife; am I not, Lola?" He turned playfully to her.

"Not quite that," said she gently, but with no more warmth than before.

"Practically I am," he persisted. "She was an heiress, I a ruined spendthrift, when she married me. Yet she trusted me, and the only condition she would allow her friends to make was that I should settle in the country—out of the reach of temptation, you see, Miss Christie."

He looked affectionately at his wife; but she remained as of impassive as ever.

I could not help feeling rather sorry for Mr. Rayner. He was always kind and attentive to his wife; but, whether he was in a bright mood, and tried to make her smile, or silent, and needing to be roused out of his gravity, she was always the same, nerveless, apathetic, speaking when necessary in a low, soft voice, slowly, with many pauses. I soon grew quite afraid of her and felt more restrained in her presence than if she had been one of those brilliant, satirical women who talk the color out of the rest of their sex. Anxious to shake off this strange diffidence, which was beginning to cast a shadow over my life, I offered to read to her when my short hours of study with my pupil were over.

She accepted my offer, and I read her some chapters of "Adam Bede," while she sat in a rocking-chair, with a piece of embroidery making slow progress in the thin, white fingers.

Presently I found out that she was not listening, but that she was sitting with her hands in her lap, while her eyes were fixed on the garden outside, with a deep sadness in them which contrasted strangely with her usual apathetic indifference to all things. I read on, pretending not to notice her mood, when a voice from behind her chair startled us both.

Mr. Rayner had entered the room so softly that we had not heard him.

"You look tired, my dearest Lola," said he gently; "you had better go and lie down for a little while."

At the sound of her husband's voice Mrs. Rayner had shrunk back into her usual statuesque self, like a sensitive plant touched by rough fingers—so quickly, too, that I almost thought I must have imagined the look of despair. I timidly offered to read her to sleep, but she declined at once, almost abruptly for her, and, with some conventional thanks for my trouble, took the arm her husband held out, thanked him as he carefully wrapped round her a little shawl that she generally wore, and left the room with him.

After that, her reserve toward me was greater than ever: she refused my offers to read to her again, under the plea that it was wasting my time. I was hurt as well as puzzled by this; and, being too young and timid to make any farther advances, the distance between me and the silent sad lady grew greater than ever.

An attempt that Mr. Rayner made two days after the above scene to draw us together only sent us further apart. He came into the schoolroom just as Haidee and I were finishing the day's lessons, and, after a few playful questions about her studies, dismissed her into the garden.

"The child is very like her mother in face; don't you think so?" said he. "But I am afraid she will never have her mother's strength of intellect. I dare say it will seem almost incredible to you, who have never heard her say more than is absolutely necessary, but she was one of the most brilliant talkers I have ever met, and four years ago she wrote a book which took London by storm. We had a boy then,"—his voice seem to tremble a little—"two years older than Haidee. The two children had been left in the country—in the best of care, mind—while my wife and I spent the season in town. We heard that the boy was not well; but we had no idea that his illness was serious. Well—I can scarcely speak of it even now—the child died, after only two days' illness, away from us. It was on her return from a ball that my wife heard of it. She sank down into a chair, dumb and shivering, without a word or a tear. I hoped that the depression into which she sank would wear off, but, instead, it only grew deeper. When Mona was born, just before we came to this place, a change came, but not the change I had expected. I had hoped she would reawaken to interest in life, and perhaps if the child had been a boy to replace the one she had lost it would have been so. I have been looking for an opportunity to tell you this, Miss Christie, as I was afraid you might have been puzzled, and perhaps offended, by her strange manner the other day when you were reading to her. When I came in, I fancied I caught sight of a wild look in her eyes, which is sometimes called up in them by a reference to the past, or even by a sudden vivid flash of memory. At such times only I, with the power of my long-continued affection, can calm her instantly. Do not imagine that she would ever be violent, but she might be incoherent enough to frighten you. Tell me, had she said anything that day before I came in which alarmed or puzzled you?"

"No, Mr. Rayner; she scarcely spoke while I read to her!"

"Was there anything in what you were reading likely to call up memories of the dreadful time to which I have alluded?"

"I think not. No—none."

"Now that you know something of her history, you are more likely to sympathize with her and to make some allowance for her seeming coldness. Believe me, underneath all she has a warm heart still. And I am sure you will spare a little sympathy for me, condemned to see the wife I adore living a shut-up life, at times, seeming to ignore the undying affection of which she must still be conscious."

There was something so winning in his voice and manner as he said these last words that I felt for the moment even more sorry for him than for her, and I took the hand he held out as he rose to go, and looked up with all the frank sympathy I felt. He seemed touched by it, for, as if by a sudden impulse, he stooped and let his lips lightly touch my hand; then pressing it once more in his, with a look of almost grateful kindness, he left the room.

The first Sunday after my arrival was so wet that we could not go to church, so that I had been there a fortnight before I saw a general gathering of the inhabitants. But on the very day previous to this event I had an encounter with two of the ladies of the neighborhood which left a most unpleasant impression on my mind. Haidee and I were taking our morning walk, when a big Newfoundland dog rushed through a gap in the hedge and frightened my poor little pupil so much that she began to scream. Then a young girl of about fourteen or fifteen, to whom the dog belonged, came up to the hedge, and said she was sorry he had frightened the child, but that he would not hurt her. And she and I, having

soothed Haidée, exchanged a little talk about the fields and her dog, and when the first blackberries were to be found, before we parted, my pupil and I going on by the road while the girl remained in the field. We were only a few steps away when I heard the voice of another girl addressing her rather sharply.

"Who was that you were talking to, Alice?"
The answer was given in a lower voice.
"Well, the other went on, 'you should not have spoken to her. Don't you know she comes from the house on the marsh?'"

CHAPTER III.

The shock given me by those few overheard words—"You should not have spoken to her. Don't you know she comes from the house on the marsh?"—was so great that I lay awake half the night, at first trying to reconcile Mr. Rayner's pathetic story with the horror of everything connected with the Alders expressed by the girl to her companion, and then asking myself whether it would be wise to stay in a house to which it was plain that a mystery of some sort was clinging. I could not dismiss the incident at once from my mind, and the remembrance of it sharpened my attention to the manner of the salutations that Mr. Rayner exchanged with his neighbors the next day.

Although Geldham church was only a short distance from the Alders, Mrs. Rayner was not strong enough to walk; so she and her husband drove there in the brougham, while Haidée and I went on foot.

There was a square family-pew just in front of ours, which was empty when we took our seats; but, when I rose from my knees, I found fixed upon me, with a straightforward and not very friendly stare, the round gray eyes of a girl two or three years older than myself, whom I recognized as the owner of the voice which had said of me, "Don't you know she comes from the house on the marsh?" By her side, therefore also facing me, was the younger sister, with whom I had talked. She avoided meeting my eyes and looked rather uncomfortable. As for me, I felt that I hated them both, and was glad when the gentleman who was evidently their father changed his position so that he almost hid them from my sight. Next to him sat a stout lady, who wore a black silk mantle covered with lace and beads and a white bonnet trimmed with yellow bows and unlikely clusters of roses. My heart sank curiously when I caught sight of the third person in the row, at the further end of the pew. It was Mr. Laurence Reade, my friend of the dog-cart, and I felt as if a trusted ally had suddenly proved to be an officer in the enemy's camp.

When the sermon was over, and we fled out of church, I noticed that old Mr. Rayner exchanged a few words with Mr. Reade rather stiffly, while the two girls deliberately turned their heads away from us. But Mr. Laurence Reade hung back behind the rest of his family, and stopped to speak to Haidée, who was holding my hand. He asked her to give him a kiss, and she refused—and I was very glad.

Mr. Rayner turned to his wife and led her to the carriage, while Haidée and I returned as we came—on foot.

Setting off alone in the afternoon, I got to church in very good time, and, being given a seat in the chancel, I could watch the country-people as they filed in; and, just as the last wheezy sound from the organ was dying away before service began, Mr. Laurence Reade strode up the middle aisle and banged the door of his pew upon himself.

A few heavy drops fell as I stepped out of the church door, and my heart sank at the thought of the ruin a good shower would work upon my best gown, a light gray merino. It was nearly half an hour's walk to the Alders; my way lay along lanes and across fields where there was little or no shelter, and my umbrella was a small one. I had left all chance of shelter well behind me, when the rain came pouring down like sheets of water, with a sharp hissing sound which made my heart sink within me. I stopped, gathered up my skirt round me, gave a glance round to see that no one was in sight, being aware that my appearance would be neither graceful nor decorous, and then ran for my life. Before I had gone many yards, I heard some one running after me, and then Mr. Reade's voice calling, "Miss Christie!" I ran on without heeding him, a hamed of my plight; but he would not take the rebuff, and in a few more steps he had caught me up, and, taking away my small umbrella, was holding his large one over me. He opened a gate to the right that led into a field with a rough cart-track alongside the hedge.

"But this is the wrong way. I have to turn to the left, I know," said I.

"There is a shed for carts here where we shall get shelter," said he.

And in a few minutes we reached it, and I found myself sitting under a low roof on the red shaft of a cart, watching the downpour outside, while Mr. Reade shook the rain from our umbrellas. A few days before I might have found something to enjoy in this curious encounter with my friend of the dog-cart; but the rudeness and suspicion of his sisters had made me shy with him. So I merely sat there and looked straight in front of me, while he, infected by my reserve, leant against the side of the shed and looked at me. Things went on like this for some minutes, until a bright flash of lightning dazzled me and made me cry "Oh!"

"You are frightened. Let me stand in front of you," said my companion, starting forward.

"Oh, no, thank you—I am not nervous!" I replied, contemptuously, when a loud peal of thunder startled me so much that I nearly fell off my seat.

He said nothing, did not even smile at my crestfallen look; but he took up his stand in front of me, giving me a fine view of his profile against the dark sky. Every minute of this awkward silence was making it more difficult for me to think of something to say.

"I wish it would leave off," I remarked stupidly, at length.

"Are you in such a hurry to get back to the Alders? It is no drier there than it is here."

"But at least one can change one's boots."

"Have you got your feet wet? Why, you have on little toy town-boots, not fit to walk down a country lane in! You will be laid up with rheumatic fever, or something of the kind," said he anxiously, looking vaguely about him for dry boots.

"Oh, no, no—they are much thicker than they look!" said I.

"It isn't that. But Mr. Rayner will be anxious."

[TO BE CONTINUED.]

The Towing Path.

Roberts, the eminent Scotch painter, was the son of a shoemaker in Edinburgh. His first ideas of painting were taken from the pictures on the outside of the caravans of travelling shows, which had such a fascination for him that he would follow them for miles. On his return home, dirty and tired from his long walk, he would draw these pictures on the whitewashed wall of the kitchen with the end of a burnt stick, that his mother might have some idea of the wonderful animals he had seen.

It happened one day that a customer coming in noticed the drawings, and seeing in them signs of genius, persuaded the father to apprentice him to a house painter, much against his wishes, as he had intended him to follow his own trade.

When the five years of young Roberts' apprenticeship had passed, he left Edinburgh and went to Perth, where he divided his time between house painting and scene painting, his first work there being the decoration of the walls of the dancing

seized with a fit of apoplexy, and died that same evening.

Thackeray says of him: "Looking at the multifarious works of the brave and hardy painter, whose hand is the accomplished slave of his intellect, and ready, like a genius in an Eastern tale, to execute the most wonderful feats and beautiful works with the most extraordinary capacity, any man who loves nature must envy the lucky mortal whose lot it is to enjoy it in such a way."

Roberts' mode of execution was certainly marvellously rapid. No doubt much of this faculty was gained by his early training as a scene painter. But from the beginning of his career he seems to have astonished everyone by his power of seizing a scene and at once transferring it to canvas. It is said that he painted two of his pictures in two hours each! No wonder that the number of his works is so surprising. He finished 279 paintings, but his drawings seem to have been too many to be counted. Those found in his studio after his death occupied a six days' sale, and fetched over £17,000.



THE TOWING PATH.

academy, for which he elected to be paid in lessons in the Terpsichorean art.

Five years later he became scene painter at the Theatre Royal, Edinburgh. When he had saved enough money for the purpose, he visited Normandy, where he painted Rouen Cathedral, for which he was paid eighty guineas. From that time his success was assured. He visited Spain, and brought back with him several sketches which he worked up at home, the best of which was "The Interior of the Cathedral at Seville."

He was the first English artist who undertook a voyage up the Nile, where he made a collection of sketches, which, on returning to England, took him ten years to elaborate. In 1841 he was elected member of the Royal Academy.

The last years of his life were spent in painting a series of views of the Thames near London, one of which, "The Towing Path," appears in this issue. This series was not complete when he died, an unfinished view of St. Paul's being found turned upside down on his easel, where he had left it when he went out for his usual morning walk. He was

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

Of course, some of you are great readers, and it is to those that I chiefly write this letter, because for them "danger lurks" in the choice of unsuitable books. In the course of my reading, which is large and varied, I am led to exclaim, "Oh, what a treat it is to take up a new novel and find it is not one of the legion now written, namely, the novel with a purpose (so-called)!" Nowadays there seems to be a craze for one particular "purpose," which is nothing more nor less than the overturning of all the best and holiest influences of our poor incomplete lives. Like all other "fads," the thing is overdrawn. The "New Woman" in these "purpose" books is generally so repulsive that honest and pure-minded women and men turn from her with a shudder of disgust. I think I have read pretty well all the chief novels of the past few years which pretend to deal with these noble (!) creatures and with the sacred institutions of the home and marriage. That noisome scourge of a book by Tolstoi, "The Kreutzer Sonata," set the ball rolling down an apparently endless hill, perhaps more than any other book has ever done. Doubtless Count Tolstoi is a clever, a very clever, man, but all the talent in the world will never undo some of the harm he has done with that one book. His monstrous idea of making the glorious art of music subservient to the vile scheme of the story shows indeed a low standard of thought. To enumerate, however, these "purpose" novels is not my intention. May they die out of people's minds and lie forever buried. After reading such books as these one turns with a grateful sense of relief to the novels which tell of noble works and sparkle with wit and fun, and which are brimful of such exquisite and delicate touches that one must indeed be flinty-hearted if the tears do not rise and the voice fail as the deep pathos sinks deep down into the heart. Talk of purpose. One sentence of Ian Maclaren, Barrie, Crockett, George Macdonald, and many others, can effect more than myriads of this unhealthy stuff flying broadcast through the land. Compare the morbid horrors of these books with the stirring novels of Anthony Hope, Stanley Weyman, Conan Doyle, Rudyard Kipling, etc. Parts of the "Heavenly Twins" are supposed to be pathetic, but the little poem by Eugene Field, "Little Boy Blue," has more pathos in it than all the "Heavenly Twins" and others of such style that were even written. It seems to be wisely ordained that, quite lately, a host of novelists have arisen whose immense talent places them at once in the front rank. These novelists have pure, healthy minds, and that they will ultimately succeed in flinging into the background the unhealthy literature I have touched upon I firmly believe. Human nature is not all bad, and given an equal opportunity for good and evil, surely a merciful Providence will see that the good prevail. Now, dear girls, be careful in your reading. You often hear narrow-minded people say "novel reading is full of harm." It is not full of harm, if the right novels are chosen. The reading of good, wholesome novels can do no harm. They enlarge the mind, and have often acted as a spur of encour-

agement in many cases. One does not expect people to be forever reading sermons or essays. Certainly very few young people would be content with such reading. Reading has its time and place, like everything else, and the healthy relaxation of mind caused by reading good novels can do no harm to anyone. A girl can always find someone who will tell her what books to get, for it is not to be supposed that a young girl will know all about the suitable novels. If any of you want to know of some nice, readable, and really healthy-minded novels, you can always write to your aunt—

MINNIE MAY.

P. S.—With this number we begin a story entitled "A House on the Marsh," which we recommend most highly to our readers. So full of interest that when once commenced the succeeding chapters will be eagerly anticipated.—M. M.

THE QUIET HOUR.

Throughout the Day.

Oh, guard your heart with a wordless prayer,
Your lips with a prayerful song,
As to and fro, on your tasks intent,
You go through the whole day long.
Then the fretful word will not escape,
And the angry spark not fire;
But the soul will be filled with the sweetest thoughts,
And the feet and hands ne'er tire.

And as the twilight's wings droop o'er
The earth and all it holds,
The song will to a sweetest tones be raised
While prayer the heart enfolds.
Oh sing, then; pray, then; ceaseless, strong;
The Lord watch o'er your way,
And tune your soul to victory's shout
Closing each prayful day!

A Daily Opportunity.

Every man, every woman, every child, has some talent, some power, some opportunity of getting good and doing good. Each day offers some occasion for using this talent. As we use it, it gradually increases, improves, becomes native to the character. As we neglect it, it dwindles, withers, and disappears. This is the stern but benign law by which we live. This makes character real and enduring; this makes progress possible; this turns men into angels, and virtue into goodness.

God's angels drop, like grains of gold,
Our duties midst life's shining sands;
And from them, one by one, we mould
Our own bright crown with patient hands.

From dust and dross we gather them;
We toil and stoop for love's sweet sake,
To find such worthy act a gem
In glory's kingly diadem,
Which we may daily richer make.

Great will be the blessedness of those who have not to weep over harsh words, bitter expressions, or wanton neglect to those who ought never to have been subject to such things. None will ever regret speaking too many kind words, while many will have to weep over hasty ones which made the heart ache, and perhaps hastened the death we had to mourn. If, therefore, you would escape this, and have fewer tears to shed by and by, seek and study to be kind now to those you love. If you desire a happy future, sow the seeds now. Be kindly, gracious, considerate, tender, while you have the opportunity. Seek to cast brightness and cheerfulness at all times in your home. Banish as completely as you can all harshness, meanness, suspicion, unkindness, inconsiderateness, from your being, so that when the dark shadows of trial and death give you sorrow, you may not have to add to it the bitterness of self-reproach, when it will be of no avail. Never forget that the habit which feeds and helps the one starves and hinders the other. Sow kindness, loving words, cheerful smiles, so constantly that the heart will be full and the mind possessed by such influences that there will be no room left for the rank weeds of unkindness to find an entrance or obtain a place.

Oh, speak no ill, but lenient be
To other's failings as your own;
If you're the first a fault to see,
Be not the first to make it known:
For life is but a passing day,
No lip can tell how brief its span;
Then, oh, the little time we stay
Let's speak of all the best we can.

Wait.

What a great advantage it is when we have wisdom and grace enough to omit all the hard words and sharp criticisms, and keep right down to solid, sweet and convincing logic! He is already defeated along the line of perfect love who has lost its temper and who has lost his head enough to show it.

Sharp words and sharp writing and sharp publications ought to wait until we are sure we want to use them. Sleep on them. Wait a day. Wait a week. Wait a month. Perhaps by that time you will be ready to wait forever. Perhaps you will then be glad you did not speak or write or publish such words under the heat and haste of a wounded or bad spirit, and you will say: "Well, I will not say it or write it or publish it at all. I will use something else that sounds like perfect love." No one ever regrets deliberation. Many have bitterly regretted haste.

Our Bible Premium—How the First Copy Sent Out was Received.

The FARMER'S ADVOCATE of November 2nd had little more than reached its readers before subscribers set out to secure the new names necessary to the obtaining of the new Bagster Teacher's Bible, which we offer on such favorable terms. Scarcely had two days elapsed after we had finished mailing before the first three new names and three dollars were received, together with an order for the Bible from a gentleman who, when he received the prize, wrote as follows:—

The William Weld Co., Ltd., London:

GENTLEMEN,—Many thanks for the beautiful premium Bible received this morning; clear, clean print, good paper, and containing a collection of Biblical information, outside of the Word itself, comprehensive and useful and far surpassing anything heretofore in my possession. For the valuable Bible, and your promptitude in mailing it, kindly again receive my thanks.

Respectfully yours,

Oxford Co., Ont., Nov. 7, 1896. GEO. BROWN.

This shows what a little prompt work will accomplish. Mr. Brown and others secured their Bibles with very little effort, and feel that they have secured a beautiful and valuable volume without any cash outlay whatever; and at the same time they rejoice in the fact that they have done their neighbors who subscribed for the FARMER'S ADVOCATE a lasting benefit. A sample copy of the ADVOCATE will show just one twenty-fourth of what a year's numbers are worth.

The Bagster Teacher's Bible, as the published testimonials in this and last issue testify, is at the very top among such works. The Oxford Teacher's Bible, that used to be sold at \$5 per copy, is an excellent work, but the new Bagster is way ahead of it in the information contained, while the binding, paper, and typography are as good in every way. For a Thanksgiving Day, birthday or Christmas present, or gift for a Sunday-school teacher, we cannot see how so good or more suitable a thing can be procured at so little expense or trouble as the Bible we offer so favorably. As intimated in our last issue, leading clergymen, to whom we have submitted copies of the Bible for examination, speak of it in the very highest terms. We confidently recommend it to our readers, and are now mailing them as fast as the orders come in. We trust our friends everywhere will take prompt advantage of this exceptional opportunity.

Eat Fruit, and Live!

"A dyspeptic stomach is responsible for many misdeeds attributed to a carnal heart."—Talmage.

Dr. Seeger says: "By merely attending to a proper diet a phlegmatic temperament may frequently be changed into a sanguine one and the hypochondriac may be so altered as to become a cheerful member of society."

"If our bilious friends would throw aside their liver pills and study nature in her most smiling and bounteous mood; would allow her to tempt them as Eve tempted old Adam, they would take to fruit, and by pleasant, natural and healthful methods free themselves of the thick, bilious impurities which make them a nuisance to themselves as well as to all around them. Biliousness is one of those demons that can be pretty well exorcised by proper diet and a due amount of exercise. Acid and astringent fruit, being rather a medicine than food, is less hurtful to the healthy and to children than is commonly supposed. Persons with thick and languid blood cannot eat anything more conducive to health than fruit, as it possesses the property of attenuating and putting such blood in motion."

When we are ill we gladly accept, at almost any cost, the advice of a reliable physician. Then why not accept readily advice given freely from the same source while we are in health, and by so doing remain in that desirable condition as long as possible? It was a physician who said, "Eat fruit, and live!" It promotes "clear skin, bright intellect, good digestion, and rich-colored, healthy blood," and stimulates the appetite, thus supplying strength for a vigorous, active life. The different fruit acids assist the fluids of the stomach in digesting fats. Where salt meat forms a large part of the diet the blood loses much of its potash salts and becomes unhealthy unless this loss is replaced. Fruits and vegetables are of special value in supplying this want. A noted physician advises persons afflicted with scurvy and other diseases of a similar nature to make lemonade their regular drink, and to use oranges, lemons, apples, potatoes, cabbage, and salads. He recommends "pale people" to eat a quart of strawberries a day, or, when these cannot be had, bananas; for fevers, grapes, peaches, and strawberries, given frequently in small quantities, or oranges and baked apples; for rheumatism, lemons; for severe throat trouble, including diphtheria, pineapple juice. Apples "promote healthy action of the liver and induce sleep," and so may be eaten at bedtime. These remedies, he tells us, are founded on scientific principles.

Farmers' wives, who still cling to the "pork and pie" diet, will find it to their own advantage, as well as that of their families, to vary it occasionally by serving a simple dish of fruit, raw or cooked, in some simple yet attractive way.

The apple is considered very wholesome, and has been called the "king of fruits." This year's bountiful crop is no excuse for waste and extravagance, for true economy teaches us to "waste not," even that which is most abundant. It is not true economy, however, to use the small and inferior fruit for making "hard" cider, and thus teach your boys to acquire an appetite for alcoholic drinks—better feed it to the stock than do that. In years gone by farmers made cider vinegar, cider apple sauce, and apple butter, which (with the strings of fly-bedecked, dust-laden dried fruit) constituted the year's store. Modern methods of canning and evaporating have superseded these to a certain extent, yet home-dried apples are still relished in more than country homes, if carefully protected from the fly and string flavor by using screens for quick drying in an open oven or over a hot-air register, and many there are who still consider the flavor of "mother's apple butter" unequalled. If you still have a surplus of small apples make a crock of cider jelly. Boil the cider, which must be freshly made, without sugar, until it "jells." You will find this very useful for flavoring other rather insipid fruits, such as sweet apples, pears, citrons, bananas, quinces, and figs, the quantity used varying according to the fruit. For stewed pears boil together one and a half cups water, one-half cup sugar, and two tablespoonfuls cider jelly for a moment or so; then add one-half dozen small pears, which should be pared, cored and cut in quarters, and cook until soft.

Some fruit is best stewed first and the sugar and jelly added shortly before removing from the fire. Always use agate or porcelain saucepans when cooking fruit. It is more economical to stew or steam your fruit for sauce and add the sugar when cold, but it is more toothsome to the majority of tastes when cooked in a syrup, as in apple compote. Make a syrup of one cup sugar, one cup water, and one inch of whole cinnamon, or the grated or thinly-pared rind of a lemon. (When using a number of lemons or oranges, grate and dry the rind to keep on hand for future use.) Pare and core eight or ten tart apples of a variety which does not boil to pieces. Cook these in the syrup until soft but not broken and remove carefully to a glass dish. Boil the syrup to a jelly and pour over the fruit. Fill the cores with jelly or marmalade. Garnish with whipped cream. So many ladies say, "My whipped cream always turns out butter." Let me warn you to be careful to keep your cream cold—chilled on ice if you have it. Then as the foam rises skim it off with a spoon into another cold dish, also set on ice or in cold water. Use an egg-beater and a large bowl if you have no whip-churn, and if you wish it sweetened and flavored add powdered sugar and extract of vanilla or lemon—a small quantity, as the flavor should be delicate. Thin cream rises in large bubbles, while very rich cream whips into a fine-grained foam. If you wish it to stand up when piled roughly, add, when whipping, a small quantity of gelatine—say one-quarter ounce to one pint. When using gelatine first soak it in a very small quantity of cold water and then dissolve it by adding boiling water or standing the cup containing it in boiling water. Let it cool slightly before adding to the cream.

Our Children.

GEO. W. COLBORN, GRAFTON, N. DAKOTA.

Do we take the proper interest in our children? Many parents seem to think that they must work and slave and save in order to have property to leave to their children. It often happens that children who are left a considerable property make very poor use of it, and parents are soon forgotten after death, because their children soon squander what has been left them. If we spend more money in the careful education and training of our children, by keeping them at school continuously, by furnishing them with good and wholesome reading and plenty of it, by spending time in home training, we shall do them the greatest good in our power. Parents should study the inclinations of their children, and, if possible, get the advice of a phrenologist of ability to determine the work for which they are best adapted, and do all in their power to educate the child for what he seems best fitted or adapted. It too often happens that a proud parent wishes to see his offspring attain to something for which nature never designed them, and the result is that the child is trained to grow against nature, and makes poor progress.

If we would attain the highest point of excellence we must be assisted by a natural talent for the work at hand.

'Tis far better that a boy become a good mechanic than a poor doctor or lawyer. We must aim to have all our children thorough in one thing rather than give them a little knowledge of everything. One thing all may safely do: educate children to be mannerly, sociable, trustworthy, so that they will inspire all with a confidence which is necessary to attain best results in any trade or profession. The strong tendency to get something for nothing; to get "soft snaps"; to gain in trading horses or anything, by some deception practiced; to do a day's work by idling away half of the time—all tend to make idle, shiftless and worthless men of our boys.

Our girls are not to be forgotten. They should, in addition to their school training, be taught to be good housekeepers, so that in future years they may be able instructors of children and servants. They should be furnished good reading, and a taste for self-instruction cultivated. Too many are fond of reading love stories, and think of nothing but fine dress and the mirror. Every girl should be given a good education and be taught to do some useful work. At maturity, every father able to do so should place an endowment insurance policy into his daughter's hands, payable in annuities. This would be far better than giving her a dowry at marriage, which may be squandered by a worthless husband. The desire by our girls to dress and be admired by the sterner sex is the outgrowth of a bad custom. The desire has become too great for the best good in many cases, and should be carefully guarded, lest it bring serious results. Mothers and fathers, spend more time in social chat with your children.

Puzzles.

All matter for this department should be sent direct to ADA ARMAND, Pakenham, Ontario.

1—TRANSPPOSITION.

Hallowe'en again has come,
Bringing to my mind
How we youngsters once at home
Wickedly designed
On our father dear to play
Just a primal fright,
Prompted by the imps who sway
On this special night.

So, we trained our "Billy goat"
Modestly to bow
At the sight of father's coat,
Then create a row.

When the practice was complete,
Action reinstates,
Billy, with some hay to eat,
In the cellar waited.

Down went father in a while
Apples to procure;
Bending o'er the bin to pile
Up the golden store,
He conceived a sudden sense
That 'twas Hallowe'en;
While his head, with haste intense,
Sought the apple bin.

But the tables quickly turned;
Father veered them so;
His just primal ire burned,
And we felt it glow.

CHARLIE S. EDWARDS.

2—CHARADE.
This summer we had my TOTAL.
Many it FIRST did find,
And to SECOND there every evening
Nobody seemed to mind.

To SECOND LAST was the desire
Of every creature there
In a whirligig of adventure
To abandon every care.

Who could help then FIRST feeling,
As music to each LAST did play
And the catchy tune of Sweet Marie
Still rings in our streets to-day.

LILY DAY.

3—NUMERICAL ENIGMA.
My 1, 12, 30, 13, 18, 20, 31, 6, is want of variety.
My 4, 5, 21, 28, 25, 22, 26, 15, 23, is having no equal.
My 16, 17, 19, 11, 29, 7, 32, is a kind of wild bull.
My 2, 8, 10, 3, 23, 35, 31, 30, is the time of evening.
My 21, 8, 14, 27, is consisting of oil.

Pray try to decipher
My numbers so strung,
And a popular quotation
You'll find from Young.

LILY DAY.

4—ENIGMA.
The WHOLE is seen in every home
Where milk and cream abound;
Behold and find what stays the foam
Just off the yielding ground.

If to transpose you then do try,
You'll find me near the wine;
Curtail—transpose, a bird am I—
A mythic nature's mine.

Again curtail and then transpose,
A little word am I;
Curtail again, and, well, suppose
'Tis uttered when we sigh.

CLARA ROBINSON.

5—CROSS WORD ENIGMA.
In wrong, but not in might.
In dark, but not in light.
In rave, but not in word.
In jade, but not in maid.
In nauid, but not in hayed.
Total's the name of a bird.

HATTIE MACDONALD.

6—ANAGRAM.

A CON, I CALL
This anagram,
Which doth express
Just what I am.

C. S. EDWARDS.

Answers to October 15th Puzzles.

- 1—PLANK
- 2—Sediment.
- 3—He sit-ate.
- 4—O-x (ox).
- 5—COREA
- 6—Confagration.
- OCEAN
- REAVE
- EAVES
- ANEST

SOLVERS OF OCTOBER 15TH PUZZLES.

Clara Robinson, Charlie S. Edwards. Also, for October 1st, Hattie MacDonald.

Beefsteak and Oyster Pie.

One and a half pounds of round or sirloin steak, cut in square pieces, and one pint of oysters. For paste, six ounces of butter, eight ounces (half a pound) of flour, a little salt, half a cup of water. Line dish with paste and put in a layer of meat and a layer of oysters until filled.

ON TIME
to first applicant in each locality, a pair of the FAMOUS **O. I. C. hogs.**
Two weighed **2806 lbs.** Sold for breeders first 1/2 this year.
DESCRIPTION FREE.
L. B. SILVER CO., Cleveland, O.



Dispersion Sale.
— FANCY —
Jersey Dairy Stock
will be offered at Public Auction, by F. S. MALCOLM, Innerkip, Ont.,
November 25, at 1 o'clock p. m.,
Consisting of 33 head of Pure-bred and Grade Jersey Dairy Stock—Cows, Heifers, Calves, and stock bull, Lillium's Signal No. 34378, A. J. C. C. This herd has been selected and bred for practical dairy work, and the herd of 16 cows averaged \$65 per head last year.
Three miles north of Innerkip, C. P. R.; four miles from Bright, G. T. R. Twelve months' credit; seven per cent. off for cash of sums over \$10. Loss of right hand reason for selling.

SECOND ANNUAL LIVE STOCK SHOW
OF
DRAFT HORSES, PONIES, CATTLE, SHEEP, DAIRY PRODUCTS, AND FAT STOCK,
Under the auspices of the
National Association of Exhibitors of Live Stock,
MADISON SQUARE GARDEN, NEW YORK,
Nov. 23rd to 28th,
1896.
\$10,000 in Premiums and Prizes. Entries close Saturday, November 7th. For Prize List and Entry Blanks, address
FRANK W. SANGER, Manager,
Madison Square Garden, New York City, N. Y. 21-b-om

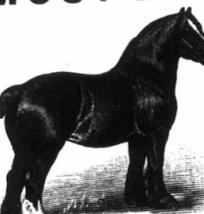
For Sale—SCOTCH SHORTHORNS of both sexes; also a few **BERKSHIRE Sows** six months old. Prices right. Correspondence solicited.
F. A. GARDNER, Britannia, Ont. 22-2-y-o

IT PAYS TO ADVERTISE
— IN THE —
FARMER'S ADVOCATE

Auction Sale Pure-bred Ayrshires, Holsteins and Jerseys.
AYRSHIRES.—Males—1 two years old. 1 calf six months old. Females—3 cows and 1 heifer calf.
HOLSTEINS.—Males—1 three years old. 2 bull calves. Females—9 cows and heifers.
JERSEYS.—1 bull four years old. 1 bull calf. ALL REGISTERED OR ELIGIBLE FOR.
On Tuesday, November 24th, 1896.
SALE TO COMMENCE AT 1 P. M.
TERMS.—11 months' credit on approved joint notes. 8% per annum off for cash on all sums of \$10.00 and over.
M. C. R. Station (Springfield), 3 miles distant.
G. T. R. Station (Corinth), 7 miles distant.
C. P. R. Station (Putnam), 9 miles distant.
ALEX. WOOLLEY,
SPRINGFIELD, ONT.

EXECUTORS' SALE.—Stock of the late Thos. Pugh, Whitevale, Ont., Friday, Nov. 27th. 40 shearing ewes (good even lot), 40 two- and three-shear ewes, 10 ram lambs, 5 shearing rams. Ewes bred to ram bought of J. Miller & Sons, Brougham. Shorthorns—5 heifers, 18 months to two years old; 3 bull calves, 8 mos.; 2 heifer calves; 1 bull, 3 years; 7 young cows.
HILL HOME SHROPSHIRE
We have for sale shearing rams of exceptional merit; ram and ewe lambs of choicest quality and covering, sired by Tinker, a winner at New York and London and now heading our exhibition flock of '96, and an imp. Parker ram. Can also furnish grand show pens, right. Lambs from this flock won all specials offered at Toronto, London, New York, Guelph, and ten county fairs in 1895. Parties wishing stock of extra quality should visit this flock before purchasing elsewhere.
14-L-o **D. C. Hanmer & Sons, Mt. Vernon, Ont.**

MUST BE SOLD
A few Imported Mares in foal to Grandeur.
Also a promising yearling Hackney Colt. They will be sold very cheap.
QUEEN.
D. & O. SORBY, - GUELPH, ONT. 6-2-y-om



1864. HILLHURST FARM. 1894.
HACKNEY HORSES,
Shorthorn and Aberdeen-Angus cattle, Shropshire and Dorset-Horn sheep.
M. H. COCHRANE,
16-2-y-om **HILLHURST STATION. P. Q.**
F. BONNYCASTLE & SONS,
CAMPBELLFORD, ONT.,
Breeders of Short-horn Cattle, Cotswold Sheep; an extra lot of ram lambs, ewe lambs, and breeding ewes, also a very fine shearing ram. Cows, heifers, and heifer calves for sale. 12-2-y-o



THOS. ALLIN & BROS.
LAKE VIEW FARM, OSHAWA, ONT.,
Breeders of **CLYDESDALES, SHORTHORNS, and SHROPSHIRE.** Have 1 yearling bull and 1 two-year-old bull (sired by Duke of Lavender). Will go cheap. 4-2-y-om
FOR SALE! 10 SHORTHORN BULLS and a few heifers, nearly all from imported cows and got by an imported bull. 22-2-f-om
JOHN ISAAC,
Kinellar Lodge, - Markham, Ont.



H. K. Fairbairn, Thedford, Ont.,
Breeder of pure bred Shorthorns. I now have for sale two good young bulls, 11 and 13 months sex, and choicest breeding. Will sell cheap, considering quality. 22-2-y-o
THE GRAND VALLEY STOCK FARM
G. & W. GIER, Props., Grand Valley, Ont.,
Breeders of Short-horns and Imp. Yorkshires. We offer for sale young bulls, cows and heifers of choice breeding and good quality at very low prices; also choice young Yorkshires of both sex. 13-y-o



A. J. WATSON, CASTLEBERG, ONT.,
(ASHTON FRONTVIEW FARM), breeder of choice SCOTCH SHORTHORNS. Young stock of either sex, and choicest breeding, for sale at reasonable prices. Correspondence solicited. Bolton Station, C. P. R. 22-2-y-o
HAWTHORN HERD
of DEEP MILKING SHORTHORNS.
FOR SALE—Four young Bulls, three reds and one roan; also Heifers, all got by Golden Nugget = 17548—, and from AI dairy cows. **WILLIAM GRAINGER & SON,** 13-y-om **Londesborough, Ont.**

NOTICE.
The Saskatchewan buffalo robes are well described in their advertisement elsewhere in this issue. We may say, however, that we have used one for a couple of seasons and are particularly pleased with it. We believe the manufacturers do not claim too much for them. We have frequently examined robes that have been in use in livery stables and by doctors and others doing a lot of driving for three to four or five years, and invariably found them in good condition. They are wind and water proof, the fur cannot be pulled out, and they have not that weight that causes a skin robe to be continually slipping down while on the road.

GOSSIP.
One of the pioneers of the Canadian export cattle trade, Mr. Cornelius Flanagan, died recently in England.
At Montrose, Scotland, the other day, Hon. John Morley declared that the cattle embargo was "undisguised protection."
Over a million people in India are threatened with starvation owing to the famine. Wheat and cotton crops have both failed.
The executors' sale of stock of the late Thos. Pugh, Whitevale, Ont., advertised in this issue, comes at a favorable time to be well attended—Nov. 27th. The yearling and aged ewes have been bred to rams from the flocks of A. Hager, Ottawa, and John Miller & Sons, Brougham.
A few days ago the Dominion Cheese Inspector at Montreal detected and stopped a suspicious lot from Chicago en route for England. It was not branded in accordance with the new U. S. filled-cheese law. The Dominion Dairy Commissioner has sent full particulars regarding it to the Washington authorities.
By this time quite a number of the fall fattened hogs will have been disposed of, leaving pens vacant. No doubt many will appreciate the value of a change of blood, and now is the time to introduce some new stock into the empty pens, as Henry Heron, of Avon P. O., Ont., is offering high-class Chester Whites and Poland-Chinas in this issue at low prices.

At the annual meeting of the American Aberdeen-Angus Breeders' Association, Nov. 11th, officers were elected as follows: President, E. S. Burwell, of Wisconsin; Vice-President, M. L. Evans, of Iowa; Secretary-Treasurer, Thos. McFarlane, of Illinois; Directors for three years—H. W. Elliott, of Missouri; E. S. Burwell, of Wisconsin; L. McWhorter, of Illinois.
During the past month over 700 hogs affected with cholera were slaughtered by the Dominion authorities in Essex county, Ontario. More rigid and vigorous measures are now being enforced, carcasses being burned instead of being simply buried. Dr. McEachran, Chief Veterinary Inspector, has been on the scene directing the crusade to stamp out the disease. The warnings given by the ADVOCATE as to the gravity of the situation were not overdrawn.

Business cows are what every farmer wants; in fact, a great many are now selecting and breeding with a view to possessing a future high-class dairy cow. While such a course, if wisely conducted, will surely bring a man to a desirable goal, yet when proved stock can be purchased reasonably much time is saved and nothing lost by the deal. A sad misfortune has befallen Mr. Malcolm, of Innerkip, which is causing him to sell out his herd of Jerseys on Dec. 1st. See his advertisement in this issue.
We are advised by Secretary Wm. H. Caldwell, Peterboro, N. H., that the annual meeting of the American Guernsey Cattle Club is to take place on Wednesday, Dec. 9th, 1896, at 10:30 a. m., at the Colonnade Hotel, 15th and Chestnut streets, Philadelphia, Pa. It is hoped that all members will be present, as matters of considerable importance are to be considered and dealt with, such as changing the constitution, establishing the office of Vice-president, and the adjusting of rules regarding imported animals. The year just closing is regarded as a profitable one for the club.

The practice of waiting until near spring before buying a bull is not, as a rule, a good one. The wide-awake breeders slip round early in the season and pick out the best and have the use of them during the whole winter season, not only on their own herds, but when a bull is over 18 months old his services in the neighborhood in a whole winter will mean some revenue. In buying a bull, or a heifer, they are all the better to have come from imported stock, and that is just the sort John Isaac, of Kinellar Lodge, Markham, Ont., is offering. See his advertisement.

A. ELLIOT, Pond Mills, breeder of Collie Dogs, Tamworth and Duroc-Jersey pigs, Oxford Sheep & sweepstakes strain B. Turkeys.

TO ANY OF OUR SUBSCRIBERS FURNISHING THE REQUIRED NUMBER OF NAMES WE WILL SEND PER MAIL OR EXPRESS, AS MOST CONVENIENT, THE FOLLOWING

**PREMIUMS!
PREMIUMS!!
PREMIUMS!!!**

**CHARGES
PREPAID**
ON ALL . . .
**EXCEPT
ANIMALS.**

Pressed Flowers

FROM THE **Holy Land.**

AN EXQUISITE PREMIUM FOR HOLIDAY TIME.

SUITABLE FOR A **Birthday,
Christmas,
or New Year's Gift.**

HIGHLY INTERESTING TO SUNDAY-SCHOOL WORKERS AND LOVERS OF FLOWERS.

Contains a collection of beautiful flowers, gathered and pressed in Palestine, by Rev. Harvey B. Greene, together with description of each and Scripture references. Mr. Greene has frequently visited Palestine, and gathered and assorted with his own hands these specimens, which he offers to the Christian world.

The acting U. S. Consul at Jerusalem, Palestine, Mr. Herbert Clark, writes Mr. Greene under date of April 20th, 1896:

"Dear Friend,—I am sorry I shall not have the pleasure of seeing you again before you leave for home, laden with those thousands of beautiful flowers you have culled and preserved during the last three months.

"Yours sincerely,
"HERBERT CLARK."

The flowers are beautifully preserved with all their natural tints, and are attached to extra finished heavy chromo paper, specially

made for the purpose, with description on the page opposite to each specimen.

It is neatly bound in antique finish cover; title, "Pressed Flowers from the Holy Land," embossed in gold on front page.

HOW TO GET IT.

By special arrangement we have secured a supply of these volumes, and are able to offer a copy to any subscriber sending us the name of ONE new yearly paid-up subscriber.

THE SILO AND ENSILAGE

NEW BOOK PREMIUM.

How to build, fill, and feed from a Silo. Most complete work yet issued.

HOW TO SECURE A COPY.

Any subscriber sending us one new subscription and \$1.00 will receive a copy, paper bound; or, for two new subscriptions and \$2.00, a copy well bound in cloth. Price: paper, 50 cents; cloth, \$1.00.

SHEEP -- BREEDS

AND MANAGEMENT.

By John Wrightson, M. R. A. C., F. C. S. Most complete and up-to-date work on Sheep-rearing. Twenty-three full-page illustrations.

FOR THREE NEW SUBSCRIBERS.

"CANADA'S GLORY"

OUR NEW PREMIUM PICTURE!

A beautiful engraving representing eleven of the grandest light horses in Canada. Should adorn the drawingroom of every lover of the horse. Is a life-like and popular work of art, unequalled in live stock portraiture.

HOW "CANADA'S GLORY" MAY BE OBTAINED.

Any subscriber sending us one new subscription to the FARMER'S ADVOCATE, accompanied by \$1, will receive a copy. Price, 50c. Copies of

"CANADA'S PRIDE"

OR **"CANADA'S**

COLUMBIAN VICTORS"

may still be obtained by sending us the name of one new yearly subscriber for each. Price, 25 cents each.

HOW TO GET A **FIRST-CLASS COLLIE.**



To any subscriber sending us the names of 10 new yearly paid-up subscribers we offer a young Collie, six weeks old or over, eligible to registration, and bred by Mr. R. McEwen, Byron, Ont.



DUKE
(PLAIN)

DUCHESS
(ENGRAVED)

A thoroughly reliable 18 size watch with a Genuine American lever movement. Runs over 30 hours. Total weight, only 4 1/2 ounces. They are perfect time-keepers. These watches have taken well and given good satisfaction for years. This watch, with chain and charm, will be given to any subscriber sending us the names of three new yearly paid-up subscribers.

HOW TO GET THE

"FARMER'S ADVOCATE" FREE.

To any one sending us the names of three new subscribers and \$3 we will send the FARMER'S ADVOCATE free to January, 1898.

Handsome Gifts Sent Post Prepaid

For obtaining New Subscribers to the FARMER'S ADVOCATE. See terms and description below each ring. Subscriptions must be NEW and for one year at \$1.00 each, and cash accompany orders.

TO find the size of ring required, take a narrow strip of paper that will draw tightly around the finger, forward same to us, and we will assure you a perfect fit.

CHILDREN'S OR MISSES' REAL STONE SETTING.

- No. 1—Price, \$1.25. 1 Pearl, 2 Garnets. 2 New Subscribers.
- No. 2—Price, \$1.25. 1 Garnet. 2 New Subscribers.
- No. 3—Price, \$1.50. 3 Pearls. 3 New Subscribers.
- No. 4—Price, \$2.00. 1 Pearl, 2 Garnets or Coral. 3 New Subscribers.

LADIES' REAL STONE SETTING.

- No. 5—Price, \$3.50. 2 Pearls, 3 Garnets. 5 New Subscribers.
- No. 6—Price, \$3.50. 2 Garnets, 5 Pearls. 5 New Subscribers.
- No. 7—Price, \$3.50. 1 Garnet, 2 Pearls. 5 New Subscribers.
- No. 8—Price, \$2.00. 3 New Subscribers.

Agents Wanted in Every Locality. Liberal Cash Commission Allowed if Preferred. Balance 1896 and all 1897 for **\$1.00.** Payable in advance. Send for Free Sample Copies.

The WM. WELD CO., Ltd., London, Ont.

A Crayon Portrait

FREE.

WE have made arrangements with the leading Portrait Company in Canada, and are in a position to give our subscribers a rare opportunity of securing a magnificent portrait, size 16 x 20. Any subscriber to the "FARMER'S ADVOCATE" can obtain one of these crayon pictures by securing for us four new subscribers to the "FARMER'S ADVOCATE" and forwarding same to us together with \$4.00 in cash. In the case of any of our old subscribers failing to secure the necessary number of new subscribers, a portrait will be furnished for \$1.50. Any new subscriber sending us \$2.50 will receive a portrait, and the "FARMER'S ADVOCATE" for one year.

THE KIND OF PICTURE WE COPY FROM.—Portraits will be copied from photographs, cabinets, or tints. Do not send a dim or faded picture. All pictures copied must (head and shoulders). Where picture contains more than one head a charge of 50 cents extra will be made for each additional head ordered, and if full or half length figure is required, 50 cents extra.

NO FRAMING CONDITIONS.—You are not obliged to buy a frame. The portraits are made for us by artists of national reputation and who produce ONLY the highest grade of work.

HOW TO ORDER YOUR PORTRAIT.—Suggest as few changes as possible from the original photograph, as a portrait can be copied much better with few changes. Your photograph will be returned in as good condition as it is received. Write your name, Post Office address and nearest Express Office on the back of the photograph.

GUARANTEE TO SUBSCRIBERS.—The portraits are the work of first-class artists. They are natural and as finely finished as portraits sold from \$1 to \$5. They are truly a work of art. Each portrait is finished by hand in crayon and Indian ink, and will not fade.

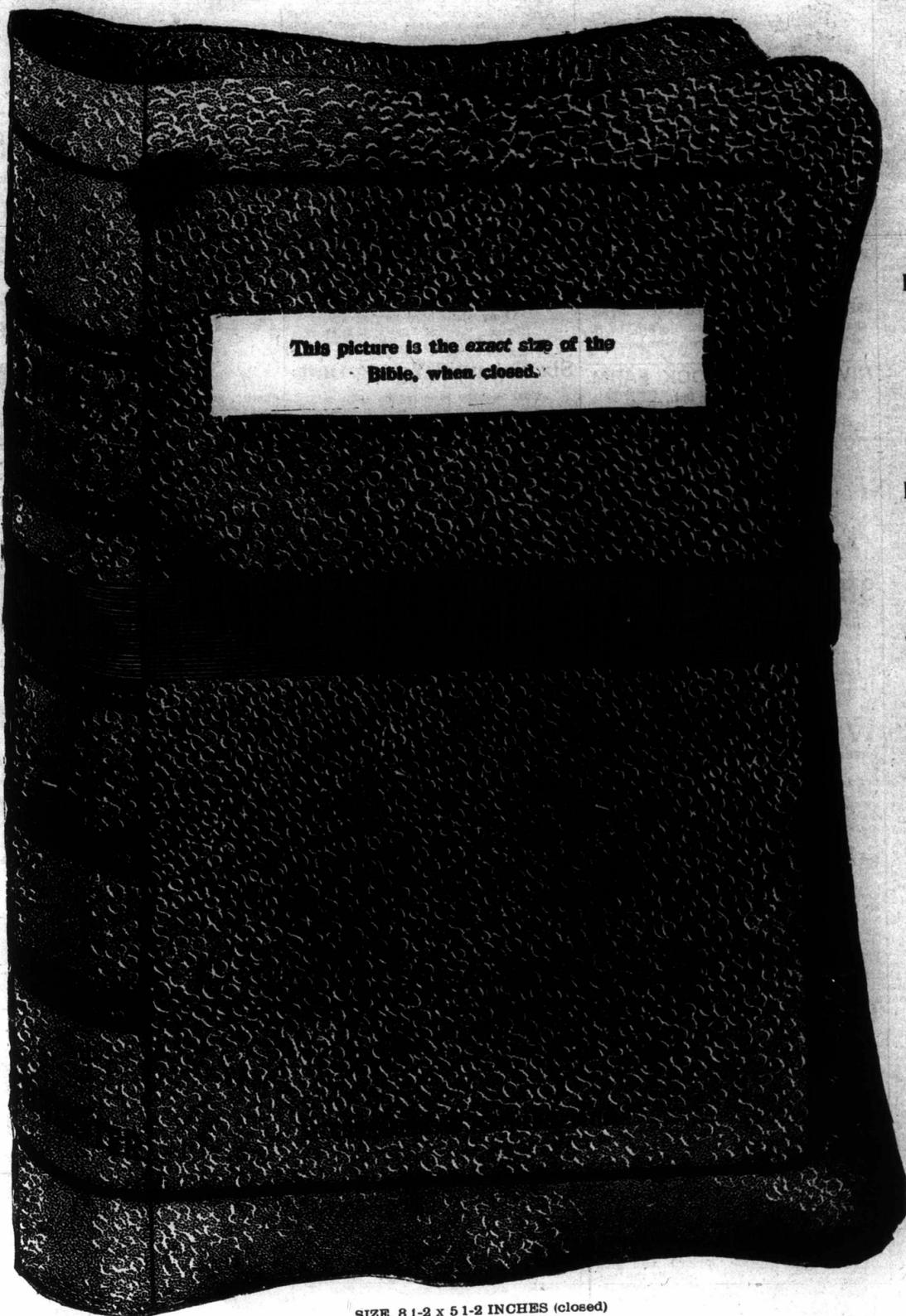
SEND IN YOUR ORDERS QUICKLY.

Portraits, in all cases, will be sent by express to insure safe delivery, and in perfect order.

A Grand Premium!

BAGSTER'S NEW COMPREHENSIVE TEACHER'S BIBLE

CONTAINING THE OLD AND NEW TESTAMENTS, ACCORDING TO THE AUTHORIZED VERSION, TOGETHER WITH NEW AND REVISED HELPS TO BIBLE STUDY—A NEW CONCORDANCE AND AN INDEXED BIBLE ATLAS, WITH SIXTEEN FULL PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.



This picture is the exact size of the Bible, when closed.

SIZE, 8 1-2 x 5 1-2 INCHES (closed)

Binding—

Strong, durable, flexible American Seal (best material), improved circuit cover, round corners, red-under-gold edge.

Paper, Type, etc.—

Of superior quality, clear and distinct, easy to read.

Maps (with index)—

Revised and brought down to January, 1896.

Helps—

Covering nearly 2,000 subjects—contain all features so popular in the past, and an endless amount of fresh matter, including concordance on new and improved plan, dictionary of proper names and places, with pronunciation and meaning.

How to Obtain this Handsome and Valuable Bible (WHICH ORDINARILY WOULD RETAIL AT FROM \$4 TO \$5):
WE WILL SEND (CAREFULLY PACKED, POST PREPAID) THIS BIBLE TO ANY ONE SENDING US THE NAMES OF THREE NEW SUBSCRIBERS TO THE "FARMER'S ADVOCATE" AT \$1.00 EACH.

*SAMPLE COPIES OF "FARMER'S ADVOCATE"
*SENT FREE TO INTENDING CANVASSERS.

THE WM. WELD CO. (Ltd.), London, Ont.

GOSSIP.

The sale of pure-bred Holsteins, Ayrshires, and Jerseys, owned by Alex. Woolley, Springfield, Ont., previously announced to come off on Thursday, Nov. 5th, has been postponed until Tuesday, Nov. 20th, at 1 o'clock p. m. The reason for the postponement was the exceeding inclemency of the weather on the date first set. Mr. Woolley has a quantity of very good stock to dispose of at the prices bid. The upward tendency of dairy products should insure a brisk sale. See gossip at the bottom of page 487 of last issue for description of animals to be sold.

Capt. A. W. Young, Tupperville, Ont., in writing us to change his advertisement, which makes some exceedingly liberal offerings, states that he is going to breed about twenty sows for the season's trade. His advertisement mentions honey. It is unfortunate for the health of the nation that so few appreciate the value of honey as an article of food. By its more liberal use the consumption of butter may be slightly decreased, but the change would be advantageous.

An exceedingly complete and attractive catalogue of sixty pages, illustrated with a number of excellent portraits, has recently been issued from Hillhurst Farm, Hillhurst, Que., owned by Hon. M. E. Cochrane. It contains extended pedigrees and descriptions of the present Hillhurst Hackney stud, which bears the reputation of being the oldest in America; also articles descriptive of the farm, and the Hackney breed, which is daily growing in popularity.

A. & G. Rice, Brookbank Stock Farm, Currie's, won the G. de C. O'Grady medal at the Woodstock fall show, given to the exhibitor taking most prizes on cattle. Messrs. Rice had 17 prizes on their Holsteins, including first excellent lot, and are doing exceedingly well. Most of them were in the fields all summer until Sept. 1st, and it is never much trouble to make them gain very rapidly when taken into the stable after a summer run. At present ours have abundance of good hair, and are just rounding themselves out smoothly and evenly with nice firm flesh. We have them the lot of three most excellent sires—British Flag, by Barmton Hero; Abbotsford, first prize bull at Toronto and silver medal at London; and a few by Caithness, first prize two-year-old at London; and the dams of most of them are most excellent milkers. Seven of them are good roan in color, seven are red, and one is pure white, and as he is an exceptionally good calf, we shall expect buyers of good sires to select him as first choice. The dam of Caithness has given us, a few weeks ago, another bull calf, a rare beauty, and as plump and thick as he should be, for his dam contrives to give us from 20 to 25 pounds of milk per day after he has taken all he wants at the time. We are using Caithness largely in our herd, and hope through him to perpetuate the good milking qualities we claim for the cows at Maple Lodge. We have some very nice Leicester ewes yet we would part with, but our rams are all gone except one shearing and a couple of ram lambs.

Jas. S. Smith, Maple Lodge, Ont.:—"The young bulls we have for sale this year are an excellent lot, and are doing exceedingly well. Most of them were in the fields all summer until Sept. 1st, and it is never much trouble to make them gain very rapidly when taken into the stable after a summer run. At present ours have abundance of good hair, and are just rounding themselves out smoothly and evenly with nice firm flesh. We have them the lot of three most excellent sires—British Flag, by Barmton Hero; Abbotsford, first prize bull at Toronto and silver medal at London; and a few by Caithness, first prize two-year-old at London; and the dams of most of them are most excellent milkers. Seven of them are good roan in color, seven are red, and one is pure white, and as he is an exceptionally good calf, we shall expect buyers of good sires to select him as first choice. The dam of Caithness has given us, a few weeks ago, another bull calf, a rare beauty, and as plump and thick as he should be, for his dam contrives to give us from 20 to 25 pounds of milk per day after he has taken all he wants at the time. We are using Caithness largely in our herd, and hope through him to perpetuate the good milking qualities we claim for the cows at Maple Lodge. We have some very nice Leicester ewes yet we would part with, but our rams are all gone except one shearing and a couple of ram lambs."

A. W. BRANDOW'S TAMWORTHS. Mr. Brandow's farm is situated near Walsingham Centre, Ont. His fine herd of Tamworths, which now number about thirty head, are descended from the Grant & Co. importation. Among the breeding sows, the most outstanding are the two sows, Susan 440—purchased from J. L. Revel and sired by imported Nimrod—174—, and Bell—575—, by Jack—387—, bred by A. Dunn, Ingersoll. These sows are of the lengthy, deep-sided type, with good backs and hams, and have proved very successful breeders, most of the young stock on hand being descended from them, by Rob Roy, a fine boar bred by J. L. Revel and sired by Buffalo Bill 143—, Mr. Brandow is now prepared to supply young stock of all ages and choice quality and breeding at farmers' prices. Intending purchasers of this breed should note his advertisement.

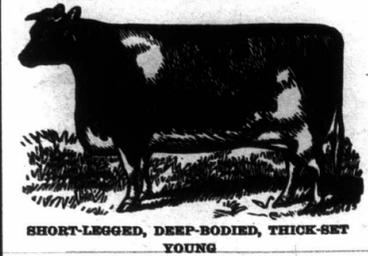
OAK HILL HERD OF TAMWORTHS. Near Wolverson, Ont., Messrs. R. J. & A. Laurie are engaged in the breeding of Tamworth swine, the herd now numbering some thirty head, and are descended from Grant & Co.'s importation. Lady Crompton, by Crompton Duke, a very lengthy, deep, even sow of nice quality, purchased from Andrew Dunn, of Ingersoll, and Alice, bred by J. C. Nichol, of Hubrey, may be classed among their best sows, being of capital type and first-class breeding. They have also proved themselves excellent breeders, as their offspring testify. The herd was also very successful at all the best local fairs this year. Springbrook Hero, bred by A. C. Hallman, now heads the herd; a capital boar, sired by imported British Chief. Messrs. Laurie are now offering choice young pigs of all ages up to six months in our advertisement columns, therefore parties desirous of raising a type of swine for which the markets now call should write these gentlemen.

SHORTHORNS AT ROSE COTTAGE STOCK FARM. The above farm is located a couple of miles south of Theford, Ont., and is operated by Mr. Henry Fairbairn. The herd now contains about twenty head, and is descended from such noted sires as old Barmpton Hero, Imported Warrior, and Great Chief by Indian Chief. Great Chief, the bull last in use, is a full brother to Mr. Simmons' prize-winning bull, Mina's Chief. A few of the best cows noticed in the herd were Frances Folsom—1420—, by Prince Albert—3669—, and several of her daughters and granddaughters, the best of which are Maid of the Mist—15330—, a daughter by Imp. Warrior, Frances Folsom 3rd, and a fine two-year-old granddaughter, Mary Dalrymple. In the stables were seen a couple of good young bulls, eleven and thirteen months old, by Great Chief, and out of Frances Folsom and Frances Folsom 3rd. Mr. Fairbairn informs us that these two cows had proved most excellent and valuable breeders.

Shorthorn Bulls

Two Yearlings, Six Calves. First-class Color. First-class Form. First-class Pedigree. Third-class Price. Full particulars cheerfully given. Address: JOHN DRYDEN, 19-b-om BROOKLIN, ONT.

Arthur Johnston



SHORT-LEGGED, DEEP-BODIED, THICK-SET YOUNG

SHORTHORN BULLS, COWS AND HEIFERS

We are breeding registered BERKSHIRES of the best English strains. Shorthorns or Berkshires shipped to order. Send for our 1895 catalogue.

GREENWOOD P. O. AND TELEGRAPH OFFICE. Clearmont Stn. C.P.R. or Pickering Stn. G.T.R. Parties met on shortest notice at either station. 5-1-y-om

RIVER BO'W STOCK FARM.

B. SNARY & SONS, Croton, Ont., Breeders of Shorthorn Cattle, Poland-China, Duroc Jersey, and Chester White Swine, and Leicester Sheep. We now offer for sale five good young bulls, and also heifers of choice quality and breeding, sired by Chief Captain, a son of Indian Chief. Young pigs of both sexes & all ages at exceedingly low prices.

SHORTHORN BULLS

I have six young bulls, got by Aberdeen (imp.); good ones. One is a full brother to the champion heifer at Toronto and Ottawa fairs this fall; also some fine young heifers. Write for prices, or, better, come and see them.

JOHN MILLER, Markham, Ontario. Stations—Locust Hill, C.P.R. Markham, G.T.R.

W. G. PETTIT, FREEMAN, BREEDER

Shorthorns, Shropshires, and Berkshires OF . . . Offers for sale a choice lot, consisting of eight young bulls, 40 one-, two- and three-year-old ewes, sixteen yearling rams, and twenty ram lambs, and a choice lot of Berkshires. Big bargains will be given for the next thirty days, as I want to reduce stock before winter. 15-y-om

CARGILL HERD OF SHORTHORNS.

Six young Bulls, and as many heifers as you want, all bred in the purple. Come and see them or write. H. CARGILL & SON, Cargill Stn. & P.O. Station on the farm. 11-y-om

THE GLEN STOCK FARM

Our stock comprises Clydesdales, Ayrshires, and Shropshires. High-class Ayrshires a specialty. We are making a special offering of ten very promising young bulls, and a number of very choice cows and heifers of the heaviest and richest milking strains, any of which will be sold at very moderate prices. We also have Rough-coated Scotch Collies for sale, eligible for registry. 7-y-om WHITESIDE BROS., INNERKIP, ONT.

A. HOOVER & SON,

EMERY, ONT., BREEDERS OF Holstein-Friesians of the choicest blood type; selections from our herd won the herd prize at Toronto Industrial and Montreal in 1895. Herd now headed by the two-year-old Baron Witzzyde, who has never yet been beaten in the show rings of Canada. Stock for sale. Prices right. 10-2-y-om

MAPLE HILL HOLSTEIN-FRIESIANS.

FOR SALE—Yearling Bull, Sir Aagrie Barrington's fine dairy form, good color, and in good condition. His grandam, imp. Kaatje DeBoer, is now making, in my herd, from 24 to 3 lbs. of butter per day, at 12 years old. The bull resembles her very much in form and markings. Price, \$40.00. 11-y-om G. W. CLEMENS, St. George, Ont.

"Gem Holstein Herd."

NAP! \$75.00 CASH Sir Archibald Mascot, No. 353, C.H.F. H. B., 4 years old 8th of October, 1895; was never sick a day; is very active, and a splendid stock getter, and is in every respect a first quality bull. We have used him as our stock bull with the very best results. Only part with him to change breeding. He was a prize winner three years in succession at Toronto Industrial Exhibition. ELLIS BROTHERS, BEDFORD PARK P.O., ONT. Shipping Station, Toronto. 7-y-om

HOLSTEINS

None but the best are kept at BROCKHOLME FARM, ANCASTER, ONT. Write me for prices if you want first-class stock at moderate figures. Holsteins in the advanced registry. Yorkshires all recorded. 12-y-om R. S. STEVENSON, Prop.

HOLSTEINS!

WE now offer young stock that have won prizes, and calves from our show herd, from one month to one year old, whose dams have large records—any age or sex—FOR SALE, at very low prices to quick buyers. Also some Poland-China Pigs, 1 and 6 months old; same quality (the best). A. & G. RICE, Brookbank Stock Farm, CURRIE'S CROSSING, Oxford Co., Ont. 18-y-om

LAST CHANCE

To obtain a young JERSEY BULL from the famous Belvedere herd. As my whole herd now goes to Prince Edward Island, I have reserved for my customers

Six Splendid Young Bulls

Four months to eighteen months old. Sure prize-winners. Reasonable prices to immediate buyers. These are the best I have ever offered.

MRS. E. M. JONES, Box 324, BROCKVILLE, Ont., CAN.



JERSEYS FOR SALE—Young Cows and Heifers in calf. Heifer Calves and Bull Calves, richly bred, best testing strains, and good color. Also first-class Berkshire Boars and Sows, bred straight from imported stock. Come and see or write for prices.

J. C. SNELL, - Snelgrove P.O., Ont. R. R. Station, Brampton, G. T. R., and C. P. R. 8-y-om

D. H. KETCHESON

MENIE, - ONTARIO, BREEDER OF CHOICE A. J. C. C. JERSEYS (St. Lambert and St. Helier strains) and REG. SHROPSHIRE. A few fine shearing rams and ewes for sale at prices to suit the times. 12-2-y-om

JOHN PULFER, BRAMPTON, ONT.,

Breeder of choice Jerseys reg. and high-grade, of fine quality. Also TAMWORTH SWINE. Young stock always for sale at prices that should sell them. 12-2-y-om

JERSEYS FOR SALE

At the head of the herd is the grand young St. Lambert bull, Nabob, son of Nell's John Bull. Stock of both sexes and different ages, and of choice breeding, now on hand. JONATHAN CARPENTER, 12-2-y-om WINONA, ONT.

WILLOW GROVE HERD OF JERSEYS.

Sweepstake herd of 1894. Stock from imp. bulls and imp. and home-bred dams of St. Lambert, St. Helier, and Signal strains. Young of splendid individuality always for sale; also Plymouth Fowls. Eggs, \$1.00 per setting. Highfield St., G. T. R. 6-2-y-om J. H. SMITH & SON.

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-om

A. J. C. C. H. R. Lee Farm Jerseys

For sale: Several young bulls fit for service—prize winners; young cows soon due to calve, heifers in calf, and calves. This is all first-class stock. Must reduce before winter. E. PHELPS BALL, Lee Farm, Rock Island, P. Q. 17-y-om

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA! Bull Calves OF THE RIGHT SORT For Sale. Address—H. D. Smith, INGLESIDE FARM, Compton, Que. 17-y-om

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared. Address: SYDNEY FISHER, Alva Farm, Knowlton, P. Q. 17-y-om

OAK POINT STOCK FARM

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



J. YULL & SONS, MEADOWSIDE FARM, CARLETON PLACE, ONT.

Choice Ayrshires of deepest milking strain. Largest and oldest herd in Canada; headed by Leonard Meadowside, winner of 1st prize at Chicago, Ottawa, and Gananoque. Fine Shropshire Sheep, and a choice lot of young Berkshire Pigs for sale. Visitors met at Queen's Hotel, Carleton Place. Give us a call before buying elsewhere. 20-y-om

JAMES COTTINGHAM,

RIVERSIDE FARM, Ormstown, Que., Breeder of Ayrshire cattle. Herd is headed by the prize-winning bull, White Prince of St. Anne's—6108—, Choice bred stock for sale at all times, including some very choice young bulls and heifers. 4-2-y-om

AYRSHIRES FOR SALE.

Several good yearling bulls by Earl of Percy and Prince Leopold, also cows and heifers. My spring calves will be by the noted bulls White Prince, Sir Colin, and Earl of Percy. Prices right. F. W. TAYLOR, Wellman's Corners, Hoard's St. 4-2-y-om

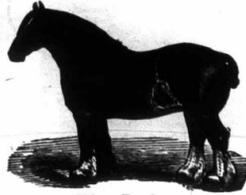
Maple Cliff HERD OF... Ayrshires

Are noted for their successful show-yard career. Choice quality and heavy milking families. A few exceptionally choice young animals of both sex now for sale. Prices in keeping with the times. For particulars address ROBERT ROBERTSON, Prop., 16-2-y-om COMPTON, QUE.

GLENGARY STOCK FARM.

My herd comprises the best strains procurable. Am now offering young bulls and heifers descended from the importation of the late Thos. Brown. PRESS RIGHT. JNO. A. McDONALD, JR., Williamstown, Ont. 4-2-y-om

THORNCLIFFE STOCK FARM!



Montrose, The Ruler, Carruchan Stamp, Knight Errant and other celebrities.

I have on hand the best young GYMNASTS, Horses and Mares on this continent. Bred from the well-known sires, Prince of Wales, Darnley, Macgregor, Energy, Lord...

SHROPSHIRE.

Orders can now be booked for Shearling Rams, Ram Lambs and Ewes, bred by the celebrated prize-winning English ram, Bar None. Also Rams and Ewes of this year's importation.



SHORTHORNS!

CHOICE YOUNG HEIFERS and BULLS

by the celebrated Cruickshank bulls

NORTHERN LIGHT

—AND— VICE CONSUL.



19-1-y-om

ROBERT DAVIES, Proprietor. P. O., Toronto.

Thos. Drysdale, Allan's Corners

P. O., Quebec, Breeder of high-class Ayrshires, headed by Lord Sterling, winner at Montreal in '95. Extra choice young bulls and heifers for sale. Farm 1 1/2 miles from Bryon's St., G. T. R. 4-2-y-o

Prize-Winning AYRSHIRES FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.

JAS. McCORMICK & SON, ROCKTON, ONT. 20-2-y-o

G. & E. WOOD, Freeman, Ont.

Breeders of high-class LEICESTER SHEEP. Choice ewes and rams and ewe lambs for sale at very low prices, considering quality. Write us for prices and particulars. 18-y-o

ONLY A FEW SHROPS RAM and SHEARLING RAMS. LEFT FOR SALE. A Shetland Pony, Four years old. Collie Pups— Handsome sables.

RICHARD GIBSON, DELAWARE, ONT.

JERSEY BULLS FOR SALE

ONE of the handsomest and richest two-year-old bulls in the Dominion, a grandson of Canada's John Bull. Dark fawn, solid color, black points; registered in A. J. C. G., and all right in every way. Has been shown three times, and won first prize each time, and is now in condition to do so again in good company. Will be sold at a reasonable price for a really high-class animal. Also two bull calves, one and five months old, solid fawn, black points (eligible for registration), from above sire and high-class St. Lambert dams, will be sold at a low figure.

J. E. RUDDICK, 18-c-om Box 531, Brockville, Ont.

SMITH EVANS, Gourcock, Ont.

Breeder and importer of registered Oxford-Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-o

130 first-class registered yearling Oxford Down Rams for sale. Also 80 good RAM LAMBS, at ranchmen's prices.

9-y-om HENRY ARKELL, Arkell, Ont.

IMPROVED LARGE YORKSHIRES

FOR SALE—of the best type and breeding. Young boars fit for service and sows fit to breed. Can furnish young pigs of all sizes and ages, and No. 1 quality. Can supply pairs not akin.

18-2-y-o E. DOOL, Hartington, Ont.

W. C. EDWARDS AND COMPANY, IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q. Pine Grove Stock Farm, ROCKLAND, ONT.

Ayrshires, Jerseys, Shropshires, Berkshires. Shropshires and Scotch Shorthorns.

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogis of St. Anne's heads the Jerseys. The young stock are all from time-tried dams. ED. McLEAN, Manager. 7-1-y JOS. W. BARNETT, Manager.

JOHN H. DOUGLAS, Warkworth, Ontario, Importer and Breeder of High-Class Ayrshires.

My stock is of the most approved type, and of uniform, fashionable color. Choice imported and home-bred stock of grand individuality, including Violet of Park (imp.)—2820—, Alice of Hatton (imp.), Queen May—2009—, Fairy Queen, Peach Blossom—2816—, and Isabel—2817—; also a few choice calves, and our grand stock bull, Dominion Chief—1214—. I also offer a couple of good yearling heifers (of the milking type), Heather Bloom and Snow Flake, Vol. XII. Prices right. Correspondence solicited. ST. NORWOOD, C. P. R. 12-2-1-om CAMPBELLFORD, G. T. R.

ISALEIGH GRANGE STOCK FARM, DANVILLE, QUEBEC.

A CHOICE assortment of the following pure-bred stock always on hand: Ayrshire and Guernsey Cattle of the choicest breeding and most fashionable type and color. High-class Improved Large Yorkshires of all ages, "Sanders Spencer stock." Shropshires of the finest quality. Our breeding stock has been selected, at great cost, from the choicest herds and flocks of both England and Canada, and have been very successful winners in all leading show rings. Young stock supplied, either individually or in car lots, at the lowest prices. Prompt attention given to all correspondence.

J. N. GREENSHIELDS, Proprietor. 8-y-om T. D. McCALLUM, Manager, Danville, Que.

Mount Vernon Dairy & Stock Farm.

FOR SALE:—A fine four-year-old Holstein Bull, Artis Aggie Prince, No. 17, C.H.F.H.B., the sire of many prize-winners at Toronto, Montreal, Ottawa, and Gananoque, in 1895. Sire, Prairie Aggie Prince, one of the best Kassis, gave 49 lbs. 2 ozs. of milk in one day as a two-year-old, and gave over 70 lbs. milk in one day on ordinary feed on the Model Farm, Guelph. Also a lot of fine Tamworth Pigs for sale, ready to breed and of the very best quality. Address—W. C. QUICKFALL, GLENALLAN, ONT. 2-y-o

There is No Doubt About the MERIT of THE KEYSTONE DEHORNER. It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. The Keystone Dehorner Mfg. Co., Picton, Ont., Can.

Oak Lodge Yorkshires—A specialty of this breed.

Splendid young sows suitable for breeding at once; bred from my best sows. Carefully selected, and possessing quality. A few young show pigs for next season. J. E. BRETHOUR, Burford, Ont. 3-y-om

R. HONEY, Warkworth, Ont., Northumberland Co., BREEDER OF—

Reg. Holsteins, Large White Yorkshires, and Cotswold Sheep. Choice young Yorkshires for sale at prices to suit the times. Orders booked for choice Cotswold ram lambs. 12-2-y-o

IMP. LARGE WHITE YORKSHIRES FOR SALE.

I am now prepared to supply young pigs of this noted breed at hard-times prices. Orders booked for young pigs due Oct. 1st. Write me for prices and particulars. Mention "Advocate." 18-2-y-o WM. TEASDALE, Dollar, Ont.

ADVERTISE IN THE ADVOCATE

NOTICES.

In writing to advertisers please mention the Farmer's Advocate.

No progressive buttermaker thinks at the present day of trying to get along without proper parchment butter paper. The Canada Paper Co., of Toronto, offer the correct thing in this issue. Neither grease nor water will go through it. Samples sent us present a decidedly superior appearance.

If every farmer's son had a good business education he would save the cost of it many times during his career by always doing business in a business way, and by being qualified the better to guard against frauds and sharpers. Not only is a business education a financial benefit, but its decided social advantage can hardly be estimated. It does not require years to obtain this, but one faithful winter's work at an institution like the Central Business College, at Stratford, will fairly well equip one to meet business men in a confident, prepossessing manner. We call attention to the Central Business College advertisement in this issue.

The G. H. Grimm Mfg. Co., manufacturers of Champion evaporators, have sent us a sample box of apples from one of their evaporators. With regard to the fruit, we might say that the slices are almost white in color, and we would consider they would cook much like green fruit. To this end, however, they should be soaked for several hours and then cooked to the boiling point. Although it appears late in the season to purchase a fruit evaporator, yet we believe the securing of one now would prove profitable, for the reason that green apples are not likely to keep well—except in cold storage—on account of ripening so early. Apple sauce and apple pies from properly evaporated fruit will be much relished next spring and summer, after the green fruit is all gone. We are advised that Prof. John Craig, Dominion Horticulturist, is experimenting with different varieties of apples to learn which are the most desirable for evaporating purposes, and is using a Champion evaporator for this purpose.

Very many young men would gladly avail themselves of a college course of instruction were it not for the expense necessary to attend one of the modern institutions. In view of this felt want, the International Correspondence Schools at Scranton, Pa., has provided for a correspondence method of instruction or teaching by mail. Among the subjects taught are steam engineering, mechanics, electricity, architecture, plumbing, heating and ventilating, and all branches of mining and civil engineering. This elaborately equipped institution was organized in 1891 by the Colliery Engineer Company. That success has abundantly crowned their efforts is evinced by frequent enlargements of their quarters. Additional buildings now being erected will cost, it is claimed, not less than \$100,000, making it one of the foremost institutions of the kind in the United States. The school will be pleased to mail to any address interesting books descriptive of the way in which each subject is taught, and giving the details of the study by mail. See their advertisement in this issue.

GOOD NEWS FROM SOUTH DAKOTA.

The glorious results of this season's harvest of golden grain will pour a stream of sound money into the pockets of every Dakota farmer. South Dakota has thousands of acres of choice farming and ranch land lying east of the Missouri river, and within one day's ride from Chicago or Milwaukee, which can now be bought reasonably cheap, but which before the end of another year may be advanced in price. The stock-raising industry in South Dakota is profitable, and Eastern capital is now being invested in cattle and sheep growing in that State. Diversified farming, the growing of live stock, and the products of the dairy are placing South Dakota foremost in the ranks of the successful Western States. Those desiring full information on the subject, and particularly those who wish to seek a new home or purchase land, are requested to correspond with A. J. Taylor, Canadian Passenger Agent, 2 King street East, Toronto, Ont.

A GOOD GRINDER.

Brantford, Ont., Oct. 8, 1896. Messrs. Goad, Shapley & Muir Co., Ltd.: GENTLEMEN,—The "Maple Leaf" Grinder which we purchased from you nine (9) months ago has entirely surpassed our expectations. It will grind hard, dry peas two (2) years old into fine flour, having no grit whatever. We have also ground a large quantity of small seeds into a fine flour. I have no hesitation in saying to intending purchasers that it is a splendid machine, simple in construction, and has the most durable plates I ever saw.

THE BOW PARK CO., LTD. J. E. STORY, Superintendent.

BOOK TABLE.

The American Shropshire Sheep Record has reached its eleventh volume, which is an extensive one, having over 1,200 pages, and contains upwards of 12,500 pedigrees, numbering from 69,621 to 82,195. The Association includes some 1,500 breeders, many of whom are Canadians, as is the President, the Hon. John Dryden, of Brooklyn. The Secretary is Mr. Mortimer Levering, Lafayette, Ind. The volume is well compiled and bound, and an ornament to any library.

The Argentine Republic Immigration Department, whose General Commissioner is Juan A. Alsina, exhibits a deal of enterprise by sending away to Canada, and no doubt to other countries, immigration circulars containing useful information for immigrants, workmen, and capitalists. The circular sent us deals with the Province of Santa Fe, copies of which are published gratis in French, German, English, and Italian, and deals with the climate, population, exports, etc., in such a form as to give a fairly accurate impression of that country, which is attracting so much attention at the present day. But anyone once well settled in the Dominion of Canada will hardly think of returning to Argentina, where "all is not gold that glitters."

GOSSIP.

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

By reason of a series of experiments carefully conducted by Prof. W. A. Henry, of the Wisconsin Experiment Station, it was proven quite conclusively that of pork, beef, and mutton, the production of the last named is considerably cheaper per 100 pounds than either of the other two.

The largest piggery in the world, just now completed, is claimed to be in Chicago, and has been two years in building. It is capable of accommodating 220,000 hogs in its 36 blocks of 100 pens each, on two floors, one above the other. It is in two parallel sections, each 3,000 feet long, connected by 22-foot passageways. It covers 49 acres of surface. Seven railway companies have sidings from which pigs are to be delivered into the building.

One of the prominent Canadian breeders of Hackney horses, Mr. George H. Hastings, of Deer Park, Toronto, died on Nov. 5th, at the end of nearly a year's indisposition, at the age of 52 years. Mr. Hastings was well recognized in horse-breeding circles, having for a number of years figured conspicuously in important show-rings of the Province with his Hackneys. A paper from his pen on the subject of Hackney breeding appeared in the FARMER'S ADVOCATE for August 1st, 1896. He was associated in a business way with the Ontario Straw Goods Company, of Toronto, being as he was a partner of Mr. Robt. Crean, of that Company.

The sixth annual meeting of the Western Holstein-Friesian Association was held in Chicago on October 27th and 28th. The financial statement submitted shows the condition of the treasury as being in a creditable state. The \$1,600 of one year ago has grown to \$2,577. During the year 582 certificates have been issued, of which 170 were for males and 412 for females. On motion, it was decided to voluntarily dissolve the Association known as the Western Holstein-Friesian Association of the State of Illinois, continuing business under the same set of By-laws as before. The Illinois charter was taken out in the names of Messrs. E. F. Irwin, M. E. Moore, M. S. Babcock, W. H. McCall, W. B. Barney, H. A. Brown, M. H. Gardner, J. P. Cooper, W. J. Masher, W. S. Carpenter, and J. H. Coolidge, Jr., who constitute the new Board of Directors, which body organized with H. A. Brown as President; W. B. Barney, Vice-President; E. F. Irwin, Treasurer, and J. H. Coolidge, Jr., Galesburg, Secretary. On motion, \$300 was appropriated to be used in duplicating cash prizes offered by Western States Fair Association in milk and butter tests where such prizes are won by Holstein-Friesian cows. A movement was also set on foot to have a committee appointed by the President to confer with the Illinois State Board of Agriculture with a view to inducing the Board to institute a dairy and dairy cattle show in connection with the Fat Stock Show to be revived in Chicago next year.

The following from the Aberdeen Free Press (Scotland), Oct. 13th, referring to Mr. Duthie's sale of Shorthorns reported along with others, by our Scottish correspondent, in the FARMER'S ADVOCATE for Nov. 2nd, will be of special interest to Shorthorn breeders. Bearing in mind the reputation of Aberdeenshire beef with the most fastidious Old Country people, and the good results of this sale, the deterioration of the breed through the use of those "little red Critchank bulls," about which a warning note was not so long ago raised, does not seem very apparent. Says our Scottish contemporary: "Yesterday Mr. Wm. Duthie, Collynie, who was, at the close of a remarkable sale, aptly described by the late president of the Shorthorn Society as the 'Prince of breeders,' put into the ring, in presence of the elite of the Shorthorn breeding interest, a magnificent draft from his celebrated herd. The auction was, as usual, regarded with the keenest interest by Shorthorn breeders throughout the country; and a feature of the attendance was the large proportion of English buyers, who, in spite of a somewhat silly attempt to get up a prejudice against the Scotch Shorthorns in that country, turned out in large numbers, and by their spirited competition showed how utterly the attempt had failed. But in the face of such a pleasant-going sale it were out of place to refer to controversial matter, though one can, on an occasion like this, hardly refrain from pointing the moral of a discussion which was suddenly sprung upon the Scotch breeders. Mr. Robert Bruce, an interested spectator yesterday, has told the story of how the Sittyn cattie, have come to occupy the place they now do, as the natural result of a tenant farmer trying to breed to meet the wants of his customers, who, however correctly bred an animal might be according to the canons of fashion which ruled some twenty years ago, and to a greater degree perhaps at an earlier period, would have nothing to do with him if, on analysis, he could not pass muster when his produce came to the shambles. It is on the solid basis of constitution, substance and flesh that our Scotch Shorthorns are to be ranked in the first-class of their species, and no more outstanding examples of cattle answering this description have come under the hammer than the 'crop' of young bull calves which Mr. Duthie offered yesterday. In the presence of a critical company he scored a great success, particularly when straight-bred things came before a company of good judges.

27 bull calves averaged.....£70 6s. 2d.
10 cows.....48 6 0
12 heifer calves.....46 5 9
49.....459 18s. 7d.
Total.....£2,936 17s. 0d.
"Crested Knight, a son of Pride of Morning, from the Clipper foundation, brought 300 gs. The same family produced Roan Gauntlet, Cumberland, and Commodore, which was sold for 300 gs."

LARGE ENGLISH BERKSHIRES. My herd won 246 prizes, 10 diplomas, 5 medals; also Prince of Wales prize, and sweepstakes over all breeds since 1888 at the leading fairs in the Dominion. Choice stock of all ages for sale. Pairs supplied not akin. GEO. GREEN, Fairview P. O., Ont. Stratford Station and Telegraph Office.

The Latest Improved Up-to-Date Tread Powers

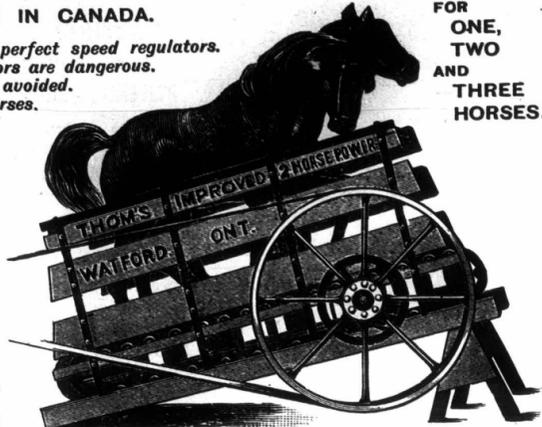
MADE IN CANADA.

Our Governors are perfect speed regulators. Poor Governors are dangerous. Accidents to horses avoided. Safety for unruly horses.

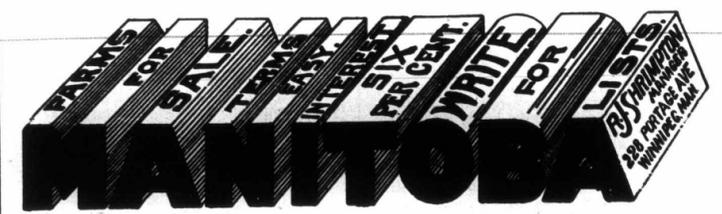
THE tread is the ideal farm power. Coming to the front, and we aim to lead. Also the Ripper Feed and Ensilage Cutter, Canada's Best, or Concave and Convex Knife Machines, etc.

Thom's Implement Works,

Watford, Ont. Established 1875. 13-1-o-1f



FOR ONE, TWO AND THREE HORSES.



ROSE HILL FARM.

JAMES DORRANCE, SEAFORTH, ONT., BREEDER OF

REGISTERED: BERKSHIRES

Of the most approved type. Choice young stock always for sale. Write at once and secure a bargain. 18-2-y-om

FOR good healthy BERKSHIRES and YORKSHIRES two months old, boars ready for service, and sows in pig of good quality, write

H. J. DAVIS, Box 290, Woodstock, Ont.

Breeder of LARGE ENGLISH BERKSHIRE and IMP. WHITE YORKSHIRE SWINE, SHORT HORN CATTLE, and SHROPSHIRE SHEEP. 8-y-om

MAPLE FRONT FARM

My Tamworths are bred from the best imported families and are extensive prize winners. Boars and sows of different ages on hand. Prices right.

A. W. BRANJOW, 20-2-y-0 Walsingham Centre, Ont.

R. J. & A. Laurie, WOLVERTON P. O., ONTARIO.

Breeders of choice Tamworth Swine, Bronze Turkeys, Rouen Ducks, and Barred Plymouth Rocks. Young stock for sale. Prices reasonable. 20-2-y-0

DUROC-JERSEY SWINE

Our herd at Toronto Fair captured nine first prizes out of a total of eleven, and a like portion at London. Our brood sows are all of the same individual merit and high standard of breeding. Two first-class imported boars head the herd. Write for what you want. We have everything. 20-y-om TAPE BROS., Ridgetown, Ont.

IMP. CHESTER WHITE and TAMWORTH SWINE.

Having won the sweepstakes for the best boar and two sows at Toronto Exhibition of 1895, we are booking orders for spring pigs from imp. Stock for exhibition purposes a specialty. Pedigrees furnished. Reduced rates by express. Drop a card for prices before buying elsewhere. H. GEORGE & SONS, Crampton, Ont., Middlesex County. 17-g-om Prod.

Dorset Horn Sheep

AND CHESTER WHITE SWINE ASPECIALTY AT MAPLE VIEW FARM, THORNDALE, ONT. STOCK FOR SALE AT HARD-TIMES PRICES. R. H. HARDING, 17-g-om Prod.

CLOVERLAND STOCK FARM.

DUNDAS HERD OF CHESTER WHITES and IMPROVED BERKSHIRES.

Choice young stock for sale always on hand of either sex. Write or visit us. IRA CHRISTIE & SON, Winchester, Ont. 16-2-y-0

E.D. GEORGE

PUTNAM, ONT. Importer and Breeder of

Ohio Improved Chester White Swine

The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price. Write for prices. 14-2-y-om

SPRINGRIDGE STOCK FARM

WILLIAM J. DUCK, Morpeth, Ont., Imp. and Breeder of POLAND-CHINA SWINE. Imported Blackmoore at head of herd. Nothing but first class stock shipped. 10-2-y-om

HENRY HERRON, Avon P.O., Ont. Importer and Breeder of Poland-China and Chester White Swine. A nice lot of Chester Whites, from two to six months old. Also a few Poland-Chinas at hard-times prices. All stock registered. Pedigrees furnished. -o-

CANADA: WILKES

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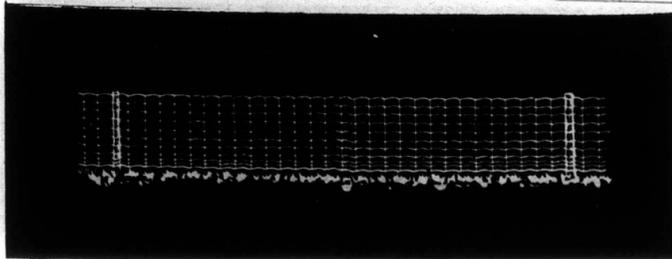
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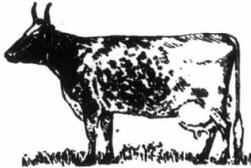


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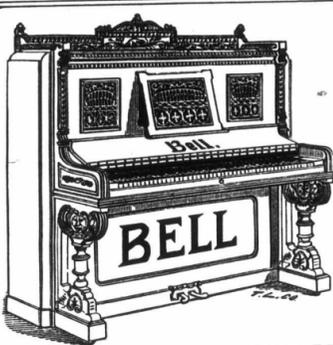


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GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

The annual meeting of The American Shropshire Registry Association will be held at 10 o'clock a. m. Wednesday, November 25, in the Assembly Room of the Madison Square Garden Building, New York City, during the week of the great National Live Stock and Fat Stock Show, held at the above place November 23 to 28. Mortimer Levering, Secretary.

The eighteenth annual meeting of the American Clydesdale Association will be held at the Sherman House, Chicago, Wednesday, Nov. 18th, at 8 p.m. Business: Secretary and Treasurer's annual reports, bi-annual election of officers, and such other business as may properly come before the Association. It is important that the utmost interest be manifested at the present time by all engaged in the breeding of Clydesdales, and a full attendance of members at this meeting is most earnestly requested. Alex. Galbraith, Secretary.

A. C. Hallman, of New Dundee, Ont., writes us as follows during the course of a tour through Manitoba:—"After a very pleasant as well as profitable trip to various parts in Manitoba, I expect to return to Ontario again to resume my former duties and answer all communications promptly. Am just informed by my herdsman that my Holstein-Friesians are in splendid shape and all doing nicely; have a very superior lot of young heifers and bulls which will suit the most particular. My herd of Tamworths were never so complete as now; have stock of all ages and both sexes. A visit to my place, I am sure, will well repay anyone. Nobody should fall at once to secure prices."

MR. H. I. ELLIOT'S SHORTHORNS.

A representative of the FARMER'S ADVOCATE, on a recent trip east, had the pleasure of calling on Mr. H. I. Elliot, Danville, Quebec. Mr. Elliot is one of the few who have taken up the breeding of Shorthorns in that Province. Among his earliest purchases for foundation stock was a heifer from the herd of the veteran breeder, Mr. Arthur Johnston, of Greenwood, Ont.; a handsome one, of long lineage, which cost him a snug sum. The stock bull in use the past two or three years was also selected from the same herd, which in itself is evidence of the good blood which Mr. Elliot's herd must now contain. Individuals from this herd are usually exhibited at Montreal and other leading Quebec fairs and generally secure a fair share of the laurels. At the time of our visit the members of the herd were all on the pastures and were not in the high fleshed, pampered state which is often seen and which in many cases injures breeding qualities. Mr. Elliot also keeps a small flock of trim South-downs, the foundation stock having been derived from some of the better-known western breeders.

MR. T. A. COX'S BERKSHIRES.

A representative of the FARMER'S ADVOCATE recently called at the home of Mr. T. A. Cox, Brantford, Ont., and spent a pleasant half hour inspecting his fine herd of Berkshires. The farm is conveniently located about midway between the busy city of Brantford and picturesque Paris, and in one of the finest agricultural sections of the county of Brant. Mr. Cox, some few years ago, decided to embark in the breeding of pure-bred stock, and Berkshires were the breed of his choice. He selected several of the choicest individuals he could find of some of the best strains in the country, and by adding fresh blood, from time to time, of the most approved type he could obtain, by judicious mating—"thereby strengthening any weak points"—and careful feeding, the present herd have been brought to a very high standard. This year representatives of the herd were exhibited at Toronto, London, and several other fairs, capturing a goodly number of premiums; their general good type, and the way in which they were brought out, reflecting great credit on their owner. On looking over the herd our attention was especially attracted by the stock boar now in use, Fritz Lee, now sixteen months old, and weighing 620 lbs.; he is a boar of grand points, being thick-fleshed and deep-sided, with good length and a grand smooth back, and well-sprung ribs, while his hams are well let down; he has a capital head, is well marked, and stands on short, straight legs of good bone. He should make a grand sire, and we expect to see some extra fine youngsters by him from some of the grand sows which we will mention. Fritz Lee is a son of Mr. Smeil's famous boar, Baron Lee, who was bred by N. H. Gentry, of continental repute. Baron Lee has been a great winner ever since being imported; capturing first honors in his class, and, also, for boar and four of his get at Toronto this year, in an exceedingly strong ring. The dam of Fritz Lee, Heather Blossom, by Royal Winner, is considered one of the best sows in Canada. The above boar is assisted in the herd by Bright Prince, also an animal of capital type and fine finish, by the famous imported Enterprise. We were also much pleased with the young six months boar, Highclere's Crown, by Baron Lee, and having for his dam Smeil's Highclere 8th. Among the sows some of the best are Inglewood Bell, a sow of great length and depth, and fine finish, tipping the scales at 700 lbs.—still smooth and even. She has proved a grand breeder—a yearling daughter winning six firsts this year. Cressman's Lucy, by Lord Hayter (imp.), dam Kingston 19th (imp.), is a beautiful two-year-old sow, weighing about 600 lbs. A couple of exceedingly fine daughters of this sow were noticed, proving her to be a rare good breeder. They were shown in the under-12-months class, making a handsome pair, and the admiration of all who saw them. They were sired by Bright Prince, and now tip the scales at 450 lbs. Barton Nellie, a two-year-old sow of handsome conformation and good quality, also drew special attention. She is now suckling a litter of ten very fine youngsters. Space forbids the special mention of more of this excellent herd, but we would recommend intending purchasers to visit Mr. Cox if they wish to cure good value for their money, or note his advertisement, as he is now offering choice young boars and sows from four to six months old at very reasonable prices, bred from the above-mentioned sows and other good ones and sired by Bright Prince and Banner Boy. Those desiring the get of Fritz Lee may secure a choice by having their orders booked early.

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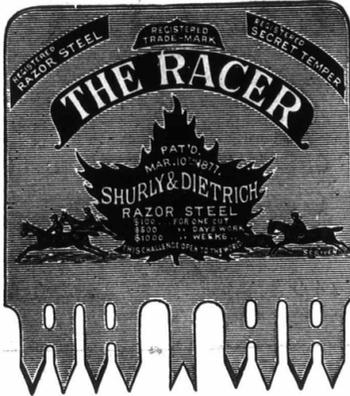
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