

J H Grisdale
Exp Farm dec 15, 99

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

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

VOL. XXXIV. LONDON, ONTARIO. JULY 15, 1899. WINNIPEG, MANITOBA. No. 482

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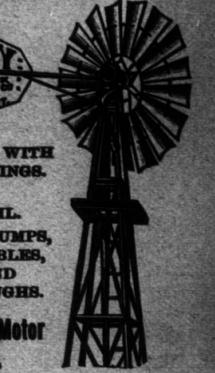
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FARMER'S ADVOCATE

AND HOME MAGAZINE

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

VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., JULY 15, 1899.

No. 482

EDITORIAL.

A Prize Competition.

As announced in the last issue of the FARMER'S ADVOCATE, we are offering three handsome cash prizes for plans and descriptions of improved farm-houses, which we trust will awaken a widespread interest in this important subject. Details of the competition, which is open during the months of July, August and September, appear on the preceding page of this issue; and we look for an early and a very general response. We have made the range of cost all the way from \$1,500 to \$3,000, in order to bring in descriptions suited to different farm requirements. From correspondence we find that the idea already meets with the approbation of our readers. The farmer and his family should enjoy the most comfortable home in the land, and our aim is to bring out the best ideas available. We hope soon to be in receipt of numerous descriptions and plans of model residences.

Harvesting the Grain.

A comparatively light hay harvest in most parts of Eastern Canada, owing to the freezing out of the clover crop last winter, has shortened the season generally required for securing that crop, and given ample time for cultivating and cleaning the corn and root crops. On account of exceptional winter conditions, fall wheat is also a light crop in most sections where it is grown, and will ripen later and more unevenly, and be more liable to rust, than when the crop is a full one. The deficiency in the quantity of fodder for stock from these sources render it all the more important that special attention be given to harvesting the spring grain crops, which, fortunately, are extensive and abundant, at the best time and in the best possible condition to secure a good quality of both straw and grain. If these crops are cut in good time, before the grain is dead ripe, and while there is yet a considerable amount of sap left in the straw, the grain will continue to draw nourishment from this source sufficient to mature itself and to attain its fulness, and will, provided weather conditions are favorable, take on a fresher color than if allowed to fully ripen before being cut, while the straw will be so much more valuable as fodder as to far more than counterbalance any possible shrinkage from the early harvesting, and the loss from shelling, which is considerable in the case of overripe grain, will be much less. Of course, the weather probabilities have to be considered in this connection, as it would be unwise to cut grain crops on the green side and bind it in sheaves if wet weather is likely to prevail, but with a prospect of fair weather, and by binding in small sheaves, it will be found generally advantageous to cut the cereal crops while the grain is in the dough state, and before it has become hardened and fully ripe, but to avoid musting, care must be observed that the straw is thoroughly dry before it is put in the mow or stack. The value of pea straw as fodder for sheep, or to be cut up for use as a part of the roughness in feeding cattle or horses, is greatly enhanced by cutting before fully ripe, and by the use of the modern improved harvester attachment to the mowing machine it is left in such condition that the process of drying and curing is hastened, so that the crop may generally be secured in excellent condition, and made a valuable addition to the supply of winter fodder for stock. The importance of early harvesting in the Northwest is emphasized by the liability to visitations of early frost, and also in central Canada, when the purpose is to follow with fall wheat, in which case a few days may make a very great difference in the preparation of the land for a seed-bed for that crop, as the autumn months are often exceedingly dry, and advantage needs be taken of the opportunity to utilize every shower that falls by surface cultivation to conserve the moisture in the land.

Tuberculosis Discussed in Parliament.

The members of the Canadian House of Commons spent the greater part of one day's session recently discussing the question of the prevention of tuberculosis in human beings and animals. While it cannot be said that many really new points were made, still the observations of the various M. P.'s and the Minister of Agriculture, Hon. Mr. Fisher, will tend to emphasize certain aspects of the subject that should not be lost sight of, and others regarding which there appears to be danger that the zeal of some persons will run ahead of their judgment and knowledge. The Minister of Agriculture announced that he had taken the precaution to have Canada represented at the late Tuberculosis Congress in Berlin, Germany, by Dr. Farrel, of Halifax, whose report to the Government should throw light upon this disease and its most modern and effective treatment.

Regarding the tuberculin test for cattle, we are inclined to agree with Messrs. W. C. Edwards, M. P., and J. G. Rutherford, M. P., that to encourage its use by the general public would be a mistake. We reach this conclusion after a very careful inquiry into the experience of persons engaged officially in tuberculin-testing in the State of New York and elsewhere. Its use as a diagnostic agent is comparatively a new thing. An error in the quantity or strength of the dose injected may give an incorrect diagnosis of the real condition of the animal operated upon, and under certain natural or exciting conditions the temperature of a perfectly healthy animal may rise. Furthermore, the particular way, as well as the degree, in which the temperature rises must be closely noted, because if it be sudden, followed by a sudden descent, then the cause is some local or accidental disturbance. It has also been found that tuberculous animals, after one or more tests, do not show the reaction. Obviously, then, none but competent experts, officially designated, should be operating this test, which requires scientific exactness.

Dr. Sproul, M. P., touched a point that cannot be too often or too strongly urged, viz., the need for systematic and thorough inspection of the sources of the milk supply of cities and towns. We have no doubt that a great deal of infant mortality is due, not to tuberculous milk, as some alarmists allege, but to milk improperly cared for or low in quality—poor in solids and fat through the agency of the pump, and drawn from cows whose water supply is impure and whose food is often largely made up of refuse from breweries. In other words, the little ones are simply the victims of malnutrition. Our attention has frequently been drawn to the stables of some of these town milkmen that were in a wretchedly unsanitary condition.

Mr. John McMillan, M. P., voiced the sentiment of the more advanced stockmen of Canada when he said that thirty-six years' experience as a farmer had brought him to the conclusion that it was just as necessary to keep the barns and stables disinfected and in a cleanly condition as it was for looking after the sanitation of dwellings for human beings.

Hon. Mr. Fisher briefly reviewed his policy, which had been for two years to disseminate information, to require the testing of imported animals, and making provision for the free testing, by veterinary officers, of Canadian herds for those desiring it, under special regulations. As a result, some 16,000 cattle had been tested with tuberculin, and out of this number only 1,017 reacted, or about 6½ per cent., which was a low percentage when it is borne in mind that it was largely suspected herds, located in unsanitary byres near large cities, that had been tested.

Mr. Clancy, M. P., contended that the disease could not be stamped out while owners were allowed to retain on their premises animals known to be diseased. The policy was half-hearted, and

should be more thoroughgoing in order to minimize the disease and reduce the danger to other stock and human beings.

Judging from the costly, unfortunate and unsatisfactory experience of States that have experimented with the "stamping-out" process by test and slaughter, the Government would certainly be ill-advised to embark upon such a dubious and unnecessary undertaking. Prof. H. W. Conn, Ph. D., of the Storrs Experiment Station, Connecticut, recently made a thorough study of this whole subject in England, France, Holland, Denmark, Switzerland, Germany, and Italy, and his report, reviewed at length in the May 1st issue of the FARMER'S ADVOCATE, stated that while bovine tuberculosis appears, by means of the tuberculin test and slaughter-house examinations, to have largely increased of late years in Europe, yet during the past fifty years human tuberculosis had decreased fifty per cent. He also asserts emphatically what common observation and study indicate, that the passage of this disease from animals to man is not a common method of dissemination; indeed, we are inclined to believe that it is entirely exceptional. The germs of "consumption," as the disease is commonly called, are, we believe, ordinarily communicated by means of germs in the breath or sputa dried and floating in the air from one person to another, usually in the same household, finding their destructive opportunity where the predisposing individual conditions and surroundings are favorable to disease. This, then, naturally suggests the wide legitimate and necessary field for the efforts of physicians and health-reformers.

The patient old cow has in her time been subjected to a good deal of unmerited abuse, and that she is the great source of human tuberculosis we believe to be a slander. She has been charged with taking tuberculosis to countries where, it is alleged, it was not previously known; while if the truth were ascertained the persons who introduced cattle probably took the disease in their own bodies. As Prof. Conn himself states, it is doubtful if the danger of taking the disease would be appreciably less if we should exclude milk and flesh entirely from our diet. Dr. J. H. Reed, V. S., clearly points out, elsewhere in this issue, that different organs of the animal may be affected. There seems to be a general opinion that it is only when the udder is involved that the milk becomes germ-laden. Hon. Mr. Fisher told Parliament that for a year past he and his officers had been searching for cows with definitely affected udders for experimental purposes, but had been unable to find one. The probabilities are, as he stated, that in no country in the world are cattle so free from tubercular disease in any organ as in Canada. But despite all this, we have panicky regulations spasmodically proposed by enthusiasts—well-meaning, perhaps, but ill-informed, or else "worked" by persons who would create a bogus alarm in order to their own professional or personal interest, while the public bears the inconvenience and the expense. At the same time, the farmer or stockman who studies the well-being of his animals, profitable production, and his own interest generally, will take every needed precaution (by breeding stock healthy in every respect, by the use of wholesome food and pure water, reasonable exercise, thorough cleanliness in his stables, plenty of pure air and light) in order to maintain and improve the position we now hold.

The English *Live Stock Journal* states that British imports of bacon rose from £10,856,000 in 1894 to £14,216,000 in 1898, coming from the United States, Denmark, and Canada. Danish bacon sells for double the price of U. S., and Canadian about 70 per cent. more, though still below Denmark, who have gained their place, says the *Journal*, by breeding the bacon type of hogs and curing after the English fashion.

THE FARMER'S ADVOCATE AND HOME MAGAZINE. THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONTARIO, AND WINNIPEG, MANITOBA.

LONDON, ENGLAND, OFFICE: W. W. CHAPMAN, Agent, Fitzalan House, Strand, London, W. C., England.

JOHN WELD, MANAGER.

- 1. THE FARMER'S ADVOCATE is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.

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Bogus Butter.

A Montreal correspondent writes us that a capitalist in that city has been endeavoring to get the consent of the Dominion Minister of Agriculture to a project for the manufacture of oleomargarine and butterine in that city for export only.

"The Up-to-date Farmer."

We note the following editorial in that enterprising and popular religious journal, The Christian Herald, of New York:—"The up-to-date farmer takes the agricultural paper, reads the editorial column, the contributors' column, the advertisements—especially the advertisements.

Moral: Reader, if your neighbor is not succeeding, is not an up-to-date farmer, induce him at once to subscribe for the FARMER'S ADVOCATE.

Testing British Cattle for Export to Canada.

To the Editor FARMER'S ADVOCATE:

SIR,—I inclose you list of the veterinarians in Great Britain authorized to test cattle for shipment to Canada, and to sign the necessary charts and certificates. I also inclose you copy of the form of chart to be used by the British veterinarians in connection with these cattle, and of the directions given to them.

I have the honor to be, sir, Your obedient servant, W. B. SCARTH, Deputy Minister of Agriculture. Ottawa, July 5th, 1890.

List of veterinary surgeons in the United Kingdom, whose certificate of tuberculin test will be accepted by Dominion Cattle Quarantine Officers in Canada:

- Sidney Villar.....Greenhill, Harrow-on-the-Hill, Middlesex. Prof. Jno. Wortley Aze.....La Lower Sloane, St. Sloane Square, London, S. W. George A. Banham.....Cambridge. Adolphus LeSueur.....Haut-de-L'Orme, Trinity, Jersey.

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free from tuberculosis and other contagious diseases, certifying to that fact.

I send you by concurrent mail bulletin issued by the Canadian Government, in which you will find directions which may be of use to you. I also forward a supply of chart forms. These are the only forms which will be accepted by the Official Veterinarians at Canadian ports.

For your information I may state to you that cattle from Europe are subject to a quarantine in Canada of 90 days, less the number of days occupied by the voyage.

You will observe that the chart form in the bulletin is not the one now in use. At the time the bulletin was issued five temperatures were required to be taken before injection. Now two are all that are required.

I beg to suggest that the same scale of fees be charged by you as is charged by the members of the veterinary profession in Canada, who test animals for exportation to the United States, viz.: for one animal, £1; for the next nine animals, 4s. each; for each animal in excess of ten, 2s.

STOCK. Daylight on the Royal Honor Roll.

To the Editor FARMER'S ADVOCATE:

Allow me space to reply to Mr. Linton's letter in your last issue. As you are aware, I prepared the list of Royal winners. Without comment you asked me to write in connection therewith such notes as might be interesting to your readers.

Mr. Linton writes, addressing the editor: "Sir,—In the construction of the notes under the record of 1888, in the Honor Roll of the Royal, I presume you took your data from the London Live Stock Journal of July, 1888, which reads as follows: 'Mr. Robert Thompson, of Inglewood, takes five out of the eight first prizes,' etc.

Again Mr. Linton writes (see page 285): "Mr. Thompson also broke the record by winning every first prize in the female classes in 1889, two being by Beau Benedict and two by Royal Baron," etc.

Again, Mr. Linton takes exception to the statement that old breeders did not hesitate to place the Duke of Northumberland ahead of any bull produced since. He gets this off as settling the question for all time: "There have been thousands of bulls his peers since his day."

Form for CATTLE TESTED FOR EXPORTATION TO CANADA. Includes fields for No. 104, Chart No., Date, Temperature (Before/After Injection), Reaction (Normal/Maximum), and Remarks/Decision.

LETTER OF INSTRUCTIONS TO BRITISH VETERINARIANS.

SIR,—I beg to inform you that you are hereby authorized by the Minister of Agriculture for Canada to test with tuberculin cattle for shipment to that country, and to sign charts for those that are

before the Manchester Royal, when Commander-in-Chief, with others, was holding a rehearsal just before starting. It was the custom at Warlaby to have a private view, and I was honored with an invite. The discussion arose as to merits of the Shorthorns of early days, and then with the opinion that the Duke held his own with any since produced, but that Lady Fragrant had never been equalled. As, however, Mr. Linton judges from pictures, and is evidently satisfied with those of Molly Millicent and Lord Irwin, as illustrated in the ADVOCATE, I would ask your readers also to study pictures. But what fools we have all been to take our cattle to the shows, not only at great expense to the exhibitor, but with risk to the ani-

mal, when we could have them judged at home by just mailing the pictures to a judge. I commend this to H. J. Hill's notice. In Thornton's Circular, Vol. VI., written in 1880, the history of the breed closes with a sentence regarding Booth's Bracelet, which reads as follows: "No record of her measurement exists. Many old breeders, however, still maintain that as Duke of Northumberland 1940 was one of the finest bulls, so Bracelet was the finest cow of their recollection."



SHORTHORN BULL, BAPTON EMPEROR.
PROPERTY OF J. DEANE WILLIS, BAPTON MANOR, CODFORD, WILTS.
First at Exeter and Windsor Shows. Male champion at the Royal Show, Maidstone, 1899.

I cannot conceive where Mr. Linton gets his "thousands of peers" from, seeing he has been in Canada the last forty years. He must speak of those he has seen in Canada. He would certainly not refer to those he has not seen, but perhaps the artists have improved.

Again Mr. Linton writes: "We knew Thos. Bates, and we knew his cattle in his lifetime." To meet a man is one thing, to know him is another. He may in his youth have thought he knew Mr. Bates, but as the latter died at the good old age of 75 in 1849, it cannot be conceived that a boy of 8 or 10 could have been very intimate with the Kirklevington breeder, or at that age be competent to form a very correct idea of the herd. English boys, as a rule, in those days were not the precocious youths of to-day. Again Mr. Linton writes: "Mr. Bates never won a prize after the Booths stepped into the arena." What rot! I am not advocating Bates cattle, nor do I find it necessary to defend them. This silly idea of Bates or Booth has been dropped for years, and only the old fossils harp upon those strings. It is now Shorthorns versus Herefords and Angus. Those are things in the flesh, not the ghosts of dead and defunct dynasties. As a matter of history, what are the facts as regards Mr. Linton's last assertion? At the Yorkshire Show held at Northallerton in 1840, Mr. Bates won first for best cow, Mr. J. Booth second. At the Royal, same year, Mr. Bates won for best cow. In 1841, at the Yorkshire at Hull, Mr. Bates won two firsts for bulls, first and second for three-year-old cows, and Mr. J. Booth won with Bracelet for best cow of any age. See Bell, page 258. Mr. Bates had always been on most friendly terms with Mr. John Booth, who frequently visited at Kirklevington, and was always a guest at Yarm Fair in October. Mr. Booth took especial delight in bantering Mr. Bates about Shorthorns and his declining to exhibit at the Royal, and joked that he dare not show a cow, and if he would he (Mr. Booth) had a rod in pickle for them. This referred to Mr. Booth's cow Necklace. It required no ordinary courage to enter the list with such a heroine as Necklace. To meet this cow, supposed to be the best the Booth herd had ever produced, Mr. Bates had his broken-legged cow, Duchess 34, that had never been exhibited. She had no training whatever, and walked by road about 40 miles to York, with her son, the Duke of Northumberland. There were fifteen competitors. Duchess 34 won, Booth's Necklace 2nd, and a cow of J. Mason Hopper's third. Comment is unnecessary. In conclusion, Mr. Linton dismisses my effort with this curt statement, "that with very few exceptions it is a repetition of the Royal Agricultural Show." I wish to say that is all that was intended, and I am glad I have not been accused of drawing altogether upon my imagination. Mr. Linton must have access to the full lists of Royal winners. I have not, and I would suggest that he prepare a second honor roll of the two-year-old bulls and heifers. I have such partially written out, but do

Sheep Notes on Royal Show at Maidstone.

This year's exhibit of sheep, taken as a whole, was one of first-rate merit, many of the different breeds—notably the Southdowns, Shropshires, Lincolns, and Hampshires—being in great force, whilst the Oxford Downs and the Suffolks made much larger and better entries than in most previous years. The Kent or Romney Marsh sheep—the local breed—were in great strength, and were of first-class merit. The Devon long-wool came out in very creditable numbers, with typical quality.

The entries for the present year were 633, as against 624 last year; consequently the sheep were somewhat in excess of their usual quota.

As mere details are of but little account with your readers, the names of the principal winning owners being of more importance, these are given in full detail, and critical remarks are limited to some few more important sheep. We may here remark that, unless otherwise stated, the classification for each breed was two-shear ram, yearling ram, three yearling ewes, three ram lambs, and three ewe lambs.

Leicesters, with five classes, in which there was not a large entry (numbering thirty), was taken as one, a very good lot, with high merit and typical quality, more particularly the entries of Messrs. G. Harrison and E. F. Jordan, who between them secured the leading awards, Mr. G. Harrison's yearling ram being one of the best specimens we have seen for some years. This exhibitor was first for yearling rams, yearling ewes, ram and ewe lambs; Mr. E. F. Jordan being first with the old rams; Mr. F. W. D. Watkinson and Mr. J. J. Simpson coming in for barren honors. Some enquiry for this breed was found from Canada (Mr. A. W. Smith, of Maple Lodge, being present), the States, and France.

Cotswolds.—A capital lot in five classes, Mr. W. Houlton, a fresh candidate at the Royal Show for its premiums, sending nine very excellent specimens, notably his two grand old rams, which were first and second, and a yearling ram, who came in third. Mr. W. Thomas, also a fresh exhibitor, had nine first-class lambs present, winning first for ram lambs and second for ewe lambs; but Messrs. Garne, whose grand old Aldsworth flock, with its true type and uniform character, is so well known that we need say no more but to record the fact that in the yearling rams and ewes and ram lambs their grand specimens were easily first; Mr. R. Swanwick being also placed in the honor list. Messrs. Robert Miller and Hanmer, from your country, between them secured most of these grand sheep, which will be found, on arrival, of grand quality and typical character.

Lincolns came next, making a grand entry of great merit and quality. They had six classes, the extreme being for pens of five yearling rams. In old rams, Messrs. S. E. Dean & Son went first with a grand ram, who came out champion of the breed. This most excellent and typical sheep was bred by Mr. J. E. Carswell, whose advertisement regularly appears in your paper. A second one from Mr. J. E. Carswell's flock was also commended; hence it speaks well for the merit and quality of Laughlin flock to get two entries so well up in this strong class, wherein Messrs. Wright came second and Mr. Henry Dudding third; a grand lot of yearling rams from Mr. Tom Carswell's flock taking the lead, its two entries, which were of great merit, being first and second, with Messrs. Wright's third and Mr. H. Dudding's fourth. Pairs of five yearling rams were equally strong, and Mr. Tom Carswell again led the way with a very typical pen, Mr. Henry Dudding's grand lot being second, remarkable for their even fleeces of typical wool; Messrs. Wright's pen third; and one of Mr. J. E. Carswell's, which showed great uniformity of type and typical quality, came in for a well-deserved commendation. In ram lambs and yearling ewes, Mr. H. Dudding's flock took a position of strong precedence, being first in the former class and first and second in the latter class, with most typical and valuable pens. Messrs. Wright, who were first for ewe lambs and second for ram lambs, had also some very excellent specimens present. Mr. Patrick, from Canada, was present, and will be making a very valuable consignment of this breed in the course of a few days.

Oxford Downs made, as we have stated before, a capital entry, and we think that the merit of the yearling rams has rarely been exceeded. Mr. J. T. Hobbs was first, both for old rams and yearling rams, the former being secured for the States. Mr. A. Brassey was second for yearling ram, which was purchased by Mr. J. Treadwell, who also secured the third prize sheep from Mr. W. A. Treweeke, whose great success this year is one of the features of the present season in the Oxford Down breed. Mr. H. W. Stilgoe's grand pen of ewe lambs led the way, they being also secured for the States; Mr. J. C. Eady being first and second for yearling ewes, for which no end of enquiries were made and attempts to purchase for both were made and the States, but the owner's value and Canada and the States, did not meet, hence that of the hoping purchasers did not meet, hence they remained at home. A pair of grand ewes from

Mr. W. A. Treweeke's grand pen go to Mr. R. Miller; Mr. Reading being to the fore in ram lambs.

Shropshires were a grand lot of even quality, many of which were sold for the States and Canada, including the first, second and third pens of ewes from Messrs. P. L. Mills, M. Barrs, and R. P. Cooper—a grand lot of most excellent ewes. Mr. D. Buttar came to the fore for old rams, and Mrs. M. Barrs second, a similar place to that which she occupied in yearling rams; Mr. A. E. Mansell being first in this great class, as well as for ewe lambs, which pen is going to G. Allen, of Allerton, Ill., where they will take a great lot of beating, for they are a pen of exceptional merit—even in size and of great quality and character. Mrs. M. Barrs won for ram lambs—a grand and typical pen; and amongst the other winners were Mr. A. Bradburn (third and fourth yearling rams), T. S. Minton, W. F. Inge, A. Tanner, D. Gibson, G. L. Foster-Harter, etc. Messrs. G. Allen, R. Miller, Hanmer, and several others were buying from your side.

Southdowns made a grand exhibit, the Duke of Richmond being first and champion with his old ram, Mr. W. Toop being second, and Mr. C. R. W. Adeane third and R. N., this latter breeder being also successful for yearling rams and ram lambs, being second in each class, nine of which were sold for export to Mr. Jackson, Canada, and others to France. The Pagham Harbor Co., whose flock is so well and widely known, made a most successful exhibit, being first for flock ewes—an extra class for this breed—and the same for ram and ewe lambs, a large selection from this flock being sold for the States, and others for Canada and the home market. Mr. W. Toop, who was second for ewe lambs (two of which, we understand, will come to Canada—a grand pair), had also a good demand. Earl Bathurst was first for yearling ewes, executors of J. J. Coleman second, and Earl Cadogan third; whilst several others were also in the award list, notably Mr. E. Ellis, A. Heasman, and T. Miles.

Hampshire Downs made a grand entry, old rams and yearling ewes being led by Mr. R. W. Hudson's grand pens, the latter of which Mr. W. W. Chapman sold for export to the States and Canada, Mr. R. Miller purchasing; Mr. James Flower, whose flock has the highest reputation, securing premier awards for yearling rams, ram lambs, and second for ewe lambs, with entries of the highest merit and type. Mr. T. F. Buxton's entries, notably the pen of ewe lambs, which were first in their class, were of grand merit and splendid type. The Earl Carnarvon, Mr. H. C. Stephens (both of whom had several sold for the States and Canada), L. H. Baxendale, Lord Rothschild, etc., were also prominent in the award list. Messrs. Hanmer, Miller, Milton, and Springer were buying for your side of the Herring Pond.

Suffolks, a grand breed of mutton sheep, made a strong entry, much improved on previous years. Lord Ellesmere, Mr. H. E. Smith, H. L. B. McCalmont, M. P., A. Paisley, etc., were principal winners in this section, for which we were unable to find any amount of demand, except for home consumption, and for this there was a big demand at tiptop rates.

Romney Marsh, a most valuable breed for grazing purposes, and also where a hardy sheep, indifferent to cold and exposure, is desired, made a very full entry of good quality, Mr. W. Miller's grand flock taking a very prominent place, being first and champion for old rams, yearling rams, and ewe lambs, whilst Mr. J. S. S. Godwin, C. File, Henry Rigden (who came in for the female championship), F. Nearne, and A. Amos were the leading winners. Several enquiries for the Argentine and France and Australasia were made.

Border Leicesters had only three classes; i. e., old rams, yearling rams, and ewes. In these, however, there was a grand, typical entry, Messrs. J. Twentyman, J. E. Nicholson, Right Hon. A. J.



SOUTHDOWN RAM.
BRED AND EXHIBITED BY THE DUKE OF RICHMOND AND GORDON, R. G. GOODWOOD.
Male champion at the Royal Show, Maidstone, 1899.

Balfour, and Thos. Winter being the more successful.

Wensleydales made a highly meritorious entry of rare merit and type in two classes, one for males and one for females. This is a grand breed of sheep where mutton and fine, long wool are the objects aimed at. They made a thoroughly good entry, when the distance they had to come is considered. Mr. J. H. Calvert, executors of T. Willis, J. Heugh, and J. Rhodes were principal exhibitors.

Devon Long-wools, also with two classes, were fully typical of this long-wool breed, whose pro-

pensity for the production of heavy fleeces of fine, lustrous wool, coupled with great wealth of flesh, is notorious, and will assuredly make them favorites wherever they go. Messrs. G. C. Thorne, A. C. Skinner, N. Cook, and F. White were the principal winners.

Dorset Horns.—Mr. W. Flowers was the only exhibitor, winning the prizes in both classes. Messrs. Hanmer being the buyers of his rams.

Mares and Foals on Pasture.

To the Editor FARMER'S ADVOCATE:

SIR,—I have come to the conclusion that mares and their foals should receive a reasonable quantity of grain while on pasture. To my Clydesdales I feed about six quarts of chopped oats and wheat to each mare and foal per day in two feeds when not working, and twice that amount when the mares are worked. I always sow a sprinkling of wheat along with my oats, as I find I get more and better feed than by growing oats alone. I tie the mares, and leave the foal loose to eat from a box of its own, as the mare eats too rapidly for the foal. I always sprinkle a little salt along with the chop.

My object in supplementing the pasture in this way is to gain size, stamina, and early maturity. I feel convinced that if a foal receives a little grain continuously until mature it will gain a year on one raised without it. I consider sloppy food, including bran, better than dry grain, and I place a high value on roots during the winter season. Occasionally we see a foal during the fall that has been overcrowded and apparently too heavy for its joints, but there is no danger of this provided the foal runs out, getting plenty of exercise. Of course, a foal should have a good-limbed parentage. I might say that it requires a horseman to breed and raise horses successfully.

When feeding a mare well, one should be careful not to have her too fat until she gets in foal, although she is more likely to conceive while in a thrifty condition.

I aim to allow foals to suck until they are seven or eight months old when I do not wish to work the dam. I find they can be weaned at that age without failing in flesh or halting in growth.

I have noticed, and have learned from experience, that a great many Clydesdales of the present day are becoming finer and smaller, and taking too long to mature. The conclusion I have come to regarding it is that inbreeding is one of the chief causes, while no doubt some neglect on the part of the breeder during the last five or six years has also played a part. You will no doubt have noticed that a great many of the imported Clydesdale stallions are closely related, and to some extent inbred. I would like to hear the opinions of FARMER'S ADVOCATE readers regarding the use of an occasional Shire cross on our finer Clydesdale mares to get larger horses.

Ontario Co., Ont.

DAVID BURNS.

[NOTE.—Mr. Burns opens a question regarding the Shire cross upon which there should be some opinions expressed by horsemen who are interested in producing the best class of exportable draft horses.—ED. F. A.]

Mrs. E. M. Jones on Registration of Pedigrees.

To the Editor FARMER'S ADVOCATE:

SIR,—Kindly insert the following, as I am very proud of it.

Last September I sold to John Webster, of Portage la Prairie, an elegant yearling Jersey heifer (in calf), Pansy of Belvedere, and he writes: "Well, she calved on the 7th of April—a fine bull calf, doing well. The heifer, Pansy, has done well. You would not know her—growing all the time. Gives a *pail of milk twice a day*, very rich. I am pretty sure if she was thoroughly tested she would make 14 to 16 pounds a week. She has a fine bag, is quiet as a sheep,—a regular pet."

I think the publication of this, showing how Jerseys thrive in the North, will be of great benefit to the farmers there, as well as to us breeders, especially coming, as it would, right on the heels of your splendid article giving the simply wonderfully cheap rates for which the Government now takes out pure-bred pedigreed animals. It seems to me that you never forget either the farmer or the breeder, but you always do the right thing at the right time, and all farmers are in your debt. I think, if I may suggest, that a short article on how to register cattle would be good. For instance, this man got the transfer of his heifer from me, and on that was marked the date on which Pansy was served, also name and number of service bull, signed by me as his owner. This ends the matter, because, as you see by reference to XX on enclosed sheet, he has liberty to make out his entry paper without any reference to me or further bother. But they don't understand. Nor yet that they ought to keep blank forms on hand. So Mr. Webster writes me in an awful hurry, enclosing \$2, and asking me to register his bull calf in time to show him on 6th July. The time is too short (1st), because, as I cannot sign for him (see X), I have to return his money and send him an entry form; and (2nd) he did not state color and markings of calf at all. As everyone ought to register, if possible, animals they show, would not a brief article from you be in order, with the heading "Cut this out and keep." Neither do they under-

stand that to get a transfer recorded free they must record it before 90 days. After that they are surprised to find it costs \$1. Nor yet that if they do not register an animal before it is two years old it then costs them \$4 instead of \$2 to do so!

Brockville, Ont. ELIZA M. JONES.

The subject suggested by Mrs. Jones in her letter is one which interests every owner of pure-bred pedigreed stock, and is one which is not so generally well understood as it ought to be. It is not surprising that those who have never owned pure-bred animals should enquire, as they frequently do, "How many crosses make a pure-bred?"—to receive the answer that the rules of all recognized Canadian and American pedigree Records of breeds of European origin require that the animal's pedigree shall trace in all lines to imported ancestry in order to be eligible to registry, so that no number of crosses by registered sires on native or grade stock entitles the produce to registration. It is, however, a little strange that many who are owners and breeders of pure-bred stock are so slow to understand the rules and regulations governing the registration of pedigrees and transfers of animals in the herd book of the breed in which they are interested. These rules are doubtless the result of careful consideration on the part of the officers of the various associations of breeders, and the forms provided on which applications for registry are required to be made are, we suppose, such as the observation and experience of the editors have shown to be best suited for the purpose; and if properly filled out by the applicant, after careful reading of all foot and head notes and explanations, are really all that is necessary; and yet, as a matter of fact, to new beginners most of them are more or less confusing, while in not a few instances breeders of many years' experience blunder in the use of them.

The rules governing registrations in the Herd Register of the American Jersey Cattle Club are, perhaps, as strict and exacting as those of any other pedigree record on this continent, and its forms of application as carefully prepared as any, and yet to many they appear complicated. The very first blank space on their "Form No. 1—A"

but would it not be an improvement to print directly under this blank, "Do not fill this space?" so as to make it as plain as our little girl meant to when she asked for "bread and butter, without any butter." This form rightly calls for the date of service of dam for the calf to be registered, and for the signature of the owner of the service bull, which is a certificate and a check on men who may be disposed to be dishonest, a precaution which, we note, is not taken in the case of some pedigree records. The second footnote on the form (marked *) refers to the fact that when the form of application for the registry of the transfer of a pregnant cow is signed by the seller and by the owner of the service bull, giving date of service, it is not necessary to have the signatures again on application for registry of the calf, as the secretary keeps on file the applications for transfers, and a reference to the signatures on the application for transfer of the dam is sufficient; but the names of the owners of the sire and dam at the time of service are required to be given by the applicant in the blank spaces provided for that purpose. We confess to a feeling that to the uninitiated the footnote referred to and the explanation here given will appear about "as clear as mud"; nevertheless, when it is carefully studied and a little experience is gained, it will be found to work out all right, but we must say we would be glad if it could safely be made so plain that he who runs might read and understand it. The directions for giving description of color markings which are given on the back of the form of application are also "fearfully and wonderfully made," and lead to endless bungling, since it is stated that "color other than white must not be given." It may be argued with a fair show of reason that white is not a color, yet it is only the white markings that must be given, except in the cases of tongue and switch, of which the color must be given. When there is no white on the animal, the instruction is to write "solid color" once across the blank, which makes it satisfactory if you don't forget to mark the color of tongue and switch in the blank spaces for these. If this be omitted, the form will be returned for completion before being accepted, even if the registration fee, which is \$2 for animals under two years old, has been enclosed. If application for registry is not made before the animal is two years old, the fee is \$4. Transfers in the A. J. C. C. Herd Register are registered and certificate of transfer granted free if application is made for same within 90 days after the sale of an animal; if not sent in within 90 days after sale, the fee is \$1. The offspring of an animal cannot be registered until the latest transfer of the sire and dam has been registered. These rules may appear very strict, but there are some in other associations that are more so. The American Hereford Association will not admit an animal over two years old to registry for love or money, and, of course, in that case the produce of such animal is also barred. The point to be noted by all owners of pure-bred stock is that it is well to apply to the secretary for a copy of the rules governing registration and of all the necessary forms of application for registry of pedigrees and transfers, to keep a supply of these on hand, to study them carefully, and to act according to the rules therein laid down. If this is done, there should be no trouble or friction in the work of registration.

The Foal's the Father of the Horse.

GENTLEMEN,—Our practice with brood mares is to turn them out in the spring as soon as possible before foaling. At foaling time we bring them in every night and watch them. After foaling we leave them in the stable until the foals are strong enough to be turned out, which is usually about a week. We then turn out mare and foal a little every day until grass has got properly through them, when we leave them out altogether, except perhaps in case of rain just at the start or in case of accidents. All our stock are carefully watched every day, but are never brought in again, except for the above or similar reasons, until about five weeks before the Toronto Industrial. When this time arrives the mares and foals which we wish to exhibit are selected and brought in during the daytime, out of the way of flies and to keep them from being sunburnt, but are still turned out at night until a week or two before the show. The rest are left in pasture until the fall. We have excellent pasture and consequently feed no grain so long as the stock is wholly at pasture. Should the pasture be scarce, we undoubtedly would feed grain. Should the foals not thrive well then an extra ration of milk for the foal would be advisable. (I need hardly mention that I am speaking of light horses. Heavy horse men will feed quantities of milk to their foals right straight along.)

The mares and foals brought up for exhibition are when taken up fed grain together in the same box at first. Just as soon as the foal begins to eat grain, usually a week or so, he and the mare are tied up at separate feed boxes, in the same loose box, so that each gets its own allowance, and the foal at the same time learns to be haltered and handled.

For the above feed we use oats and bran. We usually start to wean our foals when they are thoroughly rested from the exhibitions.

As to grain-fed foals, it is my opinion that many excellent show horses are ruined by grain and other kinds of high feeding when foals and that so long

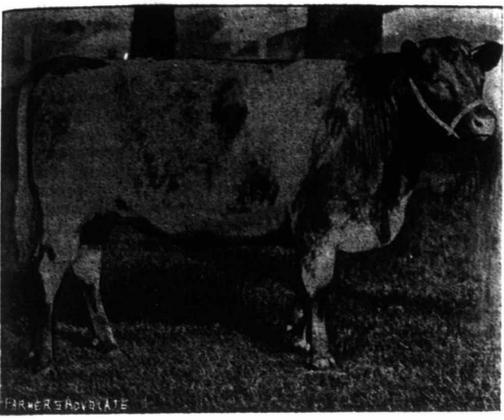
[Form No. 1—A.]
Herd Register No. Ser. Name.
Name of Sire. Herd Register No. of Sire.
Name of Dam. Herd Register No. of Dam.
Date when dam was served for this Calf (exact date must be given).
Date when this Calf was dropped.
The owner of the sire at the time the dam was served must write his name and post-office address here. *
The owner of the dam at the time the dam was served must write his name and post-office address here. *
The applicant for entry (who must be the owner of the animal at the date of application) must write his name and post-office address here. *
* Must write his name and post-office address here.
† The Rules of the American Jersey Cattle Club compel the Secretary to return applications unless all the blank spaces of the Herd Register No. are properly filled, and nothing must be in ink.
‡ The signatures of owner and owner of dam are not essential when the breeding has already been certified to upon the transfer of the dam.
§ For signature of dam, applicant must give the names of such owners, and must write after each name: "For signature of dam."
|| Note.—The date of an application for entry is the date of mailing it as shown by the post-mark, provided the application is accompanied by the fee. In cases where the fee does not accompany the application, the date on which the fee is mailed is taken as the date of application.

(which we here reproduce), that for herd register No. —, causes confusion, from the fact that probably not one in fifty of the breeders of Jersey cattle have ever seen a copy of one of the volumes of the "Herd Register," which is simply what is generally called the "Herd Book" by other cattle breeders' associations. They hesitate on committing to fill the first blank on the form because the animal they wish to have registered has no number. If they look over the footnotes on the form they may read that "the rules of the American Jersey Cattle Club compel the secretary to return applications unless all the blank spaces above (except that for Herd Register No.) are for the convenience of the secretary, to be filled by him when the pedigree is entered on his books under a number, and the same number is marked in this blank on the form of application, to be placed on file for future reference, if necessary;

as the foal is thriving and is not being shown, there is no necessity for such feeding, provided the pasture is good. It is a maxim that has been proved times without number, with regard to the human species, that the most highly fed are not necessarily the best breeders. I can see no reason why the reverse should be the case with regard to animals. Perfect health, lots of exercise, enough of simple fare, are the best guarantees that a mare will breed well and successfully.
 HORACE N. CROSSLEY.
 "Sandy Bay Farm," District of Parry Sound.

Feeding Mares and Foals.

I believe in feeding some grain to both dams and foals during the summer, whether the dam is required to work or not. When the dams are required to work, I feed the dam about three gallons of oats and about three gallons of bran per day, with all the good hay or grass they will eat at



SHORTHORN, CICELY.

BRED BY AND THE PROPERTY OF H. M. THE QUEEN, WINDSOR.
 Female champion at the Royal Show, Maidstone, 1899.

noons, and give them a good pasture at nights. Even when they are on grass it will pay to feed some bran when working. Always keep the foal in a good box stall when the dam is working—clean and well lighted, with no holes to allow it to get its head through, as it will be constantly fretting. Great care should be taken to allow the dam to cool, if warm, before suckling the foal. The foal should be taught to eat as soon as possible by mixing a small quantity of crushed oats and bran with a little sweet milk—just enough to wet it. Have a small dish for the purpose, and never take the dam away without giving it something to eat after it is two or three weeks old. A good way to start the foal to eat is by taking the dish and holding it up to its mouth with one hand, and getting it to nibble at it. In that way it will soon learn to eat. After the foal has learned to eat well it should be fed at the same time as the dam, in a separate box in another corner of the stall. And be careful to see that each commences to eat their own feed. In that way you may know just what each one gets. Some dams are cross when feeding, and will not allow the foal to feed at the same box. Others will, but it is very much better that they each learn their own place.

We have always fed our foals some grain, so that from experience I can hardly give an opinion, though I am led to believe that a foal fed with a fair amount of grain will develop better bones and muscles and have more ambition than one reared without it. With reference to grain-fed mares suckling foals being more likely to breed again than others, I would not care to give an opinion. I may say we have always fed grain, and we have very little difficulty in getting the mares with foal again.

My own opinion is, there is not much danger of foals getting too heavy on their joints if the dam is required to work. If the dam is allowed to run without being worked, and the foal is likely to get too fat and heavy for its joints, the best remedy I know of is to take some of the feed off both dam and foal. Get the foal as much exercise as possible without galloping. In cases of that kind, a great deal of judgment is required to know just how far you may feed without injuring the foal.

I would prefer to wean a foal at from seven to eight months old, when the welfare of the foal is the main consideration. By all means feed often after weaning.
 JOHN GARDHOUSE.
 York Co., Ont.

Broad Mares are Better Not to Get Much Grain Until They are With Foal.

To the Editor FARMER'S ADVOCATE:
 SIR,—We do not feed our brood mares much grain for three or four weeks after foaling, or, as a rule, they do not get much till they prove in foal. Mares are generally harder to get in foal if getting much grain. We feed rolled oats and bran, mixed with a little cut hay. We wean our foals at six months old.
 D. & O. SORBY.
 Wellington Co., Ont.

Favors Grain Feeding Foals.

To the Editor FARMER'S ADVOCATE:
 DEAR SIR,—I have found by experience that a little grain while on pasture is beneficial to both mare and foal. In order that each shall get a proper allowance, I tie the mare in a box stall, leave the foal loose and have a separate box for its grain. As to the kind of grain, I prefer crushed oats and bran, about five pounds—half and half—twice a day for the mare. I start the foal on about a pound and keep increasing until after a while I give it all it will eat. I certainly think that grain-fed foals make better horses than those raised without. We have never had any difficulty in getting mares to breed, whether grain-fed or not. I don't think it makes any difference. I do not think it is best to have a breeding mare too fat. We have had no trouble with grain-fed foals getting too heavy on their joints if given plenty of outside exercise. We bring the mare and foal up in the morning and keep them in just long enough to eat their grain, then turn them out, and the same at night. We usually wean our colts at about five or five and a half months, but if the mare is not with foal I don't think it injures the foal any to let it suck longer. It is my opinion that in order to raise good horses we should avoid extremes—not keep them too fat nor too poor, but in good thriving condition from the time they are foaled until they are matured.
 VAL FIGHT.
 Oxford Co., Ont.

Grain-Fed Foals Mature Early.

To the Editor FARMER'S ADVOCATE:
 SIR,—We are at present feeding our brood mares about four quarts of crushed oats twice a day. We continue this during the summer, feeding in a manger low enough for the foal to reach the grain. We find they begin to take a little when very young. When mares are worked we give the foal all the crushed oats and bran they will eat while the dam is out.
 We do not use any means of preventing mare from getting more than her share of feed until foal is old enough to tie up, when both are tied. While feeding, never tie dam and allow foal to be loose. We believe grain-fed foals will mature a year younger than those not being fed, as they continue to grow right along after weaning time. We do not think grain-fed mares are more likely to breed again than those not receiving any grain, but if too much grain is fed there is more difficulty in getting mares to breed again. We have had no difficulty with foals getting too heavy for their joints. Would say, breed to sires having a good quality of strong bone, and there will be little danger of foals getting too heavy for their limbs if allowed a fair amount of exercise. We wean foals at about five months, when mares are not required for work; if worked, it is better to wean at four months.
 HALTON CO., ONT. I. DEVITT & SON.

The Ideal Bacon Hog Once More.

To the Editor FARMER'S ADVOCATE:
 SIR,—I will not demean myself nor insult your readers by continuing the discussion on the merits of the Large White as a bacon hog in the pothouse style in which Messrs. R. L. Jarvis & Bro. appear to be so proficient, nor will I, as someone with a name like Solomon remarked, answer a — according to his folly, but give as brief a reply as possible to anything in their letter deserving of notice.
 Messrs. Jarvis & Bro. must have a very poor estimate of the intelligence of your readers if they imagine that the slightest influence on the determination of the question of the merits of the Large White Yorkshire is likely to result from their recital of the fact that somebody had a few coarse pigs which were said to be Improved Yorkshires. This is very probable, as it is an admitted fact that several very inferior so-called Improved Yorkshire pigs have been imported into Canada. This is no proof that the Large White pig is of necessity a coarse pig, but a far better test of the quality of pigs of the breed can be furnished by Mr. D. C. Platt, of Millgrove, Ont., who has, or had, recently imported something like forty head of Large White pigs bred by me. Messrs. Jarvis & Bro., with no knowledge of the facts, may assert as long as they please that the Yorks., as they call them, are a large, coarse pig, but this will not affect the question in the slightest.
 Messrs. J. & Bros. express surprise that I do not get some Englishmen farmers to say a word in recommendation of my pet York. The English farmers go one better, as they not only praise but buy my pigs and at prices that would frighten Messrs. J. & Bro. For instance, the public have bought of me nearly 200 boars, sows, and yelts for breeding purposes during the last three months and have paid me an average of over £8 per head. Actions speak louder than words.
 I fail to see the force of Messrs. J. & Bro.'s remark about the probability of the Swede being a friend or relative—he is neither—nor as to the probable want of competition in Sweden. There was strong competition, and they would know if they had any knowledge on the subject that the Danish and Swedish pigs are as a whole infinitely better than Canadian pigs, and that this marked superiority is solely due to the Scandinavian having for many years bought numbers of Large White boars, and of what is of still greater importance, are still importing them and giving high prices for others.

Messrs. Jarvis & Bro. complain that I did not give them recent evidence and from a good source as to the feeding and other good qualities of the Large White. Perhaps they will be content with the results of a trial which was carefully carried out at the Ontario College of Agriculture last autumn when pigs of the Large White, Berkshire, Duroc-Jersey and Tamworth breeds were tested for 112 days. The Large Whites made the greatest gain in a given time on the smallest proportionate quantity of food for gain and were highly spoken of by the managing director, Mr. J. W. Flavelle, of the W. Davies Co. Of what possible value can the unsupported and wild assertions of Messrs. Jarvis & Bro. be against such evidence of truthful men who have no axe to grind nor pitiable jealousy to humor. In the course of the summer I hope to be able to furnish Messrs. Jarvis & Bro. with the opinion of the Large Whites as found by Mr. J. W. Flavelle after a personal inspection of my head of 500 head, since that gentleman has arranged to come and see.
 Holywell Manor, Eng. SANDERS SPENCER.

Shorthorns at the Royal Show, as Seen Through the Eyes of a Canadian Breeder.

Altogether, the Shorthorn exhibit at the Maidstone meeting of the Royal Agricultural Society, June 17-23, was good, some sections exceedingly so, and in some sections the standard reached was not very high. This latter was true of the first section—aged bulls; the number of entries was large enough (21), and all were in except one. We were very much at variance with the judges, and greatly disappointed when Brave Archer, the only good bull in the ring, did not get a place; a very thick roan, grand substance and good quality, without any very bad points, bred by Mr. Duthie, got by Scottish Archer, and exhibited by Sir J. Gilmour. The first prize went to Richard Stratton for Alto, by Excelsior, a big, coarse, rough bull, whose only redeeming qualities were a good masculine front and good coat of hair. Second went to H. R. H. the Prince of Wales for Stephanos, one of the same kind as was placed first. And third to Sir Lawrence Riby, exhibited by Sir Jacob Wilson; bull bred at Warlaby; plain, but good in the crops and heart. Mr. Willis' Bapton Victory was reserve number. In the two-year-old section the judges changed their type altogether, and then we were able to agree with them generally. The first went rightly to Mr. Geo. Harrison, Darlington, Yorks., for Count Beauty, bred by Mr. Duthie, and sired by Golden Count. He was rather too upstanding, but had a grand back, crops, loin and quarters, good depth of rib and good breast-girth. With a little less leg and better developed front, he would have been an easy champion in bull sections, for which he was reserve, being beaten by Bapton Emperor, the easy first in a grand string of yearling bulls. Bapton Emperor is one of those rare ones you see once in a long time, and with a little more finish behind would be a model; grand head and front, massive body throughout, magnificent flesh and hair, crops and heart perfect. He deserved and got the highest honors of the show. He was bred by J. Deane Willis, and was sold prior to the show to W. S. Marr, Uppermill, Aberdeenshire. The second prize in two-year-old section went to Mr. McClenan for Estimation, a very handsome red bull, a little off behind. We would have placed Bobt. Taylor, of Forfarshire, N. B., third, with Merry Merlin, a very thick roan bull by Tip Top, but the judges placed him fourth, and placed Matchless, by Captain of the Guard, bred and exhibited by Her Majesty, in third place. The latter was a genuine pony-built bull, with grand middle and a capital



BERKSHIRE SOW, PEEL JESSIE 6698.

Female champion at the Royal Show, Maidstone, 1899.
 coat, but too effeminate in head and neck, and lacking behind as well. H. M. the Queen got second place in the yearling bull section with Royal Duke, a very handsome little roan, son of Prince Victor, and worthy of the place. Third prize went to Royal Jeweller, an exceptionally good-quartered bull, of very fine quality, but badly lacking around the breast. Bred by Mr. Briery and exhibited by J. Deane Willis.
 In the aged cow class there were no really good ones. First went to Miss de Rothschild for Miss Belladrum 6th, a matronly-looking cow, bred by Lord Lovat. But for a little roughness behind, the second prize cow, Countess of Oxford 11th, shown by Mr. Hoskin, should have been first. Third place

went to Mr. Geo. Harrison, Darlington, for Welcome, a plain daughter of Champion Cup. Lord Polwarth's Lady Beatrice was reserve number. The three-year-old class was a good one, large, smooth, heavy-fleshed heifers in milk, and showing grand udders. Mr. Leopold de Rothschild was rightly placed first with Mayflower 4th. And Mr. Hoskin secured second place with Wood Rose 2nd, one of much the same type, with a beautiful roan heifer calf about two months old at her side. Third prize went to Signet, a light roan with a grand shaped udder, and very fine quality of flesh, exhibited by Miss de Rothschild. The two-year-old heifers were the strongest class in the show. The 21 entries were all out, and the best seven proved a string I have not seen equalled in one class. The first prize went quite easily to J. Deane Willis for Bapton Pearl, by Count Lavender, dam by Golden Crown. This heifer was reserve number for the championship, but clearly entitled to first place. She is a rich dark roan, with abundance of soft, lean and mellow, yet prime, flesh, as smooth and ripe as a peach from end to end, and lots of size and character. Mr. Heaton, of Bolton, had a very good second in Daisy 4th, by Prince Victor, dam by Crown Prince. Third place was given to Mr. Willis for Bapton Fluff, another daughter of Count Lavender, of the same stamp, and very little behind the ones placed above her.

The yearling heifers were an excellent class also, and had the champion female in the first prize heifer, Cicely, exhibited by H. M. the Queen, and sired by Prince Victor, who was very successful with his progeny at this show, thus giving to the yearling classes both championships. Cicely was grand in foreribs and crops, but not up to the two-year-old heifer in quarters nor on shoulders. Second went to Mr. Thorley for Ringdale Memory 3rd, a very handsome roan; but I would have placed the third prize heifer shown by Mr. Garne, Glore, ahead of her—a very heavy-fleshed, thick heifer, which got no commendation from the judges; the third prize going to Mr. H. Dudding's Lady Eva, three others being highly commended.

A. W. SMITH.

Our Scottish Letter.

Recently Scotchmen have been from home, and at the Royal at Maidstone a week ago the Scot, as represented by his particular brand of Shorthorns, was not so much at home as he has sometimes been. The cause of this was found in the fact that the judges were both South Country men, and not so familiar with (or, shall I say, enamored of) Scottish Shorthorns as the Northern men and some of the Southern men are. Differences of opinion amongst Shorthorn judges are by no means rare, and at Maidstone we had more than an average share of these differences. All the same, the butcher favors the Scottish type. It is not so long as Booth or so gay as Bates, but it is all beef; and, after all, that is the thing wanted. Many are still enamored of the idea that Shorthorns can be made both beef-producers and milk-producers. This is true of the breed as a whole, but it can hardly be predicated of every individual animal in the breed. Of no other breed can it be said with equal accuracy that it produces beef and milk, but the animal to excel alike at the pail and at the block has yet to be produced. Cruickshank cattle are not, as a class, dairy cows; Bates cattle are not, as a rule, beef-producers; and Booth cattle are invaluable for crossing purposes, but they do not, as a class, excel as fat stock or in dairy competitions. This year's Shorthorn champions at the Royal are both yearlings—the male owned by Mr. J. Deane Willis, Bapton Manor, Wilts., and the female by Her Majesty the Queen, Windsor. Mr. Willis came uncommonly near winning both championships. He had first with the male, and stood reserve with the female, a splendid two-year-old heifer which in some points fairly excelled the Queen's champion. No doubt it was all right, and in any case what shall the man do that cometh after the Queen but submit and say it is well?

Maidstone is the county town of Kent, but it has a small population, and is in no wise to be regarded as a first-class center for a show like the Royal. Indeed, we expect the Royal stands to lose heavily on its 1899 show. Next year it hopes to do better, when it visits the great county of York and holds its show beneath the walls of that ancient cathedral city. Its last visit to York was paid in 1883, and a very fine show it was. Few cities are more pleasant to sojourn in than that by the Ouse, and doubtless many pilgrims will resort thither. In spite of its obscurity, Maidstone has been one of the most interesting agricultural meeting-places on record. Exactly 100 years ago King George III. visited Kent and Maidstone to review the trained bands of yeomen and farmers assembled to repel the threatened French invasion. This year his g-grandson visited Kent, and in the name of the agriculturists of England welcomed the numerous representatives of foreign agricultural societies who assembled to view the interesting collection of agricultural products and utensils set out before them there. The leaders of the French and German bands were elected honorary members of the Royal Agricultural Society, and presented with their badges of office by the Prince himself. Many hundreds of visitors were present from across the water, and French was almost as much heard as English in the showyard. The international good feeling displayed will no doubt exert a beneficial influence on the public policy of Europe.

Farming in Kent is quite different from farming in Scotland. The leading article is hops, and the first idea which asserts itself is that farming must be a very expensive occupation in this county. What is the cost of cultivating an acre of hops is unknown to the writer, but he should imagine that hop-cultivation will be as big a gamble as there is in British agriculture. The average Briton dearly loves a gamble, provided it is not dignified by that name, and in hop-growing he gets it. Some Scotchmen have left Essex and gone to Kent. Life is not so slow in the latter as in the former, and if you do not spoil a horn you certainly make a spoon. The Scottish farmer sometimes emits a growl about the expense of raising turnips, but turnip-growing is tame business when compared with hop-growing. This season appears to be a favorable one for the hops, but in many parts of Scotland turnips threaten to be a failure, and in spite of maledictions, that is a bad business, because the swede and turnip are still the mainstay of the Scottish feeder. The weather has been unusually warm for some time, but recently more rain has fallen, consequently there is some hope now of saving the turnip braird, but hay is a poor crop, and it is too early to say much about any of the grain crops.

Beef and mutton are dearer here at present than they have been for many years, and these down-trodden gentlemen, the butchers, have consequently been compelled to increase their prices. Not for four years at least have the market quotations per cwt. live weight published in the *Scottish Farmer* appeared so high as they do this year, and over 40s. per 112 lbs. is freely being quoted. This is all right for the man who has beeves to sell, but the numbers of such are few, and unless something unexpected happens beef will be scarce. One risk attending a scarcity of fresh beef is that the public will take to buying tinned meats and frozen mutton, and once having acquired a taste for such and finding prices low, there is no saying how matters may end. The public may continue to buy these kinds of meat, and that in the end of the day will not help the farmer much. Good steady trade at a remunerative price is best for all parties, and the experience of the late boom in wheat is not calculated to make the Scottish farmer think much of "booms." The net result of that has been to lead sanguine farmers in not a few cases to pay absurd rents for good farms in the hope that the boom would continue. It has not continued, and a few of these men—it may be many—will get the "baby to hold."

AN AGRICULTURAL COLLEGE FOR WESTERN SCOTLAND.

The project to establish an agricultural college in the West of Scotland, on the lines of your notable institution at Guelph, is approaching completion, and very soon we will have a well-equipped teaching center in Glasgow and Kilmarnock worthy of the enterprise of the Western shires. This scheme has been taken up by the county councils, and the teaching staff includes Professor Wright and the whole of the equipment of the Glasgow Technical College in its agricultural department, as well as the staff and equipment of the Scottish Dairy Institute, presided over by your countryman, Mr. R. J. Drummond, one of the most efficient teachers of dairying ever seen in Scotland or England. Mr. Drummond is, indeed, too able a man for some folks, and they cannot abide him, but he is a splendid teacher, and makes everybody toe the mark. Some objection has been taken to a farm being run along with the college, and one gentleman has gone so far as to declare that a farm attached to an agricultural college is like a millstone around its neck, or a white elephant. I would like to know whether this is the view taken of the matter in Canada. The governors of the school at Guelph should be able to throw light on the question, and I would be pleased to hear what they say about it. Agricultural education in the West of Scotland under Professor Wright has made rapid progress in the past six years, and as a separate college the agricultural department should secure additional renown. "SCOTLAND YET."

Feeding Steers Loose Satisfactory.

To the Editor FARMER'S ADVOCATE:

SIR,—In regard to the steers I fed loose last winter I can only reply in general terms, as they were not weighed either before or after feeding. I sold the bunch in January for a lump sum, to be delivered April 10th. The steers were good and the price was satisfactory, and I intend to feed loose again next winter, as I consider that cattle do as well or better loose than tied up. They walked in to the railroad station (seven miles) almost as well as grass-fed cattle. Steers I have fed tied up I always had more or less trouble to take in. They keep cleaner and the manure is in better condition for spreading, and the steers seem more comfortable. They fed very peaceably together and none of them ever refused their chop. For the first month of feeding they received about four pounds per day each of crushed oats and barley in one feed, which was gradually increased to twelve pounds per day in two feeds. They had two small feeds of hay per day and as much good straw as would bed them well after they had picked it over. They were let out to water every morning before feeding chop.

Wallace Municipality, Man.

CHAS. E. IVENS.

Selection of Rams.

BY J. M. M'CAIG.

The cultivation of the animal form in both beef and mutton stock, for the best feeding and most profitable and desirable type, has resulted in a pretty definite and well-understood outline of animal as the meat ideal. Roughly speaking, the meat form approaches that of a solid figure as wide as it is deep, and with a length equal to about twice the depth. A figure of equal width and depth contains more of solid contents to a given external area than one that is either narrow or shallow, and the most profitable investment of feed is in a frame of this shape. Of course, in the animal frame we cannot have the figure of an absolute oblong square, as the ribs and body are more or less circular, but we may have a uniformly straight upper and under line, and pretty uniform thickness from front to rear. It involves considerable critical judgment to fully appreciate in detail the points that constitute this fullness and completeness of figure. In a meat-producing country like Canada an appreciation of these points among breeders and feeders is pretty general.

Among breeders, however, something more than this is necessary. The business of coupling is the arranging of mutually dependent, complementary and suitable parts, and, though unnatural and very broad contrasts are opposed to the production of suitable and symmetrical offspring, there are still characteristic differences between male and female that every breeder should try to appreciate. Nature relieves her similarities by well-defined contrasts, and generously endows man and beast alike with a separate and distinct individuality. It will be wise for us to observe this constant law, and not allow our fidelity to the symmetry of the meat form to force us into a dead level of uniformity with regard to males and females alike.

Contrasted with the female, the male is larger; in most breeds fully a third larger than the female. This difference may be either the result of the exercise of the special duties of protection, requiring greater weight and strength on the part of the male in earlier times; or, on the other hand, the smaller size of the female may be due to the greater tax on her in the reproductive office; a large part of the nutriment she gathers is not appropriated to her own organism. The question of how the difference in size and strength of the male and female arose is not a matter of much importance practically, except in so far as we may learn from a study of it that the differences are fundamental, and really points that go to constitute masculinity on one hand and femininity on the other. It is not to be inferred that in practice no deviation in the correct relative sizes should be made. On the contrary, sheep are subject to ready variation in a domestic state under the hand of man, and it would be quite wise, on the one hand, for a breeder to reduce the rawness and inordinate size of his ewe flock by using a tidy, medium-sized or smallish ram; or to increase the size by the use of a larger ram. There is no danger at lambing time from using a relatively larger ram on small ewes of the same breed; the size of the foetus depends on the size of the pelvic chamber, and on the nutriment provided by the ewe. The individuality of the offspring asserts itself more distinctly after birth, however, and both ewe and lamb will require generous treatment to keep the growthy lamb well fleshed up.

The additional strength of the ram over the ewe will be manifest, particularly in the form and features of the fore end of the sheep. The front of his barrel should be so full of large, vigorous and active blood-making machinery that his breast should hang well down between his fore legs, and should force them wide apart. He should be thick through the heart from side to side, and be low enough in the foreflank that his belly will not sag below a line from front to rear flank. He should be correspondingly well filled directly above the heart, behind the top of the shoulder. These parts generally correspond; light in the crops generally means light in the heart. The base of the neck should be strong, broad and rising. He should not drop in front any more than behind the shoulder. Neck has been almost wholly eliminated in the mutton sheep, and the head appears to be set on the corner of the carcass, but such as it is it should show a broad base and sturdy upper arch.

The head of the ram is where masculinity most appears. His original pugnacity has left him an aristocratic Roman arch. This is one of the first marks of ramminess; see that you get it. If it should happen that his actions correspond with his looks, don't think the worse of him for that; a fighting ram is generally a vigorous ram. A surly wrinkle or two towards the nose generally appear in old age. Undue coarseness of this kind is undesirable in a young sheep. The top of the head should be broad, and the general effect of the head short and square rather than long and thin. The eye should be clear and alert, and with this it will generally be noticed that he takes an active and rather assertive interest in whatever is going on about him. A good ram is usually not easily pushed about, or moved where he does not want to go, unless he has been carefully trained to lead while young.

Leaving the front of the ram, which, as contrasted with the ewe, is the end in which preponderating strength and character are looked for, let us look along his back. He should be long, level

and broad on top. His ribs should spring straight from the spine instead of stoping, so as to leave plenty of room above for his nutritive machinery, rather than to crowd it into a sagging belly. His loin should be strong and broad, his tail-head level with his back, and his width carried well out to the rear corners of the carcass. He should have a fairly strong dock, lying well to the rump; should drop straight behind, with twist well filled down and back, not forward and high. His testicles should be large, as these are very strongly developed in the ram, and his purse should not dangle by an apparently long, narrow neck, but should fill the cavity between the thighs throughout. A narrow-necked scrotum means thin and light spermatic cords. He should carry his ham meat well down to the hock. His legs should be short, well set apart and straight. His feet should not be large or spreading. He should not lean back on his pasterns, but should stand square on the end of his pegs. A sheep with a crooked hind leg has generally a light or cat ham.

The fleece of a ram should be at least a half heavier than that of a ewe of the same breed, partly from additional size, and partly from the fact of his devoting all his food to his own nutriment and adornment. A ewe that is not raising lambs shears much heavier than one that is milking. The same difference makes a corresponding difference in the weight of the fleece as between rams and ewes. Not only with regard to quantity, but with regard to the places bearing wool, should the ram differ from the ewe. The ram should have the wool crowding luxuriantly on every part of the body on which wool may appropriately grow. It is an easily observed fact that in the males of nearly all domestic animals and birds, as well as those in a free state, males are generously adorned as compared with females. This is supposed to be due to surplus nutriment crowded to the exterior of the males, but otherwise used to nourish offspring in the females. It may be safely laid down, then, that a ram light in the fleece has not the appetite and, consequently, vigor and constitution that appropriately belong to him as a male. It should be remarked here that there are great variations in different breeds as to the amount of covering deemed right at the extremities; for example, on the face and legs. The Leicesters, on the one hand, have a bare poll and legs, while the Shrops are woolled to the nose and toes. What has been said with regard to wool at the extremities, then, must be taken with appropriate modifications with regard to different breeds. Generally a ram with a light fleece and bare extremities will be found light in the vital parts, as heart, breast, etc. It might easily happen, however, that a sheep well covered as to special points might be weak otherwise. This might happen with a breeder, for example, who lost sight of fundamental points in seeking to attain fancy ones. It is, perhaps, the case that within the past ten years many a fine Shrop has been discarded for an inferior rival with more face and leg wool. Face and leg wool is all right on the right kind of a sheep, but it won't make a good sheep of a poor one.

Steer Feeding Test at the Indian Head Experimental Farm.

A very interesting steer-feeding test was conducted at the Indian Head Experimental Farm last winter, beginning on December 9th and ending on April 1st. Five lots of steers, averaging about 1,250 pounds each, were put on equal rations of ensilage and meal, 24 pounds of ensilage being the uniform ration, 2 pounds of meal the first 4 weeks, with an increase of 2 pounds each 4 weeks. For the rest of the ration each lot of steers was put on an equal ration by weight, 12 pounds per day, of oat straw, barley straw, wheat straw, native hay and Brome hay. In the 4 months' feeding, the average individual gain of each lot of steers was:

- Lot No. 1—oat straw—126½ pounds.
 - Lot No. 2—barley straw—91½ pounds.
 - Lot No. 3—wheat straw—162½ pounds.
 - Lot No. 4—native hay—127½ pounds.
 - Lot No. 5—Brome hay—180 pounds.
- In lots 1 and 3 there were four steers, whose total weight when put in first was 4,930 and 4,970, respectively, and at the conclusion of the test 5,435 and 5,620, respectively. In lot 2, three steers, total weight 3,675, and when finished 3,950. In lots 4 and 5, two steers in each, first weight 2,485 and 2,480, respectively; finishing weight, 2,740 and 2,840.
- Brome hay gave the largest increase by 17½ pounds, while wheat straw came next, being considerably above native hay and oat straw, with the barley-straw lot away behind. Whether or not these gains can be attributed wholly to this portion of the ration is a matter that can only be guessed at. But tests along this line might well be carried on further.

The "Farmer's Advocate" in New Quarters.

(FROM OUR MANITOBA AND WESTERN EDITION.)

On this page appears a half-tone engraving of the McIntyre building, in which the FARMER'S ADVOCATE will make its future home. This magnificent building, certainly the finest business block in Western Canada, has just been completed on the site of the building destroyed by fire a little over a year ago. It has a frontage on Main street, just north of Portage Avenue, of 174 feet, a depth of 91 feet, is five stories high (six stories in the center), equipped with two large elevators, so that the higher stories are practically of as easy access as the first floor. The whole front is built of light blue Bedford limestone from Indiana, giving a very massive and solid appearance. Throughout the building is solid masonry work, practically fireproof, and all internal finishings are in solid red oak, beautifully oiled and polished. The block is equipped from top to bottom with every modern convenience, and the front rooms lighted with large plate-glass windows. The beautiful suite of front rooms where our friends will now find us are in every way much more attractive and commodious than our old offices, and better fitted for the requirements of a modern publication and a rapidly increasing business.

It is not our custom to "talk shop," but for the information of many who have within the past few years joined our list of readers and patrons, it might not be out of place at this time to refer to matters of a personal nature.

It is now nine years since the Manitoba and Western edition of the FARMER'S ADVOCATE was

experiences of the pioneer prairie farmer, a school in which lessons are more thoroughly learned than they can be in any other way, becoming familiar not only with the practical difficulties which must be met, but with various other questions which directly or indirectly affect the prosperity of the West. On the farm at Otterburne a large and excellent herd of Shorthorns was maintained. While on the farm he was always an observant student, finding time amid the toils of the day to read the best works he could get hold of on agriculture and stock-breeding, as well as being a careful reader of the best agricultural journals. Understanding well the conditions and needs of the Western farmer and stockman, the practical side of the editorial work has naturally ever been kept in the forefront. I note also that friend Greig has found time to render service to the farmers and stockmen by his presence on the Winnipeg Industrial Exhibition directorate. Coupled with enterprising methods, the ADVOCATE has, I am glad to say, exercised a wholesome and far-reaching influence upon Western agriculture."

To-day the ADVOCATE has among its many regular contributors dozens of the most successful and practical agriculturists, horticulturists and stockmen of Western Canada. From these stores of experience our columns have been enriched and rendered in the highest degree helpful. Among many writers, we might mention a few to whom during the past year we have been indebted: Supt. S. A. Bedford, Brandon Experimental Farm; Angus McKay, Indian Head Experimental Farm; James Elder, Virden; Wm. Saunderson, Glenwood Municipality; J. H. McClure, Rockwood; James Bray, Portage la Prairie; W. E. Baldwin, Pembina; Henry Newmarch, Rockwood; K. McIvor, Wallace; James Duncan, Franklin; John Caldwell, Wallace; C. Marker and J. A. Kinsella, Government Dairy Service, N.-W. T.; J. R. Henry, Cornwallis; A. Maynard, Lake Dauphin District; A. Graham, Dufferin; Alex. D. Gamley, Cornwallis; J. G. Rutherford, M. P., Portage la Prairie; George Hood, Dauphin; Jas. Fleming, Morton; W. A. Robinson, Arthur; A. P. Stephenson, Stanley; John Hawkes, Eastern Assiniboia; William Wallace, Winnipeg District; D. F. Wilson, Dauphin District; W. A. Dunbar, V. S., Winnipeg; John Renton, Winchester; H. L. Patmore, Brandon; Fulton Bros., Portage Plains; F. J. Collyer, East Assiniboia; D. Fraser & Sons, Franklin; Wm. Grassick, Louise; James Riddell, M. P. P., Dufferin; W. R. Hull, Calgary; J. B. Powell, East Assiniboia; David Munroe, Winnipeg; Wm. Dickson, Indian Head District; J. J. Ring, Louise; Ferris Bolton, Pembina; Walter Lynch, Westbourne; Harry Brown, Brandon Experimental Farm; Wm. Wenman, Glenwood; H. C. Robey, Experimental Farm, Brandon; H. Ardington, Dufferin; A. B. Smith, East Assa; W. J. Johnston, Oaklands; Fred. Smith, Cornwallis; G. S. McGregor, Lansdowne; Hugh McKellar, Chief Clerk, Manitoba Dept. of Agriculture; W. J. Kennedy, M. P. P., Virden; E. J. Lawrence, Peace River District; R. G. Robinson, Elbow Park Ranch, Alberta; Chas. H. Goodhew, Franklin; J. S. Thompson, Arthur; J. M. McFarlane, Saskatchewan; R. E. A. Leach, Brandon; Wm. Scott, Manager of the R. A. Lister Co., Winnipeg; George W. Strand, Sec. Minnesota State Forestry Association; C. H. McWatt, Red River Valley; John Cooper, President Minnesota State Agricultural Society; John A. Turner, Balgreggon Ranch, Alberta; F. Torrance, V. S., Winnipeg; James Milliken, Pipestone; Wm. Middleton, Elton; F. E. Alger, Alberta; Thomas Scott, Woodlands; C. W. Peterson, Deputy Commissioner of Agriculture, Regina; M. Maw, Winnipeg; J. A. S. Macmillan, Brandon; Rev. Dr. Bryce, Winnipeg; Wm. Alexander, Alberta; George Lang, Indian Head District; A. N. LeCain, East Assa; Charles Braithwaite, Provincial Weed Inspector; W. Swenerton, V. S., Carberry; Chas. E. Ivens, Wallace; E. H. Moorehouse, Dominion Government Dairy Staff, N.-W. T.; R. J. Hopper, Newdale; Rev. W. A. Burman, Winnipeg; A. & G. Mutch, Central Assa; H. Nichol, Elton; George Steel, South Cypress; Harry Irwin, Stephen Benson, and J. B. Govenlock, of Langford; Thomas V. Simpson, V. S., Yorkton; Thos. Copeland, South Saskatchewan; J. J. Gunn, Red River Valley; W. L. Puxley, Sec. Manitoba Horse Breeders' Association, Winnipeg; W. J. Young, S. Side Farm, S. Minn.; J. H. G. Bray, Stock Inspector, Medicine Hat; Dr. James Fletcher, Dominion Entomologist and Botanist; and many others.

But in addition to its local strength, its connection with the Ontario and Eastern FARMER'S ADVOCATE, which for over thirty years has held the foremost place among the agricultural press of this continent, places it in a unique position. In this way we are enabled to utilize, in so far as we deem it suitable to Western conditions, the cream of the matter and wealth of illustrations provided for the readers of the Eastern edition by a strong staff of three of the best agricultural editors of America, all of whom have enjoyed the advantage



NEW HOME OF THE FARMER'S ADVOCATE, McINTYRE BLOCK, MAIN STREET, WINNIPEG.

established in Winnipeg, with the late J. W. Bartlett as editor. Upon his acceptance of the position of chief clerk in the Provincial Department of Agriculture, Mr. Wm. Thompson took editorial charge for a year and a half, being succeeded in the fall of 1892 by George H. Greig, who has since occupied the position of managing editor.

Our advertising department is in charge of Mr. D. W. McIvor, a son of one of the pioneer farmers in the Selkirk settlement of Kildonan, on the Red River.

Conducted upon an independent basis, without fear or favor, from the outset the FARMER'S ADVOCATE has met with popular approval, resting upon the secure basis of usefulness to the farmers and stockmen of this rapidly developing country. Its policy has been to tell the truth and give the Western farmer the most reliable information in regard to grain-growing under prairie conditions, stock-rearing, and other branches of agriculture. Neither effort nor outlay has been spared to furnish the reader the very best service and the highest class of an agricultural publication possible. Writing of Mr. Greig's occupancy of this position, an acquaintance makes the following kindly observation:

"Friend Greig is particularly well qualified for the position of editor of a Manitoba and Western journal. His early years were spent on a well-conducted farm in the fine old agricultural county of Oxford, Ont., among pure-bred stock, graduating from the widely-known agricultural college at Guelph in that Province in 1879. In the same year he located, in partnership with a brother, on a farm in the Red River Valley, where he remained till his acceptance of the editorship of the ADVOCATE. He therefore passed through all the stern

arising from spending a considerable portion of time in Manitoba and the Northwest, making personal acquaintance with agriculture here. We have also the advantage of regular correspondence from two of the best authorities on live stock and other subjects in Great Britain—"Scotland Yet" and Mr. W. W. Chapman, of London, Eng. Every member of our staff continues to retain their personal connection with the farms with which they have respectively been connected, so that they are in close touch with agriculture in all its varied branches.

We have scores of letters from farmers and stockmen all over Manitoba and the Northwest Territories bearing testimony to the superiority of the FARMER'S ADVOCATE. For these kind words we are always grateful, but are by no means disposed to rest on our oars. Improvement in every department is our determination, and to that end we solicit the aid of every reader. A word of appreciation expressed to a neighbor on the next quarter-section, telling of its practical merits and help, with a little effort on your part, will promote the good work of increasing our list of subscribers, thus enabling us to issue a still better paper.

The latch-string is on the outside of the door of our handsome new apartments in the McIntyre block, and we shall be glad to have readers and others interested in the great work in which we are engaged call and see us whenever opportunity presents itself.

Sheep Dips and Dipping.

The wisdom of dipping the flock at least once a year for the destruction of ticks and lice and the prevention of scab and other skin diseases is acknowledged and practiced by all successful shepherds. In our own experience we have found it surely profitable to dip twice a year—in the spring, after the sheep are shorn, when sheep and lambs should all be dipped, and again in December or January, the whole flock being treated either by dipping or pouring. We are thoroughly satisfied that it pays a large percentage in the healthy growth of strong, lustrous wool, in the prevention of cotted fleeces, and in the increased weight of fleece and flesh which the sheep will produce owing to a clean, healthy skin; while as a preventive and cure of that terrible scourge, "sheep scab," the prepared dips on the market are invaluable. There are a number of excellent dips advertised which are non-poisonous to the sheep, yet entirely effective in the destruction of vermin and in the cure of scab if properly and thoroughly applied according to directions, and they are so cheap that no one can reasonably excuse himself from using them on the score of cost. The principal expense is in the preparation of a tank, which need not be an elaborate or costly affair: a wooden tank of matched plank, five or six feet long, three feet deep and two feet wide at the top, and sloping to one foot at the bottom. This is only a rough estimate of dimensions, and no doubt smaller dimensions will be found quite as suitable. Probably a more satisfactory tank would be one made of rough planks and lined with galvanized iron, and what would be still better is the galvanized steel tank made for the purpose, which is not very expensive and will last a lifetime.

A vigorous crusade is being waged by an American exchange against the use of sulphur and lime preparations, which have never been popular or in general use in Canada, but which are obviously inimical to the health of the sheep and to the quality and condition of the wool. We quote:

"The effect of the mixture is to form a compound of the sulphur and the lime known as sulphide of lime, and is one of the most active depilatory used by persons for destroying superfluous hair. It is extremely corrosive to the skin, and completely neutralizes the protective yolk and gum in the fleece by which the wool is preserved and the body of the sheep is protected from excessive rains. It cannot help but greatly damage the fleece, and if used before shearing will depreciate its value considerably. The new growth of wool on the shorn sheep will be seriously damaged, and it is quite possible for a considerable part of it to be loosened from the skin. If it is used soon after shearing it will tend to irritate any cuts or wounds made in the shearing, and as its effect is not complete at one dipping, and it must be repeated in two weeks, the ill effects of the first dipping are repeated in the second, with increased ill effects.

"There are none of these objections urged against the ready-made dips. On the contrary, all those we have tried and tested are free from any injurious effect on the skin or the wool, and, on the other hand, have in nearly every instance added to the growth of fleece by the stimulating, healthful result in the thorough cleansing to which the skin has been subjected. This is an important matter. A healthy fleece of sound wool cannot grow upon an unhealthy skin. The skin must be in perfect condition. Its secretions must be natural and unobstructed. There must be nothing to interfere with the perfect action of this most important secretory and excretory organ. We must remember that the skin is not merely a protective covering for the animal. It gets rid of more waste matter in a given time, than the bowels or kidneys do. And, as we may easily learn, its secretions and excretions are no less offensive than these are. Hence the condition of the skin is to be considered in this regard, as well as the comfort of the sheep in other ways."

FARM.

Preparation for Fall Wheat.

While the crop of fall wheat is not of a sort this year to set every farmer, even in fall-wheat growing districts, in the notion of devoting large areas to the production of that cereal, the partial failure of the crop should not, nor will it, prevent accustomed wheat-growers from putting in a certain acreage. During a recent visit to the well-conducted farm of Mr. J. A. James, Middlesex Co., Ont., our attention was attracted to two excellent fields with well-filled heads rapidly approaching the ripening period. One field was of a sandy loam and the other inclining to clay. They were each plowed out of clover sod last year, about the end of July, and well harrowed. The lighter field was then treated to about 15 loads of well-rotted manure per acre, which was worked in with a disk harrow. The heavier field received a much lighter dressing of yard manure, and in addition about 200 pounds to the acre of Standard fertilizer. After the manures were worked in, the surface was frequently cultivated, and especially after each shower, which served to conserve the moisture, solidify the soil, and put the land into first-class condition to receive the seed. Mr. James is systematic in his work, as every farmer should be, and is, therefore, prepared to cultivate his ground whenever it needs it. The fields we noticed were sown between the 2nd and 6th of September, with 7 pecks per acre of Dawson's Golden Chaff variety. It was drilled north and south so as to catch the snow from the west wind in winter, and admit the sunshine between the drills in summer. It was harrowed and rolled after the drill, and again harrowed in order to leave the surface somewhat rough to hold a snow covering as long as possible in spring. Mr. James will sow a considerable breadth this season on inverted clover sod, from which hay was taken, and on alsike stubble grown for seed. The manuring and cultivation will be the same as that given last fall and for several previous ones.

Years ago almost all fall wheat was sown on summer-fallow, but the pinching times drove many to see that to spend two years in getting a somewhat uncertain crop was not profitable, and hence the passing of the fallow on many farms. It is true that in some cases it pays to summer-fallow—for instance, where a bad weed has secured a foothold—but in general practice we believe the summer-fallow is being dropped, except perhaps among the more conservative of good farmers who maintain a bank account, and are thus not depending upon present returns to meet financial obligations. Whether wheat is to be sown on inverted sod, summer-fallow, pea ground after sod or land in some other conditions, the soil should be in a good state of fertility, as winter-killing and spring dwindling are much more likely to occur where available plant food is lacking than where it is abundant. A plant that comes out of the winter in an impaired condition through adversity is to some extent like a delicate animal—it needs easily appropriated nourishment, especially early in the season before the warmth of spring has had time to bring about nitrification and other dissolving functions. Clean pea-ground that was plowed out of sod in spring need not necessarily be plowed, provided it is workable with a disk or other modern cultivator. Short manure can be thus worked in, and a mellow, suitable seed-bed prepared by repeated cultivation without the aid of the plow, except it is desired to put the fields in lands that will give ready surface drainage. Since excess of water in winter and spring and paucity of moisture in fall and summer are among the chief hindrances to the securing of full crops, especial effort should be made to guard against these conditions by proper drainage and cultivation at the proper seasons.

The best date at which to sow has not become a settled question, but taking one season with another, from Sept. 1st to 10th, as a rule, seems to afford best general results. Two years ago the early sown fields did best, owing to the extreme drouth, which led many to sow their seed in August of 1898, which was followed by so moist an autumn that the plants produced too much top before the growing season closed. This led to a fear on the part of many lest the heavy top, if heavily covered with snow, would smother the plants, and resort was made to pasturing, mowing, etc., which we have learned from the unusual severity of the frost. In growing fall wheat, as with many other crops, some chances have to be taken, but the risk seems to be at a minimum when suitable, sheltered fields are chosen, the land well drained, clean and well fertilized, with a good supply of humus and soluble manure, a mellow, but firm, moist seed-bed prepared, and plump, vigorous seed of good variety sown about the first week in September. We invite correspondence from our readers upon varieties, cultivation, and time of sowing fall wheat.

WILLIAM LOGAN, Wapella, Assa.:—"I can assure you that the FARMER'S ADVOCATE is highly appreciated by myself and family, and we should very much like to have it continued. Each succeeding copy seems to surpass all former ones, and is up to date on all subjects treated."

JOHN HOOD, Heriot Bay, Valdes Island, B. C.:—"Yours of April 10th to hand, also the premium Baugster's Bible, with which we are well pleased. It is the best premium we have seen given away yet, and the best of it is that it is not marred with advertising in any way; and anyone wanting a good Bible I do not think could get it more easily than by obtaining new subscribers for the FARMER'S ADVOCATE."

Using One's Brains.

HOW A BADLY WINTER-KILLED FIELD OF FALL WHEAT WAS UTILIZED TO THE BEST ADVANTAGE—LABOR- SAVING METHOD OF SINGLING TURNIPS.

[BY AN OCCASIONAL CORRESPONDENT.]

The truly up-to-date business man is never satisfied with the methods he employs in his business, but is constantly on the lookout for new and improved ways whereby his business can not only be increased, but be conducted as economically as possible by the introduction of labor-saving machinery, and in other ways. In reviewing the business done in past years, he has ever in his mind the question of how he could have saved such and such a loss, or reduced it to a minimum, nor is he satisfied until he solves the problem to his own satisfaction.

This is the case too with the farmer who works his land and thinks out his own particular problems intelligently. He is ever studying to remedy the mistakes of past years, trying to see whether he could not have done better by altering his system of farming in certain lines, or under particular circumstances, and he has the satisfaction, when at length he discovers certain improvements that can be made, of knowing that he is a benefactor to the whole farming community, as well as to himself.

Such thoughts as those passed through our minds as we paid a visit, on June 29th, to Kelvin Grove, near Milliken, Ont., the well-known farm of Mr. Simpson Rennie. The first thing to catch the eye was the house, outbuildings and farm gates, all resplendent in new coats of paint, the barns being painted a rich purple-red, with the window and door frames a clear white. As usual, everything was in good order, the crops heavy, with well-filled heads of grain on such as was far enough advanced.

MIXED WHEAT AND BARLEY CROP.

But what is this mixed crop of barley and fall wheat, the barley in itself as thick and heavy as an ordinary crop, but here supplemented by a fair stand of fall wheat, which, like a giant, overtops the spring grain? This is where intelligence has been brought to bear to remedy the ravages inflicted by treacherous winter on what was last fall a most promising wheat crop. So badly killed was the crop on this field, with the exception of about two and a half acres, which was partly sheltered by windbreaks, that it was useless to let it remain with the hope of getting even half a crop. Accordingly, Mr. Rennie, in place of plowing it down, as is generally done, ran the cultivator over it, sowed barley on the ground, harrowed and rolled it, and the result will be an enormous yield of grain of the best feeding qualities, as both grains will ripen pretty much at the same time. Oats have been sown in some cases instead of barley or fall wheat in the same manner, but the wheat ripens too early for the oats, and there is a smaller return of grain for feed in consequence. In connection with the killing out of the fall wheat on this farm, it was noticed that the wheat plants which were most advanced on the advent of winter suffered more severely than those that had made a lesser growth.

CROSS-SCUFFLING OF TURNIPS.

Last year Mr. Rennie arranged his mangel crop so that he was able to scuffle them both along the rows lengthwise, as usual, and also across the rows. This was accomplished by using a three-cornered marker attached to the scuffer, which scratched across the rows in the place where the horse was to walk. This saved much labor in hoeing and singling, and although the distance between the roots (30 inches) is rather wide, yet Mr. Rennie thinks that what is lost in point of numbers of roots is nearly, if not quite, made up by the increased size of the crop as grown. This year he is following out the same plan with his turnip crop, and he expects to get equally as satisfactory results from it. Whether quite as good results could be obtained on soil that is in poorer heart than Mr. Rennie's may be open to doubt, but here, at least, the results are quite satisfactory.

DANISH SUGAR BEETS.

In one corner of the root field were a number of Danish sugar beets, which were being grown for their seed, which is very expensive in this country, being as high as 50 cents per pound. They seemed to be doing quite as well as the mangels alongside of them, which were planted for the same purpose. Mr. Rennie has high words of praise for the Danish sugar beets, which are totally different to the old style of sugar beets, the harvesting of which was a trial on one's temper. These Danish beets yielded fully as well as any of the Globe variety of mangels, they are of good length, are easily harvested, and their feeding value for cattle and pigs is higher. A finer lot of cattle than those which were sold last spring from this place, and which received these beets as part of their ration, one could scarcely wish to see.

The main potato crop was not planted till June 12th this year. Mr. Rennie contends that this late planting takes less work, escapes the early bugs, and the vines are in full vigor when the fall rains come to freshen them up, so that they secure the fullest development.

There were a prime lot of mangels, sugar beets, turnips, carrots and parsnips growing for exhibition purposes in a plot near the house, their rich, deep, full foliage showing off well against the well-enriched soil. Kelvin Grove has year after year carried off the premier honors for the best collection of roots at Toronto and elsewhere, and it looks

as if it would do so again this year. Among the mangels growing were the Golden Tankard, sometimes puffed up by seedsmen, but which Mr. Rennie thinks very little of, although he has to grow them in order to make up his collection.

The hay crop will be fair, possibly about one and a half tons to the acre. In length it is all right, but, owing to the winter killing out the clover in all but sheltered spots, the bottom is thin.

Everyone who has been at Kelvin Grove remembers the splendid windbreak of evergreens round the orchard. These have now been allowed to run upwards, and it has also been found necessary to trim them up for some distance at the bottom, because they kept the orchard too warm, no wind being able to penetrate their matted branches.

BARLEY AFTER RAPE AND ROOTS.

On the opposite side of the lane was a grand field of barley, level as a table, with full, plump heads. On this field last year there were grown turnips, mangels, beets, and rape. The barley on the rape portion was the best, though there was very little difference between it and that on the mangel and sugar beet portions of the field. The poorest part (although the term "poor" could not with propriety be applied to any part of this grand field except in a comparative sense) was the turnip ground. This would seem to show that turnips draw more on the soil than the other root crops mentioned, or the rape.

On this farm the rape is never sown until August, which insures an even crop for plowing under or for feeding to pigs. No sheep are kept on the farm, so that Mr. Rennie has no experience with them, but he does not set a great value on rape for pigs, except as a maintenance ration. When rape is plowed under he recommends it not to be plowed too deeply, and it should be turned under in the fall if possible.

A Cement Wall Builder Describes His Work.

To the Editor FARMER'S ADVOCATE:

SIR,—I thought I would take this way of giving the numerous readers of your paper an idea of what I am doing at building cement and concrete walls. I have built a number of barn basements, among which are Mr. T. L. Pardo's (M. P. for Kent), which was 50 feet 6 inches by 100 feet 6 inches by 9½ feet high and 1 foot thick; also walls for a silo 15 feet square, outside walls being 16 inches thick and the same height as the barn walls. I did this amount of work in 8½ days, with the help of an average of 8 men, which is 58 feet for each man per day. For the walls mentioned I used 121 barrels of Thorold Hydraulic Cement and 59 loads of gravel, and a quantity of small field stone that a person usually has about the farm. The only advantage obtained by using the stone is this: that they will save a certain amount of teaming gravel and also some cement. I figure that the quantity of stone that I can use in a wall will save about one-fifth of the amount of gravel and cement that I would use if I hadn't the stone.

I will endeavor to give you an idea of how I managed the work. I first laid the footing coarse (which is a concrete foundation, 20 inches wide and 1 foot deep), then I put up the frame to build the wall. I had my men arranged in this way: three on the platform mixing the concrete and two wheeling it to the wall, where two men were continually ramming it and laying in the small stone. It is not at all necessary to have such a large gang, as five men can do very well, but not so fast. I raised the plank as much as three times a day. For the first six feet of wall that I built I wheeled the concrete, but the last three and one-half feet, instead of building scaffolds, I had a team and wagon and drove around the outside of the walls and threw it from the wagon into the walls. I find that this plan is much better and faster than the old method of building scaffolds. It is far quicker and not so much waste. I nailed boards on the sides of the standards that I put up to build the walls, for the men that were ramming the walls to stand on.

I also built a large barn basement, 44 x 80 x 9½ feet high, which took for the construction 80 barrels of Thorold Hydraulic Cement and 50 yards of gravel and a quantity of small stone, for Mr. David Almar, of the County of Norfolk. I did this amount of work in seven days, with the help of seven men, which is 49 feet per day for each man. I had my men arranged the same as for Mr. J. L. Pardo's, with the exception of the team and wagon. I had all the concrete wheeled, which I find is a loss of time.

Welland Co., Ont.

An Experiment in Destroying Wild Mustard Conducted at the O. A. C.

SPRAYED WITH COPPER SULPHATE.

Mr. W. M. Doherty, assistant biologist at the O. A. C., Guelph, has been giving some time to experiments in the destruction of wild mustard, along the lines found successful by a French scientist, and which the FARMER'S ADVOCATE has made mention of on several occasions. We also recommended that tests be made by our readers this season, which Mr. Doherty has done by the application of the recommended chemicals. About a month ago Mr. Doherty tried three different strengths of iron sulphate and three of copper sulphate on six plots. The iron sulphate did not do any injury at all to the

crop, nor did it entirely destroy the mustard. The copper sulphate, on the other hand, completely killed the mustard and did a very slight damage to the grain. The copper solution used at that time was 1.3 per cent. and was applied with a Spramotor made in London. By strengthening the solution and spraying less generously, Mr. Doherty concluded better results would be obtained, and a more extensive test was made. A plot of about a quarter of an acre on an infested farm was selected and sprayed with a 2 per cent. solution of sulphate of copper. The result is entirely satisfactory. The mustard is all dead and the crop is not at all injured, a brown spot on the plant here and there being the only evidence of the test. Being an annual, the mustard plant destroyed at this season of the year is destroyed forever.

The cost of the chemicals will be very light, \$1.00 worth being sufficient to cover an acre. If—as seems almost certain—this test indicates an easy and effective method for the eradication of wild mustard, Mr. Doherty has certainly demonstrated a good thing.

On July 10th, Mr. Doherty sent us a bunch of mustard plants that were taken from a sprayed plot, and which he states were completely killed in four days after the spraying occurred. He also states that the oat crop which was sprayed is slower coming out in head than the adjoining unsprayed plot. The sprayed portion has a deeper green color and is very sharply separated from the unsprayed portion by being 3 to 6 inches higher. This is attributed to the grain on the sprayed plot receiving the extra nourishment which the mustard was getting on the unsprayed plot. Mr. Doherty has found that in using a 4 per cent. solution of copper sulphate a less quantity is required, and results are fully as good as in using the 2 per cent. strength.

A New Refrigerating Plant for Western Ontario.

There has recently been opened in the City of London, Ont., a cold-storage warehouse that will give the citizens of Western Ontario an opportunity to preserve all kinds of perishable products an almost indefinite time without deterioration. The well-constructed white brick building (80 by 100 feet) has four flats, divided into some 22 rooms, each thoroughly insulated and able to be controlled at any desired temperature from 12 degrees above zero, Fahr., up to whatever may be desired for the various classes of products. Rooms are especially fitted for each of the following classes of foods: Butter, cheese, eggs, apples, poultry, fish and game, meats, fruits, and vegetables. The building is in charge of an expert, and each class of produce will be subjected to the best known temperature for its preservation.

Each room has thoroughly-insulated walls separating it entirely from the others, so that neither temperatures nor odors are transmitted from one room to another. The entire building is supplied with an electric incandescent lighting system, and also receives light by windows of three thicknesses of glazed sash. The entire building was planned, and superintended, while in construction, by Geo. C. Zimmerman, of Detroit, and includes the latest ideas in cold-storage construction and equipment. The two lower flats are cooled by direct expansion from ammonia pipes, and the upper flats by the cold-air system, which consists of the warmer air of the room being drawn off by a suction fan, when it passes over a system of ammonia coils having brine running over them constantly. The cooled air is then forced into the room through slides, which are adjustable, so as to admit much or little, as desired. The cold is produced by two 40-ton Linde British ammonia refrigerator machines, which are connected with the coils and pipes throughout the building. The company operating and owning the plant consists of a number of business men of the city. The President is T. H. Smallman, and the Secretary-Treasurer is Dr. J. S. Niven. The storage is claimed to be the most perfect one of its sort in Canada west of Montreal.

Changes at the Ontario Agricultural College Farm.

Just as we go to press we are in receipt of the following letter:

Guelph, Ont., July 13, 1899.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—In reply to your kind favor of 9th inst., beg to state that I have quite decided to retire from my position as Farm Superintendent, and return to Toronto end of September. My coming here six years ago was mainly to demonstrate the advantage of cultivating the soil by a systematic rotation of crops, and according to the teaching of science, also the economic feeding of live stock for the best results, which has proved a decided success. Under this system the farm has increased in fertility, so that it is now returning a handsome profit over and above all expenses. I have good reason to believe that the same system will be continued by Prof. Day, he being a graduate of this college.

WM. RENNIE.

It is gratifying to know that, while the Farm is to lose Mr. Rennie, he will resign his position to good hands. It is understood that he is to be succeeded by Prof. G. E. Day, who was reared as a farmer, is a graduate of the Agricultural College, and has had, for the past few years, charge of the live stock at the Institution. Prof. Day is not, therefore, like a newcomer, but will take up and continue Mr. Rennie's good work without change or interruption, and, we hope, with as marked success as Mr. Rennie has done.

Remedies for the Horn Fly (Hæmatobia serrata).

The expected has not occurred, since the horn fly (*Hæmatobia serrata*) has not disappeared, as was prophesied at the end of three years from the time it first made its appearance on the cattle of Canadian herds. The pest is still in evidence over a large portion of Ontario, and upon inquiry and observation we find many farmers looking about for a means of dealing with the pest that is cheap, easy of application, lasting and effective. The following replies have been received to enquiries made by us:

Of many kinds of oily substances tried on cattle to prevent the annoyance by the horn fly (*Hæmatobia serrata*), Mr. R. R. Elliott, the herdsman at the Central Experimental Farm, has for three or four years used, when necessary, a mixture of 1 pound of pine tar in 10 pounds of lard (applied once a week), and still finds it the most convenient and effective remedy. This mixture is smeared on all the parts of the animal liable to be bitten.

Central Experimental Farm. J. FLETCHER, Entomologist.

A mixture of fish oil and a little pine tar I have found to protect my cows fairly well. One application will last five or six days. Apply with a brush.

Wentworth Co., Ont. R. S. STEVENSON.

The best application we have tried for horn fly is 15 pounds of tallow, ¼ pound black tobacco, simmered on the stove for 2½ hours, then add 1 gallon tanner's oil. Apply with a cloth once a week. We have used it for two years, and find it gives good satisfaction.

Lanark Co., Ont. J. YUILL & SONS.

We have used almost every patent preparation we could get, besides several by local druggists, but all, more or less, have failed. We find that kerosene emulsion applied with a spray pump every second morning answers fairly well.

Huron Co., Ont. F. C. ELFORD.

To keep the horn fly off cattle we use seal oil and crude carbolic acid. To one gallon of the seal oil add four tablespoonfuls of carbolic acid. Apply once a week with an ordinary cattle brush over the whole body.

O. A. C., Guelph. Wm. RENNIE, Farm Manager.

I am in receipt of your favor asking how we manage to keep the horn flies off our cows. There are many ways and different mixtures recommended in farm journals. We have only tried the application of one mixture and that is what is called Shoofly. We apply it with a flat, wide paint brush, twice a week. Or a quicker way of applying it is with a small sprayer, costing \$1.00, made for the purpose. The flies have not been nearly so bad this year, so we have not had to use any remedy as yet this season.

Oxford Co., Ont. E. D. TILLSON.

POULTRY.

Incubation and Brooders.

NATURAL VS. ARTIFICIAL HATCHING.

To make poultry-raising pay, one must have early chickens. The cockerels must be ready for the early markets, and the pullets ready for the following winter's egg production. In order to get chickens early we must have artificial incubators or sitting hens. To get the latter we must first have winter layers, and given the winter layers, it does not always follow that we can get persistent sitters. We would require to begin with nine or ten of them to cover as many eggs as one 100-egg incubator. Frequently it is quite late in spring before the majority of us have any hens inclined to broodiness.

The very early chickens, if left to the tender mercies of the old hen, and the accommodations and companionship found in the henhouse, will die or become stunted from cold and rough treatment, and it is hard to decide that the few which manage to exist will pay for the eggs set, their food, and the time and food of the hens while hatching and mothering them. We are liable to compare with the incubator and brooder the success of the motherly hen, which, about harvest time, hides her nest in some remote corner, and hatches all or nearly all her eggs, and raises all of the chickens hatched. We decide in favor of the hen and against the incubator, forgetting that we might be apt to have just as good hatches from equally strongly fertilized eggs did we set our incubator full at the same time of the year. But we do not do it, because we have little use for late chickens, or those hatched in the middle of summer or fall. The price is too low to make the marketing pay, and the pullets will not lay until the following spring, when the price of eggs is so low that it scarcely pays to produce the eggs, to say nothing of wintering the birds. Their only excuse for living is found in the fact that by picking their own living

of waste grain they make cheap food for the home table.

Then, to make a reasonable comparison between hens and incubators, we should take the season of the year when chickens are in demand at high prices. We have never been able to get early pullets, and, consequently, have no early layers or early hatchers. As an experiment we purchased a 110-egg incubator, paying cash for it, with the understanding that it would be returned if unsatisfactory. About the beginning of February, and during the coldest weather, we purchased most of our eggs, and set it to work. (Our neighbors set some hens at the same time.) Over half of our eggs proved infertile, and from the remainder came only twenty-five chickens; of these seven were weak and deformed, and were killed. Many of the eggs contained dead chickens. We attributed our comparative failure to the stimulating food and the shut-in life of the laying stock, and to the incubator. One of our neighbors succeeded in getting two chickens from ten eggs. Both died. Another neighbor reported a complete failure. We put up a cheap brooder house, purchased a brooder, and raised seventeen chickens, which, at the end of eight weeks, brought seventy-five cents a pair. We kept the incubator, and set it a second and still a third time, with better success, and we have now sold enough to pay for the incubator, and have still left seventy-five chickens, which should pay for the eggset, the oil consumed, and the food of the flock.

I never raised chickens that proved so satisfactory. They were healthy, lively, busy and growing all the time. By the time the turkeys and ducks were laying there were plenty of broody hens to cover the eggs, so I did not put all my eggs in one basket, or in the incubator, but set them under hens with fairly good success. One died on the nest. Some proved refractory, while some eggs were infertile and others contained dead birds, so that probably for the same number of eggs set the hatches were about equal. The cost of food for from eight to ten hens, and the non-laying of eggs owing to their incubating, would cover the consumption of oil, while the work of filling lamps and turning eggs would almost equal the work of caring for and feeding the sitters.

We had one hen conceal her nest under the barn. She brought out fourteen chicks; one stood chirping and did not follow the others. I caught it and examined it for parasites. They were there. I tried coal oil, they came to the surface, and I picked off over fifty and then stopped counting. It is scarcely necessary to say they died, and likewise the chicken and nearly all of the flock. Another went to an inaccessible corner of the hay mow, and there brought out ten chicks. I fed them regularly, and they were partly feathered when some midnight prowler or other enemy took nine of them. The chickens raised in the brooder house have always been and are entirely free from parasites, and have required no care nor looking after. Though they roam quite a distance, they always come to the house at feeding times, and have no kind (?) hen to coax them out in the cold and wet, and the brooder, even when the chickens are quite young, does not stand on one leg and refuse to keep them warm, nor does it tramp on them nor run away from them and leave them out to perish in the snow or rain.

GYRA.

Work that Combines Pleasure and Profit.

WRITTEN FOR THE AMATEUR, BUT OF GENERAL INTEREST TO ALL POULTRY-RAISERS—SUMMER CARE OF THE FLOCK—CURING LAWN CLIPPINGS FOR GREEN FOOD FOR WINTER.

BY C. H. CURTIS, PARK RIDGE, ILLINOIS.

Our plant of thirty-three acres, known as the Park View Poultry Farm, is located thirteen miles north-west of Chicago, in the pretty little suburb of Park Ridge. On the farm are our dwelling house, barns and comfortable poultry buildings, which, while not extensive, answer our purpose first-rate. Eleven years ago we started in to raise standard-bred poultry, and in those years we have found that there is a great deal to be learned. Like other beginners, we started in with a good many different varieties, and learned in time that one variety can be more successfully handled than can a number. We dropped all except the Partridge Cochins, which variety we have found a very good utility fowl, doing good work for us.

We are strong advocates of incubators and brooders. We never allow one of our hens to hatch or brood chickens, for various reasons. In our work of poultry-raising we have found three main causes for so many amateurs failing in their efforts. First, they do not provide warmth and dryness; second, do not guard against lice as they should; and third, are careless about giving proper food. We know that improper feeding has caused us much loss of time and money. The elaborate bills of fare laid out for young chicks are not only confusing, but are highly injurious, and the more simply the little chicks are fed the better it is for them.

We do not feed the chicks until they are twenty-four hours old, then we make sure that they have access to fresh, pure water to drink, and next place before them mica crystal grit, chick size. When they are from thirty-two to thirty-six hours old we take some of the eggs that were tested out of the incubator on the sixth or seventh day of incubation, boil them hard, and with a fork crush them up,

shells and all, very fine. We season this with a little black pepper well mixed in and feed for the first two days. Then we feed cut oats or oatmeal crumbled fine, giving them as much for a meal as they will eat up clean. The next meal consists of millet seed, and for the night feed oatmeal crumbled fine is used. After that their ration is about as follows: Hard-boiled eggs for breakfast, millet for dinner, and at night millet and oats together, or separately if preferred. Between meals we usually give a feed of oats or hard-boiled eggs. We are careful to keep plenty of fresh water before our chicks at all times, and take special pains to have it ready for them the first thing in the morning.

When the chicks are a week old we insist on their going out of doors every day that is fair, warm and bright, even if it is only one hour. When they get along this far we place a small box of ground charcoal before them, not too much. The young chicks are like children that like to play in sand, hence are apt to waste it. After the chicks are two weeks old, eggs are taken from their bill of fare and worms or ground meat (used cautiously) are substituted. They are now old enough to relish green food, which we supply by giving them small blades of grass or small weed leaves that are tender. If it is too early in the spring for new grass, we furnish lawn clippings which are specially cured for the purpose.

During the summer when cutting the lawn we save the grass instead of throwing it away, and prepare it in the following manner: After it is cut we take care that it does not lie in a heap until it begins to heat, and that it does not get wet. We take the cuttings into a dry room in the poultry building, spread them on the floor two or three inches thick, where the sun cannot strike them, but where they will have fresh air. Every day or two we take a garden rake and rake the cuttings over just as we should if we were raking them on the lawn, and when we are through we see that they lie about three or four inches thick.

It takes about one week to dry lawn clippings in this way. After they are perfectly dry we make a square pile in this way: A layer of grass six to eight inches thick, a light sprinkle of fine salt, and so on until all is in the pile and the floor is ready for another lot of clippings. This makes an unsurpassed substitute for green food for hens in the winter and is the source of many a basketful of eggs that would otherwise not be secured. When the cold weather of winter comes on we take from this pile grass enough to make a feed for the fowls, pour boiling water on it and let it stand to cool. We do not let it get thoroughly cold or chilled, and feed to the hens, water and all. This sort of green food has never yet failed to give us good returns in eggs, and is one of the best ways we know of making your poultry bring in good returns.

Now to return to the young chicks. As they grow older we give them in the morning a scalded mash made of one part wheat bran, one part ground corn, one part ground oats, with plenty of mica crystal grit stirred in. We feed this mixture lukewarm, not hot, and mix it to such a consistency that it will be crumbly, but not puddy. You can soon learn how much grit is needed, and if too much is given there will be no harm done, as the chicks will go back and eat it when they get hungry. Other meals are made up of wheat, millet seed, cracked corn once or twice a week, whole oats occasionally, and all the green foods they will eat, with worms or ground meat two or three times a week. When feeding dry food always scatter it in chaff or coal ashes. We prefer the ashes, for this reason: By means of same the youngsters help us to get rid of the lice, for ashes and lice do not agree.

With this kind of care and feeding we bring our birds to weigh two pounds at eight weeks old. Then comes the time for sorting out the birds that are to go on the Chicago market and bring back some of the money they have cost us. When we get our remittance for these early market birds (which is generally prompt in coming) we figure out our profit, and under the management here outlined the profits are satisfactory. Our next selection from the flock is for the breeders that are to be kept for winter layers. Then we select the exhibition specimens. As the fowls grow older we separate the male birds from the females, and the birds that we expect to exhibit at the fall and winter shows are gradually put in show condition. As the season advances the breeders we are to keep get one square meal a day in the morning, the rest of the day they are obliged to work for all they get until they go into their winter quarters, when they are cared for and fed with a view to producing eggs, for there is profit in a flock of fowls that are good winter layers. — *Reliable Poultry Journal*.

Testimonials.

MATTHEW BLACKBURN, Pilot Mound:—"I appreciate the ADVOCATE very much."
June 12th, '99.

JOSEPH BOWES, Boissevain, Man.:—"I have been a subscriber to your paper for many years before I came to Manitoba, and value it very highly as an agricultural paper."
June 5th, '99.

HORACE HAY, Norgate, Man.:—"I certainly appreciate the FARMER'S ADVOCATE, and the expense entailed in publishing it."
June 12th, '99.

MARTIN NICHOL, Calf Mountain, Man.:—"Your paper is all right. I would not like to be without it."
May, '99.

DAIRY.

Creamery Butter.

HOW PROPER FLAVOR, TEXTURE, UNIFORMITY, KEEPING QUALITY, AND ATTRACTIVE APPEARANCE OF BUTTER ARE SECURED IN A WELL-CONDUCTED CANADIAN CREAMERY.

Excellence in creamery butter is dependent chiefly upon flavor or aroma, texture, uniformity, keeping qualities, and attractive appearance. The methods adopted by us to secure these may be briefly outlined as follows:—

Flavor or Aroma.—When the aroma of creamery butter is not what it should be, the milk supply is our first consideration. In a well-managed creamery any objectionable flavor or undesirable aroma in the product will usually be attributed to the lack of care or of skill or of experience on the part of the man at the weigh can. Milk that is tainted or sour should not be accepted, and our first consideration when our mind is on the flavor and aroma of our product is the condition of the milk supply, over which we practice a rigid supervision. The eyes, nose and palate of the man who supervises the raw supply of a creamery should be very thoroughly educated. We then exercise every precaution over the cleanliness of the apparatus, the building and surroundings as a second guard over the flavor and aroma of our product. These two, together with the use of a "starter," are the chief points in this connection. The "fermentation starter," commonly so called, we find an assistance toward securing a fine flavor, but we do not use it as the basis of flavor. For instance, we do not carelessly take in all sorts of milk and then expect our starter to keep us out of trouble; but, rather, if, after careful supervision of the milk, there be yet a development of bad flavor during the ripening of the cream that is difficult or impossible to detect in the earlier stages, then our starter is a safeguard. Of course, there are numberless minor matters that may affect the flavor of creamery butter. For instance, the salt may have absorbed bad flavors, or the coloring matter may be old and lack that fresh sweetness that always characterizes good coloring matter, etc. But, after all, these essentials (first, the milk supply; secondly, cleanliness; and, thirdly, the "starter") are the basic matters with us as far as flavor is concerned.

Texture.—That the food of the cows has to do with the texture of creamery butter is well known, but, of course, over this item the manager of the creamery has little control. The one main, all-important condition that affects the texture of our butter is TEMPERATURE. We exercise strict guard over the temperature from the time the cream leaves the separator until the butter is on board the refrigerator car. Our cream-cooling apparatus is not yet completed, but our purpose is to pass the cream from the separator over a "Lister" cream cooler, lowering the temperature to about 60 degrees F., ripening the cream at this temperature, then turning a stream of water (we have an abundant supply at about 46 degrees F.) through a bracket of tubing or piping, the bracket being right in the cream, and the overflow of water being utilized to operate the bracket up and down in the vat. This latter arrangement will enable us to cool our cream rapidly after ripening, as we esteem one of our greatest helps to fine texture and firm body is a low temperature (50 degrees F. or below) between the close of the ripening and the commencement of the churning. The cream should stand at least three or four hours at churning temperature before being churned. Then, as we churn in the early morning and our building is built for the purpose (there are eight thicknesses—lining, building paper, and siding—and one dead-air space between the inside and out, and blinds on all the windows), our cream does not heat up materially during the churning. We then use a "National" worker, which we think very much superior to an open platform worker. We are careful not to overwork the butter, working by number of revolutions. The butter is then packed in the boxes as quickly as possible and put into cold storage. Warm cream at churning time, warm washing water, and warm rooms for churning, working, and packing, are death to good texture.

Uniformity.—A set notion as to what constitutes good milk and a determination to accept no other; a uniform percentage of fat in the cream, varying only with the seasons; a "starter" of the same flavor day after day; These, with a careful adherence to our above outlined practice, assures us a uniform product. I may add here that we market our butter weekly, and do not, therefore, market any stale butter.

Keeping Qualities.—We exercise practically no special precautions re the keeping quality of our product. Now, this may seem a strange statement, but note that I say "special" precautions. Throughout our system every small item in our procedure really bears upon the keeping quality—we believe to its betterment; nevertheless, the keeping quality is one of our least considerations. And there are reasons for this. In the first place, our markets never find any fault with the keeping quality of our product. It keeps as long as is necessary, evidently. In the second place, it being well understood by the trade that butter, under ordinary temperature and conditions, rapidly loses its freshness, dealers provide themselves with cold storage privileges; and, when frozen, butter keeps, of course, indefinitely. In short, butter nowadays

in the best trade channels is in cold storage from the day it is made until it is sent to the table of the consumer; hence but little is said or thought of its keeping quality.

Attractive Appearance.—Under this head I may say that we use none but A1 boxes (56 lbs. net), and we keep them clean. All boxes, after being filled, are stamped with our own private brand and also by our registered number; and this is done neatly and always placed on the same side of the box, and the same position on the side. At present we are using the slide-lid box. We line the box (which is, of course, paraffined) with the best parchment paper we can secure—a very fine quality, weighing 60 lbs. to the ream (size of ream, 14 inches by 50 inches). We use five sheets to line a box, two of which cover the bottom and two sides, two more cover two sides and lap a little top and bottom, while the fifth covers the whole top of the butter. We buy all our paper cut to order. Covering the paper is a light layer of dampened salt. We have seen no more attractive appearing box than this when thus finished. We are not using sacks at present, the chief reason being that the ordinary jute sack has so strong an odor.

Middlesex Co., Ont. F. J. SLEIGHTHOLM.

Prof. Dean on the Central Testing Station.

SIR.—Your correspondent, Mr. Frank Hunt, Elgin Co., whom I have not the pleasure of knowing personally, has so ably replied to the tasker, Mr. T. B. Scott, that there is little need of me saying more on the subject, except to make a few general observations. The main point of Mr. Scott's article, which referred to my suggestion to have central stations for testing as an insinuation that "factory managers are incompetent and dishonest," has been most effectively answered by Mr. Hunt. There is no business under the sun, where an equal amount of money is involved, which is transacted so loosely and with so little auditing of accounts as the dairy business. This speaks volumes for the honesty of dairymen—or indicates a trustful indifference among them. I may further add on this point that it was not my intention to reflect on the honesty or incompetency of factory managers, when making a suggestion for a central testing station, but my sole object was to suggest a remedy for the existing cause of dissatisfaction among patrons in reference to the testing of milk and cream, and to place the whole question on a business basis. No one can deny that there is a good deal of dissatisfaction, but if the work were done by parties solely disinterested, and under the control of the Butter and Cheese Associations of the Province, there could then be little cause for complaint. During the past month we have received samples of milk and cream nearly every day for testing, and so far as our time will allow, we are always glad to do this work, but we cannot begin to cope with all disputes about testing. We, possibly, hear more about the dissatisfaction in reference to testing than many others, owing to the position which the Dairy Department at the College holds in reference to dairying in the Province.

With regard to my "2 per cent. theory," and the statement that not one factory in Canada or the U. S. has accepted it, I would merely observe that a number of factories have adopted this system. I may mention a few: Tavistock, Elma, Thamesford, Avonbank, Blackstock, Roebuck, and Norval. There are many others which I cannot recall at present, but the foregoing will be sufficient to refute the statement. Mr. Rice, on page 348, quotes the newspapers in Oxford district as favorable to the "butter-fat+2 system." I shall pass by his fling at "profs." We are so accustomed to being smitten that we find it easier and better to follow the Scriptural injunction than to try and "get even" with our smiters. Leaving Mr. Scott's article, allow me to notice some difficulties pointed out by Mr. Stonehouse, on page 350.

1. **Good and Bad Testers.**—I would say to all persons using a tester, be careful to use none but the best. For factory or station work, the steam tester of the modern type is a great improvement on the hand testers or old-fashioned turbines. We are not in the habit of recommending any special dairy machinery, but I have been doing some work this spring with "The Facile," sold by The Ballantyne Dairy Supply Co., which is so far ahead of any hand or steam tester we have ever used, that I feel like saying a word in its favor. It has a "reversing jet," and is such a tester that anyone doing much of this work should look into its merits. There may be, and doubtless are, others just as good.

2. **Liability of Samples being Churned.**—This can be overcome by filling the sample bottles to the top before shipment to central station. The maker, or sampler, can gauge the size of sample in such a way that it will be full at the end of a month. With a full bottle there can be no churning. I was at the St. Mary's Creamery recently, when the monthly samples were being tested from the skimming stations, and there was apparently no difficulty in testing these samples, which had been driven several miles to the central creamery. The heating to 160°, as suggested by Mr. Stonehouse, would melt any fat on corks, necks of bottles, etc., and if done with reasonable care, would be little danger of breaking or spilling samples. It would be necessary to have samples numbered properly to avoid mistakes at central testing station. While there would doubtless be many difficulties to overcome, the plan of having the milk and cream tested at central stations is a feasible one.

H. H. DEAN.
O. A. C., Guelph, July 7, '90.

Dilution Separation.

"Inquiries are constantly being received regarding the dilution or hydraulic separators. It is evident that large numbers of them are being sold and that claims are being made as to their efficacy in separation which are unsupported by facts.

"The dilution separator is a tin can with a faucet at the bottom, and more or less complicated in construction by tubes for the addition of water, or as a means of introducing air, or other so-called improvements. The tubes add nothing to the efficiency of the machine, and only are a pretext for charging \$10.00 to \$15.00 for a tin can, which without them would be worth one to two dollars.

"Everything claimed for the hydraulic separator can be equally well done in a shotgun can, and if water below 40° F. can be obtained, or ice to bring the temperature down to 40° F., the thoroughness of separation will be far superior to any hydraulic separator.

"The only case where there is any advantage in using the method is in milking from cows far advanced in lactation, and then the efficiency of the process is about equal to deep setting in ice. They are no more efficient than the old-fashioned shallow pan setting, with the disadvantage of greatly increasing the volume of skim milk to be handled, and in case hot water is used, as is sometimes advised, there is the added inconvenience of the rapid souring of the skim milk.

"If any dairyman wishes to try the method there is no patent to prevent his using the process to his heart's content. Numerous patents have been granted on the various forms of cans used, but these are of no particular value, except to their owners, and certainly are not worth to any dairyman the \$10.00 or \$15.00 which are asked for the so-called "hydraulic separators."—*Hoard's Dairyman.*

[NOTE.—As in the U. S., so in Canada, farmers have been vigorously canvassed by agents for these dilution cans, and not without success, we believe, as occasionally we hear of a man having purchased and using one of these separators, which are simply cans or tanks in which the fresh milk is mixed with an equal quantity of water, and the cream rises by gravity, as in shallow or deep setting. The strange thing about it is, people seem content to go on using such a system without going to the trouble of satisfying themselves, by a sure method, whether or not the work accomplished is worthy of confidence. We have no hesitation in believing that if careful tests of the skim milk were made by the Babcock test, the favorable impression of the system, if, indeed, such exists, would very soon cease to be. So far as we can learn, what *Hoard's Dairyman* says concerning the dilution plan is correct, as taught by proper tests. In our issue of Jan. 16th, of this year, we pointed out to our readers what careful investigation had discovered regarding the system. In fifteen tests made at Cornell University by Prof. Wing, an average of nearly one per cent. of the fat (which means from quarter to one-third of the total quantity) was left in the milk, while centrifugal separators seldom leave more than from one to two tenths of one per cent., shallow pans a little over three-tenths of one per cent., or deep setting three-tenths of one per cent. of fat in the milk. We did not feel warranted in commending these "separators," and declined to advertise them. We trust our readers will observe what authorities agree upon regarding some of these new things that receive no sanction from responsible institutions.—EDITOR F. A.]

Buttermaking for Exhibition.

In buttermaking one cannot lay down certain rules and rigidly follow them out, but the buttermaker must use his own judgment to a great extent—varying his methods at different seasons and also to suit the circumstances in which he is placed, so that the method which I shall give here may not successfully be carried out at all seasons of the year or in all of the different creameries of the Province.

In describing my method of making exhibition butter, I am simply describing the way I would make butter every day, if circumstances would permit, but during the warm weather, owing to the lack of care which some patrons give their cream, and the infrequency of gathering the same, the buttermaker has not always got the ripening of the cream and the flavor of the butter under his control.

Have the cream gathered perfectly sweet—separator cream if possible—and at a temperature of about 54°; this can be accomplished by the drivers taking a supply of ice, which is added to the cream as it is collected. Having strained the cream into the receiving vat, I stir thoroughly to have the different lots of cream well mixed so that they will ripen evenly. Then I would add two per cent. of starter which I have previously prepared. During the hot weather it is usually not necessary to use starter, as the cream contains the necessary amount, or more, of lactic acid when it is delivered at the creamery; in that case I would cool the cream down to below 50°, let stand over night, then heat to the proper temperature and churn next morning.

In preparing the starter it is better to use whole or skim milk, but as we only receive cream I use cream. Take nice, fresh, sweet, separator cream skimmed from the milk of cows not far advanced in lactation, heat to 90°, cover, and set away in a corner, where the temperature will be even, to ripen. When ready for use it will have a mild acid flavor and will be quite thick; before adding to the cream it should be broken up by pouring from one

vessel to another or by pouring it through a strainer. After adding the starter, stir occasionally so that the body of cream will ripen evenly. Always keep the cream covered to keep the air from the surface of the cream. When ripe the cream will have a smooth, glossy appearance, will be fairly thick, and will show from .55% to .6% acid. Strain the cream into the churn, which should make from 60 to 70 revolutions per minute, and churn. This operation should take from 45 to 60 minutes. When the granules of butter are about one half the size of a grain of wheat, draw off the buttermilk, straining it through a horse-hair strainer. After the buttermilk has drained off add as much water as there was buttermilk, at a temperature of 52°, and also add about 3% salt, so as to expel the buttermilk from the butter. After giving the churn 12 to 18 turns, let the water off and wash the second time with water at 50°. After washing the butter the second time let it drain 20 minutes, and salt in the churn, using 1½ ozs. salt per pound of butter. The amount of butter can be ascertained within a few pounds by testing a sample of cream from the vat with the Babcock tester, and calculating by the number of pounds of cream. After salting, take the butter from the churn, place it in large tubs or boxes in the store-room, which should be at a temperature of 54° or 55°, until next day. Next morning work the butter until the salt is evenly distributed through it, and the whole is an even color. I work in a Mason worker, and find 12 to 18 rounds sufficient.

In packing the butter, spray the inside of the boxes with formalin to prevent mold, and line with heavy parchment paper, which has been soaking in strong brine for 24 hours. Cut the squares of butter rather smaller than the box, and pack down solid, so there will be no spaces left in the butter. Begin packing at the outside, working gradually towards the center; this has a tendency to force the butter tight against the sides of the box. I fill the box flush and cut off level with a piece of string. With the 56-pound boxes I allow 1 pound for shrinkage, and a ½ pound on the 28's and 14's. The boxes I am using this year hold just about the proper weight of butter. When too heavy, I take out some by leveling off the edges all around the box. After the paper has been folded neatly over the top of the butter, spray with formalin, and nail on the covers with 1½-inch nails. Then place it in a jute sack, and the butter is ready for shipment.

I would advise all creameries to use sacks for their butter boxes this season. We are using them this year, and find that they not only keep the boxes nicer, but that the butter is not so much affected by the sudden change of temperature which is incident to shipping it.

A. K. BAIRD,
Maker, Rapid City Creamery.

Paying for Milk on the Fat Basis, Plus Two Per Cent.

To the Editor FARMER'S ADVOCATE: In response to your request, it affords me much pleasure to give a little of my experience with regard to paying on the fat basis, plus two per cent. We paid on the fat basis for two seasons, '88 and '91, and since then we have added the two per cent. to the readings. This plan I am pleased to say gives the best of satisfaction. Of course, there are a few patrons at our annual meetings who oppose it, but the number is so small that the motion to continue paying on the fat basis, plus two per cent., is always carried with a sweeping majority. In former years we had more or less trouble with patrons tampering with their milk. A committee was obliged, therefore, to go and see their cows milked, etc., and in some cases the milk had to be confiscated and fines imposed. Anyone in the dairy business will admit that this is a highly disagreeable and unsatisfactory state of affairs. With regard to the plan above referred to, the taking of samples, testing, and paying on the fat basis, involves a considerable amount of work and extra expense, but a cheesemaker or proprietor will find himself amply repaid for all trouble. He thus rids himself of the necessity of having his patrons' cows milked under the supervision of committee or inspector. However innocent a patron may be, his neighbors will be likely to lose faith in him if the inspector has once been obliged to perform this disagreeable duty. I may safely say, in conclusion, that I would be very sorry indeed if compelled to return to the old way of pooling milk.

A. T. BELL.
Oxford Co., Ont.

Breeding Shorthorns for the Dairy.

John Evans, of Burton, near Lincoln, England, is a breeder of Lincolnshire Red Shorthorns, and has, for the last seven years, been breeding them with a special eye to dairy purposes. Selecting only from his own herd, he has gradually increased the yield, in eight years, 150 gals. per cow. Profit, one of his herd, was champion dairy Shorthorn for 1897. She gave a total yearly yield of 15,531 lbs. milk, or 37 lbs. daily, producing 420 lbs. butter. For seven years the average stands:

- 31 cows, 1890, averaged 740 gals. per cow.
- 35 cows, 1891, averaged 720 gals. per cow.
- 34 cows, 1892, averaged 795 gals. per cow.
- 38 cows, 1893, averaged 732 gals. per cow.
- 39 cows, 1894, averaged 834 gals. per cow.
- 43 cows, 1895, averaged 867 gals. per cow.
- 43 cows, 1896, averaged 879 gals. per cow.
- 45 cows, 1897, averaged 890 gals. per cow.

We can see, in the above example, the profit that lies, even in so short a time as eight years, in being obedient to the true principles of dairy breeding.

A Year's Complete Record of Annandale Dairy Herd.

When I sent you my milk record last spring only 40 of my cows had gone dry, and I had to estimate what the other 15 would do. I now have a complete record of the whole herd of 55 cows for the whole season, and find that they have done a little better than I estimated. The average time that the 55 cows were milking was 12 months 3 days. The average amount of milk per cow was 11,472 pounds, testing 3 $\frac{1}{2}$ per cent. butter-fat, making 475 pounds butter per cow. My best cow gave in 12 months and 15 days 20,134 pounds; milk testing from 3 $\frac{1}{4}$ to 3 $\frac{3}{4}$, averaging 3 $\frac{1}{2}$ butter-fat, making 822 pounds butter. This cow did a little better than what I estimated in my last spring's report. We expect her to come in fresh in July. The averages by groups are as follows:

Ten best cows.....	15,083 lbs.
Ten second best cows.....	12,612 "
Ten third best cows.....	11,596 "
Ten fourth best cows.....	10,516 "
Ten fifth best cows.....	9,393 "
Five sixth best cows.....	7,794 "

Whole herd average, 11,472 pounds in 12 months and 3 days milking.

My cow No. 56 came in with her first calf in April, 1894, when about 2 years and 3 months old, and gave in her first milking period of 14 months, 12,000 pounds of milk. The next year she gave 15,000 pounds in 11 months and 21 days. Next year, 17,731 in 11 months 13 days. And this year, 20,134 pounds in 12 months 15 days. She is half Holstein and half Shorthorn. Test 3.4 to 3.8, average 3 $\frac{1}{2}$ per cent. fat. This cow weighs 1,550 pounds, and now, heavy in calf to-day, 1,670 pounds.

We are now keeping our cows in the stable through the day, and out in pasture nights. We feed them all the ensilage and clover hay they will eat, and half a winter's ration of grain—3 pounds bran, 1 pound cotton-seed meal, 1 pound pea meal, 1 pound corn meal.

We commenced our haying 15th June, will finish Monday, 3rd July. Had 90 acres meadow, about 125 tons; not nearly as good as other years, owing to the severe winter freezing out the clover. Our hay is housed in excellent condition.

Oxford Co., Ont.

E. D. TILLSON.

Ideal Buttermaking.

1. *Aroma or Flavor in Butter.*—The condition of the milk when it is received at the creamery is the controlling factor in producing butter with a fine flavor or aroma, and as the patron has all to do with it before it reaches the creamery, it will be readily seen that the flavor of the butter is to a great extent taken out of the hands of the butter-maker and is largely controlled by the patron.

My practice is to keep a strict watch over every can of milk as it comes in, and if any is found to be off flavor, to notify the patron at once and have the cause of the trouble removed. I have had more trouble with milk going off flavor from want of proper aeration and cooling than from all other causes combined, but where that is properly attended to I usually have no difficulty in getting a good flavor in the butter.

2. *Texture.*—To produce a good texture in butter from cream which has to be churned within 24 hours, I hasten on the ripening process as rapidly as possible in order to give the cream a chance to cool down several hours before churning time; but if I was anxious to get the very best results, regardless of labor, I would ripen the cream slowly at a lower temperature, and keep it 48 hours before churning, instead of 24 hours. The temperature of the room while the butter is being worked has considerable effect upon the texture, for if it is too cold and the butter is hard, it has to be overworked before the salt is sufficiently incorporated to insure uniformity of color, and if too warm the butter softens down too quickly and becomes greasy. In the latter case it is better to either salt in the churn (which I prefer) or to set the butter in the refrigerator after a slight working and let it stand until it hardens and the salt is dissolved. When butter is salted in the churn and remains an hour or so before working it requires less working and the grain and texture are more easily preserved.

3. *Uniformity.*—I think I am safe in saying that it is not possible to get a uniform product the year round, but we can secure excellent results by pasteurizing during the winter months or at any time when the cream is "off" in flavor from any cause. There are times during the heated term when the milk will not arrive in first-class condition, in spite of all we can do, and it is advisable then to pasteurize the cream, but many will hesitate to do so on account of the extra drain upon their water and ice supply.

4. *Keeping Quality.*—The keeping quality of butter depends a great deal upon the thoroughness of ripening the cream, and from experience I am of the opinion that cream which has been held 48 hours and slowly ripened will give a better-keeping butter than butter from cream only 24 hours old. Pasteurizing undoubtedly improves the keeping quality. In any case the buttermilk must be thoroughly removed, and the easiest and safest way to do it is to stop the churn when the butter is in the granular form, at which stage the buttermilk is easily washed out. A good deal depends upon the kind of package used for the perfect preservation of the butter. Any package that is not air-tight will in time allow butter to deteriorate in quality no matter how carefully it has been

made. I use a heavy parchment paper to line boxes or tubs, which must be properly fitted in and folded over the top when full, putting an extra cap piece on and covering all with a thin layer of salt paste.

5. *Finish and Appearance.*—In putting up any class of goods for sale, and especially food products, it is necessary to have them attractive. In print butter, the wrappers should be put on smoothly and neatly folded and the shipping boxes kept clean and sweet. In packing the 56-pound boxes care must be taken that the butter is pounded firmly down so as to avoid cracks on the outside when the butter is turned out. When the box is full I cut off the surplus with a finisher, which is so arranged with set screws that I can cut off the desired amount to give the box the proper weight, and it leaves the butter as smooth as if the surface had been planed off, and when the package is opened up it presents a neat and finished appearance. Nearly all butter for export is now put into canvas sacks to prevent the outside of the boxes from becoming soiled in handling. J. STONEHOUSE.

GARDEN AND ORCHARD.

The Ontario San Jose Scale Commission.

(Continued.)

The San José scale commissioners, as reported in our last issue, heard the evidence of a large number of fruit-growers in the north-eastern part of Niagara township. The evidence of nearly every one of those in whose orchards scale had been found pointed to the belief: 1st, that the pest is now too firmly established ever to be eradicated; 2nd, that the destruction of suspected trees (that is, trees upon which the pest cannot be found, but which are near one that is affected ever so slightly) should not take place without a much greater compensation than one-fourth of the official valuation; and 3rd, that owners should have some voice in appraising the value of destroyed trees.

To enquire into the truth of the contention of the Niagara men that the scale is established east of the river, the commissioners spent a half day on the American side. They verified the report that it was in an orchard on the east bank of the river, and at another point not far distant.

At St. Catharines the general opinion was in favor of continuing the enforcement of the Act, the evidence being based upon the contingency that the insect is as injurious as "they say it is." Mr. Martin Burrell gave it as his opinion that the Act is too drastic, that its continued application may destroy our orchards, and still leave us with the scale in our forests. He quoted Prof. Slingerland in support of that contention. Instead of destruction, he would favor cutting out and burning badly or considerably infested trees, and trying remedial measures with the others.

Mr. G. Fisher, the official inspector, testified to his confidence in his ability to "stamp it out" in time. He said that the insect very seriously affects orchards in Lincoln, Kent and Essex counties, aggregating an area of about twenty square miles, and that there are or have been slight infestations at upwards of one hundred other places scattered from Belleville to the Detroit River. It has been found in five nurseries in Ontario; in three of them very light. Of the scattering infestations discovered last year, the scale has been re-discovered this year in thirteen.

With regard to compensation for destroyed trees, the St. Catharines growers varied from nothing to full value, but the majority favor one-half to three-fourths for trees not considerably affected.

At St. David's, near Niagara Falls, opinion was divided. The rule seems to be that under present rates of compensation those who know or suspect that they have the insect say, suspend the Act and change the plan of procedure; those who yet feel secure say, proceed with it on present lines. One man, favoring, like the majority, largely increased compensation, was willing that a stamp tax like the war tax in the U. S. be levied on all fruit offered for sale in baskets, boxes or barrels, to raise a sum supplementary to what the Legislature would give. To this others objected, that the ill-cultivated, unproductive orchards would escape taxation, and be more likely to maintain the insect.

At Forthill the nurserymen all favored fumigation, and the continued prohibition of the importation of nursery stock. They pointed out objections to the establishment of official fumigatories at the ports of entry to fumigate stock at the expense of the foreign growers. They favored the appointment of a resident official to certify the proper fumigation of nursery stock. As at other increased compensation to owners of destroyed trees. They were divided on the means of raising it, whether by stamp tax, assessing orchards, or municipal grants?

The Grimsby fruit-growers are all "stamp-it-outers." They favored allowing owners of uninfested trees 50% to 75% of their value. Some of them favored the owner's right to have something to say respecting the valuation, or a right of appeal; others saw so many objections that they favored the continuance of official valuation. An occasional owner held to the right to be shown an insect on the tree before it is cut down.

At Winona the chief feature developed was the possibility that the young men who are examining and blazing the trees cannot always be certain

whether it is the San José scale or one of the closely similar, but comparatively harmless, native or introduced species. One of the witnesses testified that three different examinations and reports of an official entomologist upon the scale on the same little branch of a condemned tree was once named San José scale and twice named Forbes scale. It appears that there are at least two other kinds of scale insect so nearly like the San José one that the best entomologists, with their chemicals and compound microscopes, can hardly tell them apart at certain stages. Following this up, to test the competency of the young men to identify the pernicious scale, one of the commissioners, with two of the examiners, spent two hours in a condemned orchard belonging to Mr. Geddes. They found only one tree with armored scale, and it remains to be proved whether it is San José or an allied species. One nurseryman at Winona thought that fumigation injuriously affected the tender rootlets of nursery stock. A witness who had had some trees burned contended that an owner should be shown the insect on his trees before they were destroyed. His had been pulled out without his knowledge or consent. The evidence was unanimous in favor of increased compensation, but varied as to how the trees should be valued and the proportion of valuation to be paid.

The usual mode of procedure on the part of the scale inspectors seems to be as follows: An examiner with a corps of assistants is sent to a suspected orchard. Each tree is examined with a magnifying glass until the assistant examiner finds a branch on it bearing what he supposes to be San José scale. He is required to mark such branch by breaking it, and to blaze the tree. If but one tree is found in an orchard, or a large part of an orchard, it and the four adjacent trees are blazed; if a number of scattered trees are found, say one in every five or six, the whole orchard is burned. The owner is notified of the decision, and is given so many days to destroy the trees. Failing to attend to the notice, the work is done for him, and charged against his compensation.

On completing their work in the Niagara peninsula the commissioners went westward to investigate the subject in the Essex district.

Late Cultivation of Orchards Dangerous.

Complaints are being made from various parts of Nova Scotia that young apple trees are dying, and that no satisfactory reason can be given for their doing so. The trees are of all ages, from those set last year up to trees eight and ten years set, and in most cases they are on farms whose owners believe in cultivating and fertilizing, and whose orchards are apparently in a very healthy condition. All this is discouraging to the progressive fruit-grower, and is calculated to throw the better methods of orcharding into disrepute, and to give to the man whose orchard is in sod and who never loses a tree from "pampering" or from any other cause except old age and the ravages of the bark louse a chance to say, "I told you so."

The writer has carefully investigated a number of these instances of the mysterious death of fruit trees, and in every instance has found that the trees were, as has been said, in a very growthy condition, and that, furthermore, the land was either cultivated late in the season (say well into the month of August), or else early potatoes were grown among the trees, and these were harvested so early in the fall as to either prolong the natural period of growth of the trees or else start them into growth after they had begun to ripen up the season's wood. In either case, the result would be the same, namely, the wood thus produced late in the season would not have sufficient time to ripen before the approach of cold weather, and consequently, in the severe weather of such a winter as that of 1898-9, this wood would be especially liable to injury from the cold. In several cases, also, the land had previously been in clover and this had been plowed in the year before, thus, of course, making it in especially good condition to promote growth of wood.

The fact that the orchards were in a very thrifty condition no doubt augmented the difficulty, since they would naturally respond more quickly at any season of the year to anything calculated to stimulate growth. But the remedy lies not in the abandonment of the cultivation, but in modifying it so as to avoid the conditions which brought about the disaster. If cultivation has been thorough, the trees will have made sufficient growth by the first of August, or thereabouts, and from that time on whatever can be done to hasten the ripening of the wood will be of advantage to the orchard. It is obvious that to stop cultivation and to diminish, so far as possible, the supply of moisture in the soil, will tend to check the growth of the trees and to give the wood already formed the opportunity to ripen. The lessening of the water supply can best be accomplished by sowing some sort of cover crop upon the land about the first of August, and where it will succeed, nothing is better for this purpose than crimson clover. If clover will not grow, then peas or beans are good, and buckwheat is an old stand-by, though it does not add to the fertility of the land except by supplying humus when plowed in. Whatever cover crop is grown should, in most cases, be allowed to remain on the land over winter as a protection, and be plowed in the following spring.

So far as growing potatoes in the orchard is concerned, care should be taken that only late sorts are grown, which will not need to be harvested until late in the autumn, too late to affect the growth of

the orchard for that season. When early potatoes are grown they are harvested so early that it practically amounts to continuing the cultivation of the orchard, and, although this may often be done without showing the least damage to the trees, yet there are so many instances where injury does occur that it is unwise to incur the risk.

F. C. SEARS, Director.
Nova Scotia School of Horticulture.

Grading and Inspection of Apples.

The Ontario Fruit Growers' Association have adopted the following petition to the Dominion Minister of Agriculture:—

"To the Honorable Minister of Agriculture, Ottawa:

"Whereas, it is well known that fraudulent packing of apples for export is a very prevalent evil which is yearly bringing discredit upon the name of our Dominion and ruining the British market for our Canadian apples;

"Whereas, as a matter of fact, Canadian apples are the finest in the world and will bring the very highest prices in the British markets, if confidence in the packing can be sustained;

"Whereas, we believe that about eighty-five per cent of the apples grown in Ontario that are shipped to Great Britain are purchased, graded, packed and shipped by dealers, and, as it is to their interest, as well as the interest of all concerned, that a reliable brand should be established,

"Therefore, Resolved,—That this Association do humbly pray that you will provide some remedy for the same.

"We would suggest that certain marks or numbers be adopted to indicate certain grades and sizes of apples, and that it be made a misdemeanor for any one to stamp these marks or numbers upon the outside of his packages unless the contents of the packages are in accordance therewith; that the name and address of the owner and shipper be always required on either the inside or outside of closed packages intended for export; and that an inspector be appointed with power to open any packages and, if found fraudulent, to have the grade marks removed and the offender exposed;

"And we further suggest that the terms used for grading be 'No. 1' and 'A No. 1,' No. 1 to include sound apples reasonably free from worm holes, scabs or other blemishes, and to be not less than 2½ inches in diameter, and grade A. No. 1 the same, with apples not less than 2¼ inches in diameter."

Must Spray and Cultivate to Grow Good Fruit.

Mr. W. L. Martin, a fruit-grower near London, Ont., left at our office, on July 11th, a branch of Fay's Prolific red currants, the largest of which rivalled ordinary cherries in size. The branch was of last year's growth, and was very heavily loaded.

Mr. Martin informed us that his currant bushes are growing between rows of apple trees, where they yield well of excellent fruit. He maintains the soil in excellent condition by yard manure, bone meal and potassic fertilizer. He also sprays carefully with insecticides and fungicides, which he finds to pay well; in fact, he considers he could not grow fruit profitably without resorting to spraying and the frequent use of the cultivator during the spring and early summer.

VETERINARY.

Symptoms of Tuberculosis and Condition of Carcass.

From "Enquirer," Bruce Co., Ont., we have received the following questions, which we leave Dr. Reed, V. S., to discuss, and whose replies we append:—

- "1. What are the general symptoms of tuberculosis in live cattle?"
- "2. What would be the condition of the carcass after slaughtered—the lungs, liver, heart, etc.?"
- "3. Would a butcher be likely to notice it if the animal was so bad as to be unfit for food?"

ANSWERS.

1. The symptoms of tuberculosis in the living animal are very insidious; in fact, in the majority of cases no physical symptoms are present until the disease has reached an advanced stage. An animal may be affected with the disease for months, or even years, and in the meantime eat and thrive well, and perform the functions for which he or she is kept in apparently a perfectly normal manner, not presenting any symptoms whatever that would lead a person to suspect disease. This condition may continue for an indefinite period; in fact, in many cases continues until death takes place from other causes; or under favorable circumstances the disease may assume an acute stage and cause death in a short time. Butchers or those in the habit of visiting slaughter houses often have occasion to notice the presence of tubercles on the pleura, bronchial glands, lungs, liver and the different viscera of animals which during life were not suspected of being affected with any disease. The disease may attack any organ in the body, and there will be no physical symptoms shown until it has reached such a state of development as to interfere with the functions of the organ or

organs affected, and when shown will, of course, vary in different animals according to the parts affected. The glandular system is a favorite seat of the disease, especially the glands of the throat, bronchial tubes, and mesentery. If the lung substance be the seat, a short, dry, hacking cough at intervals, or following exertion or excitement, will be noticed. As the disease progresses, the cough becomes more frequent and more painful, and the animal will commence to pine, fail in flesh, hair becomes dry, she stands with the elbows turned out. An expert can detect an alteration in the lungs by auscultation. These symptoms will increase until she dies. If the liver or other important organ of the digestive system becomes affected to a sufficient extent to interfere with its functions, appetite and digestion will be observed, but, of course, no cough. Pining will soon be noticed, as in the other case, followed by death at a longer or shorter period. It is generally thought that in all cases of tuberculosis a cough is present, but it can be readily understood that no cough will be caused unless the respiratory organs are diseased. The only means of diagnosing the disease, except in advanced cases, is by the tuberculin test.

2. The parts affected will be found to contain nodules or tubercles, from the size of a mustard seed to that of a man's head—seldom as large as the latter. The nodules when cut into will be found to be more or less gritty, and of a yellowish color and quite hard, the larger ones frequently containing a thick fluid resembling ordinary pus, seldom, if ever, foetid.

3. If an animal had been affected with the disease in a sufficiently advanced stage to interfere with health, the butcher would certainly observe the tubercles.

J. HUGO REED, V. S.,
Professor of Veterinary Science,
Ontario Agricultural College.

SHOWS AND SHOWING.

Fairs of 1899.

CANADA.		
Western Manitoba, Brandon	July 18th to	21st.
Virden	" 25th "	28th.
Regina	" 25th "	28th.
Glenboro	" 25th "	28th.
South Edmonton	" 25th "	28th.
Cypress River	" 27th.	
Minnedosa	Aug. 2nd.	
Carberry	" 3rd and 4th.	
Neepawa	" 8th to 10th.	
Stanstead Live Stock, Stanstead, Que.	Aug. 23 and 24.	
Industrial Exhibition, Toronto	Aug. 28 to Sept. 9.	
Dundas County, Morrisburg	Aug. 29 to 31.	
Calgary Industrial	Sept. 3rd, 4th and 5th.	
Eastern Exhibition, Sherbrooke, Que.	Sept. 4 to 9.	
East Elgin, St. Thomas, Ont.	" 6 " 8.	
Western Fair, London, Ont.	" 7 " 16.	
South Lanark, Perth, Ont.	" 11 " 13.	
Kingston District, Kingston	" 11 " 14.	
New Brunswick Provincial, St. John	" 11 " 20.	
Central Canada, Ottawa	" 11 " 23.	
Wellesley & N. Easthope, Wellesley	" 12 " 13.	
Owen Sound, Owen Sound	" 12 " 14.	
Bay of Quinte District, Belleville	" 13 " 14.	
Eldon Agricultural Society, Woodville	" 14 " 15.	
Southern, Brantford	" 16 " 21.	
West Middlesex Union, Strathroy	" 18 " 20.	
Northern, Walkerton	" 19 " 20.	
Prescott, Prescott	" 19 " 21.	
Central, Guelph	" 19 " 21.	
Great Northern, Collingwood	" 19 " 22.	
North Oxford, Woodstock	" 21 " 23.	
Nova Scotia Provincial, Halifax, N. S.	" 23 " 30.	
North Brant, Paris	" 25 " 26.	
Center Bruce, Paisley	" 26 " 27.	
Haldimand County, Cayuga	" 26 " 27.	
Central, Peterborough	" 26 " 28.	
North Simcoe, Stayner	" 26 " 28.	
Northwestern, Goderich	" 26 " 28.	
Peninsular, Chatham	" 26 " 28.	
North Lanark, Almonte	" 26 " 28.	
Center Wellington, Fergus	" 27 " 28.	
Ontario and Durham, Whitby	" 27 " 28.	
South Renfrew, Renfrew	" 28 " 29.	
South Waterloo, Galt	" 28 " 29.	
North Perth, Stratford	Oct. 3 " 4.	
East York, Markham	" 4 " 6.	
North Renfrew, Beachburg	" 5 " 6.	
South Norwich, Otterville	" 6 " 7.	
"World's" Fair, Rockton	" 10 " 11.	
Norfolk Union, Simcoe	" 17 " 19.	

UNITED STATES.

Ohio State, Columbus, Ohio	Sept. 4 to 8.
New York State, Syracuse, N. Y.	" 4 " 9.
Cambridge, Cambridge, N. Y.	" 5 " 8.
Monroe County, Stroudsburg, Pa.	" 5 " 8.
Inter-State, Trenton, N. J.	" 25 " 29.
Michigan State, Grand Rapids, Mich.	" 25 " 30.
Illinois State, Springfield, Ill.	" 25 " 30.
St. Louis, St. Louis, Mo.	Oct. 2 " 7.

[NOTE.—If Secretaries of fair boards will send us dates of their shows we will include them in list of succeeding issues of FARMER'S ADVOCATE.—ED.]

Western Fair Doings.

The idea of extension and improvement seems to have fairly possessed the Board of the Western Fair, at London, Ont. Within the last three years, an entirely new and complete set of stock buildings have been constructed, as well as a new grand stand, machinery hall, and other additions. The spirit of renewing does not yet seem to have abated, as active

operations have been very much in evidence on the grounds for several weeks, and will continue until the great exhibition opens on Sept. 7th. The first change to attract our attention upon entering the grounds, during a recent visit, was a range of new offices for telephone, telegraph, the press, etc., centrally situated between the stock ranges and produce buildings. Perhaps the greatest undertaking this year, however, is the moving of the agricultural, horticultural, and dairy buildings into a continuous range along the west side of the grounds. To the dairy department is also being added 1,200 feet of floor space, and such other improvements as appear necessary are being made in this range. The Association offices are also being placed in a more convenient situation, which change will admit of a new, direct road being constructed from the main entrance to the grounds to the new and spacious grand stand ticket-offices which are being built in a position and on a plan to avoid crowding to get tickets. The grand stands, too, are undergoing a revolution by a replacing of all the open stands with larger and better ones. This will add greatly to the comfort of visitors, many of whom it has been impossible to seat in former years. Among other important changes is an addition of 4,800 feet of floor space being added to the hall for machinery in motion. Beside these additions and changes, all needed repairs are being made; in fact, it would appear that everything is being done that can be, in order to place every department in first-class order for the comfort of patrons and exhibitors, and display of exhibits. In our Notice department, a statement is given of the large increases made in the live stock prizes, and of the handsome literature the Association is sending out. The newly-appointed secretary, Mr. J. A. Nelles, has entered his duties in a spirit becoming the season, and everything in connection, including the substantial addition of prize offerings, augurs well for the exhibition of 1899.

Special Prizes for Cheese and Butter.

Geo. Hatley, Sec. Treas. of the Cheese and Butter Association of Western Ontario, writes us as follows: I have pleasure in informing you that the Windsor Salt Co. have given us prizes for competition at the Industrial Fair, Toronto; the Western Fair, London; and the Southern Fair, Brantford. The prizes offered are cash or medals, as selected by the winners; and no stipulation has been made as to the salt that should be used.

At the Industrial.—\$50 for the best selection of cheese exhibited; \$50 for the best selection of creamery butter exhibited; \$50 for the best selection of dairy butter exhibited.

At the Western.—\$50 for the best selection of cheese exhibited; \$50 for the best selection of creamery butter exhibited.

At the Southern.—\$25 for the best selection of butter exhibited.

Toronto Exhibition, Aug. 28 to Sept. 9.

There are various changes in the Toronto Exhibition prize list this year. Starting from the beginning, class 19, best and best-appointed gentleman's pair turnout, is now open to dealers exclusively, class 18 being for amateurs. Last year amateurs could show in both classes, although dealers were excluded from class 18. The trotting and pacing this year is under the auspices of the Trotting and Pacing Breeders' Association of Ontario, but is controlled entirely by the horse committee of the Exhibition. The events or classes are: 2.50 trot, \$200; 2.50 pace, \$200; 2.27 trot, \$250; open trot or pace, \$300; gentleman's single road horse trot, stallions not eligible, \$100; farmers' trot or pace, \$100. Of course there are the usual pony trotting races, but the leading feature, and a unique feature, is a team road horse trot for \$300, two heats to be trotted on each of three days (Wednesday, Thursday and Friday of the first week), and the decision to be according to the place secured on the three days combined. First prize is \$120; second, \$80; third, \$60; fourth, \$40. Entrance fee is 5 per cent, which will be refunded to all starters in the first two heats. The race will be to road wagon or buggy, and horses that have ever won public money are excluded. The running races will be the same as last year, with the difference that the aggregate of the purses has been increased from \$1,265 to \$1,425, which the committee hope will attract increased entries.

Coming to cattle, class 24 (Shorthorns), thanks to the liberality of the Dominion Shorthorn Breeders' Association, who this year give \$750, the value of the prizes in this class is just about doubled, standing in the aggregate \$1,500 and two gold medals, against \$807 and two silver medals. In every section and in every prize there is a material increase, but there are only one or two changes in the arrangement. Section 6, bull calf calved after Feb. 1st, in last year, does not appear this, while a section is given for five females, bred and owned by exhibitor, any age, and one of the two sections formerly calling for a bull and four females, now reads "one bull and four of his get," the other section being retained without any age limit to the females.

In sheep, class 37 (Cotswolds), special prizes offered by the American Cotswold Record Association, section 9 reads "for the best flock of Cotswolds, consisting of one ram one year old or over, one ewe two years old or over, one ewe one year and under two, and one ewe lamb." The change is in the case of the ram, which formerly was of any age, and the ewe, which formerly had to be only two years. Section 10 reads "for the best pen of four lambs, consisting of two rams and two ewes, bred and owned by the exhibitor."

It might be mentioned here that the annual meeting of the American Shropshire Breeders' Association will be held at Toronto, during the exhibition, probably on Monday, Sept. 4th, about which Mr. Levering, of Lafayette, Ind., will be pleased to furnish particulars.

In swine, class 52 (Essex and Suffolks) is taken out; class 53 (Duroc-Jerseys) is made class 52; and class 53 is now for Other Distinct Breeds.

A departure is made by the addition of class 53½ (Export Bacon Hogs), sweepstakes, section 1 calling for the best pen of four pure-bred hogs most suitable for export bacon, and section 2, for the best pen of four hogs of any breed, cross or grade, most suitable for export bacon. Two hundred dollars is given in prizes for this class. No animal deemed unworthy for export bacon purposes by the judges shall be awarded a premium, but no premium shall be withheld simply because there is no competition. Hogs shown in any other class are eligible to compete in this class, but special entry must be made for these prizes. Other rules governing the swine department also apply to the bacon class.

An unusual number of special prizes are given in the dairy classes, and a free-entry buttermaking competition is provided for for the first time, \$200 being given in prizes in two sections, the first section (really class 66, section 17), open to students or ex-students, male or female, of any dairy school or agricultural college, or makers in any established creamery or butter factory in the Dominion of Canada or the United States. Section 2 is open to buttermakers, farmers' wives or daughters, or help, male or female, in any farm dairy in Canada or the United States. Competitors will be supplied with churns, butter workers, pails, etc., but they can provide their own utensils if so minded.

Material changes are made in class 69 (field roots), in potatoes, the sections being arranged according to types instead of varieties, all of which is set forth in the prize list, which can be secured on addressing Manager H. J. Hill, 82 King St. East, Toronto.

Entries for live stock, dairy products, ladies' work, fine arts, honey, and all classes of manufactures, close Saturday, Aug. 5th; grain, field roots, and horticultural products, Saturday, Aug. 12th; and poultry and dogs, Saturday, Aug. 19.

Testimonial.

J. P. SMITH, Crystal City:—"Your paper is the best invested dollar of the year, the Christmas number being worth the subscription price for the year."
May 13th, '99.

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.]

NOTICE.

We have decided to discontinue giving answers to legal questions, many of which we find are not of general interest. It is really no part of the legitimate work of an agricultural paper, and is not, as a rule, adopted by the best papers of this class; besides, our space has been pretty heavily taxed with questions upon agricultural and live stock, and we desire to encourage this feature by giving more prompt answers than we have been able to do in the past on account of the large amount of matter which at times accumulates in this department. Our friends, we trust, will take kindly this announcement, and not refer any more legal questions to us.

Veterinary.

BRONCHITIS.

FARMER, Waterloo Co., Ont.:—"Please advise me as to cause and treatment of the following: Mare 18 years old, weighs about 1,100 lbs., keen traveller and good worker; has never been worked very hard, and always well cared for; she has been on pasture several weeks, worked, and driven a little. Last week I drove her a few miles, when, as soon as I started, she coughed every little while, and occasionally passed wind, just like as if she had heaves. I have hitched her twice since, and she does the same. When she stands I see nothing wrong in her breathing. She feeds just the same as usual. All the change I can see, she does not travel off quite so keenly. She is always in the stable at night, and gets a half gallon of oats morning and night when on pasture. We are very much pleased with the ADVOCATE."

[The mare probably has a slight attack of bronchitis, and it would not be surprising if it developed into heaves, at her age. Give soft mashes morning and night, in which mix a liberal amount of boiled flax seed, say half a teacupful, well boiled, in half gallon water; also give her one of the following powders in her feed each morning and evening: Chlorate of potash, 1 ounce; ammonia muriate, 2 ounces; powdered Lobelia leaves, 1 ounce; powdered stramonium, ½ ounce; powdered digitalis, 2 drams; powdered nux vomica, ½ ounce; all well mixed and divided into 12 powders. Do not allow her to overload the stomach with any kind of food, especially dry hay.]

LAME MARE—RINGBONE—WEAK FOAL.

SUBSCRIBER, Renfrew Co., Ont.:—"1. I have a draft mare, nine years old, lame of the hind leg. The local veterinary surgeon thinks that it is a 'spavin.' I blistered it, without any effect. 2. I have also a young mare with ringbone; blistered it a good deal; had it fired; all without effect. 3. I have a foal bending at the knees and fetlock joints. It also seems as if the muscles of the breast and shoulders were weak and loose. Can you prescribe anything for these cases?"

[In the case of spavin and ringbone very little more can be done than proceed on the lines already chosen, as they are both incurable diseases. In the case of the foal we would recommend that you try cotton wool and DRY BANDAGES. Get a pair of bandages four yards long, three inches wide, apply a sheet of cotton wool to fill all the depressions in tendons and joints, then wind the bandages firmly around, tying the ends with wide tape. Continue the treatment, with hand rubbing, night and morning, removing the bandages each time. Keep animal in loose box at night, turning out to pasture on favorable occasions. You may expect considerable improvement in the course of three weeks.]

DR. WM. MOLE, M. R. C. V. S.]

LEUCORRHOEA.

S. M., Bruce Co., Ont.:—"I have a valuable cow that the afterbirth did not come all away after calving. About a week after we noticed a whitish-colored matter coming from her, more especially when lying down for the night. She does not seem to do as well as she should, although in the best of pasture and has access to water at all times. Please let me know what is best to do for her, as I am afraid she is not going to come in heat this summer?"

[The cow's ailment is leucorrhœa (whites), caused, no doubt, by the retention of part of the foetal membranes. The womb and vagina should be thoroughly washed out once a day with warm soft water. This should be done with a large syringe, and the injections should be continued each time until the water flows out quite clear. After each washing the parts should be injected with permanganate of potash, two ounces; water, fifty ounces. Give internally in mash twice daily for two weeks, iodide of iron, one dram. As the discharge disappears the local treatment should be gradually discontinued.]

WOUNDED JOINT.

SUBSCRIBER, Agassiz, B. C.:—"A friend has a horse that was cut with a road scraper, nearly two weeks ago, just above the fetlock joint of the left hind leg. At first there was a watery substance running from cut, now it is thick and looks as if the marrow of the bone was oozing out. Kindly let me know what to do to effect a cure?"

[You do not mention what degree of lameness is manifested, but judging from the nature of the discharges, it probably consists of coagulated synovia, "joint oil." If it is, you have a case of open joint, which is always a serious lesion, especially if not properly treated at first. I would advise you to apply the following blister all around the joint: Powdered cantharides, four drams; vaseline, three ounces. Mix well, and apply by smart friction with the fingers. If there is great lameness it is advisable to place the animal in a sling. Keep the bowels open with laxative food.]

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

TAPEWORM IN LAMBS—COWS CHEWING BONES.

H. J. W., Norfolk Co.:—"Would you please tell me, through your valuable paper, what is the matter with my lambs? What do cows need when they are crazy for old bones, pieces of tin cans, or leather? Also, an excellent tonic for sheep, the tonic to be mixed with their salt; give proportions of each? Symptoms of lambs are: Their wool seems to stand out dry, harsh and dead, and they do not nor have not done well for a couple of months back. They are Shropshires, and have pastured some on low land. In their droppings you will often see little pieces of white mucus resembling a little worm about a sixteenth of an inch in length. Have examined them closely, and can't see any life in them. On one occasion I found a long, flat, ribbon-like worm about a foot and a half long; at least, I thought it was a worm, and it was apparently dead. The thought has just struck me that possibly my lambs have got tapeworms and the small worms are the excrement from the mature tapeworm. Please give advice."

[From the symptoms described, we are led to believe that the lambs are infested with one or other of the various species of Tenia, or tapeworm. The existence of the worms in lambs or sheep becomes evident by the appearance of the white segments attached to the small balls of dung voided by the sheep, or by their adhering to the wool about the tail. This, however, only happens after the lamb has been infested some time and the segments of the worm have become matured. It is when these segments are eaten by sheep along with the grass or other food that the tapeworm is propagated in fresh subjects. Infested pastures should therefore be abandoned. The worst results to infested sheep or lambs is due to the intestinal irritation set up by the worms, and the reflex action of this on the nervous system. The results are necessarily the wasting of the lambs, which become poor, unthrifty and hidebound, and frequently pot-bellied by distension from gas in the bowels, or shrunken and gaunt from want of sufficient support. The symptoms, in addition to these, are pale skin, dry, harsh fleece without yoke or oil, a tottering gait, and the lambs eat and drink more than with their natural appetite, but at the same time fail to digest their food or thrive upon it. Finally diarrhea becomes more and more severe, and death occurs by actual starvation and exhaustion. If, however, the lambs can be carried over until the worms are all ejected as segments, and no fresh infection occurs, recovery is rapid and the lambs soon become thrifty again. Treatment is hopeful, and may consist of turpentine in half-ounce doses, on the empty stomach, for a few days; the roots of the malefern powdered, in two-ounce doses, given in two or four ounces of castor oil for a full-grown sheep, have all been more or less beneficial. Regular use of salt with a tonic is also a good preventive. A good tonic powder is gentian, ginger and sulphate of iron finely powdered and mixed and given in teaspoonful doses for grown sheep, and half that quantity for lambs. This may be given in the salt or in ground feed, or with molasses spread on the back of the tongue. It is also well to mix pine tar with the salt, sufficient to render it quite brown in color. This acts as a tonic, and is good at this season to prevent the gaddy from depositing its eggs in the nostrils of the sheep.]

When cows chew bones and other unnatural materials, it is an indication of a craving for mineral or earthy matter. The writer has found it good treatment to mix wood ashes with their salt, in the proportion of 1 part ashes to 2 of salt.]

Miscellaneous.

WORMSEED MUSTARD—GOVERNMENT TESTING DRILL.

SUBSCRIBER, Peel Co., Ont.:—"1. I enclose a weed found on my farm. It is very thick about the fences, but does not seem to be much in the grain. Is it a mustard? Is it hard to keep down?"

"2. Could you or any of your readers give me any information concerning a drill owned by the Government for testing land for minerals? Two years ago I dug a well and found a peculiar substance in the rock, about 40 or 45 feet below the surface. I sent it to the city, and it proved to be copper and zinc. As this piece came to the top along with a bucketful of the rock, we could not tell where it came off. Would like to have the land tested, but do not feel able to invest enough to dig down so far."

[The plant sent for identification is one of the mustard family, known as treacle mustard or wormseed mustard. It is technically known as *Erysimum cheiranthoides*, and belongs to the natural order Cruciferae. It is of annual duration; that is, it comes from seed, matures and dies in one season. It is a common plant on roadsides, but is

not likely to become much of a pest where good farming is practiced. The way to deal with it is to prevent its seeds from ripening, by cultivation or by cutting it off near the ground about the time it is coming into blossom.]

Regarding the Government drill, we would say that full information can be obtained from Mr. A. Blue, Bureau of Mines, Toronto. The Government owns a drill which is furnished free for boring for minerals, but the parties for whose benefit it is used must meet the expense of operating it.]

BUTTER TO CREAM.

R. D., Huron Co., Ont.:—"How much butter can we make out of 12 inches of cream in a circular pail of 12 in. diameter, the cream testing 75% of butter-fat? I have taken the ADVOCATE since Christmas and think it the best farmer's paper in America."

[In answer to the question, "How much butter can be made from 12 inches of cream in a circular pail 12 inches in diameter, the cream testing 75 per cent. butter-fat (butter oil)," would say that the quantity which the patron would be credited with is 9 pounds. Any patron can reckon the amount of butter his cream will make by multiplying the number of inches of cream by the test and dividing by 100. For instance, a patron delivers 20 inches of cream testing 80 per cent. "butter oil," he is credited with 16 pounds butter; 30 inches, testing 90 per cent., = 27 pounds butter, and so on. From the test given by subscriber the creamery is using the "oil test churn," and the test is spoken of as so much per cent. "butter oil," and not "butter-fat," as in the case of the Babcock test. The main difference between the "oil test" and "Babcock test" is that the former gives the percentage of churnable fat or oil in the cream or milk, while the latter gives the absolute percentage of butter-fat in the cream or milk. The oil test is used largely in cream-gathering creameries, while the Babcock test is specially suited for whole milk or separator cream.]

H. H. DEAN, O. A. C., Guelph, Ont.]

GROWING BRIGHTER—COTTED FLEECES.

A. E. B., York Co., Ont.:—"Enclosed please find one dollar for your valuable paper for 1899. Your paper grows brighter and brighter with each issue, and every farmer ought to have it in his home. I have seen several articles about sheep in your paper, but never saw the cause or cure for cotted fleeces on sheep. I have 14 Leicester ewes, and every one was cotted this year. Some are young and some are old. They were in a sheltered place all winter, and fed on pea straw, clover hay, and turnips, with a little grain towards spring. Could you please explain the cause and cure, if any, and oblige?"

[The cause of cotted fleeces is not well understood. It is sometimes attributed to a lack of nourishment for one or more separate periods during the season, causing weak places in the fiber. We believe it is not likely to exist early in the season or before the warm weather arrives, and we have never known sheep of the medium- or fine-wooled breeds to be troubled with it. We would recommend keeping the sheep in vigorous condition, dipping at least twice a year to keep the skin healthy, as well as free from vermin, and shearing early. If any of our readers have anything better to offer we will be pleased to hear from them.]

PLAN OF CHEAP HOUSE WANTED.

"1. Please give through the columns of your paper the plan of a house which would cost about five hundred dollars, not including the stonework."

"2. Also let me know if postage stamps would do to send you with subscribers' names?"

[Five hundred dollars seems a very small amount with which to finish a dwelling house after the stonework is up, but we presume it can be done, and we hope some of our subscribers will send us a suitable plan for doing so.]

2. Yes, we will accept postage stamps of one and two cent denomination. Postal notes, which can be obtained at any post office for two cents each for amounts up to one dollar, are very convenient and safe, and much used by subscribers when sending renewals or new subscriptions to our office.]

PASTEURIZING MILK.

READER, Quebec:—"Can you furnish through the FARMER'S ADVOCATE the addresses of firms who sterilize milk before delivering it for city trade? What firms sell sterilizing machinery?"

[We are not aware that any companies sterilize milk for the market, but pasteurizing is not uncommon. The Kensington Dairy Co., Toronto, and Croil & McCullough, Montreal, use pasteurizers in connection with their business. The Walker-Gordon Laboratory, of Boston, Mass., and the St. Ives Park Dairy Farm, Chicago, each prepare milk in a special manner for infants and city trade. The Richardson & Webster Co., St. Mary's, Ont., and R. A. Lister & Co., Montreal, deal in all kinds of dairy machinery.]

THE BEST POTATO DIGGER WANTED.

ENQUIRER, Prince Edward Co., Ont.:—"I send you following query for columns of the FARMER'S ADVOCATE: What manufacturing company makes the best potato digger?"

[Hand work seems to be rapidly giving place to that which can be done by horse power in all lines of farm work, and it is not surprising that good potato diggers are in demand. Manufacturers of such machinery should serve their own interests by letting the merits of their goods be known through our advertising columns before the digging season commences.]

HORN FLY - AYRSHIRE STEERS FOR EXPORT - CATTLE FEEDING WITHOUT PASTURE.

W. W., Middlesex Co., Ont. - "1. What is best to put on milch cows to keep the flies off?"

"2. Can Ayrshire steers be made fit for export?"

"3. Can cattle be raised as profitably without pasture as with it?"

"4. What is the lawful weight of a bag of potatoes?"

"The FARMER'S ADVOCATE is highly appreciated in our home."

[1. Our Chicago market letter of last issue contains a recipe for a mixture that is finding favor among American herdsmen for keeping off flies. It is whale oil with about a tablespoonful of carbolic acid mixed with each quart. It is applied to the shoulders and backs with an old broom, and is claimed to keep the flies away for three or four weeks. In the farm department (this issue) we publish a number of letters from practical authorities upon this subject.

2. We presume Ayrshire steers could be made fit for export, but would probably require a year longer feeding than Shorthorns, Herefords or other beef breeds. Ayrshire steers make very desirable butchers' cattle from 1,000 to 1,200 pounds at three years. They make fairly good and economical gains, and finish into a nice quality of beef.

3. There are so many influencing factors that require to be taken into consideration in answering a question of this sort that it is impossible to deal with it satisfactorily. For instance, on land particularly suited to pasturing, in being difficult to cultivate, and is moist and well-watered, pasturing would, without doubt, be most profitable, whereas a farm that dries up badly in summer responds well to manuring and cultivation; much more could be grown upon it of cultivated crops, such as corn, roots, coarse grains, etc., than of grass. The question of labor is also to be considered, and in our experience satisfactory labor is becoming more and more difficult to procure, so that the question of pasturing, as compared to complete soiling, is one that each farmer must settle for himself, according to his own circumstances.

4. A bag of potatoes should weigh 90 pounds if sold by weight; that is, it should contain a bushel and a half of potatoes. A measured bushel and a half will weigh 90 pounds up till February or March, but as they become older they dry up, and by summer may not weigh more than 75 pounds, so that old potatoes should be sold by measure and not by weight if each man is to get his due.]

not at an actual loss. In other respects the stock markets have been good; good prices have prevailed, and clearances have been effected on all the markets. Best butchers' cattle have sold as high as exporters: 4 1/2c. to 5 1/2c. for the limit, the last named figure not being obtainable on the last two or three market days, owing to the scarcity of good heaves; good beef ran from 4 1/2c. to 4 3/4c.; common to medium fair, from 2 1/2c. to 4 1/4c. per lb.

Sheep and Lambs.—The recent decline in the British markets have forced the price of sheep down here, but notwithstanding that, shipments are going forward quite freely—almost equalling the record year of four years ago. Exporters are paying from 3 1/2c. to 3 3/4c. per lb., while spring lambs are varying from \$2.50 to \$5 each, according to size and quality.

Cattle.—For the time of year, and indeed the whole spring, the run of calves have been light, and prices accordingly fairly good, ranging, according to quality, from \$1.50 to \$12.

Live Stock Shipments.—For the first time this season our shipments of cattle have equalled a like period of last year, the total to July 8 (Saturday) equalling 33,888 head of cattle, 14,570 sheep, and 1,730 horses, against the corresponding period of 1888's 33,711 cattle, 3,915 sheep, and 3,190 horses. This puts the present season in advance of 1888 by 177 cattle, 10,600 sheep, and 1,700 horses. The fact must not be overlooked, however, that of the total number this year fully 9,000 head were United States shipments, against some 1,800 head last year, and none in the previous years. What effect these shipments have had to offset our own short supplies will be seen by the following few comparisons:

Table with columns: Cattle, Sheep, Horses. Rows: Total to June 30, '89; To June 30, '88; To June 30, '87; To June 30, '86; To June 30, '85.

Dairy Shipments.—Shipments of the dairy have gone forward freely this season, and when compared with the values of the corresponding period last year, prices have been very satisfactory. The total exports of cheese for the week ending Saturday, July 8, were 71,280 boxes, and the total to date 494,003 boxes. Butter also has made an enormous gain over recent years, the total for last week ending July 1 (the present week's figures not yet being to hand) being 11,629, against 17,892 for the previous week, the total to that date being 66,973 packages.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT. Following table shows current and comparative live stock prices:

Table with columns: Beef cattle, Hogs, Sheep. Rows: 1500 lbs. up, 1350 to 1500 lbs., 1200 to 1350 lbs., 1050 to 1200 lbs., 900 to 1050 lbs., Mixed, Heavy, Light, Pigs, Sheep, Natives, Western, Yearlings, Lambs.

Chicago Stock Yard receipts of cattle, hogs and sheep for June, 1889, and the year to date, with comparisons:

Table with columns: Receipts, Cattle, Hogs, Sheep. Rows: June, 1889; May, 1889; June, 1888; June, 1887; June, 1886; June, 1885; June, 1884; June, 1883; Six months, 1889; Six months, 1888; Six months, 1887.

July receipts at Chicago for the last eight years were as follows:

Table with columns: Receipts, Cattle, Hogs, Sheep. Rows: July, 1888; July, 1887; July, 1886; July, 1885; July, 1884; July, 1883; July, 1882; July, 1881; July, 1880; July, 1879.

The noted Texas cattle feeder, J. B. Wilson, of Dallas, had on the Chicago market to-day 10 cars of Texas-bred and Texas-fed cattle which did credit to the State. They sold at \$5.00 to \$6.65, mostly at \$5.25 to \$5.30. The top cattle averaged 1,628 lbs., and sold the highest of anything since the Fat Stock Show cattle were here in March.

Brenton Bros., Dallas Centre, Iowa, had in four cars of Texas cattle, 1,223 lbs., the first of the season's feeding, which sold at \$5.45, or 10c. above the top price they got last year. They also had in one car of 1,200-lb. mixed native cattle that sold at \$5.55, and two cars, 31 head, averaging 1,273 lbs., branded Panhandle cattle, at \$5.35, containing three big stags.

Cattle in June averaged 1,051 lbs., against 1,091 lbs. a year ago, 1,072 lbs. in 1887, and 1,118 lbs. in 1886. This shows that cattle are not being fed as long as usual, and that feeders are finding that early maturity pays.

Those specially fed 173-lb. Berkshire bacon hogs which sold at \$4 on June 30, did not prove to be as satisfactory as expected. The killing test showed that there were some very good fat hogs and some very good lean ones in the lot. They dressed close to 71 per cent., but were only considered the equal of good corn-fed hogs of the same weights. Armour & Co. paid \$4 for them when their drove cost \$3.53, and they feel that these hogs were not worth the difference. These pigs were fed on rye, barley, clover, corn, etc., and it was hoped they would meet the Canadian manner of feeding for bacon hogs, but they fell far short.

The June average weight of hogs was 236 lbs., against 232 lbs. in May, 229 lbs. in June of last year, 240 two years ago, and 249 lbs. three years ago.

C. S. Nelson, of Monmouth, Ill., one of the heaviest feeders of Warren County, had seven cars of cattle on the market yesterday, and two to-day. They sold at \$5.15, \$5.40 and \$5.45, with two cars at \$5.50. These cattle were all bought on this market in February. They cost an average of \$4.40 here in February, and made a gain of about 300 lbs. each, an excellent gain, and he said they made good money. He bought a lot of cattle to take home for his pasture and feed lots.

A good many young bulls are being bought here and sent to the country to feed. They are castrated and dehorned.

A Chicago man, who has returned from a hundred days' trip through Idaho, Washington and Oregon, says the past winter and spring were not favorable for lamb raising, and this year's crop will show a shortage of 60 per cent. Two-year-old market will begin next month, and will be a little later than usual. There is a fair demand for stock yearlings, which have been selling mainly at \$2 per head. The range all through the west is in fine condition, except in Eastern Colorado, where it is at present very dry.

Farming conditions throughout the corn belt were never much more promising than at this time.

Toronto Markets.

Trade was fairly good for all classes of stall-fed cattle. Grass-fed cattle were bought for Montreal. The market slow, and although they were all cleared by night it was at a sacrifice. The half-year live stock receipts at the Western cattle market shows an increase in the number of cattle and sheep, and decrease in hogs and calves. The following is a comparative statement of receipts to June 30th, 1889, compared with 1888:

Table with columns: 1889, 1888. Rows: Cattle, Sheep, Hogs, Calves. Totals: 210,687 vs 228,193.

The falling off is almost entirely due to the decrease in the receipts of hogs, but it must be remembered that a very large number of hogs reach our packing-houses without passing through this market. The hog business began to fall off during April. Up to the present time, on the other hand, cattle show an increase of 6,363 and sheep an increase of 9,171; while the weigh fees were \$134.69 more, being for 1888, \$3,297.25, and for 1889, \$3,431.97.

Export Cattle.—This trade has been well maintained this season. The demand for cattle was good, and sales were at steady prices. The proportion of choice heaves or stall-fed cattle is very limited; quality of fat cattle only medium. Stall-fed exporters that have been on grass, well finished, sold at \$4.90 to \$5.10 per cwt.; heavy-weights sold from \$5.00 to \$5.15 per cwt., for choice. Mr. J. Featherston sold 24 cattle, 1,250 lbs. average, at \$4.75 per cwt. Messrs. Lunness and Halligan shipped 8 carloads of Chicago cattle via Montreal. Messrs. Dun Brothers bought five loads of exporters at \$5.00 to \$5.25 per cwt.

Butchers' Cattle.—Choice picked lots of butchers' cattle equal in quality to best exporters, weighing 1,000 to 1,100 lbs., sold at \$4.75 to \$4.90 per cwt. Loads of good butchers' cattle sold from \$3.90 to \$4.25. Mr. W. H. Hesson, Port Arthur, bought two loads of butchers' cattle and also contracted for one load per week at \$4.25 per cwt. Mr. James Harris is acting as purchasing agent for his father's abattoir.

Feeders.—This class of cattle in good demand, animals weighing 800 lbs. to 1,050 lbs. wanted for grass feeding. These weights sold at from \$3.90 to \$4.00 per cwt.

Stockers.—Owing to a falling off in the demand from Buffalo, the market here for stockers was very dull, \$3.00 to \$3.50 per cwt., whilst for heifers the price fell to \$2.50 per cwt. in many cases. The ruling price was \$2.75 to \$2.90 per cwt.

Bulls.—Heavy bulls of choice quality sold at \$3.87 1/2 to \$4.25 per cwt. Light bulls at \$3.60 to \$3.80 per cwt. Very inferior rough bulls sold at from \$2.50 to \$3.35 per cwt.

Sheep.—Deliveries large, quality very good, 800 on sale to-day at prices ranging from \$3.00 to \$3.40 for ewes. Bucks, \$2.75 to \$3.00 per cwt.

Lambs.—Spring lambs in good demand; prices steady, at \$3.00 to \$4.00 per head, or at from \$4.50 to \$5.25 per cwt.

Calves.—Supply more than equals the demand; about 180 on offer, at prices ranging from \$4.00 to \$5.00 per head, according to size and quality.

Milk Cows.—The supply more liberal, about 20 sold at prices ranging from \$28.00 to \$48.00. In one case \$50 was paid.

Hogs.—Deliveries large to-day, which sold for the very best selections at \$5.00 per cwt.; while \$4.25 was paid for thick-fat and light. Out of 1,400 hogs on to-day's market, only 40 per cent. were selects. Corn-fed hogs \$4.00 per cwt. Average price for unculled car lots was from \$4.75 to \$4.85 per cwt.

Sows at \$3.00 per cwt.; stags at \$2.00 per cwt. In our market report of June 15th, 1889, mention was made of feeding hogs on pasture. Since that period a very large number of hogs have come forward showing the same defect. In a circular to the trade, Messrs. Davis & Co. strongly urge drovers to co-operate with them by refusing to purchase those which have been fed in this manner. The trouble occurs every year at this season, and as hogs come from very different sections of the country, it must be from the one cause. The percentage of soft sides is really very alarming to the hog industry, and now that we have established a good character for our bacon products it should be the aim of every feeder to co-operate with the packer. It has demoralized the price on this market and prevented the rise that was so much hoped for. A representative of this paper visited the house in question, and it is really lamentable to see the number of hogs that are unfitted for the export trade, and were it not for our increased inland consumption the price of hogs would have been much lower this season.

Dressed Hogs and Beef.—Very few dressed hogs on the market, at \$5.75 to \$6.15 per cwt. Beef—Fore quarters, \$5.50; hind quarters, \$5.50.

Lamb, per lb. 12c. Poultry scarce; chickens, 50c. to 90c. per pair. Turkeys, 10c. per lb.

Eggs.—New laid, farmers' supply short, 16c. to 18c. per dozen; wholesale at from 10c. to 15c. per dozen, Montreal supply.

Hay.—Only 15 loads of hay on the market, sold at from \$11 to \$11.50 per ton for old, and from \$7.00 to \$8.50 for new.

Straw.—Price steady, at \$6.50 per ton for sheaf; loose, at \$4.00 to \$5.00 per ton.

Grain Market.—Receipts of wheat very light, only 500 bushels; 200 bushels of red and white, 71c.; goose, 60c. to 70c. per bushel. Oats—steady, at 35c. to 36c. per bushel.

Hides.—There is a fair demand for hides, and the prices are firm. No. 1 green, 8c. per lb.; No. 1 steers, 8c. per lb.; No. 1 stags, 8c. per lb.; No. 2 green, 7c. per lb.; No. 2 steers, 7c. per lb.; No. 2 stags, 7c. per lb.; No. 3 green, 6c. per lb.; No. 3 steers, 6c. per lb.; No. 3 stags, 6c. per lb.

Wool.—Fleece, 13c. to 14c. per lb.; unwashed, 8c.; pulled super, 15c. to 16c. per lb. An experiment was made lately by a Canadian dealer in sending a sample of Canadian wool to Bradford, England, the great center of the woolen fabric manufacture, with a view to getting bids on Canada wool. A reply was received, and it was stated that domestic wools corresponding with the samples of the Canadian growths submitted, but which were, if anything, superior, could be bought cheaper, and that the Canadian wools would have to be offered below fourteen cents in order to induce purchases. There has been little or nothing done for export on this season's clip, and buyers, owing to the uncertainty as to the future of the market, are acting very cautiously. There has been a large advance in the prices of wools at the colonial sales in London the past ten days, but it does not appear to have helped the demand nor the value of Canadian sorts.

Imports from Canada to Great Britain During June.

London, July 7.—The imports from Canada during the month of June reached the following proportions: 14,047 cattle, valued at \$234,646; 5,248 sheep and lambs, valued at \$28,013; 44,076 cwt. of bacon, valued at \$73,452; 11,480 cwt. of ham, valued at \$22,637; 11,974 cwt. of butter, valued at \$52,005; 147,752 cwt. of cheese, valued at \$312,221; 479 great hundreds of eggs, valued at \$130; 515 horses, valued at \$13,968.

British Markets.

Cables received from London and Liverpool yesterday show another sharp advance on top of last week's. Choice States cattle in London selling at 12c., and Canadians at 12c. to 12 1/2c.; Liverpool being about 25c. per cwt. under these figures, at 12c. for States, and 12c. for Canadians; sheep, 10c. All quotations are for dressed meat, sinking the offal.

Live Stock Exports.

The report of live stock shipments for week ending Wednesday, July 12th, as prepared by R. Bickerdike, of Montreal, shows 3,636 cattle, 2,064 sheep to have been shipped to London, Liverpool, Bristol, Glasgow, Newcastle, Manchester.

MARKETS.

FARM GOSSIP.

Bruce County.

Since the last report the ground was beginning to get pretty dry, but within the last week we have had abundant showers. The fall wheat, since heading out, is generally looking well, but shows some signs of rust. The spring crops are, with few exceptions, very good. A few farmers have commenced their hay harvest. The crop promises to be fairly good; still, considerable quantities of old hay is held by the farmers.

The weather was favorable for putting in the root crop in the best condition, to which there is quite a large area devoted—average about 5 acres to the 100-acre farm. I have heard a few complaints about the turnip seed not germinating. Do not know the cause, but think it must be some defect in the seed.

The apple crop will be light this season, from more than one cause. Many orchards were almost entirely stripped of everything green by the forest caterpillar. Of course there will be no fruit on these trees. In other orchards where the caterpillars were kept in subjection, much of the fruit has fallen off since it was formed.

Cattle fit for export are worth \$4.85 to \$5 per cwt., but very few are moving just now, as the stall-fed are gone and the grass cattle are not quite ready. The few farmers who have been holding their wheat have been teaming it out of late. The price has been 68c. to 70c. Hogs are slightly lower than they were a short time ago, \$4.50 being the highest the shippers will pay.

Huron County.

The first half of July has been very wet, scarcely two dry days in succession. What clover the frost did not kill was short, and owing to the wet has been very poorly cured. Timothy has improved considerably during the past two weeks, but is still light; will, on the whole, average not more than a ton per acre. Roots and corn are looking well; turnips are not largely grown in this section. Spring grains are doing well, except in low land with improper draining. Fall wheat will not come up even to expectations, though there are some exceptionally good looking fields; the most is very patchy at best; rust is affecting it, as is also the jointworm. This was an off year for strawberries; the season was very short. Cherries were very plentiful, and prices good; the Canadian red selling from 40c. to 60c. per basket, and the black from 40c. to 70c. Huron has the name of growing the best cherries to be found in the Province. Apples will be a fair crop as to quantity, but the quality apparently will be good. No early trash to bother the farmer and ruin the shipper, just a good sample of winter fruit.

The demand for stockers of any age still keeps up, \$25 to \$30 being paid for good year-olds. Hogs have dropped a little. Horses changing hands at from \$150 to \$175. Wheat, 68c.; oats, 28c. to 29c.; butter from 11c. to 13c.; eggs, 10c. to 11c.; potatoes, 50c. to 55c.; and hay, \$5.50 to \$6.

Montreal Markets.

Export Cattle.—Hardly any export cattle reach this market, but shippers pick up occasionally a few to fill in a few odd spaces in one of their consignments at a price ranging from 4 1/2c. to 5 1/2c. per lb., according to the grade of the beef.

Butchers' Cattle.—This particular branch of the trade has been rather dull for some time, and it is only the last two or three markets that receipts have anything like came up to their old standard, even showing a shortage on the regular average runs of stock. Yesterday, 600 head of cattle were offered; last Thursday, 500; previous markets, from 350 to 400. The reason has been the cost of cattle, which has had a large share in curtailing local consumption; butchers in almost all directions turning their beef over at a very small margin, if



AN AFRICAN MILLIONAIRE.

EPISODES IN THE LIFE OF THE ILLUSTRIOUS COLONEL CLAY.

BY GRANT ALLEN.

(Continued from page 383.)

I cashed the cheque at once, and said nothing about the affair, not even to Isabel. My experience is that women are not to be trusted with intricate matters of commission and brokerage.

Charles insisted that we must all run over at once to take possession of our magnificent Tyrolean castle. We took the Orient Express as far as Munich, then the Brenner to Meran, and put up for the night at the Erzherzog Johann. Though we had telegraphed our arrival, and expected some fuss, there was no demonstration. Next morning we drove out in state to the schloss, to enter into enjoyment of our vines and fig trees.

We were met at the door by the surly steward. "I shall dismiss that man," Charles muttered, as Lord of Lebenstein. "He's too sour-looking for my taste. Never saw such a brute. Not a smile of welcome!"

He mounted the steps. The surly man stepped forward and murmured a few morose words in German. Charles brushed him aside and strode on. Then there followed a curious scene of mutual misunderstanding. The surly man called lustily for his servants to eject us. It was some time before we began to catch at the truth. The surly man was the real Graf von Lebenstein.

And the Count with the moustache? It dawned upon us now. Colonel Clay again! More audacious than ever!

Bit by bit it all came out. He had ridden behind us the first day we viewed the place, and, giving himself out to the servants as one of our party, had joined us in the reception room. We asked the Count why he had spoken to the intruder. The Count explained in French that the man with the moustache had introduced my brother-in-law as the great South African millionaire, while he had had frequent interviews with the real Graf and his lawyers in Meran, and had driven almost daily across to the castle. The owner of the estate had named one price from the first, and had stuck to it manfully. He stuck to it still; and if Sir Charles chose to buy Schloss Lebenstein over again he was welcome to have it. How the London lawyers had been duped the Count had not really the slightest idea. He regretted the incident, and (coldly) wished us a very good morning.

Charles and I ran across post-haste to England to track down the villain. At Southampton Row we found the legal firm by no means penitent; on the contrary, they were indignant at the way we had deceived them. An impostor had written to them on Lebenstein paper from Meran to say that he was coming to London to negotiate the sale of the schloss and surrounding property with the famous millionaire, Sir Charles Vandrift; and Sir Charles had demonstratively recognized him at sight as the real Count von Lebenstein. The firm had never seen the present Graf at all, and had swallowed the impostor whole, so to speak, on the strength of Sir Charles' obvious recognition. He had brought over as documents some of our excellent forgeries—facsimiles of the originals—which our courier and interpreter, he had every opportunity of examining and inspecting at the Meran lawyers'.

By the evening's post two letters arrived: one for myself and one for my employer. Sir Charles' ran thus:

"HIGH WELL-BORN INCOMPETENCE,—
"I only just pulled through! A very small slip nearly lost me everything. I believed you were going to Schloss Planta that day, not to Schloss Lebenstein. You changed your mind en route. That might have spoiled all. Happily I perceived it, rode up by the short cut, and arrived somewhat hurriedly and hotly at the gate before you. Then I introduced myself. I had one more bad moment when the rival claimant to my name and title intruded into the room. But fortune favors the brave—your utter ignorance of German saved me. The rest was paid. It went by itself, almost.
"Allow me now, as some small return for your various welcome cheques, to offer you a useful and valuable present—a German dictionary, grammar, and phrase book!
"I kiss your hand."
"No longer
"VON LEBENSTEIN."

The other note was to me. It was as follows:
"DEAR GOOD MR. VENTWORTH,—
"The Lord has delivered you into my hands, dear friend—on your own initiative. I hold my cheque, endorsed by you, and cashed at my banker's, as a hostage, so to speak, for your future good behavior. If ever you recognize me, and betray me to that solemn old ass, your employer, remember, I expose it, and you with it, to him. So now we understand each other. Your mouth is now closed, and cheap, too, at the price. Yours, dear comrade, in the great confraternity of rogues,—
"CUTHBERT CLAY, Colonel."

Charles laid his note down, and grizzled. "What's yours, Sey?" he asked.
"From a lady," I answered.
He gazed at me suspiciously. "Oh, I thought it was the same hand," he said.
He paused a moment. "You made all inquiries at this fellow's bank?" he went on, after a deep sigh.
"Oh yes!" I put in quickly. "They say the self-styled Count von Lebenstein was introduced to them by the Southampton Row folks, and drew, as usual, on the Lebenstein account; so they were quite unsuspecting. The bank didn't even require to have him formally identified. The firm was enough. He came to pay money in, not to draw it out. And he withdrew his balance just two days later, saying he was in a hurry to get back to Vienna."

Charles leaned back in his easy-chair, stuck his hands in his pockets, held his legs straight out on the fender before him, and looked the very picture of hopeless despondency.
"Sey," he began, after a minute or two, poking the fire reflectively, "what a genius that man has! 'Pon my soul, I admire him. I sometimes wish—' He broke off and hesitated.

"Yes, Charles?" I answered.
"I sometimes wish . . . we had got him on the Board of the Cloetedorp Colcondas. Mag-nificent combinations he would make in the City!"
V.

THE EPISODE OF THE DRAWN GAME.

The twelfth of August saw us, as usual, at Seldon Castle, Ross-shire. It is part of Charles' restless, roving temperament that on the morning of the eleventh, wet or fine, he must set

out from London, and at dawn on the twelfth he must be at work on his moors, with all the guns in the house to help him, till the keepers warn him he has killed as many grouse as they consider desirable; and then he retires precipitately, with flying colors, to Brighton, Nice, Monte Carlo or elsewhere.

Sir Charles, I ought to say, had secured during that summer a very advantageous option in a part of Africa on the Transvaal frontier, rumored to be auriferous. Now, whether it was auriferous or not before, the mere fact that Charles had secured some claim on it naturally made it so, for whatever he handles turns at once to gold, if not to diamonds. Therefore his great rival in that region, Lord Craig-Ellachie (formerly Sir David Alexander Granton), immediately secured a similar option of an adjacent tract, the larger part of which had pretty much the same geological conditions as that covered by Sir Charles' right of pre-emption.

We were not wholly disappointed, as it turned out, in the result. A month or two later, while we were still at Seldon, we received a long and encouraging letter from our prospectors on the spot, who had been hunting over the ground in search of gold reefs. They reported that they had found a good auriferous vein in a corner of the tract, approachable by adit-levels, but, unfortunately, only a few yards of the lode lay within the limits of Sir Charles' area. The remainder ran on at once into what was locally known as Craig-Ellachie's section.

However, our prospectors had been canny, they said; though young Mr. Granton was prospecting at the same time, in the self-same ridge, not very far from them, his miners had failed to discover the auriferous quartz, so our men had held their tongues about it, wisely leaving it for Charles to govern himself accordingly.

"Can you dispute the boundary?" I asked.
"Impossible," Charles answered. "You see, the limit is a meridian of longitude. There's no getting over that. We've only one way out of it, Sey. Amalgamate! Amalgamate!"
"Capital!" I answered. "Say nothing about it, and join forces with Craig-Ellachie."

That very same evening came a telegram in cipher from our chief engineers on the territory of the option: "Young Granton has somehow given us the slip and gone home. We suspect he knows all. But we have not divulged the secret to anybody."

"Seymour," my brother-in-law said, impressively, "there is no time to be lost. I must write this evening to Sir David—I mean to My Lord."

We adjourned into the study, where Sir Charles drafted, I must admit, a most judicious letter to the rival capitalist. He pointed out that the mineral resources of the country were probably great, but as yet uncertain. That the expense of crushing and milling might be almost prohibitive. That water was scarce, and commanded by our section. That two rival companies, if they happened to hit upon one, might cut one another's throats by erecting two sets of furnaces or pumping plants, and bringing two separate streams to the spot, where one would answer. In short (to employ the golden word), that amalgamation might prove better in the end than competition; and that he advised, at least, a conference on the subject.

"This is important, Sey," he said. "It had better be registered, for fear of falling into improper hands. Don't give it to Dobson; let Cesarine take it over to Fowllis in the dog-cart."

Cesarine took it as directed—an invaluable servant, that girl! Meanwhile we learned from the *Morning Post* next day mail with Mr. Granton had arrived from Africa by the same at Glen-Ellachie. He sent a letter, and had joined his father at once.

Two days later we received a most polite reply from the opposing interest. It ran after this fashion:

"Craig-Ellachie Lodge,
"Glen-Ellachie, Inverness-shire.

"DEAR SIR CHARLES VANDRIFT,—Thanks for yours of the 20th. In reply I can only say I fully reciprocate your amiable interest in South Africa. With regard to your suggestion that we should meet in person to discuss the basis of a possible amalgamation, I can only say my house is at present full of guests (as is doubtless your own), and I should therefore find it practically impossible to leave Glen-Ellachie. Fortunately, however, my son David is now at home on a brief holiday from Kimberley; and it will give him great pleasure to come over and hear what you have to say in favor of an arrangement which, certainly, on some grounds, seems to me will arrive to-morrow afternoon at Seldon, and he is authorized, in every respect, to negotiate with full powers on behalf of myself and the other directors. With kindest regards to your wife and sons, I remain, dear Sir Charles, yours faithfully,—
"CRAIG-ELLACHIE."

"What a nuisance!" Amelia cried, when we told her of the incident. "I suppose I shall have to put the man up for the night—a nasty, raw-boned, half-baked Scotchman, you may be certain."

On Wednesday afternoon, about three, young Granton arrived. He was a pleasant-looking, red-haired, sandy-whiskered youth, not unlike his father; but, strange to say, he dropped in to see, instead of bringing his luggage.

"Why, you're not going back to Glen-Ellachie to-night, surely?" Charles exclaimed, in amazement. "Lady Vandrift will be so disappointed! Besides, this business can't be arranged between two trains, do you think, Mr. Granton?"

Young Granton smiled. He had an agreeable smile—canny, yet open.

"Oh no!" he said frankly. "I didn't mean to go back. I've put up at the inn. I have my wife with me, you know—and, I wasn't invited."

Amelia was of opinion, when we told her this episode, that David Granton wouldn't stop at Seldon because he was an Honorable.

However that may be, young Granton insisted on remaining at the Cromarty Arms, though he told us his wife would be delighted to receive a call from Lady Vandrift and Mrs. Granton. So we all returned with him to bring the Honorable Mrs. Granton up to tea at the Castle.

She was a nice little thing, very shy and timid, but by no means unrepresentative, and an evident lady. She giggled at the end of every sentence, and was endowed with a slight squint, which somehow seemed to point all her feeble sallies.

Next morning Charles and I had a regular debate with young Granton about the rival options. Gradually and gracefully he let us see that Lord Craig-Ellachie had sent him for the benefit of the Honorable David Granton.

"I'm a younger son, Sir Charles," he said, "and therefore guided implicitly by what I advise in the matter. Now, let's be businesslike. You want to amalgamate. You wouldn't do that, of course, if you didn't know of something to the advantage of my father's company—say a lode on our land—which choose to render it worth my while, I'll induce my father and long and the shorter of it!"

Charles looked at him admiringly.
"Young man," he said, "you're deep, very deep—for your age. Is this candor—or deception? Do you mean what you say?"

Young Granton smiled again. "You're a financier, Sir Charles," he answered. "I wonder, at your time of life, you fill his own pocket—or his father's. Whatever is my father's?"

"You are right as to general principles," Sir Charles replied, quite affectionately. "But how do I know you haven't bargained already in the same way with your father?"

The young man assured a most candid air. "Look here," he said, leaning forward. "I offer you this chance. Take it

or leave it. Do you wish to purchase my aid for this amalgamation by a moderate commission on the net value of my father's option to yourself—which I know approximately?"

"Say five per cent.," I suggested, in a tentative voice, just to justify my presence.

He looked me through and through. "Ten is more usual," he answered, in a peculiar tone and with a peculiar glance.

Great heavens, how I winced! They were the very words I had said myself to Colonel Clay, as the Count von Lebenstein, about the purchase money of the schloss, and in the very same accent. My blood ran cold.

The interview was long. I hardly know how I struggled through it. At the end young Granton went off, well satisfied (if it was young Granton), and Amelia invited him and his wife up to dinner at the Castle.

Young Granton, it turned out, was a most agreeable person, and so, in her way, was that timid, unpretending South African wife of his. Moreover, the Honorable David was a splendid swimmer. He went out in a boat with us, and dived like a seal. He was burning to teach Charles and myself to swim when we told him we could neither of us take a single stroke; he said it was an accomplishment incumbent upon every true Englishman. But Charles hates the water; while for myself, I detest every known form of muscular exercise.

However, we consented that he should row us on the Firth, and made an appointment one day with himself and his wife for four the next evening.

That night Charles came to me with a very grave face in my own bedroom. "Sey," he said, under his breath, "have you observed? Have you watched? Have you any suspicions? My own belief is—they're Colonel Clay and Madame Picardet."

I seized his arm. "Charles," I said, imploring him, "do nothing rash! Remember how you exposed yourself to the ridicule of fools over Dr. Polperro!"

"I've thought of that," he answered, "and I mean to call. First thing to-morrow I shall telegraph over to enquire at Glen-Ellachie; I shall find out whether this is really young Granton or not; meanwhile I shall keep my eye close upon the fellow."

I did not myself expect to see the reply arrive much before seven or eight that evening. Meanwhile, as it was far from certain we had not the real David Granton to deal with, it was necessary to be polite to our friendly rivals. Our experience in the Polperro incident had shown us both that too much zeal may be more dangerous than too little.

About four o'clock the red-haired young man and his pretty little wife came up to call for us. She tripped down to the Seldon boathouse, with Charles by her side, giggling and squinting her best, and then helped her husband to get the skiff ready. As she did so, Charles sidled up to me. "Sey," he whispered, "I'm an old hand, and I'm not readily taken in. I've been talking to that girl, and upon my soul I think she's all right."

We rowed out on to the Firth, or, to be more strictly correct, the two Grantons rowed, while Charles and I sat and leaned back in the stern on the luxurious cushions.

Mrs. Granton pulled stroke. Even as she rowed she kept up a brisk undercurrent of timid chaff with Sir Charles, giggling all the while, half forward, half shy, like a schoolgirl who flirts with a man old enough to be her grandfather.

Sir Charles was flattered. The wiles of women of the world he knows too well, but a pretty little *tyrolean* can twist him round her finger. They rowed on, and on, till they drew abreast of Seamew's island. It is a jagged stack or skerry, well out to sea, very wild and precipitous on the landward side, but shelving gently outward; perhaps an acre in extent, with steep gray cliffs, covered at that time with crimson masses of red valerian. Mrs. Granton rowed up close to it.

"Oh, what lovely flowers!" she cried, throwing her head back and gazing at them. "I wish I could get some! Let's land here and pick them." Sir Charles, you shall gather me a nice bunch for my sitting-room.

Charles rose to it innocently, like a trout to a fly.

"By all means, my dear child, I—I have a passion for flowers." Which was a flower of speech itself, but it served its purpose.

They rowed us round to the far side, where is the easiest landing-place. Then young Granton jumped lightly ashore; rather ashamed to see how clumsily Charles and I followed them, treading gingerly on the thwarts for fear of upsetting the boat, while the artless young thing just flew over the gunwale. So like White Heather! However, we got ashore at last in safety, and began to climb the rocks as well as we were able in search of the valerian.

Judge of our astonishment when next moment those two young people bounded back into the boat, pushed off with a peal of merry laughter, and left us there staring at them!

They rowed away, about twenty yards, into deep water. Then the man turned, and waved his hand at us gracefully. "Good-bye!" he said. "Good-bye! Hope you'll pick a nice bunch! We're off to London!"

"Off!" Charles exclaimed, turning pale. "Off! What do you mean?"

The young man raised his cap with perfect politeness, while Mrs. Granton smiled, nodded, and kissed her pretty hand to us. "Yes," he answered, "for the present. We retire from the game. The fact of it is, it's a trifle too thin: this is a *coup manqué*.

"A *what?*" Charles exclaimed, perspiring visibly.

"A *coup manqué*, the young man replied, with a compassionate smile. "A failure, don't you know; a bad shot; a fiasco. I learn from my scouts that you sent a telegram by special messenger to Lord Craig-Ellachie this morning. That shows you suspect me. Now, it is a principle of my system never to go on for one move with a game when I find myself suspected. I *never* try to bleed a man who struggles. So now we're off. Ta-ta! Good luck to you!"

He was not much more than twenty yards away, and could talk to us quite easily. But the water was deep; the islet rose sheer from I'm sure I don't know how many fathoms of sea; and we could neither of us swim. Charles stretched out his arms imploringly. "For Heaven's sake," he cried, "don't tell me you really mean to leave us here."

He looked so comical in his distress and terror that Mrs. Granton laughed melodiously in her prettiest way at the sight of him. "Dear Sir Charles," she called out, "pray don't be only need just time enough to get well ashore and make—oh!—a few slight alterations in our personal appearance." And she indicated with her hand, laughing, dear David's red wig and false sandy whiskers, as we felt convinced they must be now.

"Then you are Colonel Clay!" Sir Charles cried, mopping his brow with his handkerchief.

"If you choose to call me so," the young man answered, politely. "I'm sure it's most kind of you to supply me with a commission in Her Majesty's service. However, time presses, rescued by midnight, at latest. Fortunately, the weather just at present is warm, and I see no chance of rain; so you will suffer, if at all, from nothing worse than the pangs of temporary hunger."

Charles was half beside himself, divided between alternate terror and anger. "Oh, we shall die here!" he exclaimed. "Nobody'd ever dream of coming to this rock to search for me."

"What a pity you didn't let me teach you to swim!" Colonel Clay interposed. "It is a noble exercise, and very useful indeed in such special emergencies! Well, ta-ta, I'm off! You nearly scored one this time, but by putting you here say I've redressed the board, and I think we may count it a drawn game, mayn't we? The match stands at three, love—with some thousands in pocket!"

[TO BE CONTINUED.]



A Lesson of Faith.

"Let me hire you as a nurse for my poor children," said a Butterfly to a quiet Caterpillar, who was strolling along a cabbage leaf in her odd way. "See these little eggs!" continued the Butterfly. "I don't know how long it will be before they come to life, and I feel very sick and poorly; and if I should die, who will take care of my baby butterflies? Will you, kind green Caterpillar? But you must mind what you give them to eat! They cannot, of course, live on your rough food. I can't think what made me come and lay my eggs on a cabbage leaf. Oh, how dizzy I am, Caterpillar! You will remember about the food—"

And with these words the Butterfly dropped her wings and died, and the green Caterpillar, who had not had the opportunity of even saying Yes or No to the request, was left standing alone by the side of the eggs.

"A pretty nurse she has chosen, poor lady!" exclaimed she, "and a pretty business I have in hand! Why, her senses must have left her, or she

nodded his beak towards the eggs. "What do you think it is to be?"

"Dew, and the honey out of flowers, I am afraid," sighed the Caterpillar.

"No such thing, old lady. Something simpler than that. Something that you can get at quite easily."

"I can get at nothing quite easily but cabbage leaves," murmured the Caterpillar, in distress.

"Excellent, my good friend!" cried the Lark. "You have found it out. You are to feed them with cabbage leaves."

"Never!" cried the Caterpillar, indignantly. "It was their dying mother's last request that I should do no such thing."

"Their mother knew nothing about the matter," said the Lark. "But why do you ask me and then disbelieve what I say? You have neither faith nor trust."

"Oh, I believe everything I am told!" said the Caterpillar.

"Nay, but you do not," replied the Lark; "you won't believe even about the food, and yet that is but the beginning of what I have to tell you. Why, what do you think those little eggs will turn out to be?"

"Butterflies, to be sure."

"Caterpillars!" sang the Lark, as it flew away. "I thought the Lark would be wise and kind," observed the Caterpillar, "but I find that he is foolish and saucy instead. Perhaps he went up too high this time. I wonder whom he sees and what he does up yonder."

"I would tell you if you would believe me," sang the Lark, descending once more.

"I believe everything I am told," reiterated the Caterpillar, with as grave a face as if it were a fact.

"That is what you call faith, is it?" asked the doubtful Caterpillar.

At that moment she felt something at her side. She looked around. Eight or ten little caterpillars were moving about, and had already made a hole in the cabbage leaf. They had broken from the Butterfly's eggs. Shame and amazement filled our green friend's heart, but joy soon followed; for, as the first wonder was possible, the second might be so too. She talked all the rest of her life to her relations of the time when she should be a butterfly. None of them believed her, but she had learned the Lark's lesson of faith, and when she was going into her chrysalis grave she said, "I shall be a butterfly some day."

But her relations thought her head was wandering, and they said, "Poor thing!"

And when she was a butterfly, and was going to die again, she said:

"I have known many wonders; I have faith; I can trust even now for what shall come next."

"The Horse Fair."

It will be remembered that in our issue of June 15th there was a short account (with portrait) of Rosa Bonheur, the great French artist, who died on the 26th of May, aged seventy-seven. We now give the picture which made her so famous. There have been many celebrated animal painters—Sir Edwin Landseer, Ansdell, Harrison Weir, and others too numerous to mention—but perhaps no artist has been more discussed than this gifted woman. The distinguishing feature in Rosa Bonheur's work is its life—her animals are



"THE HORSE FAIR."

never would have asked a poor crawling creature like me to bring up her dainty little ones. Much they'll mind me when they feel the gay wings on their backs and can fly away out of my sight whenever they choose!"

However, the Caterpillar had a kind heart, so she resolved to do her best for the poor orphans. But she got no sleep that night, she was so anxious. She made her back ache with walking all night round her young charges, and in the morning she said to herself:

"Two heads are better than one. I will consult some wise creature upon the matter and get advice. How should a crawling creature like me know what to do without consulting my betters?"

Now, in the corn field there lived a Lark, and the Caterpillar sent a message to him to beg him to come and talk to her; and when he came she told him all her difficulties, and asked him how she was to feed and bring up the little creatures, so different from herself.

"Perhaps you will be able to inquire and hear something about it next time you go up high," observed the Caterpillar timidly.

The Lark promised to help her if possible, and soon went singing up into the blue sky. The Caterpillar almost jumped for joy, and it was not long before she saw her friend descend again to the cabbage bed.

"News, news, glorious news, friend Caterpillar!" sang the Lark; "but the worst of it is, you won't believe me!"

"I believe everything I am told," observed the Caterpillar, hastily.

"Well, then, first of all, I will tell you what these little creatures are to eat," and the Lark

"Then I'll tell you something else," cried the Lark, "for the best of my news remains behind. You will one day be a butterfly yourself!"

"Wretched bird!" exclaimed the Caterpillar. "You jest with my inferiority. Now you are cruel, as well as foolish. Go away! I will ask your advice no more."

"I told you you would not believe me," cried the Lark.

"I believe everything that I am told," persisted the Caterpillar; "that is"—and she hesitated—"everything that it is reasonable to believe. But to tell me that butterflies' eggs are caterpillars, and that caterpillars leave off crawling and get wings! Lark, you are too wise to believe such nonsense yourself, for you know it is impossible!"

"I know no such thing," said the Lark. "Whether I hover over the cornfields of earth or go up into the depths of the sky, I see so many wonderful things I know no reason why there should not be more. It is because you crawl, because you never get beyond your cabbage leaf, that you call anything impossible."

"Nonsense!" shouted the Caterpillar. "I know what's possible and what's not possible, according to my capacity and experience, as well as you do. Look at my long green body and these endless legs, and then talk to me about having wings and a painted feathery coat! Fool!"

"And fool you, you would-be-wise Caterpillar!" cried the indignant Lark. "Fool! to attempt to reason about what you cannot understand! Do you not hear how my song swells with rejoicing as I soar upwards to the mysterious wonder-world above? Oh, Caterpillar! what comes to you from thence, receive as I do, upon trust."

almost always in action. This can be observed in all her numerous works. Examine this picture. Every horse has its individuality. Look at that magnificent pair of grays, straining on the line held by the rider of one of them. Note that restive creature in the middle of the picture, evidently giving his rider all he can manage. That beauty on the left looks ready for anything, with bristling mane and proud carriage. You can almost hear the hurrying footfalls of the little horse speeding ahead, on the right-hand side. The figures of the men are no less lifelike. This truly great painting is a combination of separate pictures, for each little group, or even each animal, is a picture in itself. One may truly say that the two artists of modern times who have been more talked about than perhaps any others, are women. Miss Elizabeth Thompson (now Lady Butler), whose great military picture, "The Roll Call," caused a veritable sensation several years ago, and Rosa Bonheur, whose fame is deathless. A small, uncolored picture can give but a faint idea of "The Horse Fair" seen at its full size and with all its vivid coloring. One can, however, readily observe all its wonderful grouping, its action, its conception,—all the more wonderful when we think of the difficulties a woman must have had to overcome in making studies for such a subject. It is well known that for her necessary studies at slaughter-houses and other places generally unknown to women, Mlle. Bonheur was obliged to assume male attire. As a strong proof that art has no nationality, and of how much she was loved and respected, during the Franco-Prussian war, the German Emperor gave orders that when the troops marched on to Paris, Rosa Bonheur's property at Fontainebleau was to be left untouched.

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

"All work and no play makes Jack a dull boy." So says the proverb, and it is true. Most of us can call to mind some one of our acquaintance who does nothing but "work, work, work, in the dull December light, and work, work, work, when the weather is warm and bright." Is such a one a favorite among her friends? Would we go to her to have a pleasant chat and to talk over things? Oh, no! she has not time for that—there are duties waiting which *must* be done. And so she becomes prematurely old and wrinkled and gray, and friends drop off, and by and bye, when she is unfit to continue the everlasting work, she finds herself incapable of enjoying repose and pleasant society.

Now, this is all wrong. We are creatures so constituted that we must have action and repose alternately; in other words, we must work and play. Every living thing that comes into the world loves play. The child laughs and crows whenever it begins to observe; and when a few years have passed over its head, how many games will it revel in! But this playfulness is not peculiar to children only. The lower animals have similar instincts. The little birds play hide-and-seek among the branches; the little fishes dart here and there in play; the tiny gnat sports and dances in the sunshine. Even the young of wild animals, such as lions and bears, are as playful as kittens; and we all know what that means, for who has not watched, with great enjoyment, the antics of kittens? Think of the little lambs too—how amusing it is to see their gambols in the fields—how they chase each other in play! All living creatures were intended to be happy, and this happiness and play are Nature's ways of developing and strengthening their powers.

As young lives, of whatever kind, grow older, their instincts for play become useful. Their elders take advantage of this to teach their offspring their life-work. Children are sent to the kindergarten, where they learn through play. The eye, the ear, the imagination, are all educated through games; mental and moral faculties are developed by exercise; physical powers are strengthened by playful movements. While the little ones think only of play, they are really being educated. (It is only when they become older that the dreariness of "hard labor," the cramming for examinations, the dreaded competitions, ruin the health, both of mind and body, of the rising generation, and bring them to the same dead level, like a row of ninepins. Why is it that, of all creation, *man* alone imposes on his children hard and unpleasant work, without any enjoyment, in the matter of education?)

Let us revert to the lower animals once more, beginning with those we farmer folk know most about. How does Mother Hen educate her birdies? She teaches them to eat by taking from your hand little morsels of food, and dropping these before the little ones. They sometimes pick from her bill too. She takes them here and there to look for worms, and seeds, and insects. She shown them how to keep clean by herself using the dust-bath. How she clucks when danger threatens, teaching them to protect themselves against enemies; and when they grow bigger, she shows how further to guard themselves from harm by roosting as high as possible. Tabby, too, educates her kittens by romping with them, and teaching them by play to catch mice in earnest. Some birds teach their young to fly by carrying the little ones on their parent-wings, and suddenly shaking themselves free. The birdlings at first think their mothers are only playing; but when they are alone in the air, they are obliged to spread their own little wings for their own safety, and so they find the use of wings. You may be sure Mother Bird is not far off, in case of accident. Observe, too, how the lambs and calves play at butting, the colts at kicking, and the dogs at worrying,—all instincts of their race. And so it is all up and down the scale of creation—"play is a means of instruction in the future duties of their lives."

Thus we, the superior animals, turn to the lower for lessons in education and recreation. We must have recreation if we are to lead healthy, useful lives. Our nervous system is too fine to work continually, and, indeed, this is not desirable. "A little nonsense now and then is relished by the wisest men"; and if we, after a period of hard work, take a little leisure, the benefit will be great. By leisure I do not mean absolute idleness—mental lethargy. Change of work is restful: it brings another set of faculties into activity, and allows the first used to repose. We are all differently constituted as to taste—what one person would enjoy as a recreation might be to another hard work. The student will lay aside her books and indulge in physical exercise as a pastime; the farmer's wife will enjoy a cozy easy-chair and a good book; her daughter will find pleasure at her piano, or her easel, or her fancy-work; and the farmer himself will perhaps look forward to a consoling pipe.

Certain it is that recreation is necessary to health, and "health consists in the perfection of the different organs of the body, and in their regular, harmonious, and unconscious working." Every one wishes to possess that best of blessings, good health. So, my dear nieces, let us try to arrange our duties so that we shall have an alternation of

work and play—a daily alternation too,—not a day or a week of work, and then a time of idleness; but a happy, daily doing of our duties, to be followed up with an equally pleasant time of rest and recreation.

Samuel Smiles says, "Labor is not only a necessity and a duty, but a blessing"; and in "The Intellectual Life," Philip Gilbert Hamerton says, "Rest is necessary to recruit your intellectual forces." Both of these writers knew equally well the necessity of both work and rest. So we, after a period of energy and activity, may safely, and with an easy conscience, allow ourselves a time of refreshment and recreation.

Your loving old Auntie,
MINNIE MAY.

THE QUIET HOUR.

Worldliness.

"Give us—amid earth's weary toil,
And wealth, for which men cark and care,
Mid fortune's pride and need's wild toil,
And broken hearts in purple rare—

"Give us Thy grace to rise above
The glare of this world's smelting fires!
Let God's great love put out the love
Of gold and gain and low desires!

"Still sweetly rings the Gospel strain
Of golden store that knows not rust:
The love of Christ is more than gain,
And heavenly crowns than yellow dust."

What is this worldliness against which we are warned so often? Is it, as so many religious writers seem to imply, found only in the giddy whirl of dissipation or in the profitless pursuit of pleasure as our only object in life? If that were so, it would hardly be necessary to mention the subject to hard-working farmers and farmers' wives. You know what real work is, and are more likely to harshly condemn a butterfly existence than to indulge in it. Are you, then, entirely free from worldliness?

The warning words, "Love not the world, neither the things that are in the world. If any man love the world, the love of the Father is not in him," have driven men into strange extravagances. Some who aimed at becoming unworldly refused to associate with their fellows, spending their lives in caves. Some tried to get as far from the world as possible by living on the top of high pillars. One who aimed at saintliness spent about thirty years on a pillar sixty feet high. Did he escape all temptation to worldliness? These frantic attempts to get out of the world were only flying from danger, not bravely fighting it. It is well to avoid temptation whenever possible, but a Christian should never run away from his duty in order to avoid temptation. Well, it is hardly necessary to wonder whether these ascetics of old were quite free from vanity and worldliness. We are not likely to follow their example. But let us look into our own lives and see what is the motive power that inspires us. Do we "rise early and so late take rest, and eat the bread of carefulness?" Are we frugal and industrious, wasting not a penny of precious money, nor an hour of still more precious time? Do we look with contempt and scorn on the lazy drones of society, who drift along carelessly, as though life were all play? But what is all this rush of work and strain of anxious care for? If it is to make ourselves rich, surely that is worldliness pure and simple. There may come a time when "a cup of cold water" given for Christ's sake, a present of fruit or flowers to a sick neighbor, a peaceful hour of prayer and communion with God, may be found to have more real value than all our years of labor. It all depends on the object for which the work is done. "Whether ye eat or drink, or whatsoever ye do, do all to the glory of God." If our lives are consecrated to His service, then the work He gives us to do will be consecrated work. Plowing a field may be as truly great and holy a work as preaching to the heathen, and washing dishes may be an act of service precious in God's sight. Did not our blessed Lord spend many years of His short and glorious life working in the carpenter's shop at Nazareth? If He who had such important work to do did not feel that those years of quiet, unnoticed industry were wasted, surely none of His followers need chafe at "the daily round, the common task."

The truth is that *all* work is great and lasting if done for God's glory or the good of our fellow-men, while *no* work is worth anything if done only for the sake of vain glory or an "inordinate love of riches." We are servants of God in name at least. Are we living as though there were *no* God? It is possible to live respectable, hard-working lives and scarcely think of God at all. If all our hard work is only intended to lay up treasure on earth, what waste of time and strength it is, to be sure! We must die before long, and if it is considered wise to prepare for our future in this world, is it not utterly folly to leave the long future of eternity entirely unprovided for?

You are working hard from morning to night, and, perhaps, feeling rather contemptuous towards a neighbor who, in your opinion, is inclined to be lazy; yet that neighbor may wake each day, glad in the thought of God's presence. He may, like Enoch, "walk with God." He may, like Abraham, be the "friend of God."

"And there are souls that seem to dwell
Above this earth, so rich a spell
Floats round their steps where'er they move,
From hopes fulfilled and mutual love.
Such—if on high their thoughts are set,
Nor in the stream the source forget;
If prompt to quit the bliss they know,
Following the Lamb where'er they go;
By purest pleasures unbeguiled
To idolize or wife or child,
Such wedded souls our God shall own
For faultless virgins round His Throne."

God does not wish to crush us by hard work. He is a kind father, and would see His children happy. The happiest people are those who take each day as it comes as a talent to be used for Him. They accept pleasure gratefully; when pain or trouble is given instead, they are glad to bear it for His sake; when the Angel of Death holds out his hands to them, they welcome him joyfully.

A single heart is rare—a heart devoted to God alone—but think of the influence for good one such single-hearted person can exert. Do you know any such men or women? Has the love of God crowded out the love of the world in your own soul? This is the true secret of unworldliness. If the love of the world is not checked it will soon crowd out the love of God, as weeds choke beautiful and useful plants; but, on the other hand, if the love of God is cultivated it will drive worldliness into corners, although in this life it may not be possible to weed it out altogether. The love of God may be cultivated by prayer and obedience, by living always consciously in the sunshine of His presence, by offering to Him little acts of service all the day through. This love is a *living* force, with a marvellous power of growth. Slowly, but surely, it will, if encouraged, fill the whole nature of man. No other love can completely satisfy the soul which God made to be His temple.—*Hope.*

Puzzles.

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

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

1—A SWARM OF BEES.

1. Take the whole from a round object and leave a B.
2. Take loving from prevent and leave a B.
3. Take a bird from a deep dish and leave a B.
4. Take a drink from having sufficient strength and leave a B.
5. Take a story from a piece of furniture and leave a B.
6. Take a scoundrel from a dialect and leave a B.
7. Take an apartment from a dusting implement and leave a B.
8. Take a row from a river of Italy and leave a B.
9. Take a kind of spool from a revolver and leave a B.

F. L. S.

2—CROSSWORD ENIGMA.

My first is in fought, not in tax;
My second is in cat, but not in mule;
My third is in egg, not in wax;
My fourth is in lot and also in cool;
My fifth is in arrow and also in bow;
My sixth is in sought and also in tow.
My whole is the name of an animal in South America.

GERTIE KLINCK.

3—WORD SQUARE.

My First for "squares" is just the thing,
My Second can now be said of spring;
My Third you do when you depend;
Heat does my fourth; come now, perpend!

"K. K."

4—FOUND IN OUR CITIZENS' BAND (PARTLY PHONETIC).

1. A river in Britain.
2. To trifle.
3. Found in the ear.
4. The instrument of communication.
5. A headdress.
6. The antennae of an insect.
7. A falsifier.
8. To proclaim.
9. A channel in a column or pillar.

"ARRY 'AWKINS."

5—STUDIES IN ANAGRAM.

1. I that crime; 2. pa grey hog; 3. dig near; 4. arm, arm G; 5. ring wit.

F. L. S.

6—RIDDLE.

O what a pair of twins is this!
They're never cross, do naught amiss.
One can't exist without its brother,
For one's the complement of t'other.
Off in the FARMER'S ADVOCATE
We've seen them lying stiff and straight.
Tho' brothers dear, they nevermore
Shall meet upon the golden shore.

"K. K."

7—CHANGED HEADINGS.

1. Whole a report changed a pain.
2. " to shove changed a boat.
3. " a collection changed a comrade.
4. " tied changed a prison.
5. " a girl's name changed small.
6. " an animal changed a fruit.
7. " a disease changed state.
8. " a nasty mark changed to scheme.
9. " a disease in sheep changed in a window.

Primals of original words will give industrious insects.
Primals of changed words will name a kind of grain.

"ARRY 'AWKINS."

8—CHARADE.

A little white TWO was set on a ONE—
Some schoolboys did it, just for the fun;
And although the ONE was hard to beat,
He was well worsted by the little COMPLETE.

"DICKENS."

9-CROSSWORD ENIGMA.

My first is in sow, but not in reap; My second is in antelope, but not in sheep; My third is in walk, but not in creep; My fourth is in tear, but not in weep. My whole is a mineral.

ALICE KLINCK.

10-ARITHMETICAL.

What is the length of a blade of grass which is only half as long as it will be when it is half a foot longer than half its present length?

F. L. S.

11-AUTHORS TRANSPOSED.

1. Haegilr; 2. Proessn; 3. Abnnuy; 4. Edefo; 5. Yehostu; 6. Hdgilmst; 7. Hdooorstww.

Answers to June 15th Puzzles.

1-natal nadir names meats smyth 3-lama later atlas meato arson

2-Kiln.

4-Part-art, play-pay, many-man, home-hoc, weep-wee, the-he, noun-nun, none-one=Plympton.

5-Again, naere, trooper, henna, over-careful, neguaac, yda (day), hectogram, Ochayedian, palla, Egeri. Anthony Hope; A. Conan Doyle; Ian MacIarion.

6-Arno, never, indri, matting, Abussi, talon, Elba, dwell=animated, original.

7-Brazil, Madrid, Gibraltar, McKinley, Stanley, Mediteranean.

8-Leapfrog.

9-Crow, thrush, duck, turkey, pigeon, swan, lyre, swallow, paradise.

10-Lynx, sable, ape, ferret, hare, aye-aye, bear, deer, buck, beaver, sloth, gnu.

11-The boast of heraldry, the pomp of power, And all that beauty, all that wealth ere gave, Await alike the inevitable hour-The paths of glory lead but to the grave.

12-Agomaska, Tanganzika, Falklands, Dauphin, Guatemala.

13-To assail a wearied man were shame, And stranger is a holy name; Guidance and rest and food and fire, In vain he never may desire.

14-Pumpkin Pie.

SOLVERS TO JUNE 15TH PUZZLES. M. R. G., Lizzie Conner, "Arny Awkins," Gertie Klinck, Emma H. Humble, Alice Klinck.

ADDITIONAL SOLVERS TO JUNE 1ST PUZZLES. "Arny Awkins," Lizzie Conner.

COUSINLY CHAT. "Dickens."-I presume your budget arrived safely, as your letters come very regularly. You get another prize this time, and although it is not the highest, I hope it will induce you to continue. In making "squares" or other form puzzles you

should strive to use words that can readily be found in the dictionary, or if you use names, as in your last square, they should not be unheard-of ones. A successful anagram should bear some connection to the rest of the puzzle. Try again.

"Arny Awkins."-Am glad travelers arrived safely. Poor fellow, don't you wish them safe home again? Thank you, Arny, you are doing nobly by the "Dom." I only wish our other friends would prove as faithful.

"K. K."-If you will send more of your bright puzzles, you will give some of the older contributors a hot chase.

F. L. S.-Glad to see you again. The cousins will have to look to their laurels.

Gertie and Alice.-Come often, little friends; we have plenty of room for you. A. A.

Prizewinning Puzzlers.

The following prizes have been awarded for the months of April, May and June:-

For original puzzles-1st (\$1) to Henry Reeve ("Arny Awkins"), Toronto, Ont.; 2nd (75c.) to Miss Mary Nagle (M. N.), Almonte, Ont.; 3rd (50c.) to L. B. Force ("Dickens"), Oriol, Ont.

For answers-1st (\$1.50), M. R. Griffith, London, Ont.; 2nd (\$1), Henry Reeve, Toronto, Ont.; 3rd (75c.), Miss Lizzie Conner, Hyde Park, Ont.

The book offered for neatness, punctuality and correctness is awarded to Miss Mary Nagle. "Ena," "Toledo," "Dick," "Una Shepherd," "Dickens," "Arny Awkins," Lizzie Conner, and Jessie and Peter Hyde, were close competitors for this prize for a long time, but during this quarter several of them have dropped out. I hope the quarter now begun will see them all back again, as well as many new friends.

UNCLE TOM.

GREAT AUCTION SALE!

THE ST. ANNE'S HERD of over 50 Pure St. Lambert Jerseys will be sold at the home of the proprietors.....

Massawippi, Stanstead Co., Que.,

WEDNESDAY, AUGUST 2nd, 1899.

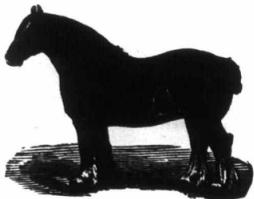
The 5-year-old inbred Victor Hugo bull, Sir Wilfred of St. Anne's, winner of five first and two second prizes at the principal fairs in Canada. Young Hugo of St. Anne's, first prize yearling bull, having over 48 per cent. Victor Hugo. Six bull calves out of prize cows-Jolie of St. L. 3rd's Jolie, Queen Vic of St. Anne's 3rd, Pet of St. Anne's 2nd, and Jolie Juno of St. Anne's-all first prize winners at Toronto, London, Ottawa, Quebec, and Montreal. Thirteen daughters of Jolie of St. Lambert 3rd's Son; five daughters of Lady Fawn of St. A.'s Son; sixteen Golden Fawn daughters of Sir Wilfred of St. A. All grand St. Lambert Jerseys, and closely bred to the great St. Lambert cows. Terms-Six months' credit will be given on bankable notes, approved security, with interest at 7 per cent.; or 31 per cent. off for cash. Send for catalogue.

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We have a fine lot First-Class Stock of all ages and either sex. Address, -om TAPE BROS., Ridgetown, Ont.

NOTICES.

Well Machinery.-We call attention to the advertisement of the American Well Works, Aurora, Ill., in this issue. Their circular should be in the hands of every one who deals in or wishes to use well machinery.

The McCormick Corn Blinder has proved itself a winner in many field competitions, and is giving very general satisfaction in the hands of farmers. It picks up down and tangled crops and binds it into neat bundles as it stands. It is very rigid, strong, easily handled, and of light draft. It ties the crop into neat, square-banded bundles, and drops them in groups, if desired, so as to be easily shocked in the field or loaded onto trucks to be hauled to ensilage cutter. It would seem that the reaphook of the cornfield has had its day, and is soon to pass out, as did the sickle of the wheat field.

Guernsey Year Book.-We are indebted to Wm. H. Caldwell, Secretary of the American Guernsey Cattle Club, for a copy of the Guernsey Breeders' Year Book for 1898. This book contains over 60 pages, and is intended for free distribution in order to disseminate reliable information regarding Guernsey cattle. It contains, in addition to the constitution and by-laws, lists of officers and members, a review of Guernsey interests for the past few years, and a list of some of the milk and butter records made by cows of this breed. There are also engravings of some typical Guernseys. Anyone interested in dairy cattle should secure a copy. Address the Secretary, Peterboro', N. H.

The Reliable Feed Cooker advertised in this issue by Ripple Hardware Co., Grafton, Ill., seems to be winning its way to popularity wherever introduced. It is inexpensive, economical of fuel, and convenient. It is in use on several Canadian stock farms, where its merits are highly proclaimed. The following testimonial from a reliable man speaks volumes for the cooker:

Ripple Hardware Co., Grafton, Ill.:

Dear Sirs:-I am well pleased with the Reliable No. 2 steamer bought of you. I am cooking feed for two carloads of cattle, making hot swill for 100 hogs, and heating a tank with mine. The hot feed seemed to be appreciated by the steers during this 20-below-zero weather and it kept their backs from "humping." I do not know as the feed so prepared by steaming is more digestible, but it is liked better by the steers. However, if it is only used for hogs it is well worth the money. FRANCIS BACON, Oregon, Ill.

GOSSIP.

Notice has been given by the World's Exposition authorities at Paris that the official programme of the live stock exhibit will be confined to classes of sheep, hogs, horses, and poultry, cattle being excluded from the list.

While the laws of the State of Illinois prevent cattle from entering, except they pass the tuberculin test, Gov. Tanner has exempted from the operation of the quarantine cattle intended for exhibition in the State, so that the displays at the fall fairs may go on as usual.

Mr. J. H. Woolley, of Simcoe, Ont., changes his advertisement in this issue. In writing us, Mr. Woolley expresses his satisfaction with the FARMER'S ADVOCATE as an advertising medium. He has recently sold an Ayrshire bull to Mr. Murray, of Cayuga, Ont.

Affairs are decidedly on the move at the Michigan Agricultural College, as there is to be erected this summer a new dairy building, to cost \$15,000, as well as a cattle barn at \$4,000. At a recent meeting of the Board several changes in the faculty were made. Prof. Clinton D. Smith is to be relieved of the work of teaching, and to give his time to the Experiment Station as Director and to the Farmers' Institutes as Superintendent. Prof. Herbert W. Mumford becomes Professor of Agriculture and Superintendent of the Farm. Prof. Taft was relieved of teaching horticulture, and N. B. Hendrick takes charge of this branch as Assistant Professor of Horticulture.

No breed of poultry has reached the point where they have been able to command the admiration of the general-utility breeder as have the Plymouth Rocks. They are heavy producers of large eggs, mature quickly, and are among the very best table fowls. Among our largest breeders is Miss P. J. Caldwell, at Constance, Ont., whose untiring efforts have placed her yards among the foremost in importance in the country, and whose selections have been made from the most noted in the breed. She is in a position to ship what may be required in this breed, and as she handles the Barred Rocks exclusively, no risk is being run through errors. Pekin ducks are frequently among her offerings, and parties desirous of adding to or improving their flocks will do well to consult her advertising space in FARMER'S ADVOCATE.

Following is a list of the Large Yorkshire pigs recently imported by Mr. D. C. Platt, Millgrove, Ont., now in quarantine at Quebec, and which is the second importation made by Mr. Platt this year:

Boar, Ruddington Lad 3rd, gained third prize at Royal in 1898; first prize at Lincoln. His sire, Ruddington Lad, won first prize at Royal and gold medal for best pig in white breed class.

Gilt Fanny B.; sire Ruddington Lad, the Royal champion boar, and served by Duke of Rutland, first prize in pen of three at the Royal. Gilt Fanny C.; sire the Royal champion boar, Ruddington Lad; dam Miss Hollingworth 39th, she being the dam of many winners. Fanny C. is in pig to Duke of Rutland, first prize in pen of three at Royal.

Gilt Fanny F.; sire Ruddington King David 8th, he being sire of the champion boar, Ruddington Lad; also served by Duke of Rutland. Gilt Fanny P.; sire Nichourne, and in pig to Ruddington Lad 3rd.

Gilt Fanny D.; sire Ruddington King David 5th, a very grand old boar, and from a good sow.

Boar and Gilt Foret Ranger and Fanny F. are by Bottesford Ranger 3rd, the sire of the first and second prize pens at the Royal.

Miss Hollingworth 58, own sister to first prize sow at Royal last year.

Mr. Platt writes that these pigs will compare well with any importation previously made; in fact, they were considered amongst the choicest things in Great Britain.

D. H. RUSSELL'S SHORTHORNS.

The more enterprising Shorthorn breeders are considering carefully the selection of sires during these times of activity. Mr. D. H. Russell, whose farm is in sight of the R. R. station at Stouffville, Ont., is one of those who has given the matter very serious consideration, and although he has not a large herd, he has selected the best bred sires within his reach to employ on his cows of Isabella and Strawberry foundation, and while many are safely in calf to imported Northern Light, he is now employing a splendid young sire which he purchased from John Davidson, Ashburn, out of Scottish Lass 2nd, and by Sittytton Hero, having Premier Earl and Vensgarth in his pedigree. We saw some choice young things when we called a short time ago. Watch Mr. Russell's advertisement.

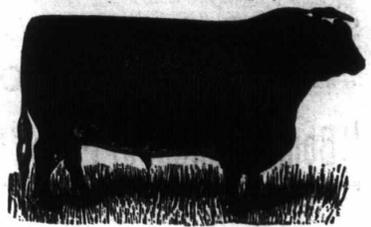
Horse Owners! Use

GOUBAULT'S Caustic Balsam A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Branches or Elements from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scurf or blains. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., TORONTO, CAN.

ARTHUR JOHNSTON

Greenwood P. O. and Telegraph Office,



15 SHORTHORN BULLS

FIT FOR SERVICE; 3 IMPORTED.

25 COWS AND HEIFERS

Including 9 recently imported heifers. Prices right. Catalogues on application.

Claremont Station, C. P. R.

-om Pickering Station, G. T. R.

"NO BUSINESS, NO HARM."

SHORTHORNS 9 BULLS, 4 HEIFERS,

Mostly Scotch-bred, and got by such bulls as Kinellar Sort (imp.), Northern Light (imp.), Prince and Prince Bismarck. Prices right. Correspondence Solicited, and Visitors Welcome.

-om G. A. BRODIE, Stouffville Stn., G. T. R. BETHESDA, ONT.

WE OFFER Three Bulls for Sale

Six, eight and eleven months old, all red, and exceptionally well bred, and FOUR BERKSHIRE BOARS fit for service. Prices right.

A. J. C. SHAW & SONS, THAMESVILLE, ONT.

W. G. PETTIT & SON, FREEMAN P. O., Burlington Junction, Ont. Telegraph Office.

10 SHORTHORN BULLS 10

By Indian Statesman = 23004 =, from 10 to 20 months. Twelve young cows or heifers with calves by side or in calf. Twelve ram and 20 Shropshire ewe lambs, sired by (Imp.) Flashlight. Also, Berkshire boars and sows, all of which will be sold at moderate prices. Farm half mile from Burlington Junction, G. T. R. -om

SHORTHORN BULL FOR SALE:

Elvira's Saxon 21064, by Royal Saxon 10537; dam Elvira 11th 11616, by Duke of Guelders (imp.).

R. MITCHELL & SON, Burlington Station. -o Nelson P. O., Ont.

ADVERTISE IN THE FARMER'S ADVOCATE.

ESTABLISHED 1868.

INCORPORATED 1887.

THE WESTERN FAIR

LONDON, ONTARIO, SEPTEMBER 7TH TO 16TH, 1899.

\$1,015 added to the Live Stock class this year.

New style Prize List. Separate Entry Form for each department. In asking for Prize Lists, state kind of animal or article you intend to enter.

Special Features will outshine any or all former exhibitions.

4,800 square feet added to the Machinery Hall. 1,200 square feet added to Dairy Building. New Open Grand Stand, nearly doubling the capacity.

SPECIAL TRAIN ARRANGEMENTS. STABLING AND SPACE ALLOTTED AS ENTRIES ARE RECEIVED. PRIZE LISTS AND MAPS NOW READY.

SEND FOR ONE.

LT.-COL. WM. M. GARTSHORE,
President.

J. A. NELLES,
Secretary.

CENTRAL CANADA....

Exhibition Association

TWELFTH ANNUAL EXHIBITION AT OTTAWA, ONT.,
SEPTEMBER 11th TO 23rd, 1899
TWO WEEKS.

This exhibition is second to none in Canada for **Live Stock Accommodation, Quality of Exhibits, Excellence of Attractions.**

Grounds extended and several new buildings erected since last exhibition.
\$1,500.00 added to Prize List this year, principally in the Live Stock Department.
Offered in purses **\$3,000.00** or Horse Races.

SPECTACULAR: "Bombardment of Pekin"

Reduced rates on all lines of travel. For Prize List, Race Programmes, and all information, write the Secretary.

Wm. Hutchison, M. P., President.
E. McMahon, Secretary.
26 Sparks St.

ASHTON FRONTVIEW FARM

A. J. Watson, Castlederg, Ont.
SHORTHORN BULLS, by Statesman, brother to Topman. Also, one **BARON LEE BOAR**, 15 months old, and one boar 8 months old.

HAWTHORN HERD

OF DEEP-MILKING SHORTHORNS.
3 heifers bred to Beau Ideal = 22554 =, of first-class quality and A1 breeding.

Wm. Grainger & Son, - Londesborough, Ont.

FOR SALE:

Four Shorthorn bulls, three Berkshire boars, seven Southdown and Leicester rams; females all ages; and B. & W. Leghorns. Write or come and see.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Imported Blue Ribbon = 17095 = and the famous Money-fuffel Lad = 26521 =. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns.

Apply on **T. E. ROBSON,** Ilderton, Ont.

Scotch Shorthorns For Sale:

90 HEAD TO SELECT FROM.
We are offering a number of cows and heifers (including some show heifers), from such sires as Valkyrie = 21806 =, Young Abbottsburn's Heir = 15947 =, and imp. Mariner = 2720 =, served by imp. Diamond Jubilee (Vol. 15) now at the head of herd. Farm 1 mile north of town.

T. DOUGLAS & SONS, Strathroy Station and P. O.

LEICESTERS.

100 head to select from, among which are some specially good shearing ewes and rams. We employed two rams last fall, bred direct from imported stock.

C. & E. WOOD, FREEMAN, ONT.

GOSSIP.

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

The Ontario Provincial Winter Fair will be held in London, December 12th, 13th, 14th, 15th. The prize list will probably be the best ever offered at a fat stock show in America. Everything points to a most successful exhibition. The Guelph Fat Stock Show will be held the previous week, and exhibitors will thus have the opportunity of taking in both shows in a circuit at a minimum of expense.

AWARDS ON SWINE AT THE ROYAL.
Following is the list of awards at the Royal Agricultural Society's Show at Maidstone, June, 1899, on the classes named:

Berkshires.—Boar, farrowed in 1897 or 1898—1st and r., Mr. J. Jefferson, Peel Hall, Chester; 2nd, Mr. Russell Swanwick, Cirencester; 3rd, Mr. Geo. T. Tomkin, The Moat, Marden, Kent. Three boar pigs, farrowed in 1899—1st, Mr. E. Burbidge; 2nd, Mr. J. A. Fricker; 3rd, Mr. J. Jefferson; r., Mr. Geo. T. Tomkin. Breeding sow, farrowed in 1897 or 1898—1st and 2nd, Mr. J. Jefferson; 3rd, Earl of Carnarvon; r., Mr. Geo. T. Tomkin. Three sow pigs, farrowed in 1899—1st, Mr. J. A. Fricker; 2nd, Mr. E. Burbidge; 3rd, Mr. Russell Swanwick; r., Mr. J. Jefferson.

Large Whites.—Boar, farrowed in 1897 or 1898—1st, Sir Gilbert Greenall, Walton Hall, Warrington; 2nd and 3rd, Mr. Philo L. Mills, Ruddington Hall, Notts; r., Mr. Sanders Spencer, Holywell Manor, St. Ives, Hunts. Three boar pigs, farrowed in 1899—1st and 2nd, Mr. D. R. Daybell, Nottingham; 3rd, Mr. Thos. Diggle, Thorpe House, Ewerby, Steaford; r., Mr. Sanders Spencer. Breeding sow, farrowed in 1897 or 1898—1st and 3rd, Sir Gilbert Greenall; 2nd, Mr. D. R. Daybell; r., Mr. Philo L. Mills. Three sow pigs, farrowed in 1899—1st, Mr. Sanders Spencer; 2nd, Mr. Philo L. Mills; 3rd, Mr. D. R. Daybell; r., Sir Gilbert Greenall.

Tamworths.—Boar, farrowed in 1897 or 1898—1st, Mr. D. W. Philip, Whitacre, Coleshill, Warwickshire; 2nd, Mr. Robert Ibbotson, Knowle, Warwickshire; r., Mr. John Norman, Cliff House, Tamworth. Three boar pigs, farrowed in 1899—1st and r., Mr. Robert Ibbotson; 2nd and 3rd, Mr. D. W. Philip. Breeding sows, farrowed in 1897 or 1898—1st, Mr. D. W. Philip; 2nd and 3rd, Mr. John Norman; r., Mr. Robert Ibbotson. Three sow pigs, farrowed in 1899—1st, Mr. D. W. Philip; 2nd and r., Mr. Robert Ibbotson; 3rd, Mr. Wm. Nisbet, Stratford St. Andrew, Saxmundham.

JUNE SHORTHORN SALES IN UNITED STATES.

The public sales of Shorthorns, held June 7th and 8th, by C. L. Gerlaugh, Osborn, Ohio, and W. I. Wood, Williamsport, Ohio, were signally successful. The attendance was large, representing twelve different States and the West India Islands, and prices ruled at very satisfactory figures. A significant feature was the presence of buyers from old Kentucky, once famous for fine Shorthorns. Mr. Gerlaugh's consignment of 29 head brought \$6,175, an average of \$212.93; the 16 females averaging \$232.18. The highest price paid for a bull was \$610, for imp. British Prince, a red two-year-old by Chan Campbell; Mr. A. Alexander, Morning Sun, Iowa, being the purchaser. The roan, home-bred yearling bull, Commodore, sold for \$305. The highest priced female was Prima Donna, a red-roan, five-year-old cow, who brought \$560, and was secured by John Cooper, Jr., Findlay, O. Mary Lavender, a red two-year-old, sold for \$160, to Wardrop & Son, Harlam, Ia. Missie May 2nd, a roan yearling, went to J. A. Gerlaugh, Harshman, O., at \$365. At Mr. Wood's sale 38 head averaged \$192.10. The roan yearling bull, Valasco Jr., by Valasco 21st, brought \$360, which was the highest price in this sale for a bull; the next highest being \$215. Two three-year-old cows with the world's Fair champion, Young Abbottsburn, brought \$300 each. One of these, the roan Abbottsburn's Champion Mary, sister of the famous Mary Abbottsburn 7th, went to J. W. Bothrock, Washington, C. H., O. The other, Phyllis Abbottsburn, a red, was bought by W. H. Colwell, Paris, Ill. Woodland Belle 7th brought \$100.

On June 7th, J. A. Teel, Rushville, Ill., held his fifth annual sale, at which 33 animals, price, \$160, being made by Lady Cruickshank 5th, by Amos Cruickshank; sold to B. Whitsett & Sons, Pre-emption, Ill.

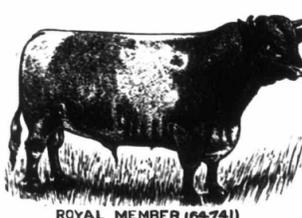
Shropshires.

One shearing ram, and a few run lambs. One Shorthorn bull calf eleven months old. Write for prices.

H. GEE & SONS, Fisherville.

2 Imported Shorthorn Bulls 2

4 2 - YEAR - OLD HEIFERS. **4** 1 - YEAR - OLD HEIFERS.



ROYAL MEMBER (64741)

HEIFERS ALL IN CALF TO IMPORTED BULLS.

Correspondence or a personal visit solicited. Catalogues on application.

H. CARGILL & SON, CARGILL, ONT.

Cargill Station and Post Office on G. T. R., within half a mile of barns.

W. C. Edwards AND COMPANY, IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, North Nation Mills, P. Q. Pine Grove Stock Farm, Rockland, Ontario.

Ayrshires, Jerseys, Shropshires, Berkshires. 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.

A. E. SCHRYER, Manager. We can be reached either by steamboat, the C. P. R., or C. A. R.; the C. A. R. making connections with the G. T. R. at Coteau Junction. Rockland is our station on all lines.

PURE-BRED GUERNSEY CATTLE

Chester White Swine. **Duroc - Jersey Swine.** FOR SALE—Two young Bulls ready for service, and Heifers bred. First-class Pigs of all ages from imported and prizewinning sires and dams. Twenty head of HOLSTEINS for sale. Write for particulars and prices to **WM. BUTLER & SONS, DEREHAM CENTRE, ONT.**

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872. Such sires as imported Royal George and imported Warfare have put us where we are.

A. & D. BROWN, ELGIN COUNTY, ONTARIO. **FITZGERALD BROS.,** Mt. St. Louis, P. O., Offer for sale six Short-horn Bulls from 9 to 14 months old; also 2-year-old roan bull, St. Louis = 24418 =, a Morton-bred bull with exceptionally grand pedigree. Also a few females of all ages, bred to imp. bull, British Statesman (63729) = 20833 =, now at head of our herd. Hillsdale Telegraph Office; Elmvale Station, G. T. R.

SPRINGHURST SHORTHORNS

Herd bred for practical usefulness, and produces as large a proportion of top show cattle as any herd in Ontario. Young stock, both sexes, for sale. Exeter Station, G. T. R., half mile from farm. **H. SMITH,** HAY, ONT.

FOR 60 DAYS

GEORGE HOTEL, Shrewsbury, Eng. **Sheep AND Cattle**

Orders for high-class will receive careful attention. Sheep imported by me have won more premiums in eight years than all other importations combined.

ROBERT MILLER, Stouffville, Ontario. **SHORTHORN CATTLE AND LINCOLN SHEEP.** Imp. Baron Blanc 11th at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON, DENFIELD, ONT.

Maple Lodge Stock Farm SHORTHORNS.—Imported Knuckle Duster, and the great sire and show bull, **Abbottsford**, in service. Several choice heifers for sale, and a grand lot of young bulls by **Caithness**, from good milking dams. Some splendid Leicester ewes and rams for sale also. **A. W. SMITH,** MAPLE LODGE P. O., ONT.

W. D. FLATT, HAMILTON P. O. and TELEGRAPH OFFICE.



OFFERS FOR SALE Twenty-two Shorthorn Bulls CHOICE

from three to fifteen months old. Persons requiring show bulls can be supplied from this bunch. TWENTY COWS AND HEIFERS served by imported bull, Golden Fame

SPRINGBANK FARM. Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.

JAS. TOLTON, WALKERTON, ONT. SHORTHORNS

I have six young females for sale - three are in calf and three old enough to be bred. These heifers have four or more crosses of the finest Booth sires, on imported Marr and Gordon Castle foundation, a desirable and needed line of breeding.

D. ALEXANDER, Bridgen, Ont. BONNIE BURN STOCK FARM

Carries Isabella, Strawberry, and other noted Shorthorn strains, on which has been employed such sires as Kinellar Sort (imp.) and Northern Light (imp.).

D. H. RUSSELL, Stouffville, Ont. BRAMPTON JERSEY HERD.

Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves; 9 choice young bulls; High-grade cows in calf; and Berkshires.

B. H. Bull & Son, BRAMPTON. S. WICKS & SONS MOUNT DENNIS, ONT.

Offer two Registered A. J. C. Jersey Yearling Bulls. These are grand youngsters; cheap if sold at once. We have also some fine Registered C. K. C. Collie Pups; also some fine young Registered Bitches.

DON JERSEY HERD. Offering choice young Bulls and Heifers by Costa Rica's Son.

DAVID DUNCAN, DON, ONTARIO. Nine miles from Toronto Market.

Deschenes Jersey Herd. HEADED BY IDA'S RIOTER OF ST. LAMBERT 47570.

4 young bulls fit for service - registered. Also Tamworth swine from diploma herd, Canada Central Fair, Ottawa, 1898.

R. & W. CONROY, DESCHENES MILLS, QUEBEC. ST. LAMBERT OF ARCFOST 36943

whose sire was 100 Per Cent.; dam, St. Lambert's Diana 69451. Official test, 18 lbs. 6 ozs. in seven days.

Jersey Cattle THAT WILL PUT MONEY IN YOUR POCKET.

Mrs. E. M. Jones, Box 324, BROCKVILLE, ONT., CAN.

GLEN ROUGE JERSEYS. WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right.

PINE RIDGE JERSEY HERD. Has descendants of Canada's John Bull 5th, One Hundred Per Cent and Two Hundred Per Cent, with a grandson of the great Adelaide at the head.

Two choice young bulls for sale and a few females. WM. WILLIS & SONS, Newmarket, Ont.

GOSSIP.

Mr. James Boden, manager of Mr. R. Reford's Tredinnock Farm and herd of Ayrshires, at St. Anne de Bellevue, Que., writes: "Our stock went out to pasture in splendid shape, as we had plenty of roots and ensilage up to the 1st of June. Pasture is very short here, as we just had two showers of rain since April. Hay will hardly be worth cutting. Oats look not bad, but will be very short unless we get rain very soon. Our roots look very well. We have 8 acres of turnips, 6 of mangels, 24 of carrots and 12 of corn, and 30 tons of hay, bought last winter and put in the barn at \$4.50 per ton. We have decided not to show this fall, as we have a lot of outside work that we want to get finished, so will sell all our young bulls, six in number, four of them sired by Napoleon, the sweepstake bull at Toronto, and their dams by Glencairn 3rd (imp.). Will also part with a few cows and heifers, as we have 66 on hand, with 26 to calve in August and September, so anyone wanting show cows should give us a call. Our stock won 34 prizes last fall at Toronto, London and Ottawa, 17 of them being firsts.

HOGS AT THE ROYAL COUNTIES SHOW.

There were short entries of every other variety but the Berkshires. In the section for boars over twelve months in this class, Mr. Edney Hayter's Highclere Topper came to the top as he had done at the previous shows of the season. Mr. Jefferson's Peel Swansea being placed 2nd. In boars under twelve months, Mr. E. Burbridge won first honors, and Mr. Benjafield's Manifesto, which had been first at Salisbury, was here placed second, and Mr. Swanwick had the reserve number. Judges have differed immensely over the senior breeding sow class this season. Mr. Arthur Hiscock's May Burton III. was placed first at Exeter, but at Salisbury the judge would scarcely look at her, but at Windsor she is reinstated as prima donna. Mr. Jefferson's deep, compact Peel Daisy being second to her, and the sows of the Earl of Carnarvon, Mr. J. A. Fricker, and Mr. Burbridge having to take subordinate positions. It will be interesting to see what will take place at the Royal. In the junior class for single breeding sows, Mr. G. T. Tompkin was first with a deep, full-shaped specimen, to which Mr. Jefferson's Peel Jessie was placed second, and the sow nearly as good as either, belonging to Mr. E. Burbridge, reserve. H. R. H. Prince Christian exhibited a fine, deep specimen, which was v. h. c., and a good sow of Mr. N. Benjafield's took honors. The young pairs of sows which the judges honored were very promising, which applies almost equally to Mr. Jefferson's first pen, the second one of Mr. E. Burbridge, and Mr. N. Benjafield's, which took reserve.

The Large Whites would have been only nine in number if all entries had been forthcoming, but Sir Gilbert Greenall's four were absent, consequently Mr. Sanders Spencer and Mr. F. Allmand had it quite to themselves. Holywell Gigas, the second winner at Exeter, was first boar, and Mr. Allmand's Jove had second premium. In the female class, Mr. Allmand's Wrexham Belle and Bessie II. were the winners, both well-known as fine, lengthy sows.

NOTICES.

Western Fair Literature.—Prize lists and other literature in connection with the Western Fair, to be held at London, Ont., on September 7th to 16th, are now being distributed. The prize list is described as the "New Model" of 1899, being a departure from the stereotyped style of the past, in which there were endless and needless repetitions when sections and prizes in classes are exactly alike, such, for instance, as in Jerseys, Ayrshires, Guernseys, Holsteins, Mr. Forbuds, Red Angus, and Galloways, the printing of one class serves for the whole lot. Under each department the total amount of prize money offered is stated, also the names of the committee in charge, and over each class the name of the judge and the hour of judging. This year we note that there is an increase of \$1,580 in cash prizes, making a grand total of \$12,580 in cash, besides medals, ribbons and diplomas. A new, simple and comprehensive plan of entry form has been adopted. The Association has also issued an up-to-date map of Western Ontario, showing the Province as far east as Oshawa, including all the railways, cities, towns, villages, etc. On the map are also printed tabulated lists of places off the railway lines and railway stations.

The prize list of the Central Canada Fair, which is to be held at Ottawa for two weeks, commencing Sept. 11, is in hand, and shows special inducements to the farmer and live-stock raiser. The prize lists for live stock have been revised and augmented. In the horse department three new classes have been added. These classes are carriage drivers, single and double, and heavy draft horses, open to farmers only, and French Canadian horses. The special prizes for horses number twenty-eight, and include twenty-one of the magnificent gold medals annually given by the Fair Association.

Five gold medals and seven money prizes, one a \$50 purse, are offered in the seventeen classes of the cattle premium list. Moreover, there is a \$100 purse divided into prizes of \$50, \$30 and \$20 for a milk test open to all cows exhibited, and prizes of \$25 and \$15 for a test of milk of cows recorded in the book of the Holstein-Friesian Association of America. A class for Canadian-bred Shropshire Down sheep has been added to the sheep prize list, and special money prizes offered in addition. The American Shropshire Registry Association also offer specials in the open Shropshire class. The amounts of the premiums have been augmented in all the classes of poultry, and a special is offered for an exhibit of turkeys, geese and ducks.

The Central Canada Fair directors have always encouraged live-stock men, but this year their offerings to those classes of exhibitors are really magnificent, and the accommodation for live stock at the Ottawa grounds is equal to any in America. Live-stock men who have not yet exhibited at the Ottawa Fair should go there this year. Those who have shown at the Capital will be there again, for all say they have gained great benefit from exhibiting at the Ottawa Show.

Mr. Ed. McMahon, the secretary, writes that he will gladly forward a copy of the prize list to everybody desirous of obtaining one, on receipt of a post card.

AT SUMMER HILL IS THE LARGEST HERD OF... Imported Yorkshires IN THE DOMINION.



Large, Lengthy, English Type. Among them being the first choice of the most important prize-winning boars, selected from the best herds in the country, and is headed by the undefeated prize-winning boar, Look-Me-Over 2612. I am offering young stock directly imported, imported in dam, or Canadian bred. We ship to order, prepay express charges, and guarantee stock as represented. Trains met at Hamilton by appointment. D. C. FLATT, MILLGROVE, ONT.

INGLESIDE HEREFORDS. UP-TO-DATE HERD OF CANADA!

TAMWORTHS CHOICE PIGS SIX TO SEVEN WEEKS OLD.

Send for Illustrated Catalogue. Address, H. D. SMITH, COMPTON, QUE.

F. W. STONE ESTATE, GUELPH, ONTARIO.

The first Hereford herd established in Canada by importations in 1859 of the best prizewinners of England, followed by repeated further importations, including winners of first prize at Royal Agricultural Show. Choice young Hereford Bulls for sale. Also McDougall's Sheep Dip and Cattle Wash, fresh imported, non-poisonous and reliable; thoroughly tested by over forty years' use on farms of above estate.

Oh, Yes! We sell Holstein Bulls. Sold 7 in May. Have 12 now on hand; oldest 9 months old; bred right and are right. Write for particulars. Male or female. State just what you want. A. & G. RICE, Currie's Crossing, Ont. Oxford County.

MAPLE HILL.. HOLSTEIN-FRIESIANS

The Gold Medal Herd of '97 and '98. A few choice cows and heifers now for sale, mostly bred to the butter bull, De Kol 2nd's Paul De Kol Duke. See my herd at the big fairs.

G. W. CLEMONS, ST. GEORGE, ONT. HOLSTEIN BULLS

that we think you will want when you know their breeding, and the large OFFICIAL milk and butter records of their nearest ancestors. Six of them are sired by a son of our great cow, Korndyke Queen, others by sons of De Kol 2nd, and some by Manor De Kol. Heifers and young cows of equal breeding. It's better to buy the best. We furnish papers to pass them through without duty or detention. There is no quarantine. Write for just what you want. Henry Stevens & Sons, Lacona, N. Y.

MAPLE CLIFF DAIRY and STOCK FARM.

Ayrshire cattle, Berkshire and Tamworth pigs. Two bull calves dropped in February. R. REID & CO., Hintonburg, Ont. One mile from Ottawa.

CEDAR DALE FARM. Ayrshire Cattle & Shropshire Sheep.

An offering two two-year-old rams, six shearing rams, and ram lambs—choice; ewe lambs, and ewes from shearings up. All registered stock. Write for prices to J. HARRIS WOOLLEY, NORFOLK CO. SIMCOE, ONT.

AYRSHIRES! Three bull calves for sale, three to six months old; sired by Royal Monarch 1941, and from AI cows. Prices right. J. A. R. ANDERSON, HAMILTON, ONTARIO.

AYRSHIRE CATTLE. KAINS BROS., Byron, Ont. (R. R. London), are offering a number of grand young bulls, prize-winners; also a few choice females. Prices right.

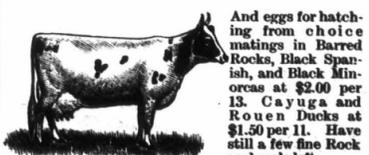
2 - Choice Young Ayrshire Bulls - 2 Descended from the noted heavy-milking Orange Blossom family, so successful with my late father.

F. T. GUY, BOWMANVILLE, ONT. CHOICE AYRSHIRE BULLS

Four calves dropped in August, October, December and March, and sired by Graiglelea of Auchenbrain (imp.), first prize bull at Toronto in 1897 (the only time ever shown). W. W. BALLANTYNE, Formerly Thos. Ballantyne & Son, Stratford, Ont. "NEIDPATH FARM" adjoins city, main line G.T.R.

FOR SALE: A NUMBER OF Choice Ayrshire Bulls

Fit for service; also a few heifers. And eggs for hatching from choice matings in Barred Rocks, Black Spanish, and Black Minorcas at \$2.00 per 13. Cayuga and Rouen Ducks at \$1.50 per 11. Have still a few fine Rock cockerels left.



JAS. McCORMACK & SONS, ROCKTON, ONTARIO.

Six-Young Ayrshire Bulls - Six FOR SALE!

From eight to ten months old; all imported in dam, and all from good herds. Will sell them right. Address: ROBT. HUNTER, Manager to W. W. Ogilvie, LACHINE RAPIDS, QUE.

MEADOWSIDE FARM, J. YULL & SONS, Props., Carleton Place.

Breeders of high-class, deep-milking Ayrshires. Sweepstakes young herd at Ottawa, Shropshire sheep from prizewinning stock. Berkshire pigs and Barred Plymouth Rocks. Young stock for sale. Visitors met at Queen's Hotel. Give us a call.

AYRSHIRES FOR SALE. The kind that can speak for themselves. Size, constitution, dairy and show combined. Six young bulls for sale, by Glencairn 3rd (imp.), dam Primrose (imp.). Five from Napoleon of Auchenbrain (imp.). Their dams are all Glencairn heifers. Five of their dams were shown last fall at Toronto, London, and Ottawa. Also a few good cows. No culls sold.

JAMES BODEN, TREDINNOK FARM, STE. ANNE DE BELLEVUE, QUE.

GUERNSEYS. This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.

Address— SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.

PINE GROVE FARM HERD OF LARGE YORKSHIRES.

Imported and Canadian-bred, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America. Young boars and sows fit for breeding for sale. Correspondence solicited, which will receive prompt attention.

JOSEPH FEATHERSTON, Streetsville, Ont.

YORKSHIRES. My foundation was Oak Lodge bred females, and headed by a grandson of Oak Lodge Cinderella, which farrowed the sweepstakes family at Brantford in 1896, as well as the bacon class. Winners over all breeds and grades. Young stock of both sexes ready for shipment. WILLIAM HOWE, Port Elgin Stn., G.T.R. o North Bruce, Ont.

JAS. DORRANCE, SEAFORTH, ONTARIO, BREKDER OF Shorthorn Cattle and Berkshire Pigs

Young stock always for sale.

SPRING OFFERING Yorkshires AND Berkshires

A fine lot of boars and sows eight weeks old. Pairs and trios supplied, not akin, of the best breeding and individual merit. A number of Yorkshire boars fit for service, and fine lengthy sows in pig to an imported boar. Berkshires, all ages, quality of the best. Write H. J. DAVIS, BOX 290, WOODSTOCK, ONT. Breeder of Yorkshires, Berkshires, Shorthorns.

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PROPRIETORS.
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Students who acquire a **LARGER EARNING POWER** who acquire the following lines of preparation under our efficient system of **TRAINING**. IT HAS NO SUPERIOR.

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- SNELGROVE -
BERKSHIRES AND COTSWOLDS

High-class Berkshires of the large English bacon type, bred from the best specimens of the best importations. Young Boars and Sows of breeding age for sale. Two boars farrowed last June. Also choice spring pigs six to eight weeks old. Can supply pairs not akin. Yearling Cotswold Rams and Ewes for sale.
 -om **R. P. SNELL, Snelgrove, Ont.**

LARGE ENGLISH BERKSHIRES.
 Herd headed by four first prize stock boars of large size, strong bone and fine quality. Young Boars and Sows, all ages, very well, and so are my August bull calves, which are growing very strong, showing, as they develop, their rich breeding. My herd of Tamworth swine consists of about one hundred head, all a select lot, many Toronto winners, and British King, always needed in a herd, as I begin to notice very plainly in my herd.

GEORGE GREEN, - FAIRVIEW P.O., ONT.
 om Telegraph and Station: Stratford, G. T. R.

Large English Berkshires.
HERD headed by two imported boars—Nora B's Duke and Royal Star III, half-brother to Columbia's Duke, which recently sold for \$1,200. Choice pigs, all ages. Write for prices.
H. BENNETT & SON,
 -om **St. Williams, Ont.**

LARGE ENGLISH BERKSHIRES
 For a choice pig of any age, bred from imported stock, right in quality, right in price, and guaranteed to be as represented, write
W. J. SHIBLEY,
 -om **Harrowsmith, Ont.**

LARGE ENGLISH BERKSHIRES
 The hog that the farmer and the packers want. Stock of all ages, both sexes. Write us.
MAC. CAMPBELL, NORTHWOOD, ONT.

CHESTER WHITE SWINE.
 Young stock, both sexes. Booking spring orders.
W. E. WRIGHT, -o GLANWORTH, ONT.

OXFORD HERD OF POLAND-CHINAS
 The home winners of the
 Headed by the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox. Has won 64 out of a possible 69 first prizes. Stock of all ages for sale. Write for prices or come and see
W. & H. JONES,
OXFORD CO. -om MT. ELGIN, ONT.

IF YOU WANT Chester Whites Write me for particulars.
 The imported sires, John A. 751, and Nonsuch 910, at head of herd.
JOS. CAIRNS,
Lambton County. -o CAMLACHIE P. O.

BORNHOLM HERD IMP. CHESTER WHITES.
 Stock for sale at all times, all ages. Nothing but first-class stock shipped. Inspection invited. Correspondence answered.
Daniel DeCoursey,
Bornholm P. O., Ont.

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 speciality, and furnish a good pig at a fair price. Write for prices.
 -o

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

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

Messrs. W. C. Edwards & Co., Russell Co., Ont. are preparing a shipment of Shropshire and Lincoln sheep for Buenos Ayres, South America. This is the second venture of the kind made by this firm; first, made two years ago, consisting of Shorthorn cattle and some thirty sheep, having proved far from profitable; but they hope to profit by past experience in regard to the time of exportation and other details, and to do better this time, which we sincerely hope they may, for such enterprise is deserving of encouragement and success.

Messrs. A. & D. Brown, Iona, Ontario, have purchased from Capt. T. E. Robson, Ilberton, the imported Shorthorn bull, Blue Ribbon (63706), bred by S. Campbell, Kinellar, Scotland; sired by Royal James, and having in his pedigree such noted sires as Roan Gauntlet, Cumberland, and Champion of England. Blue Ribbon has been used very successfully in the herds of Mr. C. M. Simmons and Capt. Robson, and should do good service in the herd of Messrs. Brown, following such good bulls as imp. Royal George imp. Warfare, who preceded him in service in the herd.

A. C. Hallman, New Dundee, Ont., writes:—"Never was I in better shape to serve the public with choice stock than now. My Nimrod sows, bred to my newly imported boars, Whitacre Crystal, a Royal winner, and British King, a hog of highest merit and gilt-edge breeding. The young stock is coming very nice, showing lots of quality. I was quiet for a long time in regard to stock from these young boars, waiting to see how it would develop. I am now happy to say that I can offer them to the public with all confidence, being the correct type for the packer and farmer. I have disposed of the famous old hog, Nimrod, but have three litters ten weeks old sired by him. These paired with some of the other breeding make pairs not easily picked up. My Holsteins are all doing nice. My noted DeKol bull is doing well, and so are my August bull calves, which are growing very strong, showing, as they develop, their rich breeding. My herd of Tamworth swine consists of about one hundred head, all a select lot, many Toronto winners, and British King, always needed in a herd, as I begin to notice very plainly in my herd."

NOTICES.

Low-down Wide-tired Waggon are growing in favor the more they are used, as they possess advantages over ordinary wooden wagon wheels by being low down, rendering a wagon on which they are used easy to load. The wheels do not become shaky in a dry time, and the wide tires do not cut into and destroy roads, lanes and soil fields. The Dominion Wrought Iron Wheel Co. of Toronto, Ont., advertise these wheels for farm wagons in this issue. See their advertisement, and secure prices.

The Gould, Shapley & Muir Co.'s Large Windmill Works.—A FARMER'S ADVOCATE representative paid a flying visit to Brantford, Ont., that hive of industrial activity, recently, and was attracted by the circling motion of the immense silver-winged steel windmill to the handsome new premises of the Gould, Shapley & Muir Co., situated in the heart of the city. We found Mr. John Muir, the well-known Vice-President and the Secretary-Treasurer, Mr. Henry Veigh—the Managing Director—hard at work in their bright and handsome offices in the second story. A visit to the various departments of the extensive works revealed surprising activity. There is over 70,000 square feet of floor space, filled with the machines and material used in the different departments. Attention was called to the patent roller bearings used for all the 60 feet of line shafting as a practical proof of the firm's faith in their value, and further, the Superintendent, Mr. J. B. Detwiler, stated that it only takes nine horse power to run the shafting and machines when empty, while in another factory in Brantford, of similar size, it takes over 15 horse power to do about the same work. The Gould, Shapley & Muir Co.'s factory is probably the only one in Canada fitted with roller bearings. These bearings are patented in Canada by this company and are used almost altogether in their pumping and power windmills. "Ideal" power windmills and "Ideal" and "Steel King" pumping mills, and "Maple Leaf" grinders, iron and wood pumps, etc., were found in every stage of manufacture, from the crude iron and steel bars to the finished machine in the store-room. The greatest care is taken in the selection of the materials used and in the skilled labor employed to produce them. Mr. Veigh stated that their "Steel King" pumper, which is the invention of Mr. Jno. Muir, is selling rapidly, and the volume of sales increasing every month. The sprocket chain drive on the "Steel King" is a new and valuable feature. The firm are making it in 8, 10, 12, 14, and 16 foot sizes, the last being especially suitable for railway work, village waterworks and heavy pumping. In the wood-working department a new and up-to-date plant for the manufacture of high-grade wood pumps, adapted for all purposes, was seen. The designs shown are very neat, and some features are decidedly superior. The firm use only good quality quarter-cut pine in their wood pumps, and evidently expect to do a large trade, judging from their extensive machinery and large stock of pump timber. Mr. Neil McAlpin, an old and experienced pump man, is in charge of this branch, and of the wood tanks, which range in size from one barrel to two thousand barrels. The extensive galvanizing plant was intensely interesting, a whole yane or a full complete section of fans being dipped in the great tank, which holds nearly twenty tons of metal, worth over two thousand dollars. Seeing is believing, and all my doubts of the efficiency of galvanizing vanished after witnessing the process. Mr. R. F. Holtermann, manager of the bee supply department, and editor of the *Canadian Bee Journal*, published by the Gould, Shapley & Muir Co., reports the largest sales in the history of this branch, orders coming from every part of the Dominion, and several shipments being made to England and Scotland. The Company have spent many years of intense and intelligent labor in establishing their business, and deserve the success which is undoubtedly theirs.

Cover your Barns
 WITH
Eastlake Shingles
 Galvanized or Painted.
Because They are quicker laid than any others—fitting perfectly by means of their patent side lock, not found in any other shingle.
 They give absolute protection from all kinds of weather, and are fire, rust and lightning proof.
 They can't be equalled for durable economy.
 Write us and we'll give you full information.

THE METALLIC ROOFING CO'Y
 1185 King St. W., TORONTO. (LIMITED).

OAKHILL TAMWORTHS.
 FOR SALE—One boar, 16 months old. Sows in pig, and young pigs from 6 to 10 weeks old, sired by Sandy III. 639, a prizewinner wherever shown, and out of first-class sows. Prices reasonable.
R. J. & A. LAURIE, -o WOLVERTON, ONT.

STRATFORD BROS., BRANTFORD.
 Tamworth boars, Dorset rams, Shetland ponies, Light Brahmas, Houdans, Cornish Indian Game, Black Langshans, White Langshans, White Plymouth Rock, Buff Plymouth Rock, Barred Plymouth Rock. Prices right.

One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a speciality. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices.
H. GEORGE & SONS, Crampton P.O., Ont.

SPRING BROOK HERDS OF HOLSTEIN-FRIESIANS AND TAMWORTHS.
 One boar, 7 mos. old; one imported boar, 8 mos. old. A choice lot of boars and sows ready to ship. Pairs not akin. All stock sired by imported prize-winning boars. A few sows to spare, in farrow. Prices right.
A. C. HALLMAN, NEW DUNDEE, ONT.

HELLO! HELLO THERE!!
 What would you like to get in Victoria Hogs at present? Let me know at once; also write for my new catalogue.
CHRIS. FAHNER, Crediton, Ontario.

Chatham HERD OF Tamworths
 1 yearling boar, 4 sows 7 mos. old, 5 sows 5 mos. old, 6 boars 4 mos. old, 8 sows 4 mos. old, 10 sows and 10 boars 3 mos. old, 8 sows and 10 boars 2 months old, 3 litters 6 weeks. Write for prices.
J. H. SIMONTON, Box 304, Chatham.

TAMWORTHS AND COTSWOLDS.
 I have a few very choice things to offer this season, fit to show, by Spruce Grove Model and Dorchester Hero, both Toronto winners, and out of my choice bunch of splendid, strong, well-covered Cotswold Lambs.
R. O. MORROW, Hilton, Ont.

TAMWORTHS, YORKSHIRES, BERKSHIRES.
 1 Tamworth Boar, 4 months old, \$12.00.
 4 Tamworth Boars and 1 Sow, 11 weeks old, \$8.00.
 Yorkshires (both sex), from 2 to 3 mos. old, \$6-\$8.
 Berkshires, 3 Sows, 6 months old, \$12.00.
 Berkshires, 3 Sows, 3 months old, \$8.00.
 All pigs registered, crated, and shipped to order.
COLWILL BROS., Box 9, Newcastle, Ont.

CHOICE SPRING PIGS
 Of choice breeding, in pairs not akin. Prices reasonable to reduce stock.
JOHN FULTON,
 Brownsville, Ont. -o

W. R. BOWMAN, MT. FOREST, ONT.,
 Is offering Yorkshire Boars and Sows weighing 75 lbs. at \$7 each; Sows safe in pig, weighing 150 lbs., at \$12 each; Shropshire and Suffolk Ram Lambs weighing 110 lbs. at \$10 each. All stock registered.

HENRY ARKELL, ARKELL, ONTARIO.
 IMPORTER AND BREEDER OF
OXFORD-DOWN SHEEP.
 Animals of all ages and both sexes for sale. Have some imp'd RAM LAMBS. Prices reasonable.

SMITH EVANS, GOUROCK, 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.
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EUROPEAN ADVERTISEMENTS.
W. W. Chapman,
 Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.
 Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.
 Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepcote, London. -om

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire,
 breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 20 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingboro, G. N. R. -o

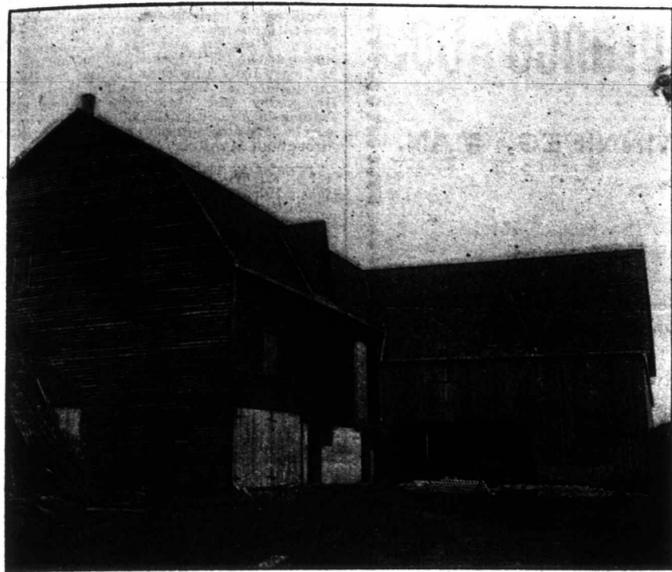
FAMOUS ALL OVER THE WORLD.
ALFRED MANSELL & CO.,
 LIVESTOCK AGENTS AND EXPORTERS, SHREWSBURY.
 BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Secretaries of the Shropshire Sheep Breeders' Association, Shrewsbury, England. -o

EGGS. It pays to get the best. We have them in L. and D. Brahmas, B. and W. Rocks, W. Wyandottes, Black Minorcas, and Indian Game, at \$1.25 per setting.
JACOB B. SNIDER, German Mills.
BARRED PLYMOUTH ROCKS EGGS \$1.00 per 15, from fine exhibition matings—Shoemaker-Lefell strains
H. GEE & SONS,
 Haldimand Co. -o **FISHERVILLE, ONT.**

Barred Plymouth Rocks
 (EXCLUSIVELY).
 40 good breeding hens for sale at 40c. to \$1 each. Order at once and secure first choice.
 (MISS) **P. J. COLDWELL,**
 -om **Constance, Huron, Ont.**

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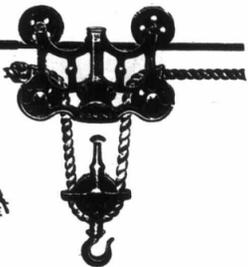
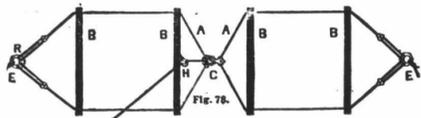
BARN OF MR. C. C. RITTENHOUSE, SOUTH CAYUGA, ONTARIO. Size..... Built with Thorold Cement in 1898.

FOR FREE PAMPHLET WITH FULL PARTICULARS, ADDRESS **ESTATE OF JOHN BATTLE, THOROLD, - ONTARIO.**

SEND FOR ILLUSTRATED PRICE LIST.

HAYING OUTFIT, \$13.00 (FOR WOOD TRACK) which includes the following:

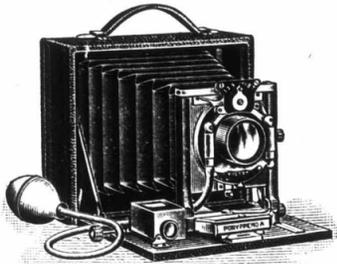
- 1 Car (the best improved), 1 Stop Block, 3 Fork Pulleys, 3 Pulley Screw Hooks, 12 Rafter Bolts, 12 Track Bolts, 1 Hay Fork, 1 Rope Hitch, 12 Rafter Brackets, 125 feet Horse Power Rope (1 inch), 65 feet Russian Hemp Trip Rope.



ONLY \$1 EACH. **DUTTON MOWER KNIFE SHARPENERS.**

WILKINS & CO., 166 and 168 KING ST. EAST, TORONTO.

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ANYBODY can make the finest photographs—the manipulation being so simple. If you want full information as to the many different styles and sizes of Premos, send for catalogue—it's free.

ROCHESTER OPTICAL CO., ROCHESTER, NEW YORK.

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

FALL TERM OPENS SEPT. 5TH.

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STRATFORD, ONTARIO. Write to-day for our new catalogue. It's the finest business college catalogue in Canada, and represents the most progressive and best school.

W. J. ELLIOTT, Principal.

LITTLE'S PATENT FLUID NON-POISONOUS **SHEEP DIP** AND CATTLE WASH

Disinfectant AND **Germicide**

A Highly Concentrated Fluid for Checking and Preventing Contagion from Infectious Diseases in Animals.

"Little's Patent Fluid" will destroy the infection of all fever germs, and all contagious and infectious diseases, and prevent contagion from one animal to another, and will neutralize any bad smell whatever, not by disguising it, but by destroying it.

NO DANGER! SAFE, CHEAP, EFFECTIVE. BEWARE OF IMITATIONS.

Sold in large tins at... **75c.** Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities. Sold by all druggists. Send for pamphlet.

ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT. Sole agent for the Dominion.

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

GOSSIP.

F. Bonnycastle & Sons, Campbellford, Ont., breeders of Shorthorns, Cotswolds and Berkshires, in ordering a change of their advertisement in this issue, offer bull calves, heifers and heifer calves, and young pigs, at reasonable prices. They report their stock looking well, and prospects for business very encouraging.

Mr. E. Dool, Hartington, Ont., breeder of Yorkshire pigs, in ordering a change in his advertisement, writes that he is finding a fair demand, and is better prepared than ever to fill orders with good stock. His imported boar has done well, and his progeny is just the right type for the trade, and with such sires as he and Champion, we can get pigs to please, and can supply pairs not akin.

Mr. Horace N. Crossley, Sandy Bay Farm, Rosseau, Ont., writes:—"Just a line to say that I have sold the three-year-old Shire stallion, Rosseau Royal Albert, whom I imported last summer. The purchaser is Mr. Reid, Medonte Tp. Since being in my possession this horse has won first as two-year-old at the Toronto Industrial in 1898, and first as three-year-old at Canadian Horse Show in 1899. Rosseau Royal Albert has been standing at Orillia, where he has made an excellent season, a large number of mares having to be turned away, as he is too young to take them all this year without injury."

Mr. G. W. Clemons, St. George, Ontario, in ordering a change in his advertisement of Holstein-Friesians, writes:—"Have just recently shipped four nice young Holsteins to Dr. A. Racicot, of Montreal, for his farm in Bagot Co., Que. The bull calf, Lady Akkrum 2nd's Colantus, one of the best I have ever raised, and three heifers, Mary Mochthilde, Madge Merton 5th, and Inka 5th's Mercedes. I notice that in a stock note in the last issue of the ADVOCATE, when speaking of my young bull, Daisy Teake's King, you say that his half-sister, Daisy Teake's Queen, made 2.62 lbs. butter in one day in Winnipeg test of 1895. This should read 2.62 lbs. of butter-fat. The ADVOCATE had this mistake in the first report of that test, but it was corrected by Mr. Glennie in a subsequent issue. I believe Daisy Teake's Queen is the only four-year-old cow that ever produced 2.62 lbs. fat in a fair-ground test."

W. A. REBURN & CO.'S SALE OF ST. LAMBERT JERSEYS.

When the noted St. Anne's herd of pure St. Lambert Jerseys was sold by auction in 1896, a number of the best were purchased by some of the members of Mr. Reburn's family, and in the summer of 1897 they purchased a farm in the Bay Township, St. Anne's Co., Que., and removed the herd to it. Jolie of St. L. 4th, Jolie of St. L. 3rd, Jolie Queen Vic of St. A. 3rd, Pet of St. L. 3rd, Queen Bess of St. Anne's, Dora of St. Anne's, and six or seven other cows that had won honor upon honor at all the leading fairs in Canada, and competed and won every dairy prize that they had entered for, not only winning over cows of every dairy breed that had won similar prizes in previous years, but scoring away above all former scores and breaking all previous records. These cows that made the old St. Anne's herd famous in days gone by were selected and retained by their present owners to start the foundation of the herd that is now advertised to be sold on the 2nd of August next. Jolie of St. Lambert 3rd's Jolie, who for many years carried off first honors, is with her yearling daughter by Lady Fawn of St. Anne's Son, among the lot; also Jolie's Juno, first at Toronto, London, Ottawa and Quebec; her three daughters and two granddaughters, all grand dairy animals and perfect types of the old St. Lamberts. Queen Vic of St. A. 3rd, a fifty per cent. pure Victor Hugo cow, and her yearling son by Lady Fawn's Son, having over forty-eight per cent. Victor Hugo blood, winner of first honors in his class at Sherbrooke last year, and from all appearance will again win a similar prize. Jolie Fawn, a granddaughter of Lady Fawn and Jolie of St. L., winner of first honors at Montreal and Ottawa (beating the Toronto winner), awarded by that expert judge, Mr. F. S. Peer, has just calved, and her immense udder, which is an exact reproduction of her great-grandam's, Lady Fawn, proves that the judge had done wisely in placing her twice at the head. Her two daughters, both golden-fawns, show a striking resemblance to their dam. Among the younger cows, an exceptionally fine lot, are Hebe of St. Anne's, a two-year-old daughter of Victor Hugo of St. Anne's, fifty per cent. V. H., and out of a daughter of Romeo of St. Lambert, fifty per cent. Stoke Pogis 3rd, and Jolie of St. L. Hebe won first last fall at Jolie of St. L. Hebe won first last fall at Quebec, and her full sister, owned by Mr. R. H. Pope, won first at Sherbrooke in 1897 and 1898, and was sweepstakes female same place. Hebe shows great udder development, and is a heavy milker for one so young. Another two-year-old, a daughter of May Pogis of St. Anne's, she by Lorne 5th and Jolie of St. L. 2nd, shows great milking qualities, and bids fair to follow the footsteps of her triple great-grandam, Jolie of St. L. Two first and second prize daughters of Pearl of St. Anne's, a granddaughter of Cheerful of St. L. (a twenty-pound daughter of Stoke Pogis 3rd), and Hebe of St. Lambert, three daughters of Pet of St. L. 3rd and 4th, all sired by Jolie of St. L. 3rd's Son's Pet of St. A. 2nd, a granddaughter of Pet of St. L. and Romeo of St. L., and her two daughters by Jolie of St. L. 3rd's Son.

The present stock bull, Sir Wilfred of St. Anne's, a son of Hebe's Victor Hugo 2nd, who for many years won the sweepstakes and first prize at the leading fairs in Canada, has already won five first and second prizes in strong competition. Sixteen of his daughters with two exceptions, are solid light golden-fawn, and being out of the above lot of grand dairy cows and prizewinners, ought to sustain the reputation won by their ancestors in the showing and elsewhere.

One of the many great victories won by this herd is that they have always captured the breeders' herd prize, winning the special gold medal offered for this at Ottawa; also special prize at Toronto, London, Montreal (over the Toronto winner that year), and Sherbrooke and Quebec last fall.

Massawippi, the nearest station, about two miles from the farm, is on the Boston & Maine Railway, which connects at Sherbrooke with the Grand Trunk, Canadian Pacific, Quebec Central, and Intercolonial Railways. Intending purchasers will have no trouble reaching the sale, as all the above railways run their trains in connection with the Boston & Maine Ry.

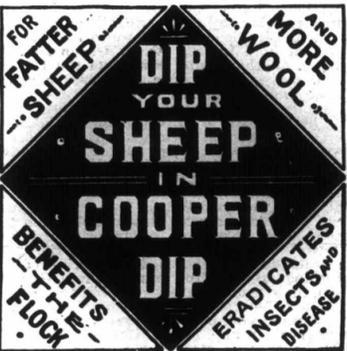
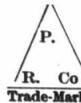


Persiatic Sheep and Animal Wash

For the complete and effectual removal of all insects or vermin peculiar to sheep and cattle. Powerful without being harsh; immediate in effect, without any irritating effects; it leaves the animal refreshed and in good spirits after use; does more than destroy the pests, it completely removes all traces of their attacks—healing sores or boils, curing open sores and leaving the skin whole and sound. Mr. G. A. Brodie, a prominent stock-raiser of Bethesda, Ont., used it with great success in castrating lambs, the wash healing the wounds rapidly and keeping the maggots away. He considers it the most effectual wash in the market, and heartily recommends it to farmers generally.

If your dealer hasn't it, write us for it, and tell us of anything special in the ailments of your flocks or herds and we'll advise you how best to use it.

THE PICKHARDT RENFREW CO., Limited, STOUFFVILLE, ONT.



Used and endorsed by Hon. John Dryden, Minister of Agriculture, Toronto, Ont., and leading breeders everywhere.

SUPERIOR TO ALL LIQUID DIPS. Twenty-five gallon packet, 50c.; one hundred gallon packet, \$2.00. If druggist cannot supply, send \$1.75 for one hundred gallon packet to

EVANS & SONS, MONTREAL OR TORONTO.

Book premiums on application to COOPER DIP, Galveston, Texas.

SCABBY SHEEP. \$5000 REWARD

To any party who can produce a scabby sheep which the Lincoln Dip will not cure. Write for particulars.

LINCOLN SHEEP DIP CO. 48 and 50 Long St., CLEVELAND, O. om 15 Queen St. East, TORONTO, ONT.

CANCER CURED WITHOUT KNIFE OR PLASTER. FULL PARTICULARS FREE. **F. STOTT & JURY,** Bowmanville, Ont.



AND SHORTHAND SCHOOL. A business education will help you. Students assisted to situations. None but specialist teachers employed. Write for particulars. **H. M. KENNEY, PRINCIPAL, WOODSTOCK.**

GOSSIP.

Mr. D. Alexander, Bridgen, Ont., who advertises a few Shorthorns from his choicely-bred and thick-fleshed herd, writes: "Our wheat is a failure, and I see no better way of making up the deficiency. I did not intend selling these females, as we are rather lightly stocked. I feel more like keeping them, as they are good and from stock that are mostly gone to the States, and giving much satisfaction."

Mr. Aaron Barber, Aron Springs, N. Y., has sold both his aged and young show herds of Shorthorns to Mr. W. A. Boland, of New York City, who has a large farm at Grass Lake, Mich., and who is ambitious to own one of the best herds of Shorthorns in America. The sale includes fifteen head, among which are the four-year-old bull Sharon Marshal, the yearling bull Deputy Marshal, and the great cow Mary Abbotsburn 7th. It is said to be Mr. Boland's intention to exhibit these cattle at the coming fairs in the West this year.

More sheep are being imported from Great Britain to Canada and the United States this season than for many years past. Among the Canadian breeders who are making importations are A. W. Smith, Maple Lodge; John Campbell, Woodville; Robt. Miller, Stouffville; John Jackson, Abington; J. G. Hamner & Sons, Burford; A. J. Watson, Castlederg; J. H. Patrick, Ilderton. Several of these gentlemen have commissions to purchase and import for other breeders sheep of various breeds, and we learn that a number of the winners at the Royal show at Maidstone have been secured for Canadian sheep-breeders.

AN IMPORTANT SHIPMENT OF SHORTHORNS.

Last month Mr. William Conley made selections from several prominent Canadian herds of Shorthorns for Mr. Andrew Chrystal, of Marshall, Mich., and carried away one of the best consignments of cattle that has left Canada in recent years. From J. & W. Russell, of Richmond Hill, who worthily won high honors at the World's Fair in Chicago, capturing the sweepstakes for best young herd and championship for best bull of any beef breed under two years old, was purchased three capital heifers, one of which, Queen Mary 3rd, a two-year-old, was sired by Scarlet Velvet, who was from the same imported dam as Aberdeen, winner of first prize at Toronto Industrial Exhibition two years in succession. Her dam, Queen Mary, was one of the first prize herd at Chicago, of four animals under four years old, the get of one sire, and her grandam, imp. Roan Princess, was a first prize winner in Scotland. She was full sister to Lord Stanley, that headed three first-prize herds at Chicago, and won three firsts himself singly. Fair Queen is another two-year-old from the same herd and by the same sire, dam by Prince Royal, who was two years first in his class at Toronto, and headed the first herd in 1882. Gipsy Queen 2nd, by Prince, another young cow from the Russell herd, was got by Prince, who sired a heifer, which was sold to Mr. Miller, of Storm Lake, Iowa, for \$800, and another sold for \$400. From the herd of Mr. J. M. Gardhouse, Highfield, Mr. Conley secured the large, thick-fleshed, red two-year-old heifer, Fancy's Pride, sired by the imported Missie bull, Scottish Pride, her grand-sire being the imported Nonpareil bull, Albert, bred at Kinellar, Scotland. This heifer is in calf to the imported Duthie bull, Prime Minister. Snowflake, a roan two-year-old from the same herd, is one of the favorite Crimson Flower tribe, sired by imp. Scottish Pride, who is a son of the renowned bull, Pride of the Morning. She has for grandsire imp. Guardsman, the sire of the great show bull, St. Valentine, and for great-grand-sire imp. Albert, by the Cruickshank bull, Vermont. This heifer is also in calf to imp. Prime Minister. From Mr. Gardhouse was also secured the beautiful imported heifer calf, Mina of Highfield, a smooth, sweet, even heifer of approved type. She was sired by My Lord, a Missie bull bred by Mr. Duthie. Her dam, Mina Gladstone's, was bred by the representatives of S. Campbell, Kinellar, Scotland, and sired by Emancipation, was a prizewinner in 1888, and is half-sister to Mr. Platt's stock bull, Golden Fame. From the Sheriff Hutton herd of Mr. Wm. Linton, Aurora, was chosen the two-year-old heifer, Sowerby's Bride Elect 3rd, of whom her enthusiastic breeder says "she contains in her make-up more of the blood of Royal of England, Highland of Scotland, Philadelphia Centennial, Chicago Columbian, and Toronto Industrial winners than any other heifer of this continent." Sowerby's Red Lilly, from the same herd and by the same sire, Blucher, bred by Messrs. J. & W. Russell, is of another branch of the Sowerby family, is a great big grower, a good feeder, girthed seven feet the day she was two years old, and if properly treated cannot fail to make a prizewinner.

From Mr. W. D. Platt, Hamilton, was procured three females and the very promising young red bull, Golden Fame's Heir, by imp. Golden Fame, for which Mr. Platt paid \$720 when he was but thirteen months old. His dam, Violet, a handsome young cow of fine quality, was by imp. Kinellar Sort, by Royal James, grandam by Athelstane, by the imported Cruickshank Victoria bull, Vensgarth, imported by Hon. John Dryden, and used with great success in his herd. Of this young bull Mr. Platt writes: "He was pronounced by competent judges the best calf in America. He has plenty of size and is smooth as a dollar, perfect in his general conformation. Before leaving for Great Britain, I instructed that this calf should not be sold, but Mr. Conley must have used some persuasive power to secure him; in fact, the whole four were very choice things." The roan yearling heifer, Nonpareil 52nd, was sired by Aurora Borealis, who was by the imported Cruickshank bull, Northern Light, and out of Rose of Strathmore, of the favorite Rose of Strathmore family. Her dam, Nonpareil 51st, of the choice Cruickshank family of that name, was by Stanley, a first prize and sweepstakes winner at Toronto, and sire of Lord Stanley, a first prize and championship winner at the World's Fair. Empress 5th is a smooth, even and well-proportioned red yearling heifer, by Scotsman 2nd, by Scotsman, dam Missie of Neidpath, of the Uppermill Missie family, from which came Marengo, the champion bull of the Royal English show of 1898. Daisy of Strathallan 20th is a very promising red heifer calf by imp. Blue Ribbon, bred by S. Campbell, Kinellar, Scotland, and sired by Royal James, dam Daisy of Strathallan 13th, of the famous Strathallan family, which has probably won more prizes in Canada than any other.

GOSSIP.

Mr. A. G. Hopkins, V. S., who is well known in Manitoba (particularly at Hartney and Neepawa) as a successful veterinary practitioner, left here two years ago to take a course at the Ontario Agricultural College. After spending one year there, and passing his examination with honors, he took up a post-graduate course at the McKillip Veterinary College, Chicago, and has just completed a course at the Iowa Agricultural College. We just learn from him that he has received the appointment of Assistant Instructor in Animal Husbandry and Veterinary Science at the Wisconsin Agricultural College. Dr. Hopkins is to lecture at a number of Farmers' Institutes throughout Manitoba this month.

JUDGES AT THE WINNIPEG INDUSTRIAL.

Heavy Horses.—John Davidson, Ashburn, Ont., Thoroughbreds, Hackneys and Ponies.—D. H. Charles, Galt, Ont.
Standard-breds and Carriage.—F. Kenyon, Chicago.
Cattle, beef breeds.—Wm. Watt, Salem, Ont.
Cattle, dairy breeds.—Wm. Stewart, Menie, Ont.
Milk Test.—C. C. Macdonald, Provincial Dairy Superintendent.
Sheep and Swine.—J. C. Snell, London, Ont.
Dairy Products.—Hon. Thos. Ballantyne, Stratford, Ont., or Prof. Heaker, of the State Dairy School, Minnesota.
Poultry.—S. Butterfield, London, Ont.

C. & E. WOOD'S LEICESTER SHEEP.

The Messrs. C. & E. Wood, at Freeman, near Burlington, Ont., are to the front again this year with a splendid and uniform lot of Leicesters. Their 25 breeding ewes gave them a good lot of lambs as they have ever raised, to the services of sires from imported parentage. Among their one hundred or more we saw some 30 fine shearlings, a dozen of which are rams, many carrying showyard qualification, and though not burdened with fat, were in excellent, strong, thrifty shape, and show the result of the judicious management given by the experienced shepherd. Persons in search of fresh, healthy young stock, for either show or breeding purposes, will do well to keep track of their offerings.

NORMAN M. BLAIN'S TAMWORTHIS.

Mr. Norman M. Blain, whose farm is near St. George, Ont., is one of those men who pinned his faith to the Tamworths and stuck faithfully to the breed, through thick and thin, almost since their introduction into the country. The reason for Mr. Blain's success in and out of the showyards is from the fact that he laid a wisely selected foundation in purchasing the progeny of the best and most approved type in the breed. During a recent visit to the vicinity of St. George we looked over Mr. Blain's stock and found it quite equal in extent and quality, if not in many respects superior, to what we have noticed before at the same season of the year. As Mr. Blain intends exhibiting a strong herd at the leading shows this fall, including Toronto and London, it will be well for intending purchasers to visit his pens to make their selections and book their orders for either show or breeding stock. See Mr. Blain's advertisement.

CHARLES RANKIN'S SHORTHORNS, OXFORDS, AND BERKSHIRES.

The extensive breeding establishment of Mr. Charles Rankin, at Wybridge, in Simcoe Co., Ont., was visited by a representative of the FARMER'S ADVOCATE, and the genial proprietor was found in his usual good spirits, and the stock and premises showing the results of the untiring attention given them. Mr. Rankin is one of those men who has his home and stock interests at heart, and it does not end here. He gives much attention to matters pertaining to the advancement of agriculture and live stock generally, and it is not unusual to find him at the head of organizations the objects of which are for the advancement of agriculture, and in whom counsel is frequently sought. His untiring efforts in establishing an ideal Shorthorn herd of cattle has sent his reputation far and wide in the locality in which he resides, and enquiries made for this class of stock in that part of the Province are ones all directed to Mr. Rankin, brought about, no doubt, largely from his showyard standing, which again traces to his wisdom in laying foundation stock for his breeding pens. Much, no doubt, is due to his wise selection of sires, and we have only to mention the names of a few of the sires most recently employed, for the enthusiastic breeder to appreciate the results obtained. Glenlyn, by Doctor Eric, and out of Princess Lovely, made an impression in the right direction, while Sheriff Hutton, by Bonnie Scotland, introduced the style and quality peculiar to that noted race, and which is plainly visible to the casual observer. Then came a son of the noted Indian Chief, Crimson Chief, whose inheritance from that worthy sire could not but improve the stamina, feeding and beefing qualities wherever placed, and the females by him are highly valued by their owner. Following Crimson Chief came the young bull, Klondike, which Mr. Rankin purchased at Mr. Isaac's bull sale a year ago last spring, and to him the females are being bred. Among the matrons' pedigrees we noticed the, Sonsie Maid descendants predominate, while some really choice and useful Sheriff Hutton cows are doing service. Of the former, they have distinguished themselves as dairy cows of high order, while of the latter, they tend more towards the strict beefing type. Mr. Rankin finds very ready purchasers for his young stock, and reports some excellent sales having been effected last season. Among others, he mentioned the sale of a very choice bull to Mr. W. D. Platt, Hamilton, who made a personal selection of a yearling red bull from a Johnston sire and dam (both imported), and a pair of choice young things by Crimson Chief, as well as a three-year-old roan heifer by the same sire, with her calf at foot to Klondike. Among the offerings this year are some extra choice young bulls by Klondike and Crimson Chief, one particularly choice fellow out of Lucy of Ivanhoe, by Sheriff Hutton, the breeding of which is sufficient to recommend him in any company.

The usual activity is exhibited among the Oxford sheep and Berkshire pigs, and the splendid appointments add greatly in the carrying out of the plans. Watch Mr. Rankin's advertisement in the first issue of each month.

THE MANITOBA FARMERS' Mutual Hail Insurance Co.

HEAD OFFICE: - - WINNIPEG, MAN.

ORGANIZED under the laws of Province of Manitoba to give its farmer members safe and reliable hail insurance at actual cost.

Every policyholder is a member of the company, and eligible to the election of an office at annual meeting of members.

We issue a five-year policy, giving a benefit of \$800 on a quarter-section.

For further information apply to

E. A. TAYLOR, MANAGER,

853 McINTYRE BLOCK,

Winnipeg, Manitoba.

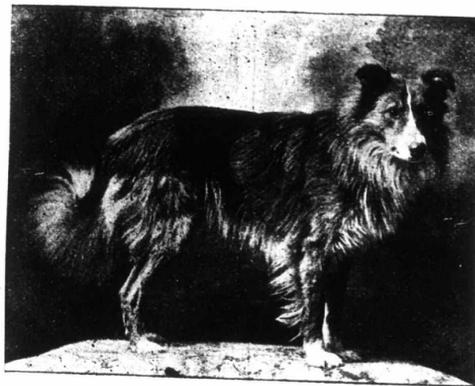


The lightness of draft, perfection of proportion, excellence of finish of the SPEIGHT WAGON, combined with strength and durability, make it the farmers' favorite. Dealers should write for catalogue and prices to

H. F. ANDERSON, OF THE SPEIGHT WAGON CO., WINNIPEG, MAN., MARKHAM, ONTARIO, DISTRIBUTING AGENT. HEAD OFFICE.

HOW TO GET A FIRST-CLASS COLLIE

Twelve New Subscribers



Twelve New Subscribers

TO ANY SUBSCRIBER sending us the names of 12 NEW yearly paid up Subscribers we offer a young COLLIE, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States. (See page 36, January 16th issue.)

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.

HOW TO OBTAIN IT—

Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

ADDRESS The WILLIAM WELD CO., Limited, London, Ont.

CANADIAN PACIFIC RY.

WILL RUN FROM ALL POINTS IN ONTARIO TO (AT RETURN FARES)

Home	WINNIPEG	\$28
Seekers'	DELORAINÉ	
60 Day	RESTON	
Excursions	ESTEVAN	
To the	BINSICARTH	
Canadian	MOOSOMIN	\$30
North West	COWAN	
	REGINA	\$35
	MOOSEJAW	
	YORKTON	\$40
	PRINCEALBERT	
	CALGARY	
	RED DEER	
	EDMONTON	

Going July 13 Returning until Sept. 12 (All Rail or S. S. Athabasca)
 Going July 18 Returning until Sept. 17 (All Rail or S. S. Alberta)
 For tickets apply to any Canadian Pacific Agent, or to A. H. NATMAN, Asst. Gen. Passr. Agent, 1 King St. East, Toronto.

LOW WIDE-TIRE WHEELS.



Made to fit your wagons. Also the complete gearing fitted with our wrought-iron wheels. Every farmer should have one of these low wide-tire trucks for drawing corn, hay, grain, manure, stone, etc. They are the lightest, strongest, and cheapest in the market. Ask for prices.

Dom. Wrought Iron Wheel Company, TORONTO.

Purest and Best!

Windsor Salt

FIRST PRIZES

Were awarded to 8 exhibitors at the Industrial Fair, Toronto, and Western Fair, London, 1897, who used WINDSOR SPECIAL CHEESE SALT in curing cheese exhibited, and to 9 exhibitors at the same exhibitions who used WINDSOR SPECIAL BUTTER SALT in salting butter exhibited.

GOLD MEDALS

Awarded for best exhibits of Creamery and Dairy Butter at both exhibitions were won by exhibitors using WINDSOR BUTTER SALT.

NO STIPULATION WAS MADE AS TO THE USE OF WINDSOR SALT.

Alexandra Melotte



CREAM SEPARATORS

FOR PARTICULARS, APPLY TO

R. A. LISTER & CO. LIMITED,
 579 to 581 St. Paul Street,
 MONTREAL, - QUEBEC.



FAMILY KNITTER!

Will do all knitting required in a family, homespun or factory yarn. SIMPLEST KNITTER ON THE MARKET. We guarantee every machine to do good work. Agents wanted. Write for particulars. PRICE, \$8.00.

DUNDAS KNITTING MACHINE CO., DUNDAS, ONTARIO.

AGRICULTURAL COLLEGE

The Ontario Agricultural College will reopen on SEPTEMBER 26th, 1899.

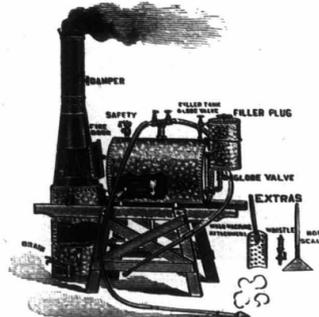
Full courses of Lectures, with practical instruction in Agriculture, Live Stock, Dairying, Horticulture, Poultry, Beekeeping, Veterinary Science, Chemistry, Geology, Botany, Entomology, Bacteriology, English, Mathematics, Bookkeeping, and Political Economy. Year shortened to suit farmers' sons.

Send for Circular giving terms of admission, course of study, etc.

JAMES MILLS, M. A., PRESIDENT, GUELPH, ONTARIO.

THE IMPROVED RELIABLE FEED COOKER

Tank Heater and Steam Generator



Is built upon honor and sold on its merits, under a positive guarantee to do everything claimed for it. We claim that it is the most durable in construction; the most economical of feed and fuel, requires the least attention, cooks the quickest; is the safest and lasts the longest. All these claims and many others are backed by the experience of those who have used them. Read this one:

Oak Lodge Stock Farm, Burford, Ont., Feb. 4. '99. Messrs. Rippley Hardware Co., Grafton, Ill.: Gentlemen,—I am in receipt of your letter of January 19th. I would have replied earlier, but I wished to thoroughly test the Cooker before making any statements. I have made a pretty thorough test of it, and I am satisfied that it does all you claim for it. My hogs have done much better since I started using your Cooker. I am feeding ground grain, which I scald and feed while warm. I am also using the Cooker as a means of heating my hog pens, by having steam pipes running through the pens. Last week when the thermometer was several degrees below zero, the pens were quite comfortable, and I saved several litters of young pigs that I am sure would have perished with the cold. I take pleasure in recommending your Cooker.

Yours truly, J. E. BRETHOUR.

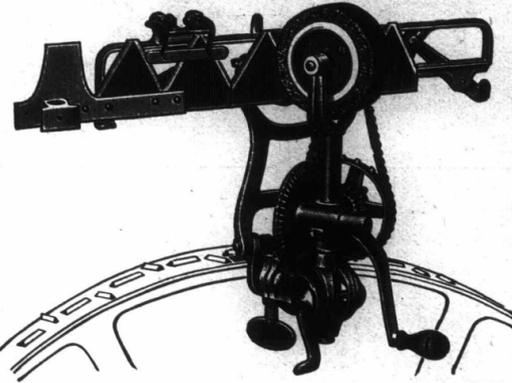
We have hundreds of others equally good, and guarantee all to be genuine, under forfeiture of \$500. REMEMBER this was not designed to be a cheap cooker, but to be the BEST COOKER. They are built of the best galvanized boiler steel, and made in two convenient sizes.

This Cooker is now in use by some of the best breeders in Canada. Special prices quoted for July and August only. See it exhibited in operation at Toronto Industrial Fair, London Fair, Burford Fat Stock Show, and Brandon Fair, Man. Patent applied for in Canada. Write us for circulars, testimonials, prices, etc.

RIPPLEY HARDWARE COMPANY, Patentees and Mfgs., Grafton, Ill.

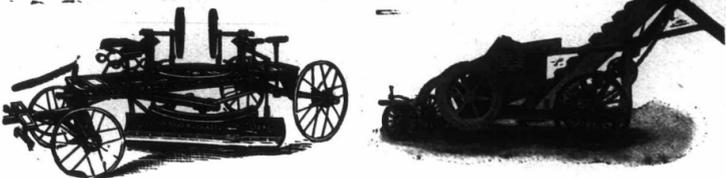
THE "HANDY" SECTION KNIFE GRINDER

The picture shows very cleverly our HANDY GRINDER for sharpening machine knives. It is a capital good article and fills a long-felt want. The machine may be clamped to the wheel of a mower or binder, or to any ordinary work bench. The cutter bar with the sections attached is held firmly in the machine and may be twisted, turned or inclined at any angle to the emery wheel. Then the wheel itself can be turned to any direction, or may be moved backwards or forwards and held firmly in any position. When the handle is turned the wheel responds promptly and rapidly. No better machine for its purpose could be devised. The diameter of the wheel is 4 1/2 inches and its width 1 1/2 inches. The drive chain or belt is metal, and cannot wear out. Weight of each machine boxed for shipment is 20 pounds. Price, complete, \$5.00. The edges of the wheel are flat, and thus the machine may be used for other purposes, such as grinding Scissors, Jackknives, Hoes, Butcher Knives, Cutting-box Knives, etc. The Handy Grinder will cost you \$5.00, but you would not take \$25.00 for it if you could not get another. Send \$5.00 in a registered letter for one of these Handy Section Knife Grinders.



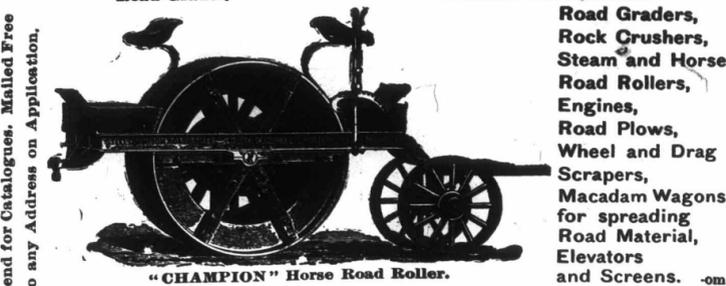
STANLEY MILLS & CO., HAMILTON, ONT.

Good Roads Machinery Co'y, HAMILTON, CANADA.



Steel "CHAMPION" Road Grader.

"CHAMPION" Steel Frame Mounted Portable Rock Crusher.



"CHAMPION" Horse Road Roller.

PLEASE MENTION FARMER'S ADVOCATE.

ALL SPRAYING, DISINFECTING AND WHITEWASHING CAN BE DONE WITH THE

SPRAMOTOR

It is the result of most careful and exhaustive experiment. Each feature was thoroughly tested before being placed on the market.



If you desire any further information, let us know and we will send you a 72-page copyrighted catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.

SPRAMOTOR CO.,

357 RICHMOND ST., LONDON, ONT. Mention this paper. AGENTS WANTED.

ROGERS' "S" PEERLESS MACHINE

NOT AFFECTED BY CLIMATE CHANGES. BEST ADAPTED OIL MADE FOR GENERAL USE OF ONTARIO FARMERS. MORE USED, MORE SOLD. JUST AS CHEAP AS THE OTHER AND SO MUCH BETTER. YOU KNOW HOW IT WAS ABOUT OIL LAST YEAR. YOU WANT PEERLESS THIS TIME. ALL GOOD HARDWARES AND GENERAL STORES SELL IT. QUEEN CITY OIL CO., Limited, TORONTO. SAMUEL ROGERS, PRESIDENT.



ROCK SALT for horses and cattle. Per 100 lbs., 70c, or 500 lbs., \$3.00, Toronto. Cash with the order. Also in car lots. TORONTO SALT WORKS, Toronto.

STAY AT HOTEL LELAND

The Leading Hotel of the West. ALL MODERN CONVENIENCES. RATES, \$2 to \$4 PER DAY. BUS MENTS ALL TRAINS. W. D. DOUGLAS, Prop., Winnipeg, Man.

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TEST OF
Alpha De Laval and Reid's Improved Danish Cream Separators

Made at Nilestown Factory of Thames Dairy Co.

Date, 1899.	Machine	Amount skimmed per hour	Speed revolutions per minute.	Butter-fat left in skim milk at following temperatures.				Lbs. Milk per Lb. Butter.
				80	85	90	95	
January 25	Alpha	2800	6000	.05	.02	.01	.01	21.10
January 27	Reid's	2800	6200	.15	.14	.12	.10	22.45
January 30	Alpha	2800	6000	.05	.03	.02		
January 30	Reid's	2800	6200	.15	.10	.08		

On January 25 Buttermilk from Cream of Alpha churned at 50 tested .05 (no water added).

January 26th Buttermilk from Cream of Reid's Improved Danish churned at 48 tested .10 (no water added).

Mr. Richardson, St. Mary's, and Mr. John Brodie, Mapleton, were present when testing Reid's Improved Danish, January 27th.

On January 30th both Separators were running at the same time, and the skim milk from the Reid's was put through the Alpha. There were 3,700 lbs. of milk received, and after it had been skimmed by Reid's Improved at a temperature of 90 degrees the Alpha skimmed 303 lbs. of Cream from the skim milk which tested 8/10 of 1 per cent.

The Cream from each Separator was ripened by the use of a pasteurized starter, and contained .65% of acid at the time of churning when tested by Farrington's Alkaline Tablets.

(Signed) **T. B. MILLER,**
 Manager Thames Dairy Co.

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GOVERNMENT ANALYSIS

LABORATORY OF INLAND REVENUE,
 OFFICE OF OFFICIAL ANALYST,
 Montreal, April 8, 1895.

"I hereby certify that I have drawn, by my own hand, ten samples of the **ST. LAWRENCE SUGAR REFINING CO.'S** EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99.99 to 100 per cent. of pure Cane Sugar, with no impurities whatever."

(Signed) **JOHN BAKER EDWARDS, Ph. D., D.C.L.,**
 Prof. of Chemistry and Public Analyst, Montreal.

Have you noticed that one pound of Blue Ribbon Ceylon Tea is equal to a pound and a quarter of any other kind?