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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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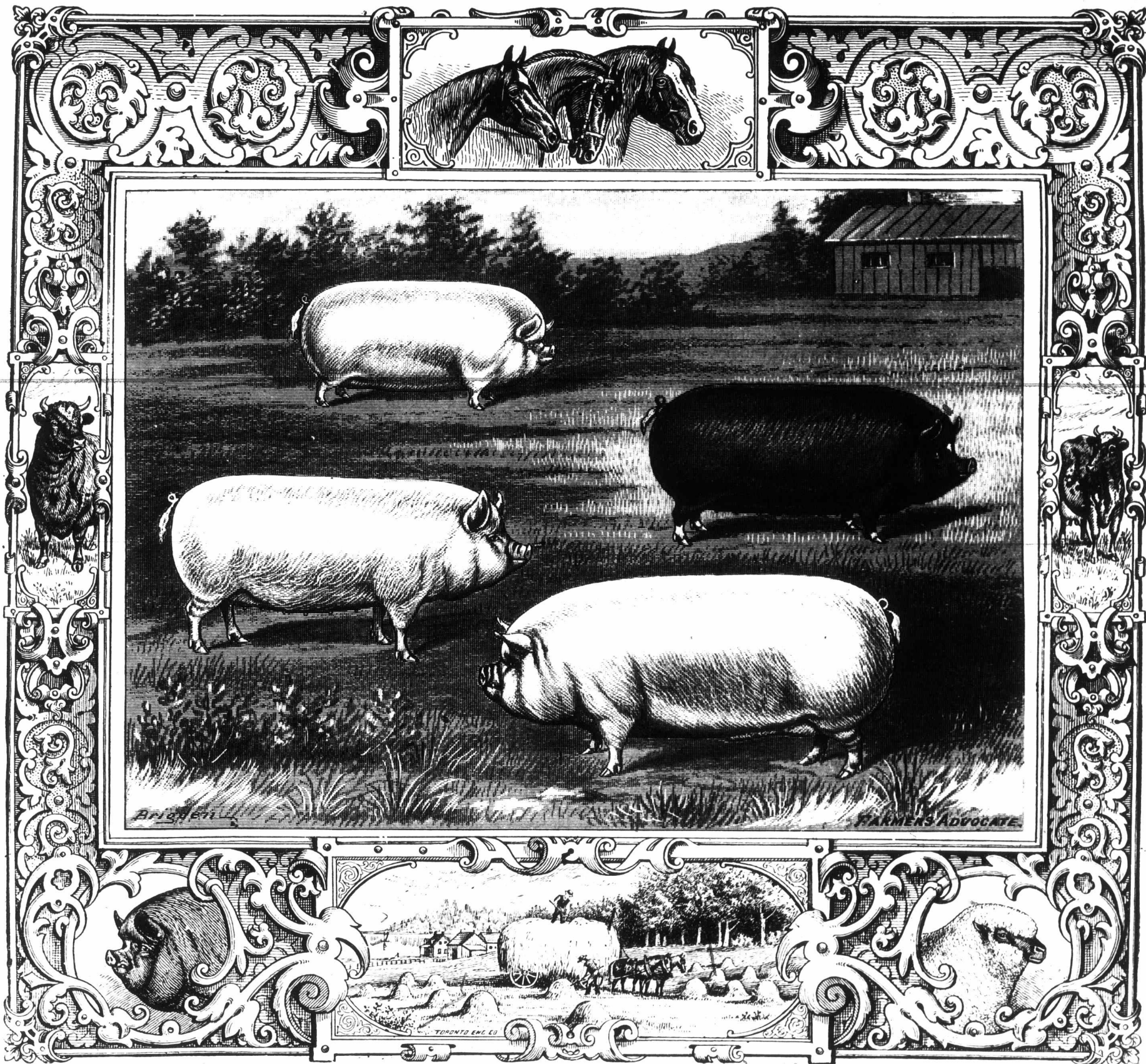
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SPECIMENS OF YORKSHIRE, BERKSHIRE AND SUFFOLK SWINE.
THE PROPERTY OF MR. LEVI PIKE, LOCUST HILL, ONTARIO.

EDITORIAL.

Among the questions that are most frequently asked is, What luck? This is applied to the lamb crop, the spring litters of pigs, and the well-doing of foals and calves; in fact, is the general manner of enquiry regarding all lines of production. But is it not often another name for care? Without carefully-laid plans things are apt to go astray. It is prompt attention to details that prevents the casualties that too often creep in and destroy the hope of success for the season, whether it be in stock breeding and feeding, or grain producing.

Among the dairy news of the day, Hoard's Dairyman remarks that "Prof. Robertson has sold the mammoth cheese the Canadians are to exhibit at the World's Columbian Exposition to an European provision dealer, who proposes to exhibit it without charge in all the principal cities in Great Britain, as an advertisement of Canadian cheese. Everything is being done to build up Canadian dairy interests. No filled cheese, no skim cheese made there, and the best of cheese their ambition. Such a people, with such practice, can be advertised and their reputation built up, and they will finally possess the land, for they have not tried to cheat the consumer".

With clover seed worth \$10 per bushel, every effort should be put forth to make each separate seed grow. The high price will doubtless prevent many a field from being seeded, but if we could be assured of a good catch, it would be profitable to sow clover seed even at the highest figures it ever sells at. With good seed sown at the right time the chances of failure are very small; not once in twenty sowings, perhaps, do our best farmers miss getting a good stand when it is sown on wheat. When is the right time is a disputed point. Some sow early and seldom miss; while others sow late after the ground has dried enough to crack with the best results. In the meantime, proceed to sow \$10 clover seed upon your wheat field this spring, and by so doing you will find it a good investment. The purity as well as the germinating quality of the seed should be closely looked after, for all the old, stale seed in the country, besides much that is full of fowl seeds, weeds and trash, will be offered for sale.

When the question of the restriction placed upon Canadian cattle is brought before Mr. Gardner, President of the British Board of Agriculture, he still defends himself from the legal standpoint of the question. He is daily being questioned by the representatives of districts of Scotland that are equally interested with Canada. In reply to one of these he recently said:—"It would not be practicable for my department to conduct for itself on the spot any investigation into the sanitary condition of animals in Canada, but, as I have already stated, I shall give attentive consideration to any information on the subject which I may receive from the Canadian Government. I understand that the regulations at present in force in the Dominion require ninety days' quarantine in the case of cattle imported from the Eastern States of the United States, but some modification of this rule appears to be allowed in favor of settlers entering Manitoba and the Northwestern Territories," and further states that since last July 41 cases of pleuropneumonia, forming part of 18 different cargoes, have been discovered amongst cattle imported from the United States.

We are informed by Prof. Wm. Saunders that the work of testing the germinating power of grain and other agricultural seeds is now in active progress at the Central Experimental Farm at Ottawa. Up to the present over 1,600 samples have been tested and reported on this season, and on the whole with very gratifying results, showing a good percentage of vitality. There are, however, some districts in the Dominion from which samples have been received of very poor quality and quite unfit for seed. In some parts of Manitoba the harvest season of 1891 was very unfavorable, and considerable quantities of grain were left out in stook or stack all winter and threshed in the spring of 1892. A number of samples of such grain have been tested and they show a very low percentage of vitality, many of them ranging from 15 to 40 per cent. only, and are quite unfit for seed. In some other parts of the Dominion, and especially in some sections of Ontario and Quebec, the weather during the last harvest period was very wet, and the grain in the stook was subject to repeated wettings before it could be housed, and in the meantime some of it sprouted. A large proportion of such samples also show a low degree of germinating power, and if sown as seed will be likely to result in poor crops.

Any farmers desiring to send further samples for test should forward them without delay; the packages should contain about one ounce each, and they can be sent to the Experimental Farm free through the mail. The samples are tested and reports can usually be furnished in about ten days after the grain is received.

Agricultural Education.

The constant and increasing tendency of the youthful Canadian rural population to flock to the cities and towns of the Dominion and the United States, is to-day alarming. For this there are at least two reasons—one the apparently more congenial and attractive nature of town life, with more direct wages; and the other the expectation of getting where wealth can be more rapidly acquired. This subject is so important and presents so many aspects that we cannot now undertake to discuss more than one phase of it. The practical point is to seek out a remedy for the existing condition of things. Of course, as we have indicated, more than one cause has been at work, therefore a single specific will not be sufficient to effect a cure. For instance, the ADVOCATE quite concurs with the Provincial Minister of Agriculture, Mr. Dryden, when he utterly protests against the notion that the farmers should be content without a comfortable and attractive home-life and surroundings. His occupation should provide this, and more than this, for himself and his family. Then, again, without going into other details, a word may be said especially for good roads, which would no doubt, make a host of people far more contented with rural life than they are at present.

A very great deal can be accomplished towards implanting a love for agricultural life in the youth of the country along educational lines. For this reason the bulletin recently prepared by Mr. C. C. James, Deputy Minister of Agriculture for Ontario, on the subject of "Agriculture in the Schools," was most timely. That the ADVOCATE believes in agricultural education goes without saying. What real mission would it have as a reason for existence if it did not? Its work is to educate towards the truth as it is in agriculture. If, as we believe, agriculture lies at the basis of the nation's progress and prosperity, it should be encouraged and improved, instead of being discouraged and hampered.

We have long entertained the conviction that the general tendency of our educational system has been too much towards the "professions," as they are called, and commercial life, for which special provision is made, while those agreeable subjects that agriculture would present are ignored. Need we wonder, then, that the boy sees nothing in plant and animal life, feels little but drudgery in horticultural and agricultural pursuits or live stock husbandry, and is naturally forced into the city, to the great loss and detriment of the business of farming? A vigorous protest should be entered against this condition of things, especially as such a system affects the rural schools. Agriculture must have recognition in the educational system of an agricultural country. The Farmers' Institute system was begotten largely of the recognized need for education along agricultural lines. It was believed, and rightly too, that a move along the line towards improvement in farming was needed. Governments recognized the utility of the institute system of education, and have liberally aided it. Why not, then, begin at the beginning—with the youth—laying the foundation where it ought to be laid? We must awaken a sentiment in favor of farm life, as was pointed out in a late issue of the ADVOCATE, and that will not be accomplished by merely crowding pupils through a text-book of technicalities. The Central Farmers' Institute of Ontario has done well to adopt a resolution in this direction. The announcement by Hon. Mr. Dryden that a summer course in agriculture would be opened at Guelph this season, for the benefit of public school teachers, indicates that the Minister of Agriculture fully recognizes the importance of this subject, and is losing no time in giving his convictions practical shape. Farmers' Institutes, Teachers' Associations, and other organizations where light can be obtained, should have this subject pressed upon their attention. That agriculture will ere long have recognition in the public school course there need be little doubt. The school garden, arbor day, illustrated charts for the school-room, familiar talks on plant life, etc., and other means, will readily present themselves as means by which the desired end can be reached. That there may be difficulties in the way is probably true, but they can and must be overcome.

Read what our correspondents from all parts of the country have to say in this, as well as our last issue concerning new varieties of grain, corn and roots, and you will learn much from others' experience. It is quite easy to add ten bushels per acre in a crop of oats, and proportionately in peas or barley, while a wonderful increase may be made in the root or corn crop, if only a suitable variety that has been propagated with a view to increase in yield and suitability to soil and locality is selected.

Remedy for Hard Times.

There is at present a general complaint of hard times, which is not confined to one nation or one kind of business. This complaint has always been made by some at all times, but is now made by so many as to prove that it is well founded. If we discover the cause we may suggest the remedy. Peace has continued for a length of time, and adverse seasons have not prevented the earth from yielding a plentiful supply of food for its inhabitants; the sea still furnishes us with fish, and the great west and other recently stocked pasture grounds provide numberless cattle, and the improved modes of transportation carry these to the consumer, yet we hear the cry of widespread ruin from those who have more than enough of the necessities of life. Their produce they say will not sell for enough to pay cost, and they cannot pay for the advanced labor as they used to do; but why should the farmer complain who has enough to live on, because his surplus produce brings a low price? Then what is the name of the incubus that has paralyzed the energy of multitudes? It is debt—debt not necessarily incurred. It is not very consoling when we are in trouble to reflect that it is our own fault, but when it is the case it may be useful to know it, because that which we may have done ourselves we may possibly be able to undo by changing our practice. The remote course of difficulty may be placed to modern offices which enable every man, for the consideration of a heavy interest, to set his farm property afloat without the trouble of selling it. Most men wish to become rich, but neither the farmer nor the merchant will succeed in the wish without extraordinary industry and application, or without establishing a rule to spend less than he earns; and when this course has proved successful, many years of hard labor must elapse before wealth can be acquired. But when it was generally understood that a man could have nearly the value of what he owned in something that answers the purpose of cash, while at the same time he still retains all his real property, the spirit of speculation soon appeared on the scene. The manufacturer increased his work shops, the merchant doubled his importations, the farmer increased his business by purchasing more land than he could work without more help and more capital, and in too many instances left his own occupation for some other, by which he expected to acquire sudden wealth. For awhile every active man believed that he was growing rich, for it is perhaps more easy to gull half a nation than to impose upon one intelligent man. We are more frequently too lazy to think than to work, and when it is generally believed that wise men have done the thinking for them, we often follow their methods without reflection, as a flock of sheep follows the leader.

But these golden dreams ended and many awakened to discover they had involved themselves in debts which they have no prospects of paying, and all the value they have received was learning by sad experience what they might have previously learned by reflection—that the only way to become rich is to spend less than we earn. But during the time they believed they were going ahead, most of them had drawn upon their future wealth to introduce a more showy and expensive style of living—an evil which is never confined to those who begin it, for it always spreads till it reaches the lower classes. When men discover they are spending faster than they can make, few have the fortitude to retrench immediately, but in such cases the time soon arrives that gives an irresistible check to their career, and then the blame is laid to dull times, and it would be a pity to deprive people of the privilege of having something to blame for their mismanagement besides themselves. We all know that dull times cannot be mended by sitting down and grumbling; we must make use of our strength, both mentally and physically; let every one think before he acts, and calculate his projects so carefully as to ascertain whether they will be profitable. Let every one reduce his expenses below his income, if possible—and few farmers will find it impossible. Let strict economy be observed of permitting nothing to be lost for want of care or for neglect of doing work at the time it ought to be done. We have ourselves framed the regulations which compelled us to spend more than we have earned, and shall we not act as wise men in adopting a rule to earn more than we spend?

It is upon the proper preparation of the field that the well-doing of the crop depends. The field cannot be properly prepared unless the implements are in good working order. A careful inspection of these now before the busy season begins will save valuable time that cannot be spared later on. Therefore, do not delay in getting the outfit equipped for work when the season opens.

Mr. Levi Pike's Herd of Yorkshire, Berkshire and Suffolk Swine.

On our front page illustration for this issue are portrayed specimens of three of the leading breeds of swine, which are destined in the future, as in the past, to play their part in working out the problem of cheap production, and also with the equally necessary essential of advancing the quality of the pork products of the country; both of which have so much to do with the success of the swine industry and the welfare of the farming community. The barrow in the foreground is Markham Baron, which distinguished himself by winning first in his class at the Guelph Fat Stock Show, and the further honor of winning sweepstakes over all entries of every breed, age or sex at the same show. This was a phenomenally grand pig, not only in his weight for age, which was 575 pounds in 330 days, but he was exceptionally smooth, displaying wonderful quality, while his development in ham, his length and depth of side, lightness of shoulder, fine bone and light offal, freedom from superfluous fat about the neck and jowl, brought him nearer the acme of perfect porcine development than anything we ever saw on exhibition, while he carried out Yorkshire character to perfection. Bringing out such specimens as this at our shows will do more toward making the breed popular than all the written encomiums that can be passed around. Mr. Pike bred and fed this pig himself, and it is but justice to give him credit for his skill.

The pig standing facing the barrow is Markham Maiden, a beautiful young sow of marked quality. She has great length and depth of side, full flank, with well set down hams, typical Yorkshire head. She was sired by the Walker Jones boar, Imported Kinicroft Hero. Her dam being Markham Pride.

The Berkshire sow, Markham Lass 5th, is a neat specimen of this popular breed. She was sired by Baron -2059-, which boar was bred by J. G. Snell & Bro., Edmonton; dam Markham Lass 2228.

The Suffolk sow in the back-ground is Markham Countess. She was sired by Surprise #1, dam See Me 140, both tracing direct to importations from Lord Ellesmere's noted herd in England.

Thus our illustration not only serves to illustrate the very excellent specimens of their respective breeds that are kept in this herd, but gives a capital idea of the relative points of usefulness that skilled breeders have developed in the most improved types of these truly popular sorts.

In this herd the Improved Large Yorkshires are bred in the greatest numbers, and in these the most popular strains have been selected. The herds of Walker Jones and Sanders Spencer have both been drawn upon for a breeding foundation, and the fact that they have been properly mated is borne testimony to by the very excellent specimens bred in the herd. At the time of our visit, early in January, we were strongly impressed with a remarkably good pen of five sows. These were sired by such noted boars as Kinicroft Hero and Markham Physician, and from the sows Markham Baroness, Kate 113, Markham Lass 581, and Markham Pride 13. A splendid young boar farrowed in September had made a wonderful growth, and promises to be equal to anything yet produced.

A litter of beautiful pigs farrowed October 28th struck us as having the best of good care, for although the weather was of the most trying description for weaning pigs, they appeared to be in the most flourishing condition. Another boar farrowed in May, and sired by Markham Physician, gave promise of making an extra breeding pig.

Among the Yorkshires that have been sold and have been giving good accounts of themselves are a pair consisting of a boar and sow under twelve months that won first throughout the shows held at Richmond, Sherbrooke and Montreal, P. Q., and two boars under six months that won first and second at the Toronto Industrial.

Several useful Berkshire sows are kept for breeding. Of these Markham Lass 2228 is a nicely formed, straight sow of good length; another is Kathleen, a useful sort. The boar mostly used is Baron, before mentioned, which appears to have been a successful sire.

The Suffolks appear to be especial favorites of Mr. Pike's. Of these a number of them are capital specimens of the breed, and show all the good points of this easy keeping sort, and as before mentioned, are descended from Lord Ellesmere's celebrated herd, which gained the honor of winning sweepstakes at the Centennial in 1876.

The following is the comparative standing in point of numbers of the herd of sows that have been selected to breed pigs for the coming season:—Seven Yorkshires, two Berkshires and six Suffolks. The herd is at a convenient point for railway privileges, and is easily reached by the C. P. R., the Locust Hill station of which is within a mile of the farm. The Markham station on the G. T. R. is about three miles, thus enjoying convenience for shipping equal to any breeding establishment that we can call to mind.

The Toronto Spring Stallion Show.

The Seventh Annual Provincial Spring Stallion Show, which was held in the Drill Shed, Toronto, on the 8th and 9th of March, is conceded to have been quite equal to any of its predecessors. Although there was an appreciable falling off in the Clydesdale classes, the extra representatives of the other breeds made up for this deficiency, and thus brought the total number of horses on exhibition up to that of former years. In the undeniable quality and individual merit of the horses brought out this year, together with the admirable condition in which they were shown, we may chronicle a substantial advance. The attendance of visitors was also quite up to former years, and in this particular the available space was fully occupied, and taxed the capacity of the building to the utmost.

The show opened by calling in the stallions, four-year-old and upwards, in the carriage and coaching class, with Mr. Wm. Gibson, Buffalo, officiating as judge. There were fifteen entries in this section, in which Thos. Irving's (Winchester) Imp. Prince Arthur (1852), Yorkshire Coach Book, foaled in 1880, was placed first. This horse has developed remarkably since last fall; he is a capital specimen of this popular breed; very handsome; is a neat, clever mover, and to him was also given the sweepstakes for the best horse of any age in the class. A. C. McMillan's (Erin) Shining Light was placed second. He was in fine condition, but evidently had suffered from his trip on the cars, as he had not his usual gay action for which he is so much admired. Lowes Bros.' (Brampton) Stanton King, by Gen. Stanton, won third premium. C. J. Hughson's (Orono) Sir Roger Tichbourne, by last spring's prize-winner, Chenau, won fourth. Very highly commended went to Thomas Oliver's (Brantford) Crown Prince Fifth, and highly commended to H. C. Dunn & Beckett's (Hamilton) Invader.

In stallions rising three the red was sent to Peacock, a beautiful colt, sired by Shining Light, and owned by Matthew Howson, Ash Grove, Ont. Prince Victor, by Prince Alexander, exhibited by his owner, W. C. Brown, Meadowville, was second, and Top Gallant 2nd, by Imp. Top Gallant, owned by Peter McDiarmid, Pickering, was given third prize.

STANDARD BRED ROAD STALLIONS were out in goodly numbers, there being ten entries brought before Dr. Willoughby, Colbourne, who did duty as judge. John McIntyre, Komoka, was first with the neat little horse Proteus, by Balaklava 1853, which decision was not endorsed by the common consent of the onlookers, as Kidd Bros.' (Listowel) Oliver Wilkes, by Brown Wilkes, was decidedly a better individual, which the judge himself acknowledged, but at the same time threw him back on account of an alleged weakness in his dam's breeding, or, in other words, thoroughbred blood in the trotter. However, this same mare produced another good one in Oliver K. 2.16. Then where the weakness, as Oliver Wilkes, in addition to having sired several good ones himself, has most brilliant action, and has size and beauty of form in a high degree—all the most desirable points in breeding harness horses? The third prize was sent to Robt. Porteus' (Simcoe) The Wasser, by Gen. Washington.

The stallions foaled subsequent to 1890 prizes were awarded in the following order:—First, Benj. Martin, Binbrook, Ont., Binbrook 13361; bay, hind feet white; foaled in 1890; sire, Superior 3780; dam, Binbrook May, by Highland Bay 1320, etc. Second, The Cedars Breeding Stables, Eglinton, Ont., Judge Mumford 13630; chestnut; foaled in 1890. Bred at the Herndon Stock Farm, Clarksville, Tenn., U. S.; sire, Sir Benton 8003; dam, Annapolis Girl, by Young Sentinel 950, etc.

THOROUGHBRED HORSES, foaled previous to 1890, made a magnificent display. Of the fifteen entries, twelve were brought into the ring to bear inspection under Mr. Rody Pringle, which judge sent W. H. Millman's (Woodstock) Imp. Dandie Dimmount, by Silvia, premier honors, a decision which was probably in accord with men of racing proclivities, as he has won in some good events in England, and the fact of his having sired the long-priced Ajax gave additional spur to his popularity with this class of onlookers; but for crossing with the object of getting saeable horses, Dandie is a trifle under size. To Mr. Fuller's (Woodstock) Wyndham, by Warwick, was sent the blue ribbon, which was a fairly consistent decision, as Wyndham is a horse of good racing type, in addition to which he has plenty of size. He is a useful horse, showing good breeding character, and should be altogether a most desirable horse in the stud. The third premium was given to Quin & Carter's (Brampton) Wiley Buckles, by Imp. London. What we previously said concerning this horse we must again reiterate. He has not only great size and immense substance, but he has an amount of quality to boot, while his wonderful finish above has not been equalled in late years' show rings. However, in his case the decision of placing him third in his class was qualified by giving him sweepstakes for the stallion best calculated to sire high-class hunters and harness horses. If the case was properly understood, it is for utility that our shows are encouraging horses, and not for siring race horses; and in behalf of the interests of breeding, the quicker judges are made to understand the position the better. S. B. Fuller's (Woodstock) Goldfellow won fourth premium. He is a large horse, that should be especially useful in siring harness horses, while a very ordinary specimen was placed fifth, leaving out in the cold a number of superior horses.

HACKNEYS.

The number of entries in this class was most disappointing; only two came forward to represent each age. Robt. Beith & Co.'s (Bowmanville) Imp. Jubilee Chief, by Pilot, dam Queen of the Forest, by Fireaway, was an easy outstanding first, and was going better than at any previous occasion, and it was the general remark that he was in the best form possible. R. Welbourn's (Orangeville) Lightning (imp.), by Thorndale Star, dam by Denmark, was placed second.

In Hackney stallions, foaled subsequent to 1890, Robt. Beith & Co.'s Ottawa, by Lord Derwent 2nd, and imported in his dam, the beautiful mare Mayflower, by Highflyer, was first. He is now a handsome colt, and has made a wonderful improvement during the winter, and now shows the most brilliant action forward, and also goes very well behind. Although only half educated, there is no Hackney to-day in Ontario that has the promise he has, and for him we predict many honors in the future, while his breeding is in the most fashionable lines. He was also awarded sweepstakes over his stable companion, Jubilee Chief, a decision that met the hearty approval of the majority of the visitors. Mr. Irving, of Winchester, showed a very neat, good colt in the newly imported Kilwick Fireaway, by Lord Swamland dam, by Trip-Away, and to him was awarded second premium.

SHIRE HORSES.

Heretofore those interested in this breed have not displayed a willingness to bring out their horses at the spring show, but through an advance in the prizes offered for this show a much better display was made this year. Of the eight horses which were brought in to be inspected by Dr. J. Y. Ormsby, Danville, P. Q., there appeared to be quite a close contest. At all events, they were in much better form than Shire men have been in the habit of exhibiting their horses. H. George & Sons (Crampton), gained first with Imp. Lennox, by Triton, a nicely turned horse, which, although not the heaviest in the ring, was clearly the most evenly balanced in all his points. Imported Mirfield Merchant, by Conqueror, owned by Wm. Maltby, Laurel, Ont., was a strong second. He was a heavier horse, with better Shire character, but was not as good a mover as the former horse. To the old prize-winner, King of the Castle, now eleven years old, imported by J. Gardhouse & Sons, was sent the third premium. He is standing his years remarkably well, and made a strong fight for a higher place. Highly commended was sent to Francis Coleman's (Hill's Green) British Lad, by imported Farmer's Glory, and commended to John Ireland's (Kleinburg) Sir John Welsh. But one colt rising three was brought out. This was a neat (imported in dam) horse named Cock Robin, by Game Cock. He is owned by Wm. Mullin, Hillsburg, and his dam was imported by Ormsby & Chapman. Lennox was given the sweepstakes.

CANADIAN BRED CLYDESDALES.

foaled previous to January, 1890, were a neat, good, useful lot. They had not the scale of imported horses, but were clean limbed and handsomely formed. P. Kelly's (Breechin) Pride of Dollar was again placed first, and well he deserved the honor; second, Anthony Inson's (Wexford) Tom of Wexford [1600]; third, John & James A. Boag's (Queensville) Ben Bolt [1326]; 4th, Wm. Martin's (Ida) Prince Welcome [472]. Canadian bred Clydesdale stallions, foaled in 1890:—First, H. H. Spencer's (Brooklin) Gay Lad; second, R. J. Henderson's (Yelverton) Prince Oliver; third, James McCartney's (Thamesford) McGinty; fourth, W. Crawford & Son's (Brown's Corners) New Style. V. H. C., Chas. Bennett's (Iris) Honest Joe. H. C., John McPherson's (Brougham) Pickering Laddie. Canadian bred Clydesdale stallions, foaled subsequent to 1st Jan., 1891:—First, John W. Crowie's (Claremont) Brown John; second, Charles Bennett's (Iris) Hero; third, Alex. Doherty's (Ellesmere) Glen Burnie Boy. Sweepstakes—Best Canadian bred Clydesdale stallion, any age, given by the Industrial Exhibition Association—Pride of Dollar.

IMPORTED CLYDESDALES.

The ring of aged Clydesdales was numerically weaker than we have seen it for several years, twelve of the fourteen entries being all that faced Mr. Robert Ness, of Howick, P. Q., who had previously been chosen to tie the ribbons. However, what was lacking in numbers was fully made up in individual merit, for never since the Spring Stallion show was inaugurated have the horses of this class been brought out in such superb condition, and never has there been as close competition. After the preliminary walk and trot of each of these horses up and down the sanded bridge path, prepared to counteract the treacherous slippery blocking which composed the floor of the Drill Shed, a short leet of four was drawn, including Graham Bros.' (Claremont) Queen's Own, by Prince of Wales; D. & O. Sorby's (Guelph) Grandeur, by Darnley; Robt. Davies' (Todmorden) Energy, by Macgregor; Robt. Beith & Co.'s Sir Walter, by Bold Maghie. And now the real work of the contest began. Each of these horses, with the single exception of Grandeur, had won first and sweepstakes at several previous shows; each was in the pink of condition, and each was the admiration of the visitors. Over and over again the remark was heard among the professional horsemen that they could not have believed that such an improvement could have been effected over the apparent faultless form of last season's show, yet it was there all the same. Not only was there a substantial gain in

weight but each individual had a perfect coat, and the legs of each were as fresh as in a two-year-old. Although it could hardly be expected that these ponderous horses, each weighing considerably over a ton, would be able to show the light, gay movements of the youngsters, yet as each giant moved off on the trot the crowd could not refrain from signifying their approval by applauding each favorite as he took his turn up and down the hall, for there was none of the pony about the *big four* that were fighting it out for position and honors, for each belonged to the *wide as a wagon* sort, of which English Shire breeders are wont to boast. Very carefully every point was weighed, every trait noted. The grand masculine character of the son of Prince of Wales, his capital feet and faultless pasterns, his heavy, clean bone, his grand top, his great width and immense weight. Grandeur, too, is built on nearly as large a scale, and he, too, is grand at the ground and equally good above, neatly turned, and both had that strong, hard-as-iron-look, as if they could work if this was required of them. Then there was Energy, the son of an equally illustrious sire, a trifle smoother finished above than either, yet built on quite as big a pattern as either of the foregoing. His legs and feet have all the freshness of a youngster, although he has been fitted and fitted well for each show, both fall and spring, since he was first imported. Much admired were his well placed ankles, well muscled forearms and second thighs, his strong hocks, all giving every token of immense strength. In general make-up there was very little advantage—where one lacked a point he more than made amends somewhere else; it was therefore action that must tell the tale and decide the difference, and at the trot it was as nearly a tie as in the former test, and yet the decision could not be made. Again and again they were made to show their paces. At length it was at the walk in which Grandeur won the day. He went off with that easy swinging gait that is so much admired by all lovers of the draft horse, and which all find so difficult to produce, so to Grandeur was given the first, Queen's Own second, and Energy third, Sir Walter bringing up a strong fourth. In response to the call for horses rising three, a particularly evenly balanced lot were brought out. Eight good ones were matched against each other for honors to be won. As several of them were on exhibition for the first time, it made the contest all the more exciting. The short leet in this section was composed of Wm. Innes' (Bradford) Symmetry, by Ensign, yet unbeaten in his class; R. D. Dundas' (Springville) McLaws, by General Wolfe, dam Imp. Queen of the Forest, by Sir Hildebrand; John Davidson's (Ashburn) Balgownie, by Gallant McCamon; John Vipond's (Brooklin) Erskine's Lad, by Erskine (imported), dam Heather Bloom (imported), by Farmer's Boy; John Davidson's Westfield Stamp, by Cairnbrogie Stamp. The contest was clearly between the first mentioned three, and for a length of time the chances wavered as to which would win. Symmetry was hardly carrying sufficient flesh, but his flash, legs, often admired, gave an advantage that was difficult to get over. McLaws is a right good one, and, as he is a Canadian, he had many friends who thought he should have been placed a notch higher. He is certainly one that will come again, for he has a lot of good things about him, and reminds us of his sire, General Wolfe, which horse won second at the Industrial in 1889. In Balgownie John Davidson had a grand colt, and here again many would have placed first honors, for he was quality from the ground up, lacking a bit in feather, but otherwise as good as could be, and certainly had more flesh and was in better form than any other horse in the ring.

Another good Canadian was Erskine's Lad, a bit up on legs and might have carried a little more flesh and looked better. The previously mentioned colts in this leet, bred and raised in Canada, show that it only requires the proper breeding in sire and dam to develop prize winners. A thick, wide and good colt is Westfield Stamp, and the fact of his being awarded fifth in this ring does not place him one whit lower in the scale of merit, for it was a case of comparative quality in which all were good. The honors were afterwards placed in the order named above, with Geo. Pepper's Daisy's Maclaskie very highly commended. Four came forward in the section for colts rising two. In this Alex. Cameron's (Ashburn) Royal Stamp, by his noted breeding horse, (Tannahill, dam Imp. Mary's Pet, by Cairnbrogie Stamp, was an outstanding first; J. & J. A. Bong's (Queensville) Blooming Heather, by Macneilage, was given second; W. Philip's (Yelverton) Sir Burnie Dale, by Erskine's Pride, third; and Jos. H. Millard's (Altona) Merry Monarch, by Macneilage, fourth.

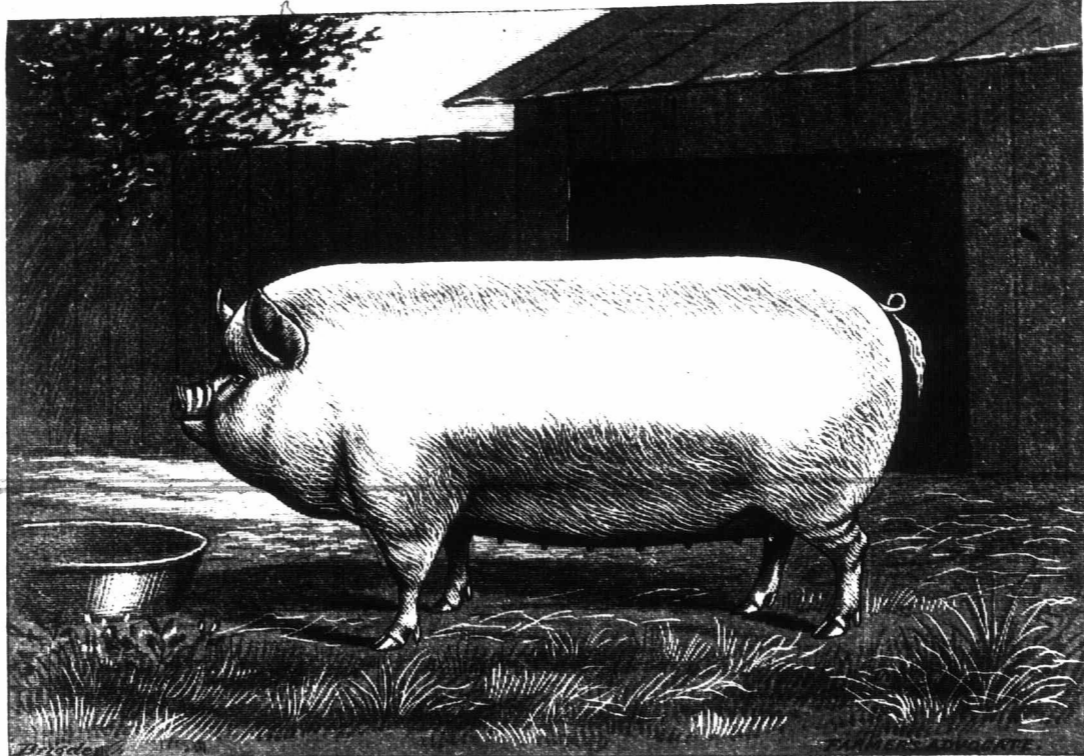
STOCK.

Improved White Yorkshires as Bred at Oak Lodge.

This breeding establishment is one of the largest engaged in swine breeding in the country, and no judge of pigs can pay a visit to Oak Lodge without awakening to the fact that a most superior herd of Improved Large White Yorkshires is stationed here.

The proprietor, Mr. Brethour, decidedly favors Walker Jones' breeding, and the lot of splendid sows of this strain which we were shown goes a long way towards convincing a visitor of the value of this breed, although a few sows of combined Spencer and Duckering breeding show exceptionally good points. In fact, the marked feature of the herd is the entire absence of coarseness, with a uniformity of type in which substance and quality are both retained in a high degree throughout the whole of the individuals of which it is comprised. In these particulars there is shown a skill in management that only an advanced breeder can attain. Success in any herd or flock may often be ascribed to one or two superior individuals that have stamped their impress upon their progeny, and in this case an imported Walker Jones sow named Marion, has done royal service in the breeding pens, her progeny having won many honors in the herd, while in fecundity she has been equally remarkable, having produced 84 pigs in less than three years. She is a sister to the sow with which Mr. Brethour won the silver cup given by Mr. Saunders Spencer for the best Yorkshire boar or sow over six months, competed for at Toronto in 1891.

The sow in the illustration, which is appropriately named Marion's Choice, is a daughter of the



IMPROVED LARGE WHITE YORKSHIRE SOW "MARION'S CHOICE," PROPERTY OF J. E. BRETHOUR, BURFORD, ONT.

foregoing, and inherits her dam's form and quality. She is very deep in the side, with smooth shoulders, good loin, and exceptionally well developed hams, has a capital head and good heart girth, and is a remarkably handsome sow.

Maid 6th, another daughter of Marion, imported in her dam, is a sow possessing great substance. She has a capital head, great depth, standing on short legs, and, although probably a trifle short, she is a sow of capital breeding character, with splendid coat of hair.

* Milly 3rd, yet another from Marion, farrowed December 1st, 1890, won second both at Toronto and London last season. She has already produced two litters, the first of eight, the second of thirteen, and is again due to farrow in a few days.

Imp. Mollington Lass, another sow of Walker Jones' breeding, is now suckling a choice litter of pigs that should give customers satisfaction.

Imp. Lady Duckering, that won second in Toronto in the aged class in 1892, as well as first and diploma in London, is a sow of beautiful Yorkshire type; possesses great length and depth, and has remarkably good hams. She weighed eight hundred pounds at the time of the exhibitions, and has since produced a wonderfully even and thrifty litter of thirteen pigs that show great development.

Space will not allow anything like an individual notice of the many good things in the herd, but for those who may find it convenient to journey to Oak Lodge, we bespeak a gratifying visit.

Five stock boars have been used on the herd during this mating season. Two of these are bred by Walker Jones, Chester, Eng. Two of Saunders Spencer's breeding are also kept, while Diamond 2nd, bred by Joseph Ashforth, of the Rookery, Sheffield, Eng., is another good one. The above have been selected with a view of retaining the high character of the herd.

Of thirty-five breeding sows that have already been selected for producing pigs to fill orders through the coming season, six are imported sows, of which four were of Walker Jones' breeding, another from C. E. Duckering, Lincolnshire, Eng., and another from George Charnock, Pellor Lane, Halifax, Eng., the balance being chiefly bred by Mr. Brethour from the admirable stock of imported sows he has on hand.

Something over two hundred pigs were sold for breeding purposes during 1892, which gives an idea of the volume of business transacted, and which is yearly increasing.

Oak Lodge is situated within sight of the Burford Station, on the Brantford and Tilsonburg branch of the G. T. R., and is nine miles from the former city.

Chatty Letter from the States.

From Our Chicago Correspondent.

Arrivals of live stock for the year so far show some decrease in cattle, a great decrease in hogs, and a liberal increase in sheep.

The great Chicago packers propose to develop the meat industry on the Pacific coast. Large packing houses and stock yards are being built by them at San Francisco and Los Angeles.

Arrivals of Texas cattle at Chicago the first week in March were 8,000, the largest receipts in over three months, and the largest receipts on record from Texas for this time of the year. The previous week 7,500 arrived, and the corresponding week last year only 1,246 arrived. March, 1892, 11,705 arrived, and the whole month of March, 1891, only 1,964 Texas cattle arrived. Indications point to very liberal offerings of Texas "fed" cattle during the month of April. It is said fewer cattle have been fattened in Texas this spring, but they are being marketed earlier than usual.

The following will give an idea of how live stock is coming forward at the principal markets of the States:—Chicago, Kansas City, Omaha and St. Louis received 114,500 cattle, 158,000 hogs, and 76,000 sheep one week, against 97,000 cattle, 206,000 hogs, and 57,700 sheep one year ago, and 81,000 cattle, 336,300 hogs, and 54,100 sheep the corresponding week two years ago. While receipts of cattle the past week were 33,000 larger than two years ago, the arrival of hogs decreased 178,000, and sheep increased 22,000.

Top native beeves, \$6; top hogs, \$8; top sheep, \$5.50; top lambs, \$6.00. A year ago the best native cattle sold in Chicago at \$5.15, the highest paid during March, April, May and June, 1892. The top for hogs last March was \$5.10, which was also the highest paid the first five months of 1892. A year ago lambs sold up to \$7, the highest recorded the first quarter of 1892.

The current prices for cattle are \$1 per 100 lbs. higher, and of hogs \$3 higher, while sheep and lambs are not so high by 50c. to 75c. per 100 lbs.

The future course of hog prices is a question of great interest. Hogs are certainly very scarce in the country, and packers are only doing a hand-to-mouth trade. The general feeling that hogs were entirely too dear has been more widespread of late, but the countrymen stop shipping when prices go off. A firm of hog salesmen say:—"We think hog feeding will pay, but, of course, there will be a reaction in a year or so, unless everybody discounts it and keeps the breeding down."

The hogs received at Chicago last month averaged 214 lbs., against 217 for January, and 219 lbs. for February, 1892, 208 lbs. for February, 1891, 232 lbs. for February, 1890, and 249 lbs. for February, 1889.

There is a great demand in the country for store pigs, and farmers are paying extravagant prices for them. At the same time thousands of 80 to 100-lb. pigs are being thrown on the market by men who think they are worth more than they would be when grown.

It is not to be wondered at that there is talk of using some of the thousands of surplus western ponies and plugs for food purposes. Horse meat would to-day be the cheapest on the list.

There is, according to latest Government statistics, one horse to every four men, women and children in the country, but a large number of them are hardly entitled to the dignity of being called horses—they are scrubs.

American farmers and dairymen are interested in Prof. Robertson's ensilage experiments.

W. W. Chapman, 27 Baker street, Portman Square, London, Eng., Secretary British South-down Flock Book, has sent to this office the first volume. It is strongly bound and well edited, and contains the pedigrees of a large number of South-down sheep, as well as much valuable information relative to this ancient breed of sheep. Every Canadian South-down breeder should procure a copy.

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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CONTENTS.

EDITORIAL:—101—Illustration. 102—Editorial Notes; Agricultural Education; Remedy for Hard Times. 103—Mr. Levi Pike's Herd of Yorkshire, Berkshire and Suffolk Swine; The Toronto Spring Stallion Show.

STOCK:—104—Improved Large White Yorkshires as bred at Oak Lodge; Chatty Letter from the States. 105—The Milk of the Holstein-Friesian Cows for Creameries; How Shall We Select Sires for Dairy Herds to Produce Uniform Results? 106—A Cow for More than One Purpose; Notes on Sheep Raising.

FARM:—106 and 107—Corn, Potatoes and Field Roots. 108—Fences and Farm Economy; Alberta's Advantages; Animal Parasites. 109—Weeds.

GARDEN AND ORCHARD:—109—Orcharding at the North.

POULTRY:—110—Poultry on the Farm.

DAIRY:—110—How Cheese Factories are Supervised in Ontario.

APICARY:—111.

VETERINARY:—111—Domestic Veterinary Treatment of the Animals of the Farm—No. 7.

FAMILY CIRCLE:—112.

QUIET HOUR:—113.

MINNIE MAY'S DEPARTMENT:—113 and 114.

UNCLE TOM'S DEPARTMENT:—114.

STOCK GOSSET:—117.

NOTICES:—117.

ADVERTISEMENTS:—115 to 120.

CANADIAN THORPE BARLEY.

Except on rare occasions and in favorable localities, the English Two-Rowed Barley have not done well in Canada, but the Duckbill and the Canadian Thorpe—an improved variety of Duckbill—have done very well in all parts where the Six-Rowed Barley succeeds. For feeding purposes it is far superior to the last named; it is also a much heavier yielder, according to English reports. It is an excellent malting variety, but for this purpose should never be mixed with any other sort. It is an upright grower, long, bright and very stiff in the straw; seldom, if ever, lodges. During the last three years it has been tested by leading farmers residing in various parts of Ontario; also by the Dominion Experimental Farms. All have found it the variety par excellence, being hardier, withstanding frost and drought better than any other sort; in fact, being equal to the hardest wheats in this respect. The average yields of this variety will vary from 40 to 60 bushels per acre, when sown on suitable soils; when sown on rich cultivated lands, the yield has sometimes reached 70 bushels per acre. The grains are large and plump; if cut early and carefully harvested, are very bright and light in color. We have procured a quantity of this grain; the stock has been carefully hand-picked in the bag and field for the past ten years, and in the field, so that it now is a well-established pedigree variety. For one new yearly subscriber to the FARMER'S ADVOCATE we will send 20 lbs. of this Barley, or for two new subscribers, 48 lbs.; for every additional new subscriber we will send 4 bushel (24 lbs.) bags free. The grain will be sent by freight or express, as desired by the receiver, who will pay R. R. charges. One dollar must accompany each new name sent.

The Milk of the Holstein-Friesian Cows for Creameries.

[A paper read before the Holstein-Friesian Association by Mr. R. Howes Crump.]

In connection with the subject of creameries, I think we should not forget to mention such men as the following: Mr. Jessie Williams, an unpretentious farmer of Rome, in the U. S., who, in 1850, first conceived the idea of associated dairies; how he has helped to relieve from hard work farmers' wives and daughters, not only here, but the whole world over, wherever dairying is being carried on, would be hard to say. Dr. Babcock, who has now given to the world, without patenting, his wonderful milk tester, which not only tells us in a few minutes how much butterfat is in the milk and lets us know if the separator is doing its work thoroughly, but also tells if our churns have taken all the butter out. Prof. Fricks, who, in 1850, was the first, I think, to suggest centrifugal method, from which we have our now nearly perfect separators; and M. Emile Wolfe has given us our standard rations for feeding milch cows.

Now, with such help it seems almost impossible for dairymen not to get the best results from their herds. Our breeders have also been doing a wonderful work in breeding up their cattle, and I think no breed has made more rapid advance than our own black and white. I am in favor of sending the milk of our Holstein-Friesian cows to a creamery, on account of the quantity and quality of their milk, which has always held its own with the best; in many cases beating all other competitors, both at cheese factories and creameries. Then, the advantages for the creamery system are:—Superior quality, uniformity, higher prices, cash sales, saving in cost of materials, no waste of cream in skim-milk or butter-milk, the skim-milk coming home fresh for calves and pigs, and, finally, relieving the farmer and his family from the drudgery of the manufacture.

The owner or superintendent of the creamery makes it his business to see that the best butter is made. He employs skillful workmen; he knows neglect or mistakes will not be tolerated. He has also every convenience at hand, and is not liable to be called away from his work by other matters. Uniformity and fine quality are likely to be the result of this system, without which we cannot compete in the markets of the world. We now send about one-half the cheese shipped to England, but only one-eighth of her butter. Denmark's trade in butter has increased more than 100 per cent. during the last five years. Her export last year exceeded one hundred millions of pounds—that is from the home of the Holstein-Friesians. Australia is shipping large quantities in vessels thoroughly equipped with refrigeration space. One consignment alone amounted to five hundred tons of butter. And if we only make the right quality and quantity of butter, Canada will soon have vessels equally well equipped.

So long as our butter is made at home and taken at the store in trade, I have little hope of Canada ever getting a good market for her butter, but when once it is carried on in the co-operative creamery system, I feel confident that ours will become the greatest dairy country in the world.

The old objection urged against cheese factories of the difficulty of detecting adulterated milk is quite done away with in creameries, thanks to Dr. Babcock's tester, which is universally used, and I hope soon to see the same in all cheese factories. The Holstein herds will average from 8,000 pounds of milk per cow, averaging at least four per cent. butterfat, making an average of 350 pounds of butter per cow. Now I am not speaking of our best herds with the great records, but of our ordinary thoroughbred stock and ordinary farm cow. I am glad to hear of several of our breeders who are sending their milk to both cheese factories and creameries with the very best results.

In speaking of the milk of the Holstein-Friesian cows for creameries, I shall have to confine myself in a great measure to my own experience. The proprietor of the Medway Creamery, London Township, informed me that the milk from my thoroughbred Holsteins was far the best that had come to the creamery, averaging for the year, 1892, 4.20 of butterfat; for three months, 4.70. My milk averaged 7,231 pounds per cow delivered at creamery; milk not sent (883 pounds), used for calves, house, etc.—making the average for the year 8,124 pounds of milk per cow. In sending milk to a creamery too much care cannot be given to have it in the cans as cool and fresh as possible. I find that Fowell's Aerator, patented in Canada, March 3rd, 1892, made at Belleville, Ont., is one of the best I have ever seen, and does its work thoroughly.

I find good corn ensilage and bran, with hay once a day, the best and cheapest winter feed for producing butterfat. Let the corn for ensilage be well matured, and in filling trampsides and corners well, and I do not think there will be any fault to find with the ensilage if these two things are attended to. The silo continues to grow in favor, but has unbelievers yet. I heard that a neighbor who came to see the filling of my silo said, "Well, he will have a nice mess of manure to draw out in the spring." I thought of "Josh Billings'" remark, "That it is curious the amount of things some folks know that ain't so."

In conclusion, let me say that I think that every breeder of Holstein-Friesians who sends his milk either to a creamery or cheese factory where the milk is tested and paid for according to its butterfat, will do more to convince all doubting Thomases of the richness of the milk of our cows than any big

records made at home. And finally, the farmer who only sells fine butter made at a creamery will never impoverish his farm, he will receive his money every month, and there will be no more going from store to store to try for the best price and take that in trade.

How Shall We Select Sires for Dairy Herds to Produce Uniform Results?

BY A. BROWN, BETHEL.

Ayrshires have been bred in Scotland for over a century, and the three principal objects kept in view have been the production of veal, beef and dairy products. The calves were fed in considerable numbers for veal, the males were fed as steers up to three or four years old for beef, and the choicest heifers were retained for the dairy. This system has many advantages, and, perhaps, to it we are most indebted for the excellent dairy qualities of the Ayrshires of the present day. They are a prolific race of cattle, and endure hardship and short pastures as well as, or better than, any of the other pure breeds.

Since the dairy interests have been increasing in volume from year to year on both sides of the Atlantic, large numbers of this breed have been imported into Canada, and these animals and their descendants have been in good demand; in fact, the supply has not been equal to the demand, especially during the last decade. The consequence has been that animals have been used for breeding that were deficient in constitution or other dairy qualities; the introduction of one of these inferior specimens has done as much damage to the reputation of the breed in any locality as ten good animals can regain. While this is true of the Ayrshires, it is equally true of the other dairy breeds, and it is the object of this paper to offer a suggestion to remedy the evil, the importance of which none should question.

Of course discussion on the subject should be argued only with a view of doing the most good to the greatest number of dairymen, and thereby establish a more rigid system of selection, which would create an unlimited demand for animals bred in these lines.

A bull is admitted to be one-half the herd, and if he is a descendant of high milking stock we might reasonably expect him to have more than half the influence on the progeny. Again, if his dams have for several generations been noted as milkers we could safely count on uniform results. The power of animals to impress upon their progeny certain characteristics depends upon the number of generations in which these qualities have been prominent. How very few animals of any breed can be traced through each ancestor for four generations. The absence of a uniform yield and quality of milk production may be the result of a variety of causes, the principal ones in the dairy breeds being either a weak constitution or a tendency to lay flesh on their own carcasses instead of converting the food into a good quality and quantity of milk.

I do not think it too much for our registry association to assist in improving the breed, and thus add to their value and usefulness.

In connection with the herd book established in Quebec, the "Race Bovine Canadienne," there was formed a so-called "Book of Gold." The names of cows were admitted to that book only when they showed a record of milk yield equal to, I think, 6,000 pounds per annum. This must be admitted by all progressive people to be a step in the right direction.

A milk record or reliable test record, attached to the pedigree of all pure-bred cows and published in the herd book, would be of great value. Some of our best dairymen are keeping private records, but this does not cover all the ground. The herd book should tell the whole story, then we could make our selections without any trouble; and to the novice or unexperienced dairymen a convenience would thus be offered by which animals could be purchased on their merits by consulting the herd book.

Let us illustrate by taking a calf when dropped to be worth \$10, when the dam and sire's dam were good performers, and \$10 extra for each cross for animals having satisfactory milk records back for eight generations or crosses would show the value to be \$120.

Let us take the opposite side of this basis and deduct \$10 for each cross with animals that were not satisfactory milkers, and a bull might in this way be shown to be worth considerably less than nothing for breeding purposes, and by the above means a reliable estimate of the actual value of an animal could easily be obtained from the herd book.

It is doubtful if it would avail anything for any person to trace the blood of their herd by private records, unless the herd book adopted the same system; especially would this be the case when necessary to get an infusion of new blood from other herds. This system would be alike beneficial to all dairymen. Every pound added to each milking per cow for the province of Ontario means 480,000,000 pounds more milk from 800,000 cows in three hundred days, or a distribution of \$3,000,000 at 75 cents per hundred, and assists to lessen the cost of production and increase the value of the herd, and could be used by giving on all pedigrees the dam's and sire's dams' record, which could be entered at time of registering in case of a heifer's first calf, or a separate record inserted in the herd book, and be made optional or compulsory, as may be determined by the association.

In regard to living cows of all ages their owners could have their records placed in a future edition of the herd book, if thought desirable.

An argument may be advanced that this would make a lengthy pedigree, but all that is necessary to be placed on them will be the dam with record, sire and sire's dam with record. Any further history of the individual could be found in the herd book.

Canada is admitted to be one of the best and healthiest breeding grounds for live stock known to the civilized world, and with these natural advantages we should spare no pains to bring our stock to the highest point of excellence, and develop a reputation that can be excelled by no other country.

A Cow for More than One Purpose.

BY A STOCK BREEDER.

In answer to my contribution in the December issue of *ADVOCATE*, James Taylor, jr., takes exception to the figures given. He, as is usual with champions of the special dairy breeds of cattle, makes the random assertion that a large cow requires more feed to produce a given quantity of milk and butter than a smaller animal. Here is what he says: "If you can keep three Jerseys on the same food consumed by two Shorthorns, and each Jersey gives as much milk as a Shorthorn, which breed pays the best?" But, Mr. Taylor, they do not seem to do it; at least, so say the tests covering three years at the Toronto Industrial. The trouble commences with that little word with which you prefix the sentence I have quoted: in fact they do not nearly do it. Again it would be strange indeed, if a test at some experimental station could not be found that would favor some special breed.

The fact is a proper test cannot be executed at an experimental station, where only a few cows of each breed are kept, and probably the best of one breed obtainable are procured while very ordinary individuals of another are pitted against them. Therefore it is quite easy to credit part of the supposed advantage obtained by one breed to the party who matched the cows for the trial, as managers of experimental stations have their predilections for certain breeds; and any impartial judge knows how impossible it is to get equally good representations of each breed, while on the other hand the cow that would make a good showing at public trial can certainly do as well in her own stable.

A few of the arguments that may be advanced are: That to this two-purpose cow we must credit the annual sum of between \$8,000,000 and \$9,000,000 of export cattle we send to the British market. That she gives milk in quantities that pay, and therefore can be profitably kept by farmers for dairy purposes, while more herds of grade Shorthorns are kept by the wideawake men who keep them for producing milk for cities and towns than all other breeds. That, on the other hand, if our farmers breed Jerseys there would be no export cattle trade; they would have to be content with dairy exports alone, and therefore the \$9,000,000 of beef would have to be made up in butter. These champions of dairy breeds would have us believe that Shorthorns will not pay for milking, that they are exclusively a beef breed, although they acknowledge that in this particular they have no equal. They must forsooth be kept for this purpose only. What I want to impress upon men like Mr. Taylor is that the two-purpose cows can do something else in milk production than nurse their calves; also that this is too expensive a plan of raising calves for beef purposes, that skim milk will answer this purpose, and while feeding this by-product to calves of this breeding, we will continue to make a paying amount of butter from cows of this description. The truth of the matter is, Shorthorn breeders had made no boast of producing ridiculous quantities of butter per day at private test, but when they appeared at the public trial they merely came and saw and conquered.

On the other hand, we have heard from three to five pounds of butter per day declared as established facts in connection with these special dairy sorts; but when the flower of the best herds were brought into public trial and a fifth part could scarcely be squeezed out, it is not surprising that ordinary men look at reports of private tests as gross exaggerations. The public trials that were carried on under the most responsible men, who had no interest in any breed, placed the Shorthorn cows so far ahead that the others were absolutely "not in it." Again, the advantages that dairy cattle have in a public competition any reasonable person can readily see, for those who breed dairy cattle and exhibit them are always at work trying to find a special cow that will out-do any previous record, and where would we expect to find record breakers among the dairy breeds expect among the leading herds of the country, which are brought out at the exhibitions. The case is different in the beef breeds. The professional showmen who exhibit these cattle do not take so much interest in milk production, and therefore take no special pains to test all their cows, as these cattle are shown from a beef standpoint, while many of these who have good milk and butter producers among cattle bred for two purposes would not care to be at the expense of bringing out one or more cows that would only stand a chance in these special trials. I had no desire to be drawn into a controversy with writers who are interested in other cattle, nor did I seek to belittle the performances of the special dairy breeds. The point I wish to make is that the cow that the dairy writers of the day affect to despise, the two-purpose cow, did easily beat the best specimens of special dairy breeds.

Notes on Sheep Raising.

BY M. J. HERBERT.

I notice a letter under the above heading in the *FARMER'S ADVOCATE* for March 1st, and must compliment the author on his enterprising methods of sheep breeding. After telling us how he makes all his ewes give him twins every year, he goes on to say, "I also believe that with care in selecting I can have ewes that will give me three or four lambs every year, and LARGE, HEALTHY ONES at that." This will indeed be splendid! But if "Practical" will allow me to make a suggestion, I would advise that, since his ewes are not Dorsets, and I presume breed only once a year, it would be wise to first make some slight alteration in the udders of his ewes, say, by making them have four teats instead of two; I have no doubt then he would be able to rear nearly all this wonderful crop of lambs. I sincerely hope he will succeed in his enterprise, and if so, that he will enlighten us through the medium of your paper as to "how it's done." Visions of wealth will begin to float through the brains of us poor sheep breeders, who, up till this time, have thought we had done well if one-third of our ewes had twins. One more hint, and I have done; when your "sheep breeder" writes again, I would suggest he choose a more appropriate "nom de plume."

FARM.

Corn, Potatoes and Field Roots.

TESTIMONY FROM FARMERS REGARDING THE BEST VARIETIES TO BE GROWN.

On account of the crowded state of our columns last month we were compelled to hold the reports of corn and roots over until the present issue. By comparing the following returns reported by many of the best farmers in Ontario, and also the tests conducted by the Experimental Union, our readers will obtain much valuable information regarding the value of the different varieties of corn, potatoes and field roots. We trust that these reports will not only be found interesting, but will also be of service by enabling them to profit by the experience of other farmers, and thus assist them to make a judicious selection of seeds for 1893.

Essex, S. R.

REPORTED BY W. S. BALDWIN, COLCHESTER.

I am not so strong in grain as formerly, as I am working into fruit—peaches, strawberries, raspberries, etc., quite largely, though I still sow grain, corn being my principal grain crop. In corn I find High Mixed the most profitable for me, as I can grow larger crop than any other, as the stalk is tall and a rapid grower, and also more leaves. I have grown as high as 100 bushels of ears to the acre, and on ten acres 1,373 bushels of ears. The past season was a very unfavorable one, on account of the wet weather.

Potatoes—The Rose is played out. I grow for early, Clark's No. 1, and for late, Rural No. 2, which is one of the best late varieties grown here.

Roots—Not grown here to any extent. I grow White French sugar beet and Steele's Short White carrot, being the best croppers I have ever grown.

As to potatoes, the crop was hardly worth harvesting, and the yield is impossible to get at.

Norfolk, W. R.

REPORTED BY W. J. CARPENTER, PORT DOVER.

Corn—Red-Blazed Yellow Eight-Rowed, or Smut Nose, and Eight-Rowed White did as well as any. Compton's Early did best for the season, as it was very wet, the first part of planting time. A neighbor of mine did not get his corn in until the 18th June, and planted Eight-Rowed White Red Blazed, and had a fair crop; nearly all ripened.

Potatoes—Beauty of Hebron and Early Sunrise about equal (say a hundred bushels per acre), and Empire State for late, with about 120 bushels per acre; yet, this variety with me was not affected by late planting. Rural New Yorker No. 2—An extensive potato grower says they did the best with him. They are free from rot and a big yielder, yet not so good for table use as the other varieties named. White Elephant—A neighbor of mine planted this variety, with a yield of about 120 bushels per acre. I never could grow them, if the season was favorable for rot, without losing about half. Early Puritan yielded well on low ground without rot.

Oxford, S. R.

REPORTED BY G. RICE, CURRIE'S CROSSING.

Corn—Many are interested in corn now for ensilage purposes, and some favor the Canadian Yellow Flint and some the larger varieties of Dent corn. One variety is too early, or rather too small a quantity of stalk; and the other, the late Dent variety, does not mature enough. The last year the writer obtained some 300 bushels from a friend in Essex County of Dent corn grown in that corn section, their season being longer than in most parts of Ontario. This variety grown in Essex County is a medium corn—that is, grows larger and taller than our Flint varieties, but matures somewhat later, though earlier than the American Dent varieties; hence it comes in as a valuable sort for ensilage purposes, and several that have tried it have reported that it has done well. A mistake somewhat marred the trial, as it was sown too thick. The kernels were small, and when sown as usual, with the drill, run on much too thick, and the seed was good and every kernel seemed to grow, which made it much too thick. Wherever it was sown thin it was well cared, well matured, and about 7 to 8 feet tall, and a field of it sown the right thickness would make grand ensilage. I also tried among other sorts Pride of the North and Pearce's Prolific, but don't want any more of those two kinds. One variety matures too late, and the other grows too small a quantity of stalks.

A practice worthy of note among dairymen in this section of late is to sow a piece of land to Greystone or White turnips for fall feed for the cows, and they come very useful when the pastures are short at this season of the year. A great deal of feed can be grown on an acre sown to this variety of turnips when cultivated the usual way, in drills, and they greatly stimulate the milk flow when fed to cows, and do not taint the milk when fed at the proper time, which is just after milking. They are fed tops and all early before winter sets in, but for storing for winter feed the Swede turnip is most in favor.

In corn the Common Yellow and White are mostly grown for grain, and Essex Dent for the silo.

In potatoes the Rose, Hebron, Star, Elephant and Minister are mostly grown. The Rural New Yorker No. 2 is well thought of as a new variety.

Oxford, N. R.

REPORTED BY W. M. GOODGER, WOODSTOCK.

Potatoes—Hampton Beauty, Chicago Market, Rural New Yorker No. 2 and Queen of the Valley.

Mangolds—Long Red.

Turnips—Hall's Westbury and Bangholm.

I have tried the new potato called Satisfaction. They did not do well with me this season.

REPORTED BY H. BOLLERT, CASSEL.

Corn for Silage—Bailey's Early proved the best. Potatoes—Out of seven varieties, Rural New Yorker No. 2 and Empire State did best, with a fair yield of a very nice, even sample, and scarcely any rotten. Chicago Market also stood well, but not so even a sample.

Mangolds—The Mammoth Long Red is still the favorite, and Bronze Top in Swedes.

REPORTED BY JOHN D. DOUGLAS, WEST ZORRA.

In potatoes, Beauty of Hebron and White Elephant are the leading varieties. I think the Beauty of Hebron does the best. There is very little of either roots or corn grown in this vicinity.

Turnips were not a very heavy crop last year. They were too late in being put in, on account of the wet weather.

Perth, N. E.

REPORTED BY N. S. MONTIETH, STRATFORD.

Corn—Very little grown, except for ensilage, which is rapidly coming into favor on account of the advantage from this system in winter dairying, which is becoming a prominent feature in agriculture, and a paying one as well. Last year I grew eight varieties, viz., Mammoth Cuban, T. White Flint, Yellow Flint (from Essex County), Compton's Early, Longfellow, True Leaming and Mammoth Southern Sweet. Have been successful with them in the order named. I believe from experiment that the mixing of varieties increases cobbing.

Potatoes—Seven varieties grown: White Elephant, Badger State, Toronto Queen, Summit, Burpee's Extra Early, Rural No. 2 and Herbing's, in order named. The first four are specially promising.

Carrots—The French Intermediate gave satisfaction. Turnips—Swedes grown; some Greylings for fall feed. Mangolds—Long Red and Yellow Intermediate.

REPORTED BY W. W. BALLANTYNE, STRATFORD.

The Short White carrot has taken the place generally of the Long Belgian.

Amongst the mangolds, the Mammoth Long Red and New Giant Yellow Intermediate are amongst the best.

We have sown the Yellow Flint Canadian corn for three years with splendid results. It does not give quite as large a quantity as some of the large Southern varieties, but it matures, and we think it is more profitable on the whole.

Huron, S. R.

REPORTED BY A. P. KETCHEN, BRUCEFIELD.

Corn—The Mammoth Southern Sweet seems to be the favorite where grown for fodder. One man tried the Red Cob, but was not at all pleased with the result. He says that the yield was disappointing, and not only that, but he says that the cattle do not seem to relish it so well as the Mammoth Southern Sweet.

Potatoes—We have been raising the Rural Blush for some time, and are well pleased with them. They are good yielders, and their keeping qualities are unexcelled; they will be nearly as good for cooking next July as they are now, and that I think is a strong argument in their favor.

Mangolds—The Mammoth Long Red is undoubtedly the best mangold for our clay loam soils.

Turnips—We like the Carter's Imperial very well; they yield well and are a nice even sample, the bulbs being round and clean and solid, and moreover they keep splendidly.

The first place among field carrots undoubtedly belongs to Steele's Improved Short White; they are heavy yielders. We had over 500 bushels of half an acre last year. They are very easily harvested, too, which is a strong point in their favor. A few still stick to the Long White Belgian, but they will soon have to give place to the Short White, when their good qualities become fully known.

Huron, W. R.

REPORTED BY J. N. KERNIGHAN, BENMILLER.

All potatoes were a failure. The White Elephant seemed about the best. I do not know of any varieties of corn and field roots which did particularly well.

Bruce, W. R.

REPORTED BY J. B. MUIR, NORTH BRUCE.

Potatoes—The Elephant leads in quantity per acre, but Rose is better in quality, and did not rot so badly this past year.

Bruce, E. R.

REPORTED BY JAMES TOLTON, WALKERTON.

Corn is not grown here as a field crop, but is grown quite extensively for green feed, and some for ensilage. For these purposes the Horse Tooth and Mammoth Southern are grown principally, but for ensilage we recommend Compton's Early. I have seen some beautiful corn of that variety this winter.

Potatoes—The varieties of potatoes grown here are White Elephant (mostly), Empire State, Beauty of Hebron and some other sorts. The Elephant rotted very badly. The Dempsey, a variety not very much grown, did not rot so much as any other variety that I grew, and is also an excellent yielder.

Field Carrots—Half Long is the favorite, for two good reasons: It is a great cropper, and easier to take up than the White Belgian.

Mangolds—The Long Mammoth Red is about the only kind grown.

Turnips—Swedes of the following varieties are grown here: East Lothian, Westbury, Sutton's Champion and Purple Top Skirving.

REPORTED BY T. T. MORDIE, WALKERTON.

For ensilage corn the Compton Early and Canadian Dent surpassed the Southern Sweet and Red Cob in a test made here, although the two latter produced more bulk per acre. On the two former there was a less bulk, but a large amount of grain nearly ripe. When the corn had been run through the cutter, pieces of cob lay thickly around when feeding the Canadian Dent and Compton Early, one quart less chop was used to beef cattle than with the other two varieties, and, in the opinion of the experimenter, the animals did fully as well.

Brant, N. R.

REPORTED BY R. S. STEVENSON, ANCASTER.

Corn—Eight-rowed Yellow and White Flint are the favorite varieties for husking, and Red Cob for ensilage.

Turnips—The Westburn Swede and Carter's Elephant have both done well.

Mangolds—Long Red and Yellow Intermediate are both excellent varieties, especially the latter.

Potatoes—Nearly all kinds rotted badly. The Beauty of Hebron seems to be the freest from rot, but is not as heavy a cropper as some of the newer varieties.

Wellington.

REPORTED BY W. W. WHITELAW, GUELPH.

Corn—Several kinds for silos and fall feeding sown. What is the best I scarcely know.

Potatoes—White Elephant is the most popular here.

Turnips—East Lothian, Hall's Westbury and Sutton's Champion are found to be as good varieties as can be sown.

Haldimand.

REPORTED BY F. C. WARNER, DE CEWSVILLE.

Corn did well, but in every instance was grown for marketing. The potato crop was a complete failure, no farmer in this vicinity having grown enough for his own use. Root-growing in these parts is very little indulged in, but could be carried on very profitably.

York, W. R.

REPORTED BY E. MULHOLLAND, NORTH TORONTO.

Corn—The Red Cob ensilage and the Pride of the North were the corns tried. Both did well considering the season, which was so wet and cool for the first month. The Red Cob is much the heaviest cropper, but the latter is the sweetest variety and has much more cob. They were grown in both hills and drills, and both made into ensilage. The former method of planting is much better, as it requires much less hand labor to keep it clean, made the entire work being done with the horse hoe, and I think the yield fully as good.

Tried the Mummy pea, but it proved a failure owing to the wet season. The Beauty of Hebron and the Early Rose are about on a par here. Roots are grown in very limited quantities, owing to the heavy texture of the soil.

REPORTED BY ROBERT MARSH, RICHMOND HILL. Early planted potatoes did well, but the later planting rotted. Early Sunrise, Beauty of Hebron and White Elephant about equal in yield and soundness. Swede Turnips did well, whilst mangolds and carrots were a grand crop. The Long Red mangolds and the Medium or White Vosges carrot are considered by far the best. Hay was a splendid crop, and fodder corn also did well.

York, N. R. REPORTED BY LEWIS TOOLE, MT. VERNON. Corn—Principally Western corn for fodder. Mangolds and carrots not much grown on account of the labor.

Turnips do well; two varieties grown—Elephant, a Jumbo, and Steele's Purple Top. Have grown 650 bushels of the latter to the acre. Potatoes—White Elephant, Beauty of Hebron, White Star, and some grow the old Early Rose. Then there are many new varieties which I cannot report.

REPORTED BY H. B. JEFFS, BOND HEAD. Corn was a good crop all over, fodder corn maturing almost fit for seed. The Mammoth Southern Sweet and Red Cob Ensilage are the leading varieties. The White Flint will not grow heavy enough, while the Compton's Early still has a place for the silo in my estimation, but should be mixed either in the hill or row, or every other row, with the larger-growing sorts.

Potatoes—Early sort, Beauty of Hebron, and for the field crop the White Elephant and Fairbank. The field roots are the Long Red mangold, Short White carrot and Purple Top or Greystone turnip.

Ontario, W. R. REPORTED BY J. R. RANDALL, NEWMARKET. Corn—Of corn there is so little grown in this locality, save for fodder purposes, that I am unable to give an opinion. Potatoes—The Early Ohio, Thorburn, White Star and Beauty of Hebron are the leading varieties.

Roots—Of turnips the best yields have been obtained from the Jumbo variety, and the Mammoth Long Red is still the favorite mangold. REPORTED BY G. A. BRODIE, BETHESDA.

Corn—Compton's Early, for quantity and quality together, is best by far; White Ensilage good quality, and Mammoth Southern great quantity but poor quality. Potatoes—Beauty of Hebron, Rural New Yorker. Roots—Intermediate mangold, and carrot, and Mammoth turnip.

Early Sunrise potato yielded well, but they were not large, and none rotten. Ontario, N. R. REPORTED BY A. F. WIANCKO, SPARROW LAKE.

Corn—Very little grown. Peas—Grown. Potatoes—Early Rose, though in some places considerable rot. Turnips—Purple Top Swede. Carrots—Improved Short White. Mangolds—Mammoth Long Red.

Ontario, S. R. REPORTED BY S. P. BROWN, WHITBY. Roots—Mostly the common varieties. Potatoes—Burbank and Beauty of Hebron do the best. Northumberland, E. R. REPORTED BY J. B. STONE, NORHAM.

The best turnip and longest keepers we have ever tried are Steele's Improved Purple Top Swede; they grow very nice in shape, and are a smooth turnip and very sweet. The only potato which did not rot any in this section was the Stray Beauty. They want first-class soil to secure a good crop.

Potatoes—We have grown the St. Patrick, and find them a very useful variety. We have grown a few Napoleons this year, which I think will be a good cropper. We crossed this variety by grafting them with the St. Patrick, the produce of which is of a pinkish shade, very uniform in color, but cannot speak of their qualities, not having tested them properly, but think that they will make a good potato.

Almost any of the turnips, carrots and mangolds do well with us. Corn—Ensilage, Mammoth Southern Sweet and Red Cob. We have crossed the Mammoth Southern Sweet with the common Canadian corn and produced a good corn, both for table use and for fodder. Cobs very large and prolific. With the second cross on the Mammoth Southern Sweet you get an early maturing variety, and almost as large as the Mammoth Southern Sweet.

REPORTED BY ALEX. HUME, BURNBRAE. We only sow corn for ensilage. The Thoroughbred White Flint is about the best variety, if the price were reasonable. Last year it cost \$2.50 per bushel. It has large cobs and a good stalk. By mixing the Learning and Red Cob you get a good silage.

Potatoes were a very light crop in this section. Field roots—All varieties of field roots were excellent. Carrots were extra good.

REPORTED BY GEO. CARLOW, WARKWORTH. Corn—Many varieties of this cereal are grown in this section for fodder and silo purposes. The M. S. S., Red Cob Ensilage, Compton's Early and Steele's Improved Ensilage corn are the principal varieties. Of these varieties Red Cob Ensilage and Compton's Early seem to be the favorites for silo purposes, as we get more cobs on them. The M. S. S. is grown mostly for early fall feeding.

Potatoes—Of the early varieties the Early Gem, Early Sunrise and Beauty of Hebron seem to be the leading varieties. Of the late varieties the St. Patrick, White Star and White Elephant are the leading varieties. A number of new varieties have been introduced, but do not seem to satisfy the community as well as the other varieties named.

Turnips—The Royal Norfolk Swede and Scottish Champion give good satisfaction. From my own experience the Royal Norfolk Swede does best with me. It is of an excellent keeping quality, and a very even cropper.

As regards Greystone turnips, I cannot give any very promising information, as through this section last year nearly half of the crop rotted in the field before they could be fed or harvested.

Mangolds—Carter's Improved Yellow Champion seems to be the most favorable on account of its superior feeding qualities, although there are a great many who grow the Long Red Mangold.

Carrots—The Improved Short White is mostly grown in this section, and is becoming more popular every year. Peas—The Egyptian Mummy, Gold Vine, Black-eyed and White-eyed peas are fast taking the place of the small white field pea.

Peterboro'. Corn—The Mammoth Sweet was the only variety grown to any extent, and it matured fairly well and gave a very heavy yield of stalk. Potatoes—The White Elephant, Burbank Seedling, Rural Blush and the Beauty of Hebron are the leading varieties, although many new ones have been tried. The Crown Jewel, a new variety, has done very well, but the season being a bad one it is almost impossible to give any accurate report.

Turnips—Sutton's Champion is the variety that still holds sway, and may be depended on almost any season.

Mangolds—The Mammoth Royal Red gave the heaviest yield, with Giant Yellow Globe a good second. Carrots—Improved Short White is superior to the White Vosges.

Peterboro', E. R. REPORTED BY J. SMITHSON, GRAYSTOCK. Mangolds—The Mammoth Long Red seems to be the favorite; the Long Yellow, Golden Tankard and Yellow Intermediate did well.

Carrots—Steele's new Short White was by far the best; it is a very strong grower; the flesh is very solid and crisp, and very easily harvested. White Belgian, White Vosges and Yellow Belgian have given good satisfaction.

Turnips—Rennie's Prize Purple Top and Steele's Selected Purple Top gave much the same results, which were very favorable. They are good growers and excellent keepers. Of the white varieties, the White Globe gave an excellent yield.

Fontenac. REPORTED BY RICHARD MOORE, WOLFE ISLAND. Corn—The Early White Flint is the best cropper we have raised as yet. I purpose trying other sorts this year. Corn for ensilage or fodder—The Southern Sweet is the only corn been tried here as yet, and produces well.

Mangolds—I have tried various varieties, and have concluded that the Mammoth Long Red is the best, both as a cropper and for feeding purposes. Turnips—Rennie's Prize Winner, sown past season for the first time, has proved to be the best ever sown in this part—good in every respect.

Carrots—Steele Bros.' Improved Short White are liked best here; they grow a heavier crop than any other carrot I ever sowed. Potatoes—Beauty of Hebron, Early Rose, Rural Blush and others. The Beauty of Hebron gives the best results in this vicinity.

Leeds, S. R. REPORTED BY M. W. STEACY, WARBURTON. Corn—Last year we planted two sorts—Red Cob and White Elephant. Stalk and leaf about equal, but we live too far north for the Red Cob, as there was scarcely any show of ears. The White Elephant, I think, under favorable conditions, would mature sufficiently for the silo, but last year did not mature as much as I should have liked. Have grown the Mammoth Southern Sweet, but it fails to produce ears.

Potatoes—Burbank. Tried a new variety last season, but owing to the extreme wet weather they were nearly a failure, therefore unable to give opinion. Oats—The Welcome put did splendidly in this section for the last three or four years. We tried the White Cluster last season, and like results very well, but owing to the unfavorableness of the season, are unable to prize or condemn, but have heard very favorable reports of former years.

Cornwall. REPORTED BY W. D. WOOD. The growing of ensilage corn is becoming more universal than formerly. Red Cob, M. S. S. and Pearce's Prolific are most generally grown. In field corn, Longfellow and King Phillip are spoken of by many as being the best.

Potatoes were a failure the past season, owing to rot. The varieties that withstood the disease the best are the Blush and Early Rose. With some the Beauty of Hebron, White Star and others did fairly well, but it seems to me that it was merely the difference in soil and time of digging, as very few will agree in saying which is the best variety.

Glengarry Co. REPORTED BY E. G. McCALLUM, MARTINTOWN. Corn for Ensilage—The following varieties have done well: Red Cob, Mammoth Southern Sweet, Thoroughbred White Flint and Common Western. Very little is sown for the grain. Potatoes were almost a complete failure, so it is hard to say what variety did best.

As to other field roots, very few are grown here. REPORTED BY JAS. H. ESDON, CURRY HILL. In corn Flint has done best, and as a rule always has yielded good crops here. In fodder corn, Red Cob and Mammoth Southern Sweet are the principal kinds sown here, but was not on an average over three-fourths of a crop last year.

Potatoes are a luxury here this winter, but the Dakota Red yielded well, where all other kinds alongside have succumbed to the wet. It is not an extra table potato. Carrots—The Long White Belgian and Half-Long White among carrots take the lead here.

Turnips—Purple Top did very well, but the root crop all round was rather a deficient one in 1892. REPORTED BY ROBT. McDONALD, DUNVEGAN. Potatoes—Early Rose, State of Maine. Turnips—Purple Top, Whitestone. Mangold Wurtzel—Yellow Globe, Long White. Corn—Red Cob and Mammoth Southern.

Carleton. REPORTED BY GEO. R. BRADLEY, MANOTICHE. Potatoes—Early Rose. Roots—Carrots did well; mangolds fairly well; turnips not so well. I tried a new variety of spring wheat called Saskatchewan; it gave good results. I intend sowing it next season.

REPORTED BY W. D. MONK, SOUTH MARSH. Potatoes—Beauty of Hebron and Early Rose. Corn—Burbank corn the Red Cob and Angel of Midnight. Spring Wheat—White Russian, Manitoba Hard and Red Fern.

Prescott. REPORTED BY D. P. L. CAMPBELL, VANKLEEK HILL. Corn—Red Cob Ensilage and Mammoth Southern Sweet are grown for fodder, also the Horse Tooth, and when planted on rich soil in hills will develop nibbins 6 to 9 inches long, which attain the late milk stage. Compton's Early and a similar variety, known as Mammoth, ripened well the past season in high and sheltered situations. Thoroughbred White Flint did not mature well this season.

Potatoes—The season being extremely wet, much of the crop was drowned; the remainder suffered from rot. The Chili withstands rot and yields well. Early Rose is apparently "running out." Beauty of Hebron, Mammoth Prolific and White Elephant were a failure also the past season.

Carrots—Short White (Steele Bros.) is giving good returns. Guerande, or Oxheart, is also considered one of the best varieties. Turnips—Not much grown; was badly injured by cabbage worm. Incessant rain rendered sprinkling with Paris Green ineffectual till too late.

Mangolds—Not grown extensively, and but the common varieties. Renfrew, S. R. REPORTED BY A. G. LINDSAY, LOCHWINNOCH. Corn—Common Dent, Long Yellow, Canada Yellow, Compton's Improved. Potatoes—Early Rose, Chilies. Swede—Turnips—Rennie's Improved.

Renfrew, N. R. REPORTED BY T. H. MASON, STAFFORD. Corn—The eight and twelve-rowed Yellow, the Smut Nose, White Flint and Blue Blades are the kinds generally grown. The yellow varieties do best on the heavier soils, and the White Flint and Blue Blade on light, poor soils. For fodder corn and ensilage purposes the Mammoth Southern Sweet and Red Cob Ensilage are chiefly grown, although Stowell's Evergreen and other varieties of sweet corn are preferred by some good authorities.

Potatoes—White Elephant for main crop, and Beauty of Hebron for early, are the favorites. The Empire State was introduced last season, and did remarkably well, perhaps better than Elephant.

Carrots—The Short White is best here. Mangolds—Very few grown. Long red varieties preferred. Sugar Beets—Red Top generally grown with good results. Turnips—Not many grown. Norfolk Purple does the best. Huntington, Que. REPORTED BY DANIEL BRIMS, ATHELSTAN.

The potatoes rotted very badly, except in some places where the land was high. The hay was fine all over the country. Chicoutimi, Que. REPORTED BY P. BRAUN, HERBERTVILLE.

Farmers are beginning to grow corn for ensilage. Potatoes—Early Rose and Nicholas keep well during the winter. Roots—Very few. Cumberland, N. S. REPORTED BY C. H. BLACK, AMHERST.

Potatoes—Silver Dollar and Early Rose, the latter being better for early use. Corn—Pearce's Prolific. Mangolds—Mammoth Long Red and Yellow Tankard. Turnips—Swedish. Carrots—White Belgian.

Chateaugay, Que. REPORTED BY R. ROBERTSON, HOWICH. Corn—Red Cob and Common Western, Compton Early and Longfellow. Chateaugay Co. REPORTED BY PETER REID, CHATEAUGAY BASIN.

Corn—Canada Yellow. Potatoes—Bliss' Triumph for two or three years has done best in this place, as we have had the rot regularly each season, the Triumph withstanding it the best. Several parties have a variety they call New Zealand, which gives good satisfaction as to yield and quality, but is very susceptible to rot.

Field roots are not extensively grown here, apart from carrots, White Belgian; I prefer a kind called Iverson's, the roots being more uniform and the shape better. I have tried several kinds of mangolds, but prefer Yellow Intermediate. Easy to handle and good cropper.

Corn—As a fodder, Evergreen Sweet is preferred. Antagonish, N. S. REPORTED BY JOHN GREGORY. Only an odd one raises corn, and then only for green feed. It is always cut before ears form. There are only a couple of silos in the country that I know of, and these are highly spoken of by their owners. So far as I know, only Giant Southern Sweet corn has been sown for these, and I do not think it even matured enough to form many ears.

P. E. Island Blues are the principal potato raised; but Early Rose, Beauty of Hebron, Frank's Chilies and several other varieties are raised. Turnips do remarkably well, but only a very few farmers raise them at all, and still fewer who raise them in any quantity. I think they will average about 500 bushels per acre.

My only experience with mangolds was from one sowing, and that was a total failure. I have seen some fine specimens of both mangolds and sugar beets, but fewer of them are raised than of turnips. Carrots also do well, but are seldom raised and then only for table use.

Flax does well, but is very little raised. Years ago it was found on nearly every farm, when the fibre was manufactured into linen at home. Even then the seed was generally thrown away as of no use. A few are now beginning to use it as an addition to skim-milk as food for calves.

New varieties of seed are hard to get, unless specially ordered by the farmer. Hints on the Growing and Culture of Corn. CHAS. C. FORD, WALLACETOWN.

My experience teaches me that the first point to consider is the proper kind and care of soil. I find that gravelly soil, well drained, is almost always sure to yield a good crop on these conditions:—Plow under in the fall a clover or grass sod, and let it lay over winter, and when the ground is dry and warm enough in spring to work upon, cover with a light coat of fine, well-rotted manure, and work in with gang plow and harrow till it is thoroughly mixed; then about the 20th or 24th of May mark the rows, and plant in hills three feet eight inches apart, each way; cover lightly, and cultivate as soon as the corn is high enough to allow it to be done without injury to the plants, and cultivate often as possible until too large to be done, and then take a hoe and give the ground around the hills a good hoeing and weeding, and nature will do the rest till cutting time.

The kinds that I find thrive best with me are Red Glaze, a hardy corn and a great yielder; twelve-rowed Yellow the second on the list, and the celebrated White Dent. These three varieties are, in my eye, by far the best in all points of consideration. Seed corn should not be kept longer than one year for seed; fresh seed is by far the best and surest. The yellow corn is the best stock corn in cultivation; but for yielding I find Red Glaze by far ahead of any variety I have yet seen; it is of short size, but is specially adapted for high land, but thrives well on any soil. I would advise farmers to give it a trial. White Dent is a great stalk-producer and grows to a great height; it is excellent for fodder corn.

Reports of the Co-operative Tests in Corn, Potatoes and Field Roots, conducted by the Experimental Union. C. A. ZAVITZ, B. S. A., SECRETARY O. A. C., GUELPH.

Co-operative tests are results obtained from experiments reported from every county of the province. Those marked "A" (O. A. C.) are the same experiments conducted at the College Farm, Guelph.

Corn. Co-operative. At O. A. C. Ears. M. S. S. 19 tons per acre. 22 tons per acre. Thoro'd White Flint 18 " " " 4.2 tons. Fine Learning 17 " " " 5 " " Mammoth 16 " " " 4.5 " " Compton's Early 11 " " " 4.5 " "

Turnips—Best out of twelve varieties. All figures given in bushels: Turnips. Co-operative Tests. At O. A. C. Carter's Elephant 363.3 531.7. Tettercorn 356.2 570. Royal Norfolk 352.2 464.3. Hartley's Bronze Top 345.5 565.7.

Mangolds—Five varieties. Yield per acre: Mangolds. Co-operative Tests: At O. A. C. Selected Mammoth Long Red 1069.6 906. Carter's Champion Yellow 939.9 998. Vilmorin's Imp. Sugar Beet 828.9 542.7. Carter's Warden Orange Globe 786.3 697. Red Globe 776.6 581.

Carrots—Five varieties: Co-operative Tests. At O. A. C. Improved Short White 761.4 1265. Large White Vosges 731 1199. Large Belgian 699.4 1073.3. Carter's Orange 629.2 840. Mitchell's 597.9 840.

The two first were easy to remove from the ground; the next was hard, and the last two were very hard. Potatoes. Co-operative Tests. At O. A. C. Empire State 91 92. Summit 290 253. Rural No. 2 (seed failed to grow) 139 213.

At the College farm the Empire State has come out ahead in the three years' test.

Fences and Farm Economy.

BY W. A. HALE, SHERBROOKE, QUEBEC.

For the last few years the financial and social condition of the farmer has in every quarter of the globe been attracting more than usual attention. The press, both agricultural and commercial, is constantly giving its own and the opinions of others upon the subject, and even our best monthly magazines contain many excellent articles upon this unsatisfactory and unsettled state of the agricultural industry generally. Just what the reasons for it may be, whether they are from political or from other causes, it is not my intention at present to discuss. That times are hard there is no denying, and when such things do exist there seem to be three main points for us to consider as most likely to bring a certain amount of relief:—(1) Better prices, if possible; (2) less cost of production, which is probable; and (3) greater economy in personal expenditure, which, in most cases, is undeniable. Now, in regard to the latter, customs which have been in vogue for generations we are apt to look upon as necessities, and are far less likely to reform than those of more recent date. We all have watched the present session at Ottawa with more or less interest to see whether coal oil is to be placed upon the free list or not, but it evidently is to be left as it was, and the wave of indignation which will sweep across the whole rural portion of the Dominion would be enough to make the powers that be tremble, had farmers but the faculty of shouting together. If I use 100 gallons of coal oil a year on my farm, and the duty causes me to pay seven cents a gallon more for it, I am prevented from the benefit of saving in this one item \$7 a year, and I naturally feel aggrieved; but may I not in a way be trying to save coal oil at the spigot while I am wasting other things at the bung? We are told that the average indirect tax, through the customs and inland revenue, is, for the Dominion, \$5.87 per head for every man, woman and child. Just what proportion the farmers pay it is hard to say, but of direct municipal and school tax there is no doubt, and this latter will probably average, including road tax, \$15 a year on every \$1,000 of farm valuation. Taking for example a farm of 100 acres, worth say \$2,000, with municipal taxes \$30, and indirect revenue taxes say \$20 more, we have \$50 a year, and these two combined, we are told, are sufficient to break down the struggling man and drive him either to seek employment in cities or in other lines of business; yet how few do we hear protesting against a heavier burden, which, by virtue of a law as useless as the incubus it brings, we are at present compelled to submit to, and which annually represents a tax actually greater in money value than all the government, municipal and school taxes put together. I refer to the unnecessary farm fences and the laws which at present compel us to build them. In the Province of Quebec the fence and herding laws are unsatisfactory enough; but why the people of Ontario and New Brunswick have so long submitted to the present existing state of affairs seems unaccountable. In Quebec the roadsides are not public pasture ground. They very properly are secured to the man who owns them, to cultivate, mow or plant with shade and ornamental trees as he sees fit, but not pasture; and under this wise law, not only are the roadsides constant sources of profit where properly cared for, but all useless roadside fences are fast disappearing, giving place to far better roads in winter, and much cleaner and more attractive appearance to the farms and fields generally. The sentimental idea that the poor woman's cow should have free pasturage in the public highway is too absurd any longer to form an excuse for the continuance of so expensive and unprogressive a custom, for in practice there is little or nothing left for the widow's gentle animal to feed upon; the beasts of the stronger brother have taken what little there might have been, and the necessary costs of gates and fences, where this imaginary benefit to the widow is supposed to exist, make it the most expensive pasture ground that could well be devised. It would, of course, be far better to make the law forbidding the straying of animals upon all highways, beaches and public places a universal one for the whole Province; but if this would be treading too much upon the traditions of those who are wedded to this relic of the dark ages, it might so be passed as to make its adoption optional with municipalities, giving, however, those townships which are wise enough to avail themselves of it power to protect their settlers from the encroachment of animals from such municipalities as have not adopted it. In this way the reform would probably spread rapidly, just as the custom of abolishing roadside fences is spreading, when the improvement derived therefrom is shown by practice. When it is said that the fence burden represents an annual tax greater than all government, municipal and school taxes together, it is not meant that any change in the law would at once entirely remove this burden, but there is no denying that in the majority of cases a very great economy could at once be practised.

In the Province of Quebec, Article 428 of the municipal code disposes of this matter as follows:— "Poundkeepers are bound to receive and retain in safe keeping animals found straying on any beach, flat, road or public place, or any land other than that of their owner's, and impounded by the rural inspector, or by any other person who finds them, until such animals are reclaimed by their owners or sold at auction under the provisions of this section."

Here then is the whole thing in a nutshell, so

far as straying animals are concerned, and this law is based upon the fundamental principle of all intelligently framed herd and fence laws, namely, that every man should keep his own animals upon his own land, and at his own expense, and, with the exception of the Provinces of Ontario and New Brunswick, I doubt if there be any other Province or State on this continent that would tolerate any other conditions to exist.

(To be continued.)

Alberta's Advantages.

During 1892 the majority of the immigrants to the Northwest located in Alberta, in the districts north of Calgary, and the prospects for these districts during the coming season are particularly bright—one of the most favored localities in this country surrounding Olds Station on the C. & E. Ry. This neighborhood and the country immediately to the west along the valley of the Dog Pound Creek is being rapidly settled up. A large number of farmers from Nebraska have taken up homesteads around Olds, and Messrs. Osler, Hammond & Nanton, the agents for the C. & E. Ry. lands, have made about seventy sales of farm lands to Nebraska men. These settlers from Nebraska are a particularly desirable class, as they are all practical men used to farming in the west, and most of them have sufficient means to make a comfortable start.

The following letter speaks for itself:— "Having made a tour of the Northwest Territories, and while thanking you for courtesies to us, we desire to say that in the respective parts of the country we have lived we have never seen such fine crops as we saw harvested in Alberta during the last season. The Edmonton country is especially fine, but ourselves and friends prefer the part of the country between Calgary and Edmonton, about 58 miles north of Calgary, at Olds Station, where so many from our country are settling. The soil is rich black vegetable mould, and crops were enormous all along the road. Some farmers were complaining because oats were only yielding 65 bushels to the acre, wheat 25 bushels of No. 1. The grass is excellent, and cures on the ground.

We visited the farms of Murray & Batho, and Mitchell-Innes Brothers, four miles from Olds Station, and found their cattle rolling fat, and were assured that the stock had never been fed hay.

From our city of Schuyler alone, our townsmen have entered and purchased 11,000 acres, all in the vicinity of Olds Station. There is plenty of land, of excellent quality, to be entered or purchased.

Our party was composed of persons who helped to settle up the State of Nebraska in 1869, and they do not consider they had one-half the advantages offered them as your country affords.

Coal and wood are abundant everywhere, while Nebraska is entirely destitute of both.

JOSEPH EDMONDSEN,
Late of King Township, Ont.
MAURICE T. WILLIAMS,
Prince Edward Co., Ont.
JANES GADSDEN,
Late of Bedford, England.

INNISFOIL, ALTA., CANADA.

Innisfoil is one of the new towns, and one of the liveliest on the Calgary & Edmonton Railway. It is a healthy and growing infant. Little more than a year ago saw its birth. In the fall of 1891 the village consisted of a small hotel, two stores and a depot. Now the hotel has been enlarged to three times its former dimensions, and a second one has been built. There are four general stores, a hardware merchant, harnessmaker, butcher, bootmaker, baker, chemist and druggist, two livery stables, two blacksmiths, lumber yard, two fine churches, and upwards of thirty dwellings and other buildings. A handsome schoolhouse, built at a cost of \$1,000, is daily filled with a throng of busy scholars; a sash and door factory, a brickyard and a newspaper are projected, and a grist mill is now being built. The population has grown from nothing to nearly two hundred souls. The assessment roll (for school purposes) over a square extending two and a-half miles from the town in every direction shows a raise in value of real and personal property from a very small sum to \$100,000.

What is the reason for this rapid and phenomenal growth? Simply because of the magnificent country thrown open to the world by the new Calgary & Edmonton Railway.

Farmers and mechanics, dairymen and storekeepers vie with one another in developing its resources. As a field for investment, or as a new country in which men of small means can secure a comfortable home, or possessors of larger capital can obtain wealth, Alberta now occupies an unrivalled position in the world to-day. Nowhere can one now find untenanted such magnificent pastoral ranges, such rolling prairies, dotted over with poplar and willow bush (representing buildings, fencing, firewood and shelter to the neighboring settler), and flowing with springs and creeks; nowhere such enormous deposits of coal and iron lying side by side, open to the eye, useless, undeveloped.

The rapid growth of Innisfoil, a growth which is rather behind than ahead of that of the country surrounding it, testifies to the excellences of that country, and to the "go" of the people who are beginning to fill the country and so support the town. These people are the cream of the Eastern Provinces, of the Central and Western States, and of the older countries. They are dotted over government land and railway sections, and bring in their beef and butter, their grain and vegetables, ten, twenty or

thirty miles to the busy stores of the new town. These stores are substantial and elegant, finished either with the beautiful British Columbia pine or cedar, or with fine brick made in the country. In some cases they occupy the whole breadth of the lot they stand on. Nor is the life of the pioneers all work. In the intervals of plowing and reaping, milking and rounding up cattle, and the thousand and one duties that harass a beginner in a new country, the cheery settlers find time for dances and concerts, socials and parties of every description. The winter climate is not continuously vigorous. The thermometer may go low, but the sting of the cold is lost in its extra dryness, and the bluffs afford a shelter to stock which is the envy of the dweller on the bleak, treeless plains to the south and east. There are still homesteads open for entry, and good railway land for sale at \$3 per acre, with payment on easy terms. Messrs. Osler, Hammond & Nanton, agents for the town site, expect to make a large number of sales of town-lots during the coming season.

Animal Parasites.

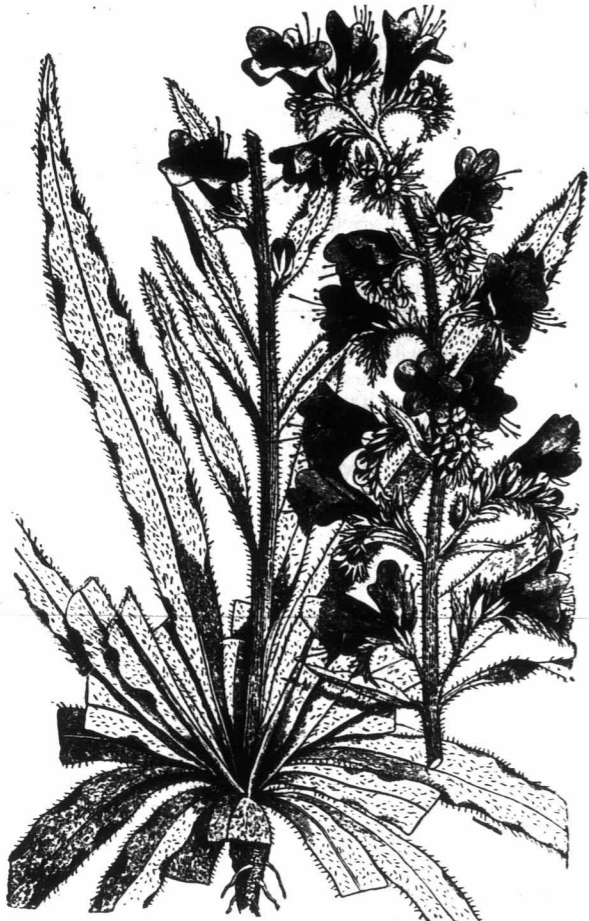
Among the troubles which beset the path of the stock keeper are the different parasites, one or more species of which are peculiar to each kind of domestic stock. Probably the most troublesome of them are the insects which are known under the general term "lice." These differ greatly in their appearance and habits. Lice belong to two distinct species or groups. The common or true lice are blood suckers, which have long, narrow heads and trunk-like sucking tubes, while the other species, known as bird or biting lice, have larger, broader heads with no sucking tubes, but biting jaws. Of the former the common cow louse is short and thick, and commonly known as the blue louse. A second species is the calf louse, found on cattle; it is also blue in color, but it is longer and not nearly so thick in the body, but is often mistaken for the other variety. There are also belonging to this group, one each for the horse, goat, swine and dog, all of which are different, and all are peculiar to the animal they infest. Although this group are the most commonly found on stock, they do not increase very fast, and are much harder to exterminate than the group which are mentioned further on. Nothing but the continued use of strong dips or cattle washes will eradicate them, as the nits continue to hatch at different intervals after the lice themselves are killed. Insect powder, grease in any form, if such penetrate to the skin, will kill them, but it must be remembered that a large number are continually sticking to the skin, and as they do not move about much, all the surface must have the remedy applied or it must be of such a nature that it will stay for a length of time upon the skin itself, or it will not be as efficacious.

Of the other group, known as the bird or biting lice, one species infests both horse and ass, while another is found on both ox and ass, one to sheep, and one to dog, one to cat, one to duck and goose, two to peacock, three to turkey, four to pigeon, and five to the hen. Although these infesting domesticated stock are apparently similar to those found on poultry, they are different and will not live on any other animals except those mentioned, the difference being quite readily distinguished when examined under a microscope, hence the supposition that they are contracted through the poultry being allowed near them is erroneous; but the wonderfully rapid manner in which this species is propagated upon the animals they are peculiar to is so astonishing that those attending stock are only too ready to credit their existence to poultry. It is therefore an interesting fact that in the case of the species that infest mammals none of the genera are found on birds, and of those that live on birds none infest mammals. The biting or bird lice are far more irritating to the stock, as they move about much more rapidly, but at the same time they are much more easily destroyed, as one application of any reliable sheep dip or cattle wash will generally exterminate them. This is to be accounted for because this species feed upon the hair, feathers and dermal scales of the skin itself, therefore from their habits it is much easier to bring them in contact with the remedial application.

When there are lice on any domesticated animal, that animal cannot thrive. It therefore requires constant attention and the closest scrutiny to keep this class of pillagers from increasing. Young animals that suffer most, as calves and lambs, will not only not thrive, but if assailed with many of these pests they become stunted and their growth is stopped; while with chickens and all young poultry, parasites of this description have more to do with the mortality that often sweeps off whole broods of them than all other types of disease. As lice breathe through their skin, grease or oil fills up these pores and quickly destroys them. Kerosene and oil, equal parts, are good remedies, but for cattle there is nothing equal to the regular washes, many of which are proprietary remedies. Carbolic acid diluted, one pound to ten gallons of water—a pound bar of soap should first be boiled in a small portion of the water; all should be well mixed before being used. Tobacco is a so very good, and where the stems can be obtained, these boiled down make both a cheap and handy remedy. Insect powder, lime or ashes help to keep lice in check, but are not so effective as a wash. Ground stave-acre seed steeped, and then mixed with oil, is good to apply to the parts most affected, which will hold vermin in check until weather is suitable for washing.

Weeds.

BY J. HOYES PANTON, M. A., F. R. G. S.



Echium Vulgare (Blueweed). Fig. 29.

A common biennial in some parts, especially around Guelph and in the County of Glengarry. The plant is from 1 to 3 feet high, and bears several stems. In spring the root leaves spread out close to the ground and form a sort of rosette; they are covered with small tubercles. Soon a centre stem arises, and as development advances others appear, upon which, from June to August, a great number of beautiful blue flowers are borne. Both leaves and stems are rough to handle, especially the latter. This plant is fond of lime, and spreads rapidly in soil containing much of this constituent. Being a biennial, it cannot withstand thorough cultivation, but takes its stand along the roadsides, fence corners, and neglected spots. Its seed often blows long distances on the snow-crust, collecting in quantities in the fence corners and around stone heaps. Spudding this plant a few inches below the surface, when in bloom, is certain destruction. If cut at the surface, as is done by some pathmasters, the trouble is increased, for where but one stem grew several will appear. Like many biennials, it has a large conical, taproot.

Lithospermum arvense (Pigeon-weed, Red-root).

This has become a great pest, especially where fall wheat is grown. It succeeds best where it gets a start in the fall, consequently we find where spring crops are chiefly sown it is comparatively scarce. It is about a foot high, rough stem, small white flowers, and a red root; the seeds are very hard, and in fours; they will last years before they lose their germinating power. Thorough cultivation must be followed where this weed is common, and if no fall wheat is sown it will soon disappear. Many resort to pulling, which, if carefully done, is followed by a fair measure of success.

SOLANACEÆ (Nightshade Family).

A family of great economic value, embracing the potato, tomato, and tobacco plants, but, at the same time, containing some plants that possess poisonous characters which make them more objectionable than most weeds.

Datura Stramonium (Thorn-Apple). Fig. 30.

This plant and its seeds are powerful narcotic poisons; the dried root is sometimes smoked as a remedy for asthma. The plant is 2 to 3 feet high; stout stem; large spread-out leaves 5 to 7 inches across, and considerably cut about the edges. The flowers are greenish-white, 3 inches long, and funnel-shaped. When the seed is matured it is confined in a capsule, one inch in diameter, and covered with prickles. It can easily be disposed of by pulling. In the Southern States it is exceedingly common. Its flowers are much visited by the tobacco moth (our tomato worm), and advantage is taken of this by putting a poisonous solution in the flower; the moth sips this when seeking nectar at the base of the funnel-shaped flower and soon after perishes. This is rather a novel kind of trap, but is claimed to be very successful in some cases.

Solanum Dulcamara (Bitter-Sweet).

The stem of this plant is 4 to 8 feet long, somewhat shrubby and climbing; violet-purple flowers, succeeded by small red berries, which are poisonous.

S. nigrum (Common Nightshade).

A low, spreading stem, more or less branched; ovate leaves; flowers white and drooping; berries black, globular and poisonous. This plant is more confined to the woods, frequently low lying spots,



FIG. 30.

Physalis viscosa (Ground Cherry).

A common weed in Niagara district. Clammy and hairy, much branched and widely spreading; leaves ovate or heart-shaped; corolla greenish-yellow, brown in the centre; anthers yellow; berry orange; calyx bladder-like, 5-angled and much larger than the berry; root perennial. This is not difficult to get rid of where thorough cultivation is carried on.

CONVOLVULACEÆ (Convolvulus Family).

This family, consisting chiefly of trailing herbs, is represented among weeds by two plants—one a very pernicious pest, the other a regular parasite, feeding upon the juices of plants attacked.

Convolvulus arvensis (Bindweed).

This creeping perennial is very troublesome in gardens, and possesses a tenacity of life which seems almost incredible. It is readily known by its flowers, resembling very much those of the morning glory, but smaller. The stem usually twines around the objects near it, or simply lies prostrate upon the ground. The leaves are triangular in outline and narrow-shaped at the base. Merely cutting this weed from time to time seems to increase its vigor and aid in spreading it. Thorough cultivation, so as to never allow it to develop leaves, and thus exhaust the store of food in its creeping root, will alone destroy it.



Cuscuta trifolii (Dodder). Fig. 31.

This annual is a parasitic plant which is sometimes found twining around the stems of growing clover. Not long ago a specimen of lucerne with dodder was received at the college for identification. The seeds of the dodder are often present in the seed of clover and lucerne, especially when not clean. After the dodder seed is sown with clover, etc., it germinates, and the plant not having any chlorophyll (green coloring matter), it cannot elaborate food from the air or soil, and must therefore get upon other plants and draw its nourishment from them. As soon as it reaches a clover plant it twines about it, and sends out from all parts of its stem, rootlets, which penetrate the stems of the clover and absorb sap from them, and thus soon weaken the vitality of the clover plant affected. The dod-

der stem, as soon as it gets a firm hold of the clover, breaks away from the seed from which it started, and lives entirely on the clover as a regular parasite. When dodder is found attacking clover the plants, clover and dodder, should be removed at once and destroyed. You can easily see it as a yellow, leafless, string-like plant twining around the clover.

Great care should be taken to see that clean seed is used. Dodder seeds, though similar to clover, are smaller, and can be screened. In Europe this parasite is often very injurious, but it is only lately that specimens have come under my observation here. It has evidently reached us, no doubt, in seed, and farmers should endeavor to check its further presence by observing the hints above.

GARDEN AND ORCHARD.

Orcharding at the North.

BY JOHN CRAIG, HORTICULTURIST, EXPERIMENTAL FARMS.

With our constantly increasing knowledge of fruits and fruit culture, and the growing interests of the masses, the area devoted to orcharding in this province and throughout the Dominion is constantly widening, and from present indications it would seem, at first sight, but a short interval before the time was reached when the various horticultural products adapted to our soil and climatic conditions could no longer be profitably grown. On second consideration, however, it will readily be seen that as our knowledge of varieties and their capabilities becomes more exact, so will our ability to produce fruit of a higher grade of excellence be correspondingly increased, so that skill assisting well-directed effort will place on the market, at a greatly decreased expenditure, an article of superior quality, thus more than offsetting the decrease in price on account of the largely augmented total market product. We may safely take it as an axiom in successful orcharding that the healthiest trees produce the finest fruit—fruit the best in quality, the longest keeping, and samples the handsomest in appearance. With this proposition submitted, let us consider the best means of attaining such a desirable end. Taking it for granted that we have healthy, well-grown, two or three-year-old nursery trees—the former are preferable in my opinion—and desire to plant an orchard: Select well-drained, loamy soil of good depth, with a northern exposure. Any treatment previous to planting which will bring the soil into a fair state of tilth is very desirable. A root or hoe crop is particularly useful towards securing this effect. Stake out the rows thirty to forty feet apart for such large growing varieties as Golden Russet, Fameuse and St. Lawrence; for varieties which come into bearing earlier, and are shorter-lived, 18 x 24 feet will be a sufficient distance. Duchess, Yellow Transparent and Wealthy are good examples of this class. Be generous in digging the holes, give plenty of space for the roots, in addition to giving a thoroughly pulverized root-bed at the bottom, made by replacing the more or less infertile subsoil with richer material from the surface. You will pardon me for repeating one or two primary instructions: Pare smoothly all wounded or bruised root surfaces, cut the broken root extremities from the under side to favor the downward emission of roots. I am not in favor of severe top-pruning at the time of transplanting. If trees are dug with such care that the roots are not unnecessarily mutilated and shortened, the cutting back, so generally advocated, can in a large measure be obviated.

In replacing the soil, see that every space, no matter how small, between the roots, is well filled; and finally, see that the soil is firmly packed throughout—this is most important, as the minute and early starting rootlets will obtain a speedy hold upon mother earth in proportion to the closeness of the contact. It is also important that the surface of the soil about the tree should be kept in a loose and finely pulverized condition, to prevent evaporation and subsequent drying out.

The December crop report of the United States shows the wheat yield per acre slightly above the average, being 13.1 bushels per acre, and an average value of 62.4 cents per bushels. The aggregate crop is estimated at 500,000,000 bushels. The average yield per acre of oats is 24.4 bushels, and the average price 31.7 cents per bushel, and the total crop 661,635,000 bushels. In North Dakota the average price of wheat was 52c.; oats, 28c.; barley, 33c., and potatoes 40c.

It is not the work that drives the boys off the farm; it is the social isolation and the humdrum routine of their daily duties, unrelieved by relaxation of the wholesome amusements that every young nature craves. Let the boys make a business of farming, give them abundant opportunities for enjoying themselves by going to lectures, concerts, dramatic entertainments and home sociables, and they won't hunger and thirst to an alarming extent for the excitement and pleasures of city life.

POULTRY.

Poultry on the Farm.

BY IDA F. TILSON, SALEM, WIS.

If bidy does not lay, reserve from the pigs some of your skim milk for her, and more eggs will appear. Then the compliment of feeding hens dairy products can be returned by giving raw eggs in his milk ration to any calf off condition. This restores appetite and digestion, glosses his hair, and is, by the way, quite as applicable to human dyspeptics.

That same intelligent feeding, careful housing, and kind treatment which successful dairymen give their cows, bidy would ever appreciate and likewise reward. For any who think the poultry subject has become so thoroughly written up that now, surely, everybody is posted and progressive, the following is related. I know of a man, rather successful in dairying and well-to-do, who has lost about fifty hens this winter. Being asked what he fed, he replied, "corn." "Do you warm it?" "No." "Do you give your hens plenty of warm water to drink?" "No, but I shovel in lots of snow to them." The poor creatures had white wattles and combs, and probably died from indigestion and bloodlessness. The winter of 1892-93 seems a particularly trying one. According to my recollection, January had not a sunny day above zero, so airing and drying out houses were almost impracticable. Consequently, there arose much complaint of frost and dampness inside, and that, too, where double walls and tight roofs exist, and even when lamps or oil heaters have been used as dryers. One writer lays this dampness to dirt floors, through which moisture is drawn up by interior heat. That explanation may be a partial one. Both my houses have dirt floors and are double boarded; one has sawdust filling, the other a tarred paper lining. Sawdust is porous, and so good an absorbent that such traces of dampness are seldom found. I have never seen a papered house that had not a wet, sickly look, whatever its floor. Paper is impervious and arrests all breaths; to my mind, a very prolific source of frost and moisture. It is needless to add that few eggs are forthcoming whenever hens become thus chilled. A chaff filling between walls would answer well where sawdust is not obtainable. There is no hope of eggs unless bidy has a keen appetite, good digestion, active habits, quick circulation, and every function perfect. When the thermometer runs far below zero, roosters and cockerels of Leghorn style get frosted combs and wattles, unless they are taken nights to a cellar, or, which is much easier, put in a barrel with some straw on the bottom and covered with old rag carpet, or anything that will admit just a little air. This winter, one of my birds became so frosted before I placed him in my barrel, that his swollen wattles would not permit him to hold his head erect nor to eat. We decided trying amputation or dubbing for once, which was done with a sharp knife. I had read that myrrh should be applied to stop the bleeding, but, in absence of that, used puff-ball. From their congested state, the wattles bled badly, more than they would have done in a normal and summer condition. He grew quite pale about his face, but never omitted crowing nor lost his appetite, and soon became perfectly well, except a lack of pride and spirit. He was before, indeed, our "cock of the walk," but now seems rather cowardly, and reminds me of what Gov. Hoard said at a dairy convention in December, substantially this: He did not favor dehorning cattle, because, whether man could perceive the necessity and economy of that part or not, deterioration always followed any mutilation of an animal. For example, a certain breed of English coach horses persistently declined after docking their manes and tails was introduced.

Fowls running with larger stock pick up many scattered and otherwise wasted kernels of grain. But hens do not like snow they are afraid; to walk in it, and are blinded by its glare. Unless good paths be made and kept for them, they cannot get to straw-stacks, cattle-sheds or anywhere, for those cheap medicines—sunshine, exercise, change and fresh air—are better than condition powders. A little hay, sand or ashes sprinkled on walks, will entice hens to go along further. In winter bidy does not develop eggs on ice water and "cold storage." Modern cattle-tanks, warmed by heaters, furnish water of a temperature suitable for running her internal machinery. Such a tank incidentally saves me many steps formerly taken in carrying warm drinks from the dwelling house to my poultry quarters.

Scientific poultry raising is no mere appendage to some other pursuit, but an important factor instead, or even a business itself, the importance of which is overlooked, because its returns are by dribblets. But "many a mickle makes a muckle." Fowls skillfully managed bring a daily cash dividend, and eventually yield a greater percentage than the stockman gets, who waits two or three years to realize on his fat cattle, six months or more for his swine, and partially suspend dairy operations in winter, or during some portion of each year. It is recorded of Daniel Webster, who was a careful farmer and intelligent stock-raiser, that the hens were his pets and gathering eggs his delight. A verse from Fanciers' Review expresses, in a general way, my sentiments:

"You say it of your Jersey cow,
That she still thinks she owns the earth;
I say it of the Brahma hen,
She ought to own it at her birth."

DAIRY.

How Cheese Factories are Supervised in Ontario.

T. B. MILLER'S REPORT TO WESTERN ONTARIO DAIRY ASSOCIATION.

MR. PRESIDENT, LADIES AND GENTLEMEN,—Having been appointed as assistant instructor at the Tavistock Dairy School, and inspector of milk by the executive of the Association, I now take a great deal of pleasure in submitting to you my second annual report:—

I commenced my duties on the 20th of April, at the Tavistock Dairy School, and remained there assisting Mr. Bell till the first part of June, then the work of inspection began. Mr. Bell received applications from fifty-one factories. I visited fifty of these and Mr. Bell the other one, as I could not get to it as soon as they wanted me.

In the course of my duties I travelled 4,000 by train and drove 825 miles. I tested 3,953 samples of milk with the Quevenne Lactometer, and 1,130 samples with the Dr. Babcock milk test, making a total of 5,083 tests.

1.97 of these samples tested 4 per cent. and over butterfat.
9.08 " " " between 3 and 4 per cent. butterfat.
.25 " " " less than 3 per cent. butterfat.
.03 " " " "

The poorest sample of milk that I received for inspection tested four-fifths of one per cent. butterfat, and the best sample tested 5.20 per cent. butterfat. During the months of May, June, July and August, samples taken from the vats tested from 3.40 to 3.80 per cent. butterfat. Then in the months of September, October and November, samples taken from the vats tested from 3.80 to 4.20 per cent. butterfat.

I went to the farms of ten patrons to get samples of milk as drawn from the cows. I laid information before magistrates against these ten patrons for tampering with their milk. They all admitted the charges and paid the penalty without going into a trial, the fines running from five to twenty-five dollars and costs. Seven of these charges were for diluting with water and three for taking cream. I found only one of these cases in a factory where the inspector had visited last year; in the other cases there had not been any inspection at the factories for some years. There were cases in the county of Norfolk, three in Middlesex and two in Lambton.

I wrote fifteen letters to patrons regarding the quality of their milk, and as far as I can learn from directors and cheesemakers, there was an improvement in every case. I found the milk on the whole much better quality than last year, and attribute a great deal of the increase in butterfat to the influence of the Babcock test. I found quite a number of these milk testers in the factories this season.

The Babcock test is a wonderful food to raise the per cent. of butterfat in the ordinary cheese factory. Corn ensilage, oil cake and meal is very good, but they are out of sight when compared with the Babcock test. In comparing the reports of 1892 with those of 1891, I found in almost every case that the average for 1892 was higher than 1891. The Babcock test has become a general favorite, because it never, never tells a lie, but gets there every time. It is surprising the amount of respect these cream thieves and water vendors have for this test. They will say, "Well, I did not do anything with the milk, but, if the Babcock test indicates that it was wrong, I believe that some one must have been at it," and they are willing to pay the fine imposed rather than go into a trial. I would strongly recommend the managers of every cheese factory to get a Babcock test; have a few samples of milk tested every day, and be sure to keep a record of the test. The majority of the factories that I visited might be classed as clean, others not as clean as they should be, and a few very dirty and untidy. In calling the attention of the cheesemakers to this matter, some of them would say that the price for making was cut so low that they could not afford to hire help enough to keep the factory as clean as it should be kept.

I found a number of making-rooms that were unfit for the manufacturing of cheese. The floors and gutters were leaking, and pools of whey standing under the factory; while these things exist it will be impossible to have nice, clean flavored cheese.

Quite a number of the patrons pay very little attention to the straining or aeration of their milk. I would say to these patrons, that this milk is to be manufactured into food for human consumption, and it should be handled as carefully as the milk that is used on their own tables. The patrons have a great deal to do with the quality of the cheese; they handle the raw material, and if that becomes tainted or partly sour, it is almost impossible for a cheese-maker to make a first-class article out of it.

With regard to the cleaning of the milk cans, I am sorry to say that a number of the patrons pay very little attention to this, especially in those sections where the whey is returned to the patrons. I know for a fact that some of the cans are left standing with the whey in them till six and seven o'clock in the evening. I have helped some patrons carry in a can of whey at six o'clock, saw them empty the whey, and wash the can with two or three quarts of warm water, then strain the milk into it at once. While patrons are so indifferent about taking care of their cans, it will be impossible for them to keep their milk in proper condition. I would urge the managers to provide some way of feeding the whey at the factory, and not allow it to

be returned in the cans on any account, as it is one of the greatest evils in connection with our industry. Out of the fifty-one factories inspected, forty-one of these return the whey in the cans, the other ten feed it to hogs somewhere near the factory. This is a very bad state of affairs indeed; if we cannot do away with this evil entirely, those who return the whey should at least be in the minority.

With regard to the making of cheese, I found that a number of our cheesemakers mature their milk too much before setting. The test we used at Tavistock Dairy School was one dram of rennet extract and eight ounces of milk at 85°, and have this coagulate in about 18 or 20 seconds. A number of the cheesemakers were using the same quantities of rennet and milk, and having it coagulate in 11 or 12 seconds. By maturing the milk to this degree, it becomes partially sour and will develop bad flavors. If this milk was set at 18 or 20 seconds, it would be much easier handled and a finer quality of cheese could be made from it.

I would advise every cheese maker to get a dram measure for the rennet, and an eight ounce glass for the milk, and just use them for testing the vats. Use the rennet test every day with every vat, then you will know exactly where you are before you start the process of manufacturing.

In the fore part of the season, and especially in the month of June, a number of the cheesemakers were troubled with open cheeses. By inquiring into the matter I found in the majority of cases that they were not maturing their curds as long as they should, and were putting it to press too warm. Some were putting their curds to press at a temperature of 91 to 92°; this temperature is altogether too high. To overcome this difficulty, after dipping the curd keep it warm up till the time of milling; mill early, air and mature the curd well before salting, and not put it to press at a temperature above 85°. By this method a firm, close, meaty cheese can be obtained.

I found that quite a number of our makers were developing too much acid in the whey, some of them dipping their curds with $\frac{1}{2}$ to $\frac{3}{4}$ of an inch of acid. This is a great mistake. I do not think that it is possible to make a fine, meaty cheese out of a curd that had developed three-quarters of an inch of acid in the whey. I do not want more than one-quarter of an inch of acid in the whey for any curd, and in the forepart of the season better results can be obtained with one-eighth of an inch, or less, of acid.

On testing the thermometers used in the factories I found that a great many of them were not correct, some of them being as much as 4° too low, while others were that much too high. Every cheese maker should get a tested thermometer and keep it for testing the ones in use.

With regard to knives and mills, there is a number of these in use that are quite unfit to work with. Quite often you will find a curd knife with half of the blades loose, and some of them missing altogether; with a knife of this description curd cannot be cut properly. Now I do not blame the managers for this. Every cheesemaker should take interest enough in his work to see that his knives are in proper condition to do first-class work. I think that I have used every kind of curd mills during the past season, from the old peg mill of twenty years ago up to the latest improved ones. Some of them would cut the curd properly, while others would tear and grind it all to pieces. I consider the Harris, White-law and McPherson mills amongst the best. Any one of these mills will do good work if handled properly.

Some of the makers pay very little attention to the appearance of their cheese. In some maturing rooms you will find cheese all shapes and sizes; they have been pressed too quickly, and not turned in the hoops in the morning. The result is anything but satisfactory—crooked cheese with projecting shoulders. When I would speak to the makers about these things they would say, "Well, it does not look very nice, but the buyers do not object;" and as long as they get them off their hands they do not seem to care. Although there are some makers that are careless and indifferent, yet I am pleased to be able to say that we have a number that are first-class makers in every respect. They not only make a first-class article, but are anxious to learn more. To these I would say, "Keep on in this way, and you will show the others that they will have to pick up or they will be left behind in the race." I believe, on the whole, the quality of the cheese made in 1892 was better than that of 1891. But I would like to say to cheesemakers that the reputation of the past will not suffice. Let every one of us do the very best we can in 1893 to improve the quality of our cheese. It would not only mean thousands of dollars to the country, but it would add greatly to the high reputation we have already for Canadian cheese. It should be the aim of every cheesemaker to turn out an article of the finest quality and finish.

During the month of December I attended nine meetings in connection with cheese factories in the counties of Grey, Dufferin and Wellington. I addressed the patrons on the care and production of milk, paying for milk according to the quality, disposal of whey at cheese factories, fodder corn and the silo, and winter dairying. There was a fair attendance and a live interest taken in all the meetings. I believe they will be the means of doing some good.

In conclusion, I wish to take this opportunity of thanking the officers of this Association, and others with whom I came in contact in the discharge of my duty, for kindness shown me during the past season.

APIARY.

The Apiary.

RY ALLEN PRINGLE, SELBY, ONT.
WHAT TO DO.

A reader of the FARMER'S ADVOCATE from Glen-garry writes: "Dear Sir—After reading your instructions in the ADVOCATE how to manage the bees in box hives wintered outside, as the weather has been very severe for a long time here—very cold, long continued, and deep snow, I thought I would examine my bees the other day and free the entrance as you advised, as they were nearly covered up in deep snow. I had 17 skips in the fall, and left them as usual to winter on the summer stands. When I came to examine them you may imagine my feelings to find them all stone dead but two skips. As there is lots of honey in all the hives but one, some of them having as much as 50 pounds each, I do not understand why they should die with plenty of food. The hives are made of thick lumber, and are good and tight and warm, and the entrance was small. When barn-yard stock are supplied with abundance of first-rate food they will stand almost any amount of cold without much shelter. Why should the bees die with plenty of good shelter and plenty of good honey in the hive? In years past we have had weather fully as cold, but perhaps not so steady cold for so long a time. Would you also please tell me how to handle the honey in the dead hives to the best advantage, as there must be nearly a thousand pounds of it."

I give this farmer's letter in full because it is of general interest, and affords text for more than one useful lesson in the winter management of other kinds of farm stock, than that kind which inhabits the bee hives or "skips," as our old-fashioned friend calls them. As bee culture is a legitimate branch of agriculture, I have always regarded the bees as a part of the live stock on the farm, and a profitable part, if rightly managed. Our correspondent is puzzled to understand how it is that his bees died (froze to death, as it were) with plenty of good food in the hives, and with a fair protection from the weather in the shape of what he calls a good hive, when he has noticed that the cattle will not freeze to death unprotected so long as they have abundance of first-rate food and drink. I shall explain the why and wherefore to him, which may prove a useful lesson to him in the future. We shall see how it is that the bees died with plenty of food at hand, and how it is that the cattle did not. We shall also see that though the cattle did not die, while the bees did, it no more pays in dollars and cents to allow the cattle to go without proper protection than the bees.

Bees do not, as cattle do, take food every day in winter time. They eat periodically, and in the intervals remain in a sort of semi-torpid condition. In one sense they "hibernate" a part of the time. In their natural condition they eat and go to sleep, then after a time they wake up and take another meal, and so on. When they are wintered outside on their summer stands without special protection, as in the case we are considering, their habit is to take their meals during the mild spells, when the temperature is up a little. If, however, it so happens that there are no mild spells in the weather for a long time, but continuous cold, the poor bees have no chance to get their meal, and hence starve to death in the presence of abundance. When the time comes that they need more food if the temperature is very low, their vitality being also down with the fast, they become chilled, and therefore unable to reach the food which is close at hand. This is why they starve first and freeze afterwards in the midst of plenty. The animals (the cattle) get their meals every few hours, and consequently cannot starve under such circumstances; nor will they be apt to literally freeze to death so long as they get an abundance of good food and drink. In protecting an animal from the inclement blast by giving it what is called a warm stable, our friend must bear in mind that we do not supply any external warmth or heat; that all must come from the animal itself—from the food (the fuel) we give it, and the amount of heat generated in the animal's organism will depend on the character and amount of fuel and the digestive capacity of the animal to use it. By giving external protection to the animal—whether bee or cow—especially at night, when there is no warmth from the sun, we are simply preventing the undue escape of the animal heat manufactured by the animals themselves.

The lesson, then, for our friend and others to learn from his dear experience is this: In the case of the bees they must have special protection from the cold, or he must take his chances of losing them everytime the long continued cold weather visits him. Had there been one single break of a day or two in that protracted period of severe cold weeks in duration, to enable the bees to feed, they might possibly be every one alive now. And even did the bees manage to pull through a long, cold winter without special protection, it still pays to protect them no less than it pays to protect the cattle, even though there be no danger of the latter freezing. Bees that are properly protected through the fall, winter and spring months require much less food than the unprotected, and will come out in much healthier condition and much better prepared to ingather the sweets when they appear. A bee which has to wear itself out through the winter in manu-

facturing heat to keep warm is not worth much in the spring, and the cow which has to tax her digestive organs to the utmost all winter to keep from freezing is also wearing herself out prematurely, to say nothing of the expense to the owner of the extra food. It is decidedly cruel as well as unprofitable to either let the cow suffer with the cold though she be well fed, or to allow the industrious little bees to starve and freeze for the want of a little care and protection. I shall tell our friend in next issue how to handle his honey.

VETERINARY.

Domestic Veterinary Treatment of the Animals of the Farm—No. 7.

BY DR. MOLE, TORONTO, ONT.
DIGESTION AND DISEASES OF THE DIGESTIVE ORGANS.

A veterinary professor of dairy practice in the Western States was once asked to give a short practical lecture on cattle feeding. Holding in one hand a tuft of sweet hay and in the other a half ripe corn cob, said: "Farmers, my lecture to-day is on the feeding of the cow. This is what she wants and this is what you give her. Thanks for your polite attention. Good day."

Short and sweet, practical, to the point and convincing. We wish that we could give as practical and forcible object lesson on the subject. There is no good in trying to fool the cow, she is a first-class judge of good hay, and can never be deceived on that subject. The requirements of the animal in the shape of food is for the rapid formation of fat, muscular tissue and bone, for which purpose an abundant supply of flesh-forming material is clearly requisite. Food produces marked changes in the animal economy, and the proper understanding of supplying that material is one of the most important subjects that can be brought under the notice of the farmer.

Infuse each year, if you will, the best of new and improved blood stock, still the standard of production cannot rise above the standard of the food the animal consumes, the effects of scientific feeding beginning with the "Cow of the Common", as she is known in England.

A common in England is a tract of land or open space of ground, the use of which is not appropriated to any individual, but belongs equally to the inhabitants of a town or village. We say, Take this cow, and it will require five or six generations of scientific feeding and artificial selection before you could produce a good milker, so that we say it would not be profitable to begin our improvement with so poor an animal. The thoroughbred race horse and trotter are quite as much the product of improved methods of feeding as are the Shorthorns, Jerseys and Holsteins; all are produced by judicious selection in mating, breeding and feeding for certain purposes, either to increase the quantity or improve the quality of the beef or milk product. That is the problem to be solved, and it matters not whether you start from a poor, common animal or a good one, permanent improvement can only be obtained by a steady, uniform effort, and not by spasmodic attempts. It is for this reason that we are instructed to write for the FARMER'S ADVOCATE. We have been all our time devoted to live stock, noting their peculiarities, investigating and treating their diseases, observing and trying to fathom out the reason, why and wherefore, and by this means render such services to the average farmer, who has not the time or bent of inclination to study the habits of our domestic animals.

Let us take for instance rumination in the ox and trace out the physiological process. What is rumination? Everybody knows that an ox chews the cud, and according to their theory that ends the matter. We will try an explanation, and thus show what a very complex operation it is. There are four divisions in the stomach of the ox. The first chamber is the largest, named the rumen or paunch; the second is called the reticulum (rete, a net) or honeycomb stomach, from the fact that its mucous membrane is raised apart into a great number of folds which cross one another at right angles, and in this way enclose a number of hexagonal cells; the reticulum communicates by a named the omasum, manifolds or psalterium, from the fact that when it is split open the lamelle or narrow aperture with the third stomach which is leaves fall apart like the leaves of a book, and from that fact butchers give it the name of maniples or manifolds. The fourth segment is termed the abomasum or rennet stomach, and is the true gastric receptacle in the preparation of the food. The internal surface of the cow's fourth stomach, by which the gastric juice is secreted, is much more extensive than that of the horse, and is accomplished by its being thrown into a number of rugae or folds. The bowels, a continuation of this, are from fifty to sixty yards long.

A ruminant, when feeding crops the grass rapidly and greedily, seizing it with the tongue, biting off the blades by pressing the lower teeth against the upper gums or callous pad of the jaw; the bunches or blades of grass are then hastily swallowed, accompanied by abundant saliva. After grazing until its appetite is satisfied the ruminant lies down, usually inclined to the right side; a sudden movement of the flanks is then to be observed similar to a hicough, and careful watching of the channel of the neck on the left or off side will show that something is at the same time quickly forced up the

gullet into the mouth. This is a bolus of grass which has been soaked and made soft by the fluids contained in the stomach, and returned saturated with them for remastication.

In all ruminants this operation of remastication is always performed in the same way. The lower jaw makes a stroke in the first place from left to right; while the second stroke is from right to left, in the opposite direction from that of the first. While this operation is going on, fresh quantities of saliva are poured into the mouth from the parotid salivary gland, and when the grass is thoroughly ground up the semifluid product is passed back into the pharynx and swallowed once more. The complex change that takes place in the food during this process it is unnecessary for us to describe in this chapter.

The precise nature of the operation, the external features of which have now been described, has been the subject of much investigation and discussion, and even at the present time there are great doubts on the subject. Only what is at present definite will be described. When solid substances of all kinds are swallowed they pass indifferently into the rumen.

Just as soon as the rumen becomes full of this semi-fluid remasticated food, it tips, as it were, a quantity into the reticulum, which, from the fact that it always contains the foreign substances, such as pieces of iron, nails, wire, leather, etc., seems to point to the fact of being a place for increased maceration, and that it is not absolutely necessary for the animal's welfare,—as we see in the camel, where it is entirely absent; therefore, in such animals the rumen must propel the ingesta upwards. Fluids may pass either into the paunch and reticulum, or into the psalterium, and from thence into the fourth stomach. We are inclined to the opinion that the regurgitated material does not pass into the rumen a second time, for it rarely happens that roots are even remasticated, that they undergo a process of pulping and then pass over the muscular pillars of oesophagus, and thence into the reticulum.

The length of time before the food returns into the mouth to be remasticated seems to be about sixteen to eighteen hours. It is therefore not the food that has just been swallowed that the cow ruminates, but that which has been macerating in the lower sac of the rumen for at least a day. The omasum or third stomach is situated on the right of the rumen, and is intermediate between the second and last, or true digestive stomach. This foliated stomach when full resembles a foot-ball in size, and when partially empty takes on a kidney shape. It is also called the manifolds, being composed of a number of leaves of irregular length, placed side by side; there are about 120 in number. These leaves are covered with a number of small processes of a conical form, very similar to the spines or prickles of the bramble or wild rose. There are eight prominent ridges, which modify the direction of the mass of food by directing it between the leaves.

The abomasum, or fourth stomach, is the real digestive organ, where the food, after being prepared by its passage through the other receptacles, is converted into the elements of nutrition. In this stomach the preparation of the food is completed, and it is gradually changed into a substance named chyme; from this substance chyle is separated as it passes through the small intestines. It is peculiarly large in the young animal during the suckling period, and when dried forms what dairymen call the rennet, and is used to coagulate milk in the manufacture of cheese. This peculiar action is due to the acid ferment acting chemically on the casein of the milk.

In the young animal living entirely on its mother's milk the fourth stomach is the only stomach employed, and is therefore fully developed, whilst the others are small and imperfectly formed. The milk contains the elements of nutrition in a much more perfect state than it exists in vegetable food; as the young animal grows, so do the stomachs become more developed. The abomasum is situated on the right side of the rumen, is oblong in form, being largest at its commencement; it turns upon itself, forming a complete curvature, and is lined by a velvety membrane composed of an irregular tooth-like projection which secretes the most important fluid of digestion—the gastric juice. At the termination of the abomasum begins the intestines. These are divided into large and small, the large occupying the posterior and the small the anterior part of the abdominal cavity.

(TO BE CONTINUED.)

Our New Dress.

The new and attractive dress on the FARMER'S ADVOCATE AND HOME MAGAZINE was obtained from the well-known type foundry, Miller & Richard, Scotland. For some years we have used type made by this old and reliable house, and find the metal hard, but not too brittle, with lots of wear in it; each character is cleanly and sharply cut, and it is free from many of the imperfections so frequently found in that of many makers. The handsome appearance of the ADVOCATE bears testimony to this fact. The numerous complimentary letters received by us regarding the typographical neatness of the ADVOCATE shows that it is appreciated by our readers. We have experimented some with others in the matter of type, and to those wanting good value for their outlay we commend them to R. L. Patterson, Jordan street, Toronto, agent for Miller & Richard.

FAMILY CIRCLE.

Rapid Transit.

The first train leaves at 6 p. m.
For the land where the Poppy blows,
The mother dear is the engineer;
And the passenger laughs and crows.
The palace car is the mother's arms;
The whistle, a low, sweet strain;
The passenger winks, and nods, and blinks,
And goes to sleep in the train!
At 8 p. m. the next train starts
For the Poppy land afar,
The summons clear falls on the ear:
"All aboard for the sleeping car!"
But what is the fare to Poppy land?
I hope it is not too dear.
The fare is this, a hug and a kiss,
And it's paid to the engineer!
So I ask of Him who children took
On His knee in kindness great,
"Take charge, I pray, of the trains each day
That leave at 6 and 8."
"Keep watch on the passengers," thus I pray,
"For to me they are very dear,
And special ward, O gracious Lord,
O'er the gen'ral engineer."
—Edgar Wade Abbot in the Christian Union.

THE STORY.

The First Settler's Story.

BY WILL CARLETON.

It ain't the funniest thing a man can do—
Existing in a country when it's new;
Nature, who moved in first—a good long while—
Has things already somewhat her own style.
And she don't want her woodland splendors battered,
Her rustic furniture broke up and scattered,
Her paintings, which long years ago were done
By that old splendid artist-king, the Sun,
Torn down and dragged in Civilization's gutter,
Or sold to purchase settlers' bread and butter.
She don't want things exposed from porch to closet,
And so she kind o' nags the man who does it.
She carries in her pockets bags of seeds,
As general agent of the thriftiest weeds;
She sends her blackbirds, in the early morn,
To superintend his fields of planted corn;
She gives him rain past any duck's desire—
Then maybe several weeks of quiet fire;
She sails mosquitoes—leeches perched on wings—
To poison him with blood-devouring stings;
She loves her ague-muscle to display,
And shake him up—say every other day;
With thoughtful, conscientious care she makes
Those travellin' poison-bottles, rattlesnakes;
She finds time, 'mongst her other family cares,
To keep in stock good wild-cat and bears;
She spurns his offered hand with silent gibes,
And compromises with the Indian tribes
(For they who've wrestled with his bloody art
Say Nature always takes an Indian's part).
In short, her toll is every day increased
To scare him out, and hustle him back East;
Till finally it appears to her some day
That he has made arrangements for to stay;
Then she turns round, as sweet as anything,
And takes her new-made friend into the ring,
And changes from a snarl into a purr—
From mother-in-law to mother, as it were.

Well, when I first infested this retreat,
Things to my view looked frigid complete;
But Nature seemed quite cheerful all about me.
A-carrying on her different trades without me.
These words the forest seemed at me to throw:
"Sit down and rest awhile before you go;
From bees to trees the whole woods seemed to say,
"You're welcome here till you can get away,
But not for time of any large amount;
So don't be hanging round on our account."
But I had come with heart-thrill in my song,
And brought my wife and plunder right along;
I hadn't a round-trip ticket to go back,
And if I had, there wasn't no railroad track;
And drivin' East was what I couldn't endure;
I hadn't started on a circular tour.

My girl-wife was as brave as she was good,
And helped me every blessed way she could;
She seemed to take to every rough old tree,
As sing'lar as when first she took to me.
She kep' our little log-house neat as wax,
And once I caught her fooling with my axe.
She learned a hundred masculine things to do;
She aimed a shot-gun pretty middlin' true,
Although, in spite of my express desire,
She always shut her eyes before she'd fire.
She hadn't the muscle (though she had the heart)
In out-door work to take an active part;
Though in our firm of Duty and Endeavor
She wasn't no silent partner whatsoever.
When I was logging, burning, choppin' wood,
She'd linger round and help me all she could,
And kept me fresh-ambitious all the while,
And lifted tons just with her voice and smile.
With no desire my glory for to rob,
She used to stan' around and boss the job;
And when first-class success my hands befell,
Would proudly say, "We did that pretty well!"
She was delicious, both to hear and see—
That pretty wife-girl that kep' house for me.

Sundays, we didn't propose, for lack o' church,
To have our souls left wholly in the lurch;
And so I shaved and dressed up, well's I could,
And did a day's work tryin' to be good.
My wife was always handbox-sleek; and when
Our fat old bull's-eye watch said half-past ten
(T'was always varying from the narrow way,
And lied on Sundays same as any day),
The family Bible from its high perch started
(The one her mother gave us when they parted),
The hymn book, full of music-balm and fire
(The one she used to sing in in the choir)—
One I sang with her from (I've got it yet)
The very first time that we really met—
(I recollect, when first our voices gibed,
A feeling that declines to be described;
And when our eyes met—near the second verse—
A kind of old-acquaintance look in hers,
And something went from mine, which, I declare,
I never even knew before was there;
And when our handstouched—slight as slight could be—
A streak o' sweetened lightning thrilled through me!
But that's enough of that; perhaps, even now,
You'll think I'm softer than the law'll allow;
But you'll protect an old man with his age,
For yesterday I turned my eightieth page;
Besides, there'd be less couples falling out
If such things were more freely talked about.)

Well, we would take these books, sit down alone,
And have a two-horse meeting, all our own,
And read our verses, sing our sacred rhymes,
And make it seem a good deal like old times.
But finally across her face there'd glide
A sort of sorry shadow from inside;
And once she dropped her head, like a tired flower,
Upon my arm, and cried for half-an-hour.
I humored her until she had it out,
And didn't ask her what it was about.
I knew right well: our reading, song and prayer
Had brought the old times back too true and square.
The large-attended meetings morn and night;
The spiritual and mental warmth and light;
Her father in his pew, next to the aisle;
Her mother, with the mother of her smile;
Her brothers' sly forbidden Sunday glee;
Her sisters, e'en a' most as sweet as she;
Her girl and boy friends, not too warm or cool;
Her little scrub class in the Sunday school;
The social, and the singings, and the ball;
And happy home-cheer waiting for them all—
These marched in slow procession through her mind,
And didn't forget to leave their tracks behind.
You married men—there's many in my view—
Don't think your wife can all wrap up in you;
Don't deem, though close her life to yours may grow,
That you are all the folks she wants to know;
Or think your stitches form the only part
Of the crochet-work of a woman's heart.
Though married souls each other's lives may burnish,
Each needs some help the other cannot furnish.

Well, neighborhoods meant counties in those days;
The roads didn't have accommodating ways;
And maybe weeks would pass before she'd see—
And less talk with—anyone but me.
The Indians sometimes showed their sun-baked faces,
But they didn't team with conversation; and
Some ideas from the birds and trees she stole,
But 'twasn't like talking with a human soul;
And finally I thought that I could trace
A half heart-hunger peering from her face.
Then she would drive it back and shut the door:
Of course that only made me see it more.
'Twas hard to see her give her life to mine,
Making a steady effort not to pine;
'Twas hard to hear that laugh bloom out each minute,
And recognise the seeds of sorrow in it,
No misery makes a close observer mourn
Like hopeless grief with hopeful courage borne;
There's nothing sets the sympathies to paining
Like a complaining woman uncomplaining,
It always draws my breath out into sighs
To see a brave look in a woman's eyes.

Well, she went on, as plucky as could be,
Fighting the foe she thought I did not see,
And using her heart-horticultural powers
To turn that forest to a bed of flowers.
You can not check an unadmitted sigh,
And so I had to soothe her on the sly,
And secretly to help her draw her load;
And soon it came to be an uphill road.
Hard work bears hard upon the average pulse,
Even with satisfactory results;
But when effects are scarce, the heavy strain
Falls dead and solid on the heart and brain,
And when we've bothered, it will oft occur
We seek blame-limber; and I lit on her.
And looked at her with daily lessening favor,
For what I knew she couldn't help, to save her.

(We often—what our minds should blush with shame for—
Blame most people for what they're least to blame for.)
Because I was Earth and Heaven to her,
And all the planets that about us hovered,
And several more that hadn't been discovered;
And my hard muscle-labor, day by day,
Deprived good-nature of its right of way;
And 'tain't no use, this trying to conceal
From hearts that love us what our own hearts feel;
They can't escape close observation's mesh,
And thoughts have tongues that are not made of flesh.
And so ere long she caught the half-grown fact;
Commenced observing how I didn't act,
And silently began to grieve and doubt
O'er old attentions now sometimes left out—
Some kind caresses, some little petting ways;
Commenced a-staying in on rainy days
(I did not see so clear then, I'll allow,
But I can trace it rather acc'rate now);
And Discord, when he once had called and seen us
Came round quite often, and edged in between us.

One night, when I came home unusual late,
Too hungry and too tired to feel first-rate,
Her supper struck me wrong (though I'll allow
She hadn't much to strike with, anyhow);
And when I went to milk the cows, and found
They'd wandered from their usual feeding ground
And maybe'd left a few long miles behind 'em,
Which I must copy, if I meet to find 'em,
Flash-quick the stay-chains of my temper broke,
And in a trice these hot words I had spoke:
"You ought to've kept these animals in view,
And drove 'em in; you'd nothing else to do,
The heft of all our life on me must fall;
You just lie round, and let me do it all."

That speech—it hadn't been gone a half a minute
Before I saw the cold black poison in it;
And I'd have given all I had, and more,
To've only safely got it back in-door,
I'm now what most folks "well-to-do" would call:
I feel to-day as if I'd give it all,
Provided I thought fifty years might reach
And kill and bury that half-minute speech.
Boys flying kites haul in their white-winged birds;
You can't do that way when you're flying words.
Things that we think may sometimes fall back dead,
But God himself can't kill them when they're said.

She handed back no words, as I could hear;
She didn't frown; she didn't shed a tear;
Half proud, half crushed, she stood and looked me o'er,
Like someone she had never seen before!
But such a sudden anguish-lit surprise
I never viewed before in human eyes.
(I've seen it oft enough since in a dream;
It sometimes wakes me like a midnight scream.)
That night, while theoretically sleeping,
I half heard and half felt that she was weeping,
And my heart then projected a design
To softly draw her face up close to mine,
And beg of her forgiveness to bestow.
For saying what we both knew wasn't so.
I've got enough of this world's good to do me,
And make my nephews painfully civil to me;
I'd give it all to know she only knew
How near I came to what was square and true,
But, somehow, every single time I'd try,
Pride would appear, and kind o' catch my eye,
And hold me on the edge of my advance,
With the cold steel of one sly scornful glance.

Next morning, when, stone-faced but heavy hearted,
With dinner pail and sharpened axe I started
Away for my day's work—she watched the door,
And followed me half way to it or more;

And I was just a-turning round at this,
And asking for my usual good-bye kiss;
But on her lip I saw a proudish curve,
And in her eye a shadow of reserve;
And she had shown—perhaps half unawares—
Some little independent breakfast hairs—
And so the usual parting didn't occur,
Although her eyes invited me to her;
Or rather half invited me, for she
Didn't advertise to furnish kisses free;
You always had—that is, I had—to pay
Full market price, and go more'n half the way.
So, with a short "Good-bye," I shut the door,
And left her as I never had before.

Now, when a man works with his muscle smartly,
It makes him up into machinery, partly;
And any trouble he may have on hand
Gets deadened like, and easier to stand.
And though the memory of last night's mistake
Bothered me with dull and heavy ache,
I all the forenoon gave my strength full rein,
And made the wounded trees bear half the pain.
But when at noon my lunch I came to eat,
Put up by her so delicately neat—
Choicer somewhat than yesterday's had been,
And some fresh, sweet-eyed pansies she'd put in—
"Tender and pleasant thoughts," I knew they meant—
It seemed as if her kiss with me she'd sent;
Then I became once more her humble lover,
And said, "To-night I'll ask forgiveness of her."

I went home over-early on that eve,
Having contrived to make myself believe,
By various signs I kind o' knew and guessed,
A thunder-storm was coming from the west.
(T'is strange, when one sly reason fills the heart,
How many honest ones will take its part;
A dozen first-class reasons said 'twas right
That I should strike home early on that night.)

Half out of breath, the cabin door I swung,
With tender heart-words trembling on my tongue;
But all within looked desolate and bare;
My house had lost its soul—she was not there!
A pencilled note was on the table spread,
And these were something like the words it said:
"The cows have strayed away again, I fear;
I watched them pretty close; don't scold me, dear.
And where they are, I think I nearly know;
I heard the bell not very long ago. . . .
I've hunted for them all the afternoon;
I'll try once more—I think I'll find them soon.
Dear, if a burden I have been to you,
And haven't helped you as I ought to do,
Let old-time memories my forgiveness plead;
I've tried to do my best—I have, indeed,
Darling, piece out with love the strength I lack,
And have kind words for me when I get back."

Scarce did I give this letter sight or tongue—
Some swift-blown rain-drops to the window crept,
And from the clouds a rough, deep growl proceeded;
My thunderstorm had come, now 'twasn't needed.
I rushed out-door. The air was stained with black;
Night had come early, on the storm-cloud's back;
And everything kept dimming to the sight.
Save when the clouds threw their electric light;
When, for a flash, so clean-cut was the view,
I'd think I saw her—knowing 'twas not true.
Through my small clearing dashed white sheets of spray,
As if the ocean waves had lost their way;
Scarcely a pause the thunder-battle made,
In the bold clamour of its cannonade.
And she, while I was sheltered, dry and warm,
Was somewhere in the clutches of this storm!
She who, when storm-frights found her at her best,
Had always hid her white face on my breast!

My dog, who'd skinned round me all the day,
Now crouched and whimpering, in a corner lay;
I dragged him by the collar to the wall,
I pressed his quivering muzzle to the shawl—
"Track her, old boy!" I shouted; and he whined,
Matched eyes with me, as if to read my mind,
Then with a yell went tearing through the wood.
I followed him, as faithful as I could,
No pleasure-trip was that, through blood and flame;
We raced with death; we hunted noble game.
All night we dragged the woods without avail;
The ground got drenched—we could not keep the trail.
Three times again my cabin home I found,
Half hoping she might be there, safe and sound;
But each time 'twas an unavailing care;
My house had lost its soul; she was not there.

When, climbing the wet trees, next morning-sun
Laughed at the ruin that the night had done,
Bleeding and drenched, by toil and sorrow bent,
Back to what used to be my home I went,
But as I neared our little clearing-ground—
Listen!—I heard the cow-bell's tinkling sound,
The cabin door was just a bit ajar;
It gleamed upon my glad eyes like a star.
"Brave heart," I said, "for such a fragile form!"
She made them guide her homeward through the storm!
Such pangs of joy I never felt before.
"You've come!" I shouted, and rushed through the door.

Yes, she had come—and gone again. She lay
With all her young life crushed and wrenched away—
Lay, the heart-ruins of our home among,
Not far from where I killed her with my tongue.
The rain-drops glittered mid her hair's long strands,
The forest thorns had torn her feet and hands,
And 'midst the tears—brave tears—that one could trace
Upon the pale but sweetly resolute face,
I once again the mournful words could read,
"I've tried to do my best—I have indeed."

And now I'm mostly done; my story's o'er;
Part of it never breathed the air before.
'Tisn't over-usual, it must be allowed,
To volunteer heart-history to a crowd,
And scatter 'mongst them confidential tears,
But you'll protect an old man with his years;
And whoso'er this story's voice can reach,
This is the sermon I would have it preach:

Boys flying kites haul in their white-winged birds;
You can't do that way when you're flying words.
"Careful with fire," is good advice, we know;
"Careful with words," is ten times doubly so.
Thoughts unexpressed may sometimes fall back dead,
But God himself can't kill them when they're said!
You have my life-grief; do you think a minute
'Twas told to take up time. There's business in it.
It sheds advice: who'er will take and live it,
Is welcome to the pain it cost to give it.

"Whatever meaning is conveyed by words must be a meaning within the scope of the mind hearing them. Words cannot convey the thought of a thinker to a no-thinker, of a largely aspiring and self-discontented soul to a creature satisfied with his poverty, and counting his meagre faculty the human standard. Neither will they readily reveal the mind of one old in thought to one who has lately begun to think."—George Macdonald.

THE QUIET HOUR.

The Peace of God.

We ask for Peace, O Lord!
Thy children ask Thy Peace;
Not what the world calls rest,
That toil and care should cease,
That through bright, sunny hours
Calm life should fleet away,
And tranquil night should fade
In smiling day;
It is not for such Peace that we would pray.

We ask Thy Peace, O Lord!
Through storm, and fear, and strife,
To light and guide us on,
Through a long, struggling life;
While no success or gain
Shall cheer the desperate fight,
Or nerve, what the world calls,
Our wasted might;
Yet pressing through the darkness to the light.

It is Thine own, O Lord,
Who toil while others sleep;
Who sow with loving care
What other hands should reap:
They lean on Thee entranced,
In calm and perfect rest,
Give us that Peace, O Lord,
Divine and blest,
Thou keepest for those hearts who love Thee best.
Adelaide Proctor.

How to Begin the Day.

A WORD TO TOILERS.

Nothing is more certain than that a few minutes alone in the morning, of quiet thought, or of reading even a few lines from some noble and lofty thinker, will serve as a keynote to the day. Of course there is the purely religious and devotional side to this, familiar to all in knowledge or in practice, and which relates to the profoundest experience of life; but this fragment of a silent hour is a part of the philosophy of the elevation of thought, and it is the elevation and clearness of thought that determines all success in practical affairs. There is nothing really so practical then, even for the most busy woman in the manifold responsibilities of housekeeping, as to absolutely set apart and hold sacred a few minutes, even if not more than five minutes each morning, in which to give oneself to something higher than oneself. It may be poet or prophet who will thus touch the keynote of life for the day—Browning, Ruskin, Emerson, or the sermons of Phillips Brooks. The word for the hour may be found in sacred writings in the Gospels, or it may be found in the works of the noble and lofty thinkers; but somewhere the word must be, which, in its own way, enters into the life of the day as a directive element, producing order, clearness and extension of vision.

There is a great deal in living high enough to catch the outlook. This transforms drudgery into duty. There is a beautiful experiment in natural history of striking a note of music, from which vibration the particles of sand on a plate will arrange themselves in order; and, thus, in the accumulation of the multitude of small duties in household life, the numberless claims to be met that no one realizes save she who meets and apportions all. Thus, in the midst of these is there a supreme need to strike the note of music that shall cause all material things to group themselves in spiritual harmony. And the thoughtful student of life comes to realize that it is of little consequence to the higher living wherewith the hands are busy with that common claim of domestic drudgery, if the thoughts are kept pure and high above all fret or jar or commotion.

The woman who keeps in her mending basket a bit of poem, or passage from some inspiring author, to glance at as a text to string thoughts on while she sews, is keeping herself in this elevated mental life out of which alone the best of work comes, and thus is fitted to order the household life, and make it sweet and harmonious.—*American Cultivator.*

The two Covenants, Jewish and Christian, have been quaintly compared to the two men who brought the branch with the cluster of grapes from the promised land. They were both bearing the same precious fruit; but one of them saw it not, yet he knew what he was carrying. The other saw both the fruit and the man who was helping him. Thus it is, that the prophets who came before Jesus testified of Him, although they did not behold Him; and we who live in the fulness of times see both the Christ of whom they testified, and themselves who were sent by God to witness of Him.

Dispose and order all thing according to thy will and judgment, yet thou shalt ever find that of necessity thou must suffer somewhat, either willingly or against thy will, and so thou shalt ever find the cross. If thou bear it unwillingly, thou makest for thyself a burden, and increasest thy load, which yet, notwithstanding, thou must bear. If thou cast away one cross, without doubt thou shalt find another, and that perhaps more heavy. As long as it is grievous to thee to suffer, and thou desirest to escape, so long shalt thou be ill at ease, and the desire of escaping tribulation shall follow thee everywhere. But if thou trust in the Lord, strength will be given thee from heaven. Set thyself, therefore, like a good, faithful servant of Christ, to bear manfully the cross of thy Lord, who out of love was crucified for thee.—*Thomas A. Kempis.*

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES:—

There has been much nonsense written about the advent of crinoline, that hideous article of woman's dress, but the style of woman's dress was never more comfortable nor better adapted to any occasion than the present, and there is no sufficient reason for laying it aside. It is said crinoline keeps the skirt from the heels, and prevents the skirt wetting the legs of the pedestrian if it is raining; this is no reason why it should be adopted. The skirt can be shortened to the right length and clear the sloppy pavement. Again it is pleaded that the cage of wire is cool in summer. It is not; the additional weight from the waist does away with any good results, and all sensible, modest women unite in denouncing its adoption. There is no ease of movement when it is worn at home, on cars, steamboats, stages, street; the stiff surroundings must be consulted and hitched up with one hand behind when we sit down. Now we are on the highway to dress reform, and Empire gowns, so soft and graceful, are becoming more and more in favor, doing away with all the cruel pressure over heart and lungs which the fashionable corset entailed—the short waist catching the strong ribs high up—there can be no compression, and ease of muscle and freedom of action make the woman's form look as the Creator intended it should, besides ensuring for the wearers immunity from many ills, such as red nose and hands, bad temper, nervous irritability and violent indigestion. Women each day are becoming more and more educated in the laws of common sense and freedom, and there is no danger of their again adopting anything so hideously ugly, vulgar and uncomfortable as crinoline.

MINNIE MAY.

Thoughts for Girls on Self-Support.

BY A. M. C.

It is unfortunate for womankind that the prejudice against woman's working is so widespread, so slow to disappear. As a consequence, among people of limited means there is something of the Chinese sentiment, which considers a family of girls a great misfortune. "Another girl! I'm going to be swamped, sure," said a farmer recently. "Yes, there's nothin' like a family of girls, and a lot of old horses fer keepin' a man down," replied the sympathetic neighbor. Another farmer of my acquaintance threatened to make a target of himself when his wife presented him with the seventh daughter. An old southern author, Professor Chas. Smith, in speaking of his son-in-law's conduct on a similar occasion, says, "He's going around with his nose in the air, doing his best to look like an injured person, when, Lord knows, he ought to be thankful! Girls are better than boys, anyday: purer, nearer heaven. It's a good thing the folks up there neither marry nor are given in marriage, for there wouldn't be husbands to go half round." These narrow-minded grumblers ignore the fact that in almost every branch of human industry women are toiling side by side with men, not less satisfactorily to the employers or the public generally. These gentlemen form their conclusions from seeing some girls remain in their father's house, though not greatly needed, waiting for some other man to shoulder the burden of their support. For this the parents are to blame. An old writer says, "The parent who allows his child to grow up without some useful calling robs the state of a good citizen, and bequeaths to it a nuisance." True, the healthy person, male or female, who depends upon another for maintenance is a cypher, a useless burden. But these epithets cannot be applied to the girls who give as much as they get; in other words, the ones who perform in their father's house the work which an outsider would be paid to do. Yet, even these should have some other means of self-support. Were they to be left without home or friends, what position could they fill? The surest capital a girl can ever hold is some trade or profession by which she can earn her own living. There would be fewer unhappy marriages if girls were in a position to paddle their own canoe—for none can deny that many young women marry for the sake of a home—a step often bitterly regretted.

Work has also its mental as well as its pecuniary advantages. "Many a time," says a Canadian literary lady, "I have thanked God for work, because it keeps one from thinking." To the mind burdened with grief, from whatever cause, there is a positive benediction in labor. "Consider how," says Carlyle, "even in the meanest sort of labor, the whole soul of man is composed into harmony, . . . doubt, envy, remorse, despair itself, shrink murmuring into their caves."

In conclusion, girls, choose wisely. Follow your own talent; in that direction is success, in any other vexation and disappointment. There is hardly anything so exasperating, so fatal to peace of mind, as distasteful employment. But to the person who loves any one kind of labor, it yields a harvest of enjoyment every day.

MY DEAR CANADIAN SISTERS AND BROTHERS:—

I have been asked to send you a monthly letter—subject—"Current Events in Ireland." There are so many of these commodities knocking about just now, I shall find, I fear, my space too limited to tell you a quarter of them; but I shall try to pick and choose so that I may send you something you will all enjoy. Tell me do you like the prospect for us of Home Rule? I do not. I do not know the principles of this healthy paper I am writing for, but it seems to be too practical and wholesome in its tone to be an advocate of that visionary "glorious cause." This name was given to it in to-day's paper, heading an article. In another column I read a more inglorious description, but I choose to give you an eye-witness description of the rough but not particularly ready scene last evening, when the last edition was being waited for by a small crowd—still a crowd—of dirty, noisy boys, men, and, I am pained to say, women. I say advisedly not ready, because the greater number of this mob had been "dining," so were in a fair way for courting the pushes, jostles and hustles they undoubtedly got. The paper was got in time, and I fancy must have proved disappointing to the many. Its contents, viz., an account of the first reading of the Bill, must have surprised them. Do you know what a small boy said one day lately when I told him I could not give him a penny? He threatened me with, "You wait till we've Home Rule; we'll have all the money then." It was too funny an answer to be angry about; but these people actually thought they should be in our houses, and we should be selling papers or begging, the day after the Bill was read! We Irish, when we are ignorant, are very much so. My opinion of it is that it is moonshine. Its organizers in '85 were strong enough, but many of them weakened their own hands since—some of them have passed away.

To change the subject I shall tell you that Lord Houghton and his two sisters, Mrs. Henneker and Lady Fitzgerald, are going to be very gay for a few weeks; invitations have been issued for two private dances, a ball and a dinner party, and I have been invited to a very pretty girl's wedding. A curious coincidence in connection with her marriage is that her wedding gown is a present from her cousin, Lord Cairns, who has been asked to give her away, and that the celebrated Miss Fortescue, who was to have been married to Lord Cairn's son, is expected in Dublin the same week. She and this pretty bride elect became staunch friends when staying together with Lady Cairns a few years ago. Miss Fortescue may possibly meet her old friend in Dublin, possibly meet Lord Cairns, and possibly hear of Lord Garmoyles' welfare. I was going to say possibly have the engagement renewed, but I seem to have heard of the young man's marriage, so my romance ends in a change of subject. I want to talk about the phonograph. It is a weird-like instrument; some of my people heard it "issue" two songs. I have planned that way of expressing its sounds myself. A "thing" cannot sing or talk or laugh; this instrument does all three, so I pronounce its ways "issues," and they are perfectly accurate. In days of old I fancy the inventor would have been burned as a witch. Was it not on New Year's Eve, hundred of years ago, that witches held their incantations? I think so, and this brings me to the latter end of my letter, which I shall close by telling you of a very gorgeous procession which took place on New Year's Day; the new Lord Mayor always takes part in the show, held each year on that day. Dick Whittington, as I always designate London's Lord Mayor, came over. Why, I can't tell you, but the fact is, he did, and so we had a really good show. He brought his carriage, drove eight horses, and his liveries were wonderful looking. The procession passed through Granton street. I had a good window in that street to see it from, and also a window in the same house, which looked sideways towards the Mansion House, so that I saw the whole affair—beginning, middle and end—and very well worth seeing it was. It so happened that I never came into Dublin on New Year's Day before, so the thing was new to me. I had often heard it made little of, but I was not blase enough to want to do this. I think it was a very pretty sight, and I was quite pleased. There were two bands heading and tailing (so to speak) the procession; while one played the other rested. The Dragoon Guard band was lovely; the streets were horribly dirty next day, but we have many asphalted streets now, and they are always walk-on-able.

I shall end now by hoping all you Canadian ladies wear short walking frocks as we do; they are delightful, after the many years' trains, demi-trains, and dresses just touching the ground we have been enduring. I don't like the crinoline era, though I hope you American, Canadian and French ladies (who, I believe, are before even the London women in new styles), will set your faces against it in the beginning, so we need have no end. Good-bye until next month. As ever, your Irish Sister,

S. M. STUDDERT-KENNEDY.

To wash flannels without shrinking, make a solution of two gallons hot water, a tablespoon of powdered borax, and enough soap to form a strong lather. Wash the flannels in it as hot as the hand can bear, using no more soap nor rubbing any more on. Rinse in hot water, squeeze and dry. Never wring flannels.

Home Dressmaking.

BY EVELYN M'WILLIAMS, GUELPH, ONT.

The first requisite is a good pattern. If you have not learned any system of cutting and fitting, get your dressmaker to cut you a pattern, or buy one of Butterick's. A good, plain, well-fitting basque pattern, and a little good taste and common sense, will enable you to cut half-a-dozen styles of dress.

CUTTING AND FITTING THE WAIST.

Out your lining first, then lay the different parts on the dress goods and cut the outside by them. Cut the fronts, backs, sleeves, and lastly the side forms, as they may be cut from the pieces left. Each piece of the waist should be so cut that the waist line will be exactly on the grain of the goods. In the sleeve the grain of the goods should run straight around the top of the arm.

Each piece of the waist having been successfully cut out, we are ready for the basting. First, carefully baste each piece of goods to its respective piece of lining. Now baste each seam, beginning at the waist line in every case, except the front darts; begin these at the top. Begin at the neck to baste the shoulder seams. Now baste down the front hems and the sleeves, and the waist will be ready for fitting. With a good pattern and careful basting this should not be difficult.

Try on the waist wrong side out first. Pin the front together, allowing the same lap you will have when the buttons are on. If it is too large take up the under-arm seams; if too long-waisted take up the shoulder-seams. Trim out the arm-holes till they fit smoothly. The neck should be cut out just low enough to prevent wrinkling and secure an easy fit. Try on the sleeves, and if they are too large take up the outer and inner seams correspondingly. Place the sleeve on the arm smoothly and notch where it meets the shoulder seam.

Now sew all seams well. Sew in the sleeves and try on again, this time right side out. If the sleeves are too long trim them off to the right length. The

selvedges. Baste this also to the bottom of the skirt on top of the velvet facing, and stitch the three together. Remove the bastings, turn over on the wrong side and baste flat for a facing. Sew the facing of lining carefully to the skirt lining, allowing no stitches to show on the right side, then sew the velvet facing to the facing of lining, turning in the edge neatly. Now join the little gores at the top of the skirt to make it fit around the hips.



Leave an opening in the back seam, which you must face neatly on one side, and leave an extension in the other fold under. If it is a "cornet" skirt, the opening must then be left in the left side seam. Now finish the top of the skirt with a belt. Join the front and sides smoothly to the belt, and dispose of the rest of the fullness at the back in a cluster of backward-turning pleats. Press the pleats in fan-shape, and sew elastics to hold them in place.

To those who have, as yet, never tested their ability for dressmaking, I would say, make a trial, and I think you will be agreeably surprised. There are very few women who have not some natural skill and taste in this art, if they but put it in practice. Your first effort may be a comparative failure, but if you continue, you will notice a marked improvement in yourself, each dress you make. If your dress is not exactly like the dressmaker's output, do not imagine you have spoiled it. If it is becoming and neatly finished, you may be sure it will look well, even if you have not copied



finishing work should all be done by hand, and not a stitch must show on the right side. Old silk, the same shade as the goods, makes nice facings. The collar must be interlined with wigan. Button-holes must be cut straight with the grain of the goods, and about one-fourth of an inch from the edge of the waist. Cut a few threads out of the outer end of each, to allow room for the button. Work around this end, but put a bar across the inner end. Press the seams, collar, cuffs, button-holes and facings on the wrong side with a warm iron. Velvet should never be pressed but drawn across the heel of the iron. Now sew in the stays; sew one in each dart, and under arm seam, beginning at the bottom of the waist; also sew one in the centre back seam. Overcast all seams finely, and finish the waist with hanging loops at the back of the arm holes.

MAKING THE SKIRT.

With the skirt, as with the waist, an inexperienced dressmaker will require a pattern. Skirts are now almost invariably a "bell" shape, or a modification of it. They are worn so severely plain that care must be taken in the cutting to secure a smooth, neat fit. Cut the lining first. If it is at all wrinkled press it smooth with a warm iron, then cut the dress goods the same. Interline the back breadth of the skirt with crinoline to make the pleats sit firmly. Baste the goods carefully on the lining, and sew up the back seam; this is the only seam on which the goods and lining should be sewed up together. Cut one-fourth of a yard of velvet on the bias, and the same shade as the goods, into facings about two inches wide; join them together and baste the velvet to the bottom of the skirt, right sides together. Now cut one and a-half yards of stiff lining into three pieces and join the



all the details. Every woman should be able to make, at least, some of her own dresses, and for those who cannot "pick up" the art, a course of instructions in cutting and fitting, from some competent dressmaker, would be a good investment. There are good systems for cutting dress waists to fit any figure, which it costs but \$5 to learn, and which can be acquired in a few lessons. Another thing to be remembered is, that the dressmaker's

bill for making your dress, would pay for another nice dress for you, and besides she will often require more goods than you will. Very few good dresses are worn out as made at first, and while many of us do not mind paying for the first making we do not care to pay for making over. If we cannot do it ourselves, we are obliged either to wear an old-fashioned dress or to throw it aside. In conclusion, I would say that, while dressmaking, as a trade, is rather trying work, cutting and sewing for one's self will be found both pleasant and remunerative employment.

UNCLE TOM'S DEPARTMENT.



At the Colored Folks' Ball.

MISS KOHNCAKE—"Did yo' break any ob de rules when yo' went to school, Mr. Johnsing?"
MR. JOHNSING—"Nope—not zae'ly. But dis yer lump on ma haide is where de teacher done broke de rule on me."

Puzzles.

1-DECAPITATION.

To Charley Edwards:

Dear cousin,—I hoped to call on you
While in the puzzle sphere,
But first you mean to go away
And forget us, too, I fear.

You say you've other work to do
That will take up all your time
From puzzling. I can't believe you'll be compelled
Such an honored place to resign.

You WHOLE the adage which tells us
There's time for work and time for play;
Now, all work would bring pain,
And sure drive pleasure away.

So, pray, don't forsake us entirely,
Send along your promised mite,
We can't afford such a loss as you
Would be from our circle bright.

There's a great deal in the word "perhaps,"
As yet we must not cry,
I think you meant to say "au revoir,"
For we can't accept "good-bye."

LILY DAY.

2-CHARADE.

I'm here COMPLETE the asking,
But asking won't leave me LAST;
I'm bound to be FIRST the cousins,
And there I will stick fast.

ADA SMITHSON.

3-CHARADE.

Some cousins come from "Pakenham,"
And first from near the "Bay,"
But none have come from "Greystock,"
And 'tis not far away.

I don't excel as a poser;
That you can plainly see;
But you will make up for that,
As "Fair Brother" claims to be.

Other new-comers have come, I see,
So I am not alone,
And even my name has been here before—
A more clever possessor, I own!

My presence, I'm afraid, was not needed;
Many clever cousins I see;
But no LAST would please me more, I think,
Than a happy "puzzler" to be.

COMPLETE tells me I am entering
On a very pleasant scene,
When I enter into "puzzledom,"
And, I think, it will that way seem.

ADA SMITHSON.

4-STAR.

1—A consonant. 2—Similar to. 3—A ballast (O. B. S.) 4—A kind of great overcoat worn upon the shoulders in the manner of a cloak (Scot.) 5—Separate. 6—An enclosed place. 7—One who makes a beginning. 8—A note in music. 9—A consonant.

FAIR BROTHER.

5-PENTAGON.

1—A consonant. 2—The fruit of the wild brier. 3—A poor, mean house. 4—Disunited. 5—Divided like the toes (bot.) 6—One of the rivers of the nether world, a draught of whose waters was said to induce oblivion of the past. 7—A quadruped.

FAIR BROTHER.

Answers to February 15th Puzzles.

1—With-in 2—Welcome. 3—In-do-lent. 4—Done, one. 5—There, here, ere. 6—Carriage. 7—Three at 4c. each, 15 at two for a cent, and 2 at four for a cent. 8—Wheel, heel. 9—They will first fill the 3 quart measure and empty it into the 5 quart measure; they then fill the 3 quart measure again and fill the 5 quart measure out of it, and 1 quart will be left in it; they then empty the 5 quart measure into the 8 quart measure, and put the one quart into the 5 quart measure, and then fill the 3 quart measure again, and 4 quarts will be left in the 8 quart measure, and 4 in the 5 and 3 quart measures.

Names of Those Who Have Sent Correct Answers to February 15th Puzzles.

Lily Day, Geo. W. Blyth, I. Irvine Devitt, Ernest Richardson, Agatha Prudhomme, A. Howkins, Ada Smithson, Josie Sheehan, A. R. Borrowsman, Elsie F. Hammond, Percy Gray, Geo. H. Woods, Mattie McFarlane, Addison and Oliver Snider.

NEW ADVERTISEMENTS.

Ayrshires and Yorkshires—Alex. Hume, Burnbrae.
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 Holstein-Friesians—E. M. S. & C. S. Mott, Norwich.
 Spraying Fruit Trees—W. E. Saunders & Co., London.
 Wagons—Bain Wagon Co., Brantford.
 Farm for Sale—W. Richardson, Portage la Prairie, Man.
 Fence—C. E. Harris, Brandon, Man.
 12th Annual Auction Sale of Stock—Wyton Stock Breeders' Association.
 Dairy Supplies—John S. Pearce & Co., London.
 Seeds—The Steele, Briggs, Marcon Seed Co., Toronto, Ont.

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FOR ONE SUBSCRIBER.

- | | |
|--|----|
| 1 Rose—Hybrid Perpetual, Red or Scarlet, | 30 |
| 1 Rose— " " Pink | 30 |
| 1 Rose— " " White | 30 |
| 1 Rose—Climbing, Pink | 30 |
| 1 Rose— " " White | 30 |
- These Roses are all strong two-year plants, of the best named varieties; will bloom the first year planted.
- | | |
|---|----|
| 2 Ampelopsis Veitchii, best climber for brick house | 30 |
| 1 Canna—Madam Crozy; best sort grown | 35 |
| 1 Hydrangea Paniculata Grandiflora, two years, strong | 30 |
| 12 Plants of either of the following valuable new Strawberries:—Woolverton, Saunders, Lovett, Beder Wood, Great Pacific or Parker Earle | 30 |
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| Currants—4 Cherry Red, or 4 White Grape, or 4 Lee's Prolific, Black | 30 |
| Currants—3 Fay's Prolific, Red, or 3 Black Champion | 30 |
| All good two-year-old plants. | |
| Gooseberries—4 Downing, best sort | 30 |
| Grapes—4 Concord, or 3 Worden | 30 |

FOR TWO SUBSCRIBERS.

- | | |
|---|----|
| 12 Plants of Cuthbert, Golden Queen or Marlboro Raspberries, and ten of any variety of the Strawberries named above with either lot of Raspberries | 60 |
| 4 of any variety of Grapes named below, or one each of any 4 varieties:—Worden, Moore's Early, Brighton, Niagara, Massachusetts, Wilder, Lindley or Salem | 60 |

FOR THREE SUBSCRIBERS.

- | | |
|---|----|
| Any 4 collections named for one subscriber, in above list, all to go to one address | 90 |
| 4 Industry Gooseberry, 2 years | 90 |
| 4 White Smith | 90 |
| 3 Moore's Diamond Grape | 90 |
| 15 Finest Mixed Colors Gladiolus | 90 |
- All plants will be packed in the best manner in damp moss and oiled paper, and sent post free to your post office address.

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14 Females and 3 Young Bulls of Rare & Choice Breeding

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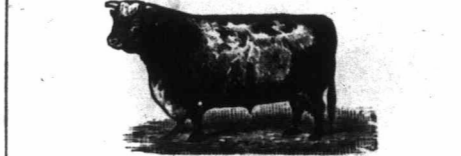
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No. 1.—Imported and Registered Clydesdale Stallion, Aberdeen (8417).

Foaled April, 1886; color, bay. Sired by Darnley King (2717), son of the famous Darnley; dam Juniper (5324), by Strathleven (1539); g. dam Jean (1158), by Lord Raglan (1203). Sound and all right, and sure foal getter, and a grand individual.

No. 2.—Standard and Registered Trotting Stallion.

Foaled 1881. Dark brown. Bred by Col. R. P. Pepper, Frankfort, Ky. Sired by Mario 1359, son of Sentinel, 2.29 (sire of eight in 2.30 list), by Hambletonian 10. 1st dam, Alice Clay, by Almont 33 (sire of 35 from 2.13 1/2 to 2.30); 2nd dam, Rosa Clay (dam of Capoul, 2.28), sired by American Clay 34; 3rd dam by Downing's Bay Messenger. Sure foal getter and a grand stock horse. Weight, 1,200 lbs.

No. 3.—Chestnut Colt (Standard).

Foaled 1891; small stripe on face and one hind foot white. Sired by The Wasser. Record, Mambrino Thoru, 2.29. 1st dam, Annie Wilkes, by Young Wilkes. The Wasser's dam is Kate Taylor, 2.23, by Aberdeen 27 (sire of Alabaster, 2.15; Hattie Woodward, 2.15), and 20 others in 2.30. 2nd dam, Emeline (trial 2.23), dam of Adele Gould, 2.19; Kate Taylor, 2.23; Daisy Hartshorn, 2.24; Augusta Schuyler, 2.26; Jersey Prince, 2.27, and two others in 2.30. Sired by Henry B. Patchen (sire of six in 2.30); son of George M. Patchen. This is a fine large colt, and very promising, and will make a good stock horse. (Standard and Registered). Brown filly, foaled 1890; sired by Moorlight 937. 1st dam, Nellie Ingersoll (dam of from 2.18 to 2.30). 2nd dam, Eva Ingersoll, sired by Battersby's Royal George, son of Royal George 9. Here is a choice filly and very highly bred, being from a great producing mare, and can herself convince you that she can trot fast.

No. 4.—Addie F.

(Standard and Registered). Golden, 2.18; sired by Fearnought Gift (sire of Molly B., 2.29), and son of Western Fearnought (sire of five from 2.18 to 2.30). 2nd dam, Eva Ingersoll, sired by Battersby's Royal George, son of Royal George 9. Here is a choice filly and very highly bred, being from a great producing mare, and can herself convince you that she can trot fast. The above horses are all for sale, and no fancy prices asked, as they must be sold. May be seen at stables, corner York and Ridout Streets. For extended pedigrees and further particulars, address D. FERGUSON, Box 284, LONDON, ONT.

330-a-om

GLEN ROUGE JERSEYS!

WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses.

321-2-y-om

HEREFORDS, STANDARD-BREDS AND YORKSHIRES.

Headquarters for the famous Tushingham blood. Tushingham (19450) sold for \$5,000. Also standard-bred colts and fillies and pedigreed Yorkshires.

321-2-y-om

J. W. N. VERNON, Waterville, P. Q.

Herefords, Leicesters, Imp. Yorkshires and Poland-Chinas.

First-class young stock for sale at moderate prices.

DAN. REED, The Spruces, GLANFORD P. O., ONT.

Ingleside -:- Herefords.

Herd headed by the Medal Bull of Canada, Young Tushingham 2nd (32398). All stock registered and from prize-winners, combining the desirable blood of

HORACE ANXIETY, THE GROVE 3rd, BRADWARDINE.

Choice young stock of the above strains for sale at reasonable prices.

IMPORTED CLYDESDALES.

Prince of Wales and Darnley strains. Saddle horses and stylish drivers for sale.

Station, H. D. SMITH, Ingleside Farm, COMPTON, Que.

two miles, G.T.R. 321-2-y-om

MORETON LODGE HEREFORDS.

20-Choice Young Bulls-20 } Good Animals, Well-bred and 25-Cows and Heifers-25 } for Sale at very reasonable prices. Also Shorthorn Cattle, Cots, wold and Southdown Sheep, Berkshire Pigs.

F. W. STONE, Guelph, Ont. 329-tf-om

FOR SALE.

During the latter part of March and April a number of Ayrshire calves from first-class milkers; also a yearling bull and Clydesdale stallion, four years old.

Apply to F. W. TAYLOR, Welman's Corners, Ont.

FOUR ONE-YEAR-OLD AYRSHIRE BULLS FOR SALE.

Pure-bred, with registered pedigrees. MICHAEL BALLANTYNE, St. Marys, Ont.

327-tf-om

DOMINION PRIZE HERD OF AYRSHIRES.

This herd has taken all the first prizes where ever shown in Quebec and Ontario since 1887 to 1891. From imported stock. Young stock for sale at liberal prices.

JAMES DRUMMOND & SONS,

315-2-y-om PETITE COTE, MONTREAL, P. Q.

THE MAPLE CLIFF STOCK FARM.

Ayrshire Cattle of deep milking strains. We are now booking orders for Bronze Turkey eggs for spring delivery. \$4 for 11 eggs.

R. REID & CO., Hintonburg, Ont.

One mile from Ottawa. 324-2-y-om

PRIZE-WINNING AYRSHIRES FOR SALE.

GURTA 4th (1181)

Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOMAS GUY, Sydenham Farm, Oshawa, Ont.

Prize-Winning AYRSHIRES FOR SALE.

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

JAS. McCORMICK & SON,

ROCKTON, ONT. 323-2-y-om

DORSET HORN AND SHROPSHIRE SHEEP,

Jersey and Holstein Cattle,

SHETLAND PONIES,

CHESTER PIGS.

ALL THOROUGHBRED. JOSEPH STRATFORD, G. T. R., Brantford, Ont.

335-2-y-om

MAPLE GROVE FARM.

Cotswold and Leicester Sheep, also Improved Large Yorkshire Swine, are my specialties.

C. W. NEVILLE, NEWBURG, ONT.

322-2-y-om

SHROPSHIRE.

Having reduced my herd of cattle by recent sales, I intend visiting Great Britain in the spring to make an importation of sheep. To make more room I offer within the reach of all 23 shearing ewes and a few rams of the very best breeding at a great reduction. Short-horns will still be bred and for sale at "Greenhouse Farm" of the very best Scotch type and quality. Write or come and see them.

W. B. COCKBURN, ABERFOYLE, ONT.

320-2-j-om

The 12th Semi-Annual Auction Sale OF PURE-BRED HOLSTEIN-FRIESIAN CATTLE

WYTON STOCK-BREEDERS' ASSOCIATION

WILL TAKE PLACE ON THE 7th of April, 1893, at London, Ont.,

AT WHICH TIME WILL BE SOLD A LARGE NUMBER OF Bull and Heifer Calves, also Aged Cattle.

The Stock is all guaranteed and registered. This is the finest Stock the Association has yet offered for sale. TERMS:—Twenty-five per cent. down; balance, three to six months' joint notes.

J. N. SCATCHERD.

330-b-o

5,000 ACRES of Land for Sale from \$5 to \$10 per Acre.

BRITISH COLUMBIA—The California of the Dominion.

This is a young and rising country, with productive powers for grain, fruits, vegetables, stock and poultry raising, second to none in America.

MACKINNON, MACFARLANE & CO., P. O. Box 926 Vancouver, B. C.

RENNIE'S FARM SEEDS

NOTE.—23 out of 26 First Prizes won with the product of our Famous Field Root Seeds at Toronto Exhibition in 1892.



Rennie's Prize Swede Turnip now stands at the head of the list. Finest Quality. Grand Keeper. Great Yields. Leads all other Swede Turnips.

NEW FIELD PEA, "CANADIAN BEAUTY." Novelty, 1893. Never before offered. Can only be obtained direct from Toronto, bearing our stamp on every label.

BLACK OAT "GOANETTE" Immense Yields. Leads all others. A new Oat of great promise, found to be far ahead of all old varieties in point of productiveness.

Prices for 1893—1 lb., 20c.; 5 lbs., \$1.00; 10 lbs., \$1.75; 20 lbs., \$3.00. Peck, \$1.00; Bush, \$1.75; 30 cwt., \$3.00. Bags, 20 cwt. each extra.

WM. RENNIE, TORONTO, CAN.

LITTLE'S PATENT FLUID SHEEP DIP AND CATTLE WASH.

Testimonials re Little's Sheep and Cattle Wash: From PROF. SHAW, Ontario Agricultural College, Guelph. We have used a considerable quantity of "Little's Sheep and Cattle Wash," and find it answers the purpose very well for which it is designed.

ROBERT WICHTMAN, DRUCIST, OWEN SOUND, ONT. Sole Agent for the Dominion. 330-2-y-om

FOWELL'S PAT'D MILK AERATOR AND CAN best in America. Send for circular. H. FOWELL, Belleville, Ont. 330-2-d-om

CHOICE REGISTERED SOUTHOWNS.

Messrs. A. Telfer & Sons, Springfield Farm, Paris, Ont., have been breeding Southdowns for thirty years. A fresh importation just arrived. Stock for sale. 321-2-y-om

SHROPSHIRE and SHORTHORN for sale at reasonable prices. A choice lot of ram lambs and yearlings sired by my imp. Thomas ram from imp. and home-bred ewes; also 5 young bulls, from 6 to 18 months old. W. G. PETTIT, Burlington Stn., G.T.R. Freeman P.O., Ont. 318-2-y-om

1881—SHROPSHIRE—1881

My flock is one of the oldest in Canada, my first importation being made in 1881. My present stock of ewes were imported direct from the flocks of Bradburne Bros. and H. Parker. Write for prices. JAS. COOPER, 319-2-y-om KIPPEN, ONT.

THE GLEN STOCK FARM.

Clydesdales, Shropshires and Berkshires.—Choice young registered stock for sale. Telegraph office, Innerkip. Farm 3 miles from Innerkip Station on C.P.R., and 6 miles from Woodstock, G.T.R. WHITESIDE BROS., Innerkip, Oxford Co., Ont. 316-2-y-om

SHROPSHIRE, CLYDESDALES AND POLLED-ANGUS CATTLE.

Two imp. stallions, one yearling bull and eighty choice Shropshire rams and ewes of all ages. Prices reasonable. Write quick. All registered. JAS. McFARLANE & SON, 319-2-y-om CLINTON, ONT. G.T.R. Station 1 mile.

EUROPEAN ADVERTISEMENTS.

Astwood Hill SHROPSHIRE the most famous flock in England. We led in the show ring at the Royal and the Bath and West of England in 1891. T. & S. BRADBURNE, Astwood Hill, Redditch, England. 316-2-y-om



Shropshires, Shorthorns, Shire Horses, Yorkshires The Ruyton-11-Towns flock always winning at R. A. S. E. and other shows. Last win:—The Champion Cup at the Royal Liverpool, Manchester and North Lancashire Show for the best ram, all ages and all breeds. Shorthorns:—Winning at R. A. S. E., etc., etc. Herd established over 50 years. Yorkshire Pigs of good pedigrees. Easy distance from Liverpool. Meet trains at Baschurch, G. W. R., by appointment. Address: RICHARD BROWN, Ruyton-11-Towns, Shropshire, Eng. 322-2-y-om

DORSET HORN SHEEP I CULVERWELL BROS., Durling Farm, Bridgewater, Somerset, Eng., Breeders and Exporters of Improved Dorset Horn Sheep. Sheep and wool from this flock have won many first prizes at all the leading shows in England and Canada. Flock registered in English record. For price, etc., apply to JOHN TAZEWELL, Uxbridge, Ont. G.T.R. 315-2-y-om

LINCOLN SHEEP I always have for inspection and sale a large flock of pure Lincoln Longwool Sheep, including many prize-winners, having taken 80 prizes the last two years at the Royal and other shows, for both rams and ewes; also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor show last year, when proved the character of this flock, which is most famous for their great size and 120 years' good breeding. Also breeder of White Yorkshire Pigs. Address: HENRY DUDDING, Riby Grove, Gt. Grimsby, Lincolnshire, Eng. 319-2-y-om

BLAIRTUMMOCK CLYDESDALES. Prof. McCall invites inspection of his Stud of Clydesdales by American and Canadian buyers. Among the many good ones bred at Blairtummock may be mentioned Col. Holloway's renowned Cedric, acknowledged the greatest breeding horse in America. Address: PROF. McCALL, The Veterinary College, Glasgow, Scotland. 317-2-y-om

CLYDESDALES & AYRSHIRES WALTER PARK, Halton, Bishopton, Scotland, the breeder of the world-renowned "Lord Erskine," has always for sale a choice lot of Clydesdale Colts and Fillies; also pure-bred Ayrshires of the best milking strains. Visitors welcome. 317-2-y-om

THE HOME OF SPRINGHILL DARNLEY. Clydesdale dealers when in Scotland should not fail to visit Messrs. R. & J. Findlay's Stud, Breeders and owners, amongst others, of the famous H.A.S. winner, Chrystal 5387. Address: Springhill, Baillieston, Glasgow. 317-2-y-om

THE HOME OF SIR EVERARD Wm. Taylor, Park Mains, Paisley, Scotland, calls the attention of American and Canadian buyers to the fact that his stud of Clydesdales and Hackneys is one of the best in Scotland. Inspection solicited. No trouble to show horses. 317-2-y-om

CLYDESDALES AND AYRSHIRES. Parties visiting Scotland to purchase the above should call on the undersigned, who always has a choice selection bred from the best strains of blood. ROBT. WILSON, Manswraes, Bridge of Weir, Renfrewshire, Scotland. 317-2-y-om

W. G. BUTCHER, The Chestnuts, Needingworth, Hunts, England, offers for sale a grand selection of HACKNEY and SHIRE-BRED COLTS and FILLIES of the choicest breeding, and good individually. All registered. Visitors welcome. Station: St. Ives, Hunts. 317-2-y-om

LARGEST SHEEP EXPORTER. 1,272 Pedigreed Sheep, including many winners of all breeds, landed at Quebec without loss, July 26th, 1892, by E. GOODWIN FREECE, Live Stock Exporter, Shrewsbury, Eng., who has thorough personal knowledge of all the best British flocks, herds and studs, great experience in shipping and the privilege of obtaining choicest specimens of any breed for show or breeding. American buyers supplied with selected stock at lowest rates. Those visiting England conducted to inspect the leading stocks, to compare merits and prices before buying, also assisted in selecting and shipping FREE OF CHARGE. (5% commission paid by seller.) Flock-book certificates and all documents supplied, as required by U. S. Government. Highest references from leading Canadian and American importers supplied 1889, 1890, 1891, 1892. All buyers should communicate. Information free. 318-2-y-om

LIVE STOCK FOR MANITOBA.

Parties who have received orders for live stock, and require the same shipped at lowest rates and cared for by competent men, should apply at this office.

FARMER'S ADVOCATE, London, Ont.

SHAMROCK -- AVENUE -- CLYDESDALES. The choicest collection of young Clydesdale Stallions, fit for service the coming season, to be found in Canada; good breeding and high-class quality considered; prize winners, and sons of prize winners, including the first prize three-year-old and second prize two-year-old (imported) class, and winner of gold medal as best Dominion-bred Clydesdale stallion any age at Ottawa last year. Prices reasonable. Satisfied with their purchases, and have the utmost confidence in the integrity of the firm. We wish to call attention to the following horses that are offered for sale in our advertising columns for this issue by Mr. D. Ferguson, London, Ont. The first is the imp. Clydesdale stallion, sired by that capital son of Darnley, Darnley King. There are also some choicely bred ones among trotting bred stallions and mares and fillies. Look up the advertisement and see where some bargains may be had.

STOCK GOSSIP.

Shoemaker's illustrated catalogue of pure-bred poultry contains cuts of all the different breeds, with descriptions, weights, etc., and also much useful information on breeds, breeding, care, and the treatment of diseases, which will be of great service to those of our readers who are interested in poultry. Price, 10 cents. C. C. Shoemaker, Freeport, Ill., U. S. A.

Among the auction sales, which will well pay our readers to visit, will be the annual sale of Holsteins, held by the Wyton Stock Brokers' Association, which will be held on the 7th of April, at London. A number of bull and heifer calves and also some aged animals will be offered. Owing to the fair manner in which this sale has been conducted for a number of years past, customers have always been well satisfied with their purchases, and have the utmost confidence in the integrity of the firm. We wish to call attention to the following horses that are offered for sale in our advertising columns for this issue by Mr. D. Ferguson, London, Ont. The first is the imp. Clydesdale stallion, sired by that capital son of Darnley, Darnley King. There are also some choicely bred ones among trotting bred stallions and mares and fillies. Look up the advertisement and see where some bargains may be had.

Showalter & Fowle, proprietors of Big Bur Farm, Butler, Ind., U. S. A., will hold a sale of pure-bred Shorthorns on Friday, March 31st, at Whitby. These animals are said to be representatives of some of the most famous breeding on the continent, and are all recorded as entered and accepted in the American Short-horn Record Book. Send for catalogues.

Mr. W. J. Higgins, "Elmhurst Farm," Clinton, Ont., writes:—"Last week Mr. James Crich, Tuckersmith, Huron Co., purchased Village Trooper, by Imported General Booth (54333); dam Village Violet, by Imported Ex-celsior (52333). He is a good animal, and from a grand old family of cattle. Mr. John H. Grainger, Lonsdale, Ont., paid the herd a visit after looking over other herds, and secured the excellent young Golden Drop bull Golden Nugget, by Imported General Booth (54333); dam Rosebud 2nd, by the Highland Society's first prize-winner, Royal Duke (33356); g.d. Rosebud (imported), by the Booth bull, Sir Christopher (22895), etc. We have some very nice heifers on hand yet at very reasonable prices." See advertisement.

Alex. Hume, Burnbrae, Ont., writes:—"Our herd is in splendid milking form this winter. We are sending 2,500 pounds per week to the creamery with twelve cows calved, and six calves on whole milk; one pair heifer calves. Have several more cows due to calve in a few days. Are feeding ensilage the third year with good results. The usual comment from visitors is, 'They are the finest dairy herd we have seen.' The gross receipts for the whole herd of twenty-six for 1892, including three two-year-old and two three-year-old heifers, besides two families supplied with cream, averaged \$67.33 per head. We have made the following sales since last reported, and are daily in receipt of enquiries for stock, mainly through the Advocate advertisement:—Ayrshire calves, two heifers and one bull, N. Tisdale, Courtland; one bull, W. B. Cook, East Williamsburg; two heifers, Jas. Armstrong, Shawville, Que.; one bull, David Beatty, Chapman; one bull, C. Rennie, Menie; one cow, four years old, James Elliott, Mountainview. Pigs for breeding purposes—One sow, S. Nix, Burnbrae; two sows, M. Dunham, Welman's Corners; two boars and one sow, J. L. Newton, Chapman; one sow, Sam. G. Quackenbush, Havelock; one sow, T. Oddie, Burnbrae; one boar, D. Campbell, Norwood; one pair, W. J. Stockdale, International Bridge; one sow, G. Elliott; one sow, J. M. Hurley, Belleville; one boar, R. S. Crews; one sow, A. Wellman; one sow, J. H. Douglas, Warwick; one sow, C. Nix. Our stock of pigs are the best we have yet had, and they have wintered well. We sold some barrows to ship which weighed 280 to 290 pounds each at seven months and one week old, though not forced. We have some choice young pigs of both sexes, farrowed the last of December, 1892, on hand. There is a great enquiry for all improved stock.

NOTICES.

If you think of buying an Incubator, write for catalogue of the New Improved Victor advertised in our columns.

We regret that owing to an oversight Messrs. McKinnon, McFarlane & Co.'s advertisement of sand for sale in British Columbia, and showing the advantages of that province and field for settlement, was omitted from our issue of February 15.

We wish to call the attention of our readers to the change of ad. made by the Page Wire Fence Co., of Walkerville, Ont. The supply of suitable fencing materials is one of the most expensive items on the farm. It will pay the farmer to enquire into the merits of this fence.

Having reduced my flock by recent sales I intend visiting Great Britain early in the spring to bring out my annual importation, when I shall endeavor to select the best, size and quality combined



W. S. HAWKSHAW,
Glanworth Post Office.
326-y-om

IMPORTED SHROPSHIRE

My stock was selected by myself, and consists of Shearing Ewes and Ewe Lambs from the leading flocks of England, and of the highest quality and breeding. Stock of all ages for sale.



C. W. GURNEY,
Paris, - Ontario.
327-y-om

S. COXWORTH, CLAREMONT, ONT.,
Breeder and Importer of Berkshire Hogs.

Young stock of different ages constantly on hand. Pairs supplied not akin. Stock won at leading shows in 1892-18 first, 11 second, 7 third, including Toronto, Montreal and Ottawa. Prices moderate. Satisfaction guaranteed. Station and Telegraph Office - CLAREMONT, C. P. R. 316-2-y-OM

ISRAEL CRESSMAN, New Dundee, Ont.
Breeder of Large English Berkshires. Young Hogs always on hand; got by imported stock.
328-y-om

FOR SALE.

A choice lot of young Berkshire Pigs, from two to three months old, from imp. and prize-winning stock; also a few choice boars fit for service. I have also some Yorkshire Pigs fit for show purposes, boars and sows from six weeks to six months old. Prices reasonable. Address H. J. DAVIS, Breeder of Berkshires, Yorkshires and Shorthorns, box 290, Woodstock. 318-2-y-om



Cotswold Sheep. The gold medal flock established in 1884. All bred straight from imported stock. These imported Rams in use. Young stock for sale.
Berkshires. Herd established in 1865. Imported and bred from imported stock. Sows in farrow

and young stock for sale at all times. Spring pigs now ready to ship. We ship to order, guarantee satisfaction. Com and see, or write.
Jersey Cows. Hefers and Calves; registered; pure-bred unregistered and high grades, bred from rich butter stock.

J. C. SNELL,
Edmonton, Ont
315-2-y-om

Improved PEDIGREED LARGE YORKSHIRES
I am booking orders for spring pigs from imported and home-bred sows at reasonable prices. J. H. S. BARBOUR, King P. O., Ont.
318-2-y-om

FIRST SWEEPSTAKES HERD

IMPROVED : YORKSHIRES IN CANADA,

selected from the well-known herds of the Earl of Ellesmere, Prescott Union, and C. E. Duckering, England, by James Main, who is considered one of the best judges of pigs in America; also one imported sow and several other Canadian-bred sows and boars of the well-known herds of Sanders Spencer and F. Walker-Jones, England.

REGISTERED SOWS AND BOARS MATED NOT AKIN.

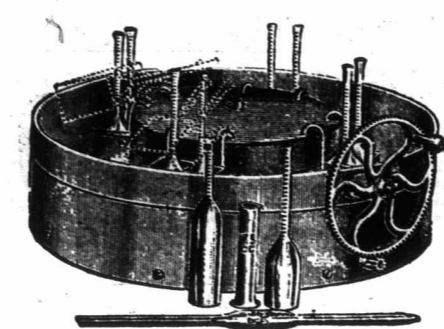
JOSEPH FEATHERSTONE,

P.O. and Telegraph. PINE GROVE FARM
321-2-i-om STREETSVILLE.

THE MARKHAM HERD, LOCUST HILL, ONT.
(Farm one mile from Locust Hill St., C.P.R.) Registered Improved Large Yorkshire, Berkshire and Suffolk Pigs. Stock selected from the best herds in Canada. Am booking orders for Spring Pigs. - LEVI PIKE, Locust Hill, Ont.
328-y-om

IMPROVED LARGE YORKSHIRE PIGS.

Thirty-five choice Breeding Sows from the best English breeders. Young stock of all ages. Stock supplied for exhibition purposes, registered and guaranteed to be as described. Personal inspection solicited. J. E. BRETHOUR, Burford, Brant Co., Ont.
327-y-om



BABCOCK MILK TESTER.

Anyone interested in above should see our little treatise on the

"B-A-B-C-O-C-K."

SEND FOR ONE.

SEED AND DAIRY CATALOGUES FREE TO ALL WHO APPLY.

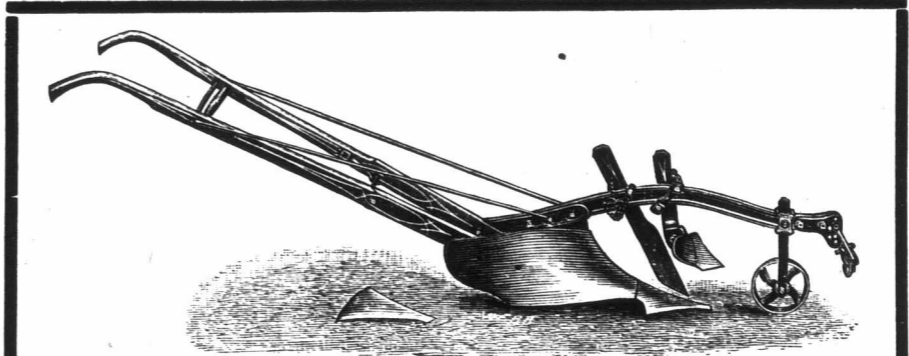
Our Celebrated M. S. S. and Other Ensilage and Fodder Corns.

WRITE US FOR PRICES.

CORRESPONDENCE INVITED.

JOHN S. PEARCE & CO.

330-a-om London. - Ontario.



As "SAINT GEORGE" of YE OLDEN TIMES WAS WITHOUT AN EQUAL, SO ARE ST. GEORGE IMPLEMENTS.

We present to the farmer a very complete line of goods: Plow Cultivators, Horse Hoes, Turnip Sowers, Land Rollers, Mowers, Reapers, Ensilage and Fodder Cutters, Root Pulpers, Tread Powers, Wheelbarrows, Bag Trucks, Scrapers, etc., etc.

Write us for description and price of any implement you want.

B. BELL & SON, 320-2-y-0 ST. GEORGE, ONT.

The Dale PIVOTED LAND ROLLER

(PATENTED.)

A STEEL ROLLER, THE DRUMS OF WHICH OSCILLATE ON PIVOTS AND ADAPT THEMSELVES TO THE UNEVENNESS OF THE GROUND.

Its points of advantage are too many to enumerate. Some of them are:

The bearings are the only wearing parts and are guaranteed to last from Ten to Fifteen Years, and can be replaced at a nominal cost.

It rolls all the ground, no matter how rough. There is no axle shaft, no strain, and consequently no wear. It is easily oiled between the drums.

THE DEMAND IS STEADILY INCREASING. IT IS UNANIMOUSLY RECOMMENDED BY THOSE FARMERS WHO HAVE USED IT.

Orders are now being booked for the spring trade.

Description and price furnished on application to

T. T. COLEMAN,

SOLE MANUFACTURER,

320-2-y-om

SEAFORTH.

C. E. HARRIS' PATENT PORTABLE FENCE HAS NO EQUAL!

Patented in the United States September 8, 1891.

Patented in Canada Oct. 21, 1891.

IT STANDS AT THE HEAD

FOR A

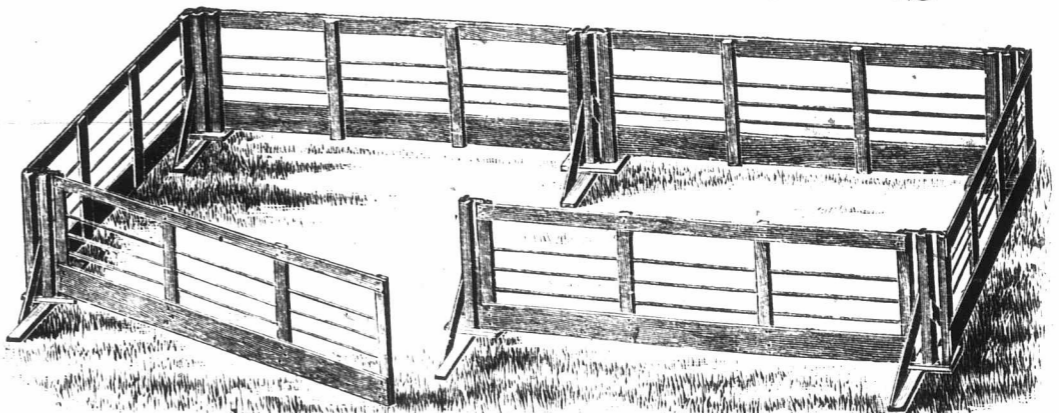
General Purpose Farm Fence

AND DEFIES COMPETITION.

Agents Wanted in all Parts of Canada and the United States on Large Commission.

Full and clear directions given with each right sold. It is what it is represented to be. County or State rights for sale. 330-a-om

C. E. HARRIS, BRANDON, MAN.



BABCOCK MILK TESTERS.

ALEXANDRA

Separators (Hand and Power).

Butter Printers, - -

- Parchment Paper.

Nicest thing out for wrapping Butter.

J. M. HURLEY & SON Offer for sale pedigree Improved Large Yorkshire Pigs of both sexes. Herd founded in 1887. OUR AIM is to make our pigs advertise us. 321-2-y-om
Kingston Road
Stock Farm,
Belleville, - 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 specialty, and furnish a good pig at a fair price. Write for prices. 317-2-y-om

FARMERS, READ THIS

We will pay extra for fat pigs bred from Tamworth and Improved Yorkshire boars, as they are worth more money to us. We have imported a large stock of these pigs, and have on hand a choice selection of imported and home-bred boars and sows. Write us for prices, which are as low as they can be made, this being a business entirely of a secondary consideration with us, our first object being to supply the trade with an A 1 article in bacon, and we are satisfied that these are the breeds that pay both the feeder and the packer. Send in your orders quick and get a good in-pig sow, or a boar to use on grade sows.

JAS. L. GRANT & CO.

Ingersoll, - Ont.
320-2-y-om

TAMWORTH SWINE, SHROPSHIRE, CLYDESDALES AND SHORTHORNS.

John Bell, Clydesdale Farm, Amber, Ont.

A number of prize-winning Pigs in pairs, unrelated, from imported stock bred by the best breeders in England. Orders booked. Fifteen Breeding Sows due to farrow during spring. Shropshires bred from stock imported by such importers as John Miller & Sons, Brougham; R. Caullicott, Tyrone, etc. A few of the best Clydesdales on the continent - The Granite City and Eastfield Chief at head of stud; also Shorthorns of choice breeding. Correspondence solicited. Visitors welcome. Milliken Station (Midland Division), G.T.R. 325-y-om

THE OXFORD HERD OF POLAND CHINAS.

My Imported and Show Boar, "Elias Moor," and other good boars out of sows of equally as good breeding.
YOUNG STOCK FOR SALE.
ADDRESS - H. JONES,
330-2-f-om MT. ELGIN, ONT.

Registered Poland Chinas - Canadian Black Bess Herd. - Stock strictly of the Corwin, King, Butler and Black Bess Blood. Choice stock of all ages for sale at reasonable prices. Imported Nominiee at head of herd, assisted by Imported Boars Condit, Luck and Moorish King. Farm two miles south of G. T. R., C. P. R. and E. & H. R. stations. Correspondence and inspection of herd solicited. Reduced rates on shipment by express. - J. J. PAYNE, Chatham, Ont.
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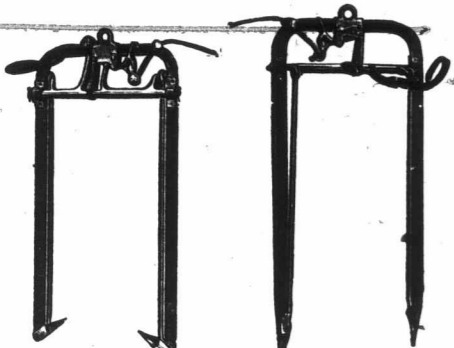
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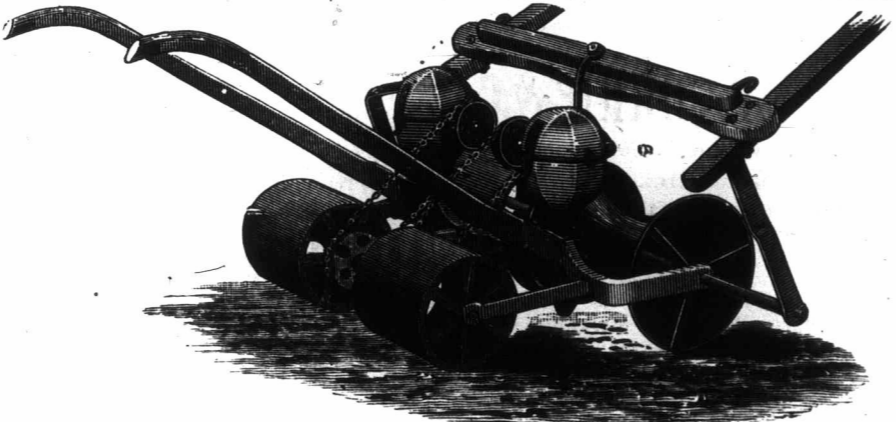
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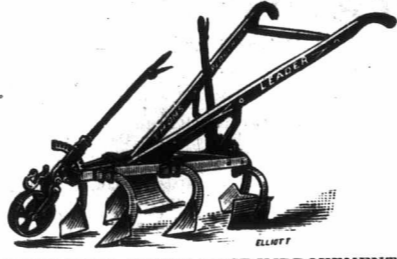
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