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THE FARMER'S ADVOCATE & HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

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

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All communications in reference to any matter connected with this paper should be addressed as below.

THE FARMER'S ADVOCATE,
360 Richmond Street,
LONDON, ONT., CANADA.

Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

1.—No award will be made unless one essay at least comes up to the standard for publication.

2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.

3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

We will give a prize of \$5 for the best essay which will name and describe the six most promising varieties of potatoes grown in the district in which the writer resides, and the mode of culture which has given the best results. Essay to be in this office not later than March 15th.

We will give a prize of \$5 for the best essay on corn and corn culture. The writer to name and describe the three most promising sorts grown in the district in which he resides, also the best and most economical mode of cultivation before and after planting. Essay to be in this office not later than March 15th.

We will give a prize of \$5.00 for the best essay treating on the question of farm fences, setting forth the desirability or otherwise of doing away with them or lessening their number. All essays to be in our office not later than April 15th.

Editorial.

A NEW FEATURE.

Notice to Our Advertisers.

In order to encourage the spread of useful knowledge among the farmers, and also to increase our circulation, we offer, as a prize, a two-inch space for six months to be awarded to the live stock breeder who will send us the largest list of new subscribers during 1891. The advertising space may be used any time the winner desires after the award is made. To all who are not winners in this competition we will allow the regular commission advertised. (See page 69, February number.)

Editorial Notes.

Now is the time to clean and prepare your seed grain.

Put all your implements in readiness for spring work.

The most suitable tools for preparing land for the reception of the seed is the Chisel-Toothed Harrow, spoken of by Mr. Snell in this issue, and described by us one year ago; the Spade Harrow, the Cutaway Harrow, the Disk Harrow, and for certain work the Acme Harrow. Any of these tools properly used will prepare fall plowed land better than the gang plow.

Land properly prepared by a harrow will give better results than land spring plowed.

Fields to be sown to oats, wheat, barley or small peas should not be worked in spring deeper than two inches.

A fine but solid seed bed is a very important feature.

Carefully selecting seed, in order to obtain the best grain of the kind best suited to your land and section, is imperative.

Seed grain may be line bred as well as live stock.

A team hitched to a good and suitable implement, which is in good repair, will accomplish as much in one day as the same team would do in three if hitched to a poor tool.

Write to the various seedsmen and obtain a copy of their latest catalogues.

When a new and promising seed grain is introduced by a reliable firm or man, carefully test it, to see whether it is really good, and suitable to your neighborhood.

A variety of grain or roots that may do very well in one section may not be profitable in another.

Always sow the bulk of your land with well-tried and reliable seed—kinds that are known to be profitable in your neighborhood. Although

a new sort is highly recommended by reliable men, do not sow largely of it until it has been thoroughly tried in your neighborhood.

What seeds you have to buy be sure and get them from reliable and experienced dealers. Do not buy seeds from the corner groceryman because he sells very cheaply.

Remember your crop depends on the quality of your seed grain. You will lose the work of an entire year if you sow poor seed. Cheap seed is usually untrustworthy.

We have been told, and believe it true, that there are a certain class of so-called seedsmen who always have in stock whatever the buyer calls for. Several cases have come to our notice where farmers and gardeners have been miserably swindled by such parties, who are worse than highway robbers. Be on the lookout for such dealers, and acquaint us with any crooked dealing you may observe; we will promptly publish such, that our readers may take warning.

All articles should reach us not later than the 15th of the previous month, in order to insure publication in the following number.

The ADVOCATE should reach our readers not later than the first week of each month.

A full report of the meeting of the Dominion Grange will appear in April number.

Several essays have been received by us regarding varieties of seed grain, but lack of space prevents us publishing them in this issue. The names of those who win the prizes will appear in the April number.

Subscription Prizes.

From lack of space we were compelled to lay over our list of prizes given to those who send us clubs of new subscribers. We refer our readers to page 69 of the February issue. Send in good large clubs and obtain some of these valuable prizes.

Farm Prizes for 1891.

Prizes will this year be awarded by the Agriculture and Arts Association of Ontario for best managed farm in group five, which is comprised of the electoral districts of Victoria, north and south; Peterborough, east and west; Northumberland, east and west; Prince Edward, Lennox, Addington, Renfrew, north and south, and Frontenac. Any farmers in these constituencies who desire to compete must notify the Secretary of the Township Agricultural Society in whose district he resides, not later than the 15th of May next. No township is allowed to return more than three competitors. Those desirous of competing should take immediate steps to gain admission. Send to Mr. Henry Wade, Secretary of the Agriculture and Arts Association, Toronto, for full particulars, if you cannot obtain them from the Secretary of your township society.

The New Text-Book on Agriculture*

QUOTATIONS FROM ITS CONTENTS, AND COMMENTS, BY J. DEARNESS, LONDON.

(Continued from December Issue.)

The best school-books, like the best teachers, are not necessarily those that impart to the learner most knowledge, but rather those that impart knowledge, be it much or little, in the best manner. A fact may be planted in the learner's memory as the mere dictum of a teacher or a text-book, or it may be acquired by the directed exercise of the learner's observing and reasoning faculties. The latter method gives knowledge and, what is even more important, mental discipline—the essentials of true education. The scholar thus taught will be disposed towards and trained in learning, not only from books and lectures but also from observation and experience all through life.

It was chiefly as a training book for public school pupils taught by teachers, the majority of whom are not supposed or expected to be versed in the science and practice of agriculture, that the work under notice was adversely criticized. As a manual—a handy knowledge-book—it is a welcome, timely and most creditable contribution to the scanty literature of what has ever been, and must always remain, the most diversely-branched and most important of all human industries.

Excepting the five pages at the end relating to Forestry, the contents of the book might be divided into the chapters treating of the Soil and its Culture, 71 pages; Crops, 44 pages; Live Stock, 129 pages.

To particularize, the first two chapters (pp. 1-18) are chiefly explanatory. Speaking of Seed Formation (p. 18) an important application is made of the fact that the maturing seed, especially of annuals and biennials, exhausts the starch and albumen of the plant. Hence fodder plants—clover, timothy, etc.—deteriorate rapidly in quality with the setting and maturing of the seed. Chapter III. deals with the constitution and classification of soils and the means of remedying defects and restoring fertility. A calculation is made of the enormous quantity of nitrogen, phosphoric acid and potash, the staple plant-foods, in the surface to the depth of 9 inches of an acre of ordinary clay-loam. Chemical analysis is clearly insufficient to determine the productiveness of a soil, because it fails to show what proportion of the plant-food in the soil is in available condition. The part of tillage that most taxes the skill of the farmer is converting the dormant, unavailable plant-food material into active, soluble nutrients. The most important means of effecting the conversion are:—

"Underdraining, which admits air into the soil at all times and allows rain-water with carbonic acid in it to pass down through the ground, instead of running off over the surface; *fall plowing*, which exposes the soil so as to have it thoroughly pulverized by the action of frost; frequent *stirring of soil*, as, for instance, among Indian corn, potatoes, and root crops, to let plenty of air with its moisture and oxygen down among the constituents of the soil; *thorough tillage*, which not only cleans land, but exposes it to the action of the atmosphere; *green manuring*, which consists in growing a crop of some kind for the purpose of collecting plant food and then plowing it under for the use of another crop; and *seeding down* grain fields with grass and clover, so as to have young growing crops ready to take up and preserve the elements of plant food, especially the very soluble compounds of nitrogen, which become available after harvest and are apt to suffer loss by 'washing'."—Page 29.

* THE FIRST PRINCIPLES OF AGRICULTURE, by President Mills, M. A., and Professor Shaw, of the Agricultural College, Guelph. Published by the J. E. Bryant Co., Toronto. 250 pages. Price 40 cents.

Nitrogen, an essential plant-food contained in the decaying vegetable matter in the soil and in barnyard manure, is not in condition to nourish plants until it has entered into some of the compounds called nitrates, a process called nitrification. To this are necessary four conditions:—

"(a) The soil must be sufficiently porous to let air pass freely down among its particles.

"(b) The soil should be moist, but not wet. Moisture is necessary; but an excess of water prevents nitrification.

"(c) There must be a certain amount of warmth. We cannot say exactly how much; but we know that nitrification takes place most rapidly at summer temperatures, and it apparently ceases near the freezing point.

"(d) The soil must contain lime, potash, soda, or some similar substance, to unite with the nitric acid so as to form nitrates.

"These conditions, so far as the farmer can control them, are best secured by underdraining and thorough tillage; and part of the value of clover and similar crops, which shade and cover the ground during the warm season, is due to the fact that, acting as a mulch, they keep the soil in a moist and porous condition favorable to nitrification."—Page 30.

"Now, it has been proved beyond doubt that the evaporation from a growing crop is much greater than from a bare soil; and for that reason a *crop on land*, especially during the warm season (when nitrification is most active), helps to preserve the nitrates from waste by washing."

This statement is worth consideration in connection with the subject of summerfallowing.

To entirely prevent loss of nitrates by drainage or washing is impossible:—

"But by *growing and plowing under green crops*, in connection with thorough cultivation of the soil, land may be cleaned, enriched, and prepared for wheat, barley, etc., with very little loss of plant food; and the same object may be obtained by frequently *seeding down with red clover*. Some recommend very strongly the practice of sowing clover with barley, wheat, and oats nearly every year, in order to have clover sod to plow down as a preparation for all ordinary crops. Under that system the ground is covered throughout the whole growing season—first by a cereal crop and then by the young clover. Thus the nitrates are preserved, weeds are destroyed, and the land is put in first-class condition for the growth of grain, roots, or any other kind of crop."—Page 32.

Under the head of tillage is discussed the means of improving the soil and preparing it for seed and rotating crops. In this connection the following statement is worth quoting:—

"The cost of labor is usually the largest item of expense in the production of a crop; but the labor of caring for a good crop is not much more than that which is required to care for a poor one, while the difference between the respective returns may be large. And often it is wise to add to the cost of production in other things besides in labor. Ten dollars of extra expense applied to an acre of land in manuring it properly may increase the value of the wheat grown on it by fifteen dollars, while the cost of caring for the crop will not be left increased; moreover, the land itself will be left in better condition for the next crop than if it had not thus been manured. So that, speaking generally, it follows that the larger the yield obtained from crops, the greater in production are the profits in growing them likely to be. It is the opinion of competent judges that the average yield of the crops of Ontario would be increased at least by one-third if only proper methods of tillage were generally adopted."—Page 39.

The illustrated sections on the construction and tiling of drains, though short, are well worth reading and studying:—

In Chapter V. manures are classified, and the methods of preparing and applying each kind are discussed. As an example:—

"Lime exerts a four-fold influence as a fertilizer:—

"(1) It is a direct source of plant food; that is, it supplies the growing plant with an element it needs, namely, the chemical substance called calcium (see section 17 (2)).

"(2) It acts upon the organic matter of the soil (that is, the decayed vegetable matter), neutralizing the 'sour' organic acids that it contains, and rendering the soil 'sweet' and capable of sustaining healthy plant life.

"(3) It unlocks the stores of inert mineral matter in the soil, especially the potash and soda (see sections 35, 38, and 44), and renders them available as plant-food.

"(4) It ameliorates the texture of soils that are too stiff; that is, makes them more easy to be plowed, harrowed, rolled, etc.

"Lime improves the quality of grain, grasses, and other crops; hastens their maturity, destroys insects, and checks the growth of moss. While it

improves the texture of strong clays, it also increases the capacity of light soils for absorbing and holding moisture (see section 59.)

"The amount of lime used may vary from one ton per acre to ten tons. One to two tons is an average dressing. A deep soil requires a heavier dressing than a shallow one, and a sandy soil less than a heavy clay. Soils rich in organic matter (that is, decayed vegetable matter) require more than soils poor in the same. A small amount will benefit drained lands more than a large amount will benefit those that are undrained. Small dressings and frequent are preferable to larger ones infrequently applied. The lime intended as manure should be harrowed in rather than plowed in.

"Lime is used both in its natural condition and after being burnt. Burnt lime, or 'quicklime,' as it is called, is much more active in effecting the changes described in (2) and (3) above than natural lime, and, indeed, is the form in which lime is generally used in agriculture. But since on some soils quicklime will do much more harm than good, it should always be used with judgment and caution."—Page 55.

The omission may be noted here that the author does not tell us on what soils or under what conditions "quicklime will do much more harm than good."

To the eight strong reasons in favor of a systematic rotation of crops might have been added that it checks the ravages of plant diseases caused by fungi. As general guides the author gives examples of rotations that ordinarily would suit the different classes of soils.

Under the growth and management of the crops there are taken in turn hay, pasture, wheat, barley, rye, oats, peas, mangels, carrots and potatoes. As a rule, each is discussed under the following topics: Leading varieties, suitable soils, place in rotation, preparation of soil, quantity of seed, sowing and harvesting.

Soiling is strongly recommended, if it is practised with judgment, for the following reasons:—

"It effects a saving of land. It effects a saving in the outlay of fencing. It effects a saving in food. It increases the quantity and quality of manure made. It beneficially affects the condition of the animals fed by means of it. It increases in a marked degree both the quantity and quality of the milk and meat products."

The favorite green-crops for soiling out of a dozen recommended would seem to be lucerne, clover (in mixture) and corn.

The chapters on weeds, diseases of crops, and insects, less than 20 pages altogether, are too brief. It is doubtful whether the remedy recommended in the book for smut is the best. (A solution of sulphate of copper or bluestone in the proportion of one to one and one-half pounds to a pailful of hot water.) The Royal Agricultural Society of England a year or two ago published with approval the results of Mr. Jensen's experiments with smut at Copenhagen, Denmark. These went to prove that the smut spores removed by the usual washings do not materially affect the grain. Mr. Jensen's article concludes in the following language:—"Dressing cereals with sulphate of copper causes as a rule a waste of seed. It is, moreover, injurious to the plants, and is unnecessary. Treating the seed with water heated to a temperature of 127° F. for five minutes prevents these diseases (smut and bunt) equally well, and protects barley better, while it has the advantage of not injuring the seed or the resulting crop."

The text-book teaches that there is "no remedy for rust." Many authors, including De Bary and Plowright, teach that the destruction of the barberry (the host of the spring stage) would greatly reduce, if not entirely destroy, the most common species of rust on grain, while Worthington Smith, who denies the connection between *Aecidium berberidis* and *Puccinia graminis*, holding that rust "is an hereditary disease, gives five or six methods of preventing rust."

We take exception to the text-book's remedy for black-knot ("all trees on which the black-knot appears should be at once cut down and destroyed by fire"), as being unnecessarily

drastic. If the fungus appears on only a twig or limb that is enough to cut off and burn.

Chapter XIII., pp. 116-167, is devoted to the science of feeding live stock. It treats with considerable fulness and satisfaction, although in composition too difficult for school children, the anatomy, physiology and chemical composition of the animal body; the classification and constituents of the staple feeding-stuffs; production of flesh, fat, bone, milk and animal heat; nutritive ratios and feeding standards. The six or seven pages of "practical remarks" in fine print, sections 361 and 370, will be found very useful reading for the farmer.

The chapter on the management of stock is less technical. The author applies the law of animal development as follows:—

"It is a law of animal development that the further the animal gets from birth the smaller is its gain of substance per day, and the greater is the amount of food required to produce a pound of flesh or fat. But, because of inattention to this law, thousands of dollars are lost by the farmers of Ontario every year. Feeding for meat production (except in the case of milking cows or working oxen) yields but little profit (if, indeed, it yields any) after the animal is matured. Hence the object of the feeder should be to obtain as great a gain as possible during every part of the period of the animal's immaturity. The food fed to growing animals in winter in quantities too small to increase their autumn weights is, in nearly every case, wasted."—Page 168.

Readers of the Proceedings of the Dairymen's Association of Eastern Ontario will remember a very forcible presentation of this subject from another point of view, by Gov. Hoard, at the Belleville meeting.

This chapter, after discussing the proper treatment of young and mature foals, calves, lambs and swine, concludes with the following rules for curing pork.

"(1) The killing should be done when the weather is cold, and the carcass should be allowed to stiffen before it is cut up for salting.

"(2) But, before it is cut up, the carcass should not be allowed to become frozen through, or it will not readily take in the salt.

"(3) When the carcass is cut into pieces, sprinkle salt on a clean floor in the cellar, or on a temporary table of planks or boxes arranged there, and place on it a layer of the pieces.

"(4) Then to each of the pieces apply powdered saltpetre, at the rate of two or three ounces to every 100 pounds of pork, and follow this with a thick layer of salt. Then lay down a second layer of pieces, and apply saltpetre and salt as before. Proceed in this way till all the pieces are taken.

"(5) In about ten days repeat the salting process, but without using saltpetre. Then allow the pork to remain in the salt for from four to six weeks, according to the thickness of the meat.

"(6) When this stage is completed, brush or wipe off the salt, and hang the pieces in the kitchen, near enough to the stove to quickly produce a dry skin. When this is formed, remove the pieces farther from the stove, and allow them to hang until they are thoroughly dry.

"(7) Then hang them for storage in a cool, dry place, from which all flies are kept away."

The chapter on dairying is short, but very practical. The deep-setting of milk is recommended, and it is urged that the milk be not lower than 90° F., even though hot water (150° to 180°) has to be added to raise it to that temperature, when the cans are set in cold water. Speaking of salt for cows:—

"It has been proved by experiment that cows, when salted only once a week, will generally give from 14 to 17 per cent. less milk than when they have free access to salt every day; and the milk from irregularly salted cows is not so good as that from cows which have a constant supply of salt. It sours sooner, and is otherwise inferior in quality. Hence the importance of placing ordinary granular salt in stables, and under cover in fields, in such a position that milch cows can have access to it at all times."

The thirty-eight pages devoted to breeds of live stock are profusely illustrated. They give a short history and description of each of the principal breeds of horses, cattle, sheep and swine.

The foregoing quotations from the Text-book on Agriculture and description of its contents will illustrate its practical character and doubtless stimulate farmer readers to desire to peruse its pages, from first to last.

* It takes two per cent. of the live weight to support the weight * * * * A hog weighing 300 lbs. must consume six lbs. a day to keep his weight good * * * * When a man sells two hogs at 150 lbs., he makes a larger profit on the cost of production than when he sells one at 300 lbs.—Report of the Dairy and Creamery Associations for 1889-90. Page 110.

Notes on Back Numbers.

BY WM. THOMPSON.

IS IT PLAYED OUT?

"That the day of grain raising has gone by is a fact that certainly has received stronger confirmation than ever, for while grain crops all over Ontario last fall, as a rule, showed a very light yield, prices have been as low as ever, and the question, therefore, now before us is, Can this deficit in the returns hitherto received from the sale of grain be made up in any other way? and if it can do the events of the past year warrant us in believing that part of this deficit can be made up by horse breeding?"—"Blue Blood," in September ADVOCATE.

Friend "Blue Blood" has given us some slashing letters, but when his zeal on behalf of horse breeding causes him to assert point blank that the day of grain raising has gone by in Ontario, and the statement is heralded to the world in the FARMER'S ADVOCATE unchallenged, I beg to dissent. More power to "Blue Blood's" elbow in his commendable effort to raise the standard of horse breeding in Ontario; but to improve provincial agriculture in one direction he should not defame it in another. Why raise this doleful cry which outside detractors of the province may make a handle of? A late report to the Provincial Bureau of Industries makes this statement: "She (Ontario) is the most productive of all the states and provinces on this continent." Official statistics in the main verify this glowing declaration. Take, for example, fall wheat, spring wheat, barley and oats, and pit Ontario against the best of the grain-growing states of Yankeeland, in which these cereals are staples:—

Fall Wheat—Ontario's average for the eight years (1882-9) was 19.4 bushels per acre, 3.8 ahead of the highest state. The last ten-year average, compiled for the whole Republic, was 12.3. Ontario's 1890 average was 19.8.

Spring Wheat—Ontario's average for the eight year period was 15.6 as against 14.7, the record of the highest state.

Barley—Ontario sweeps the field—barley yields, the average for the period mentioned being 26.2 as against 24.8 across "the lines."

Oats—Here, again, Ontario tops the list with 35.3 for the years 1882-9, as against 34.6, the best our neighbors could do.

Surely this is not a bad showing for the productiveness of Ontario soil! When "Blue Blood" has sufficiently boomed horse breeding, let him turn his trenchant pen on improved methods of cultivation, and probably we can do still better. A general rush, either into horses, hogs or grain, all over Ontario would be most unwise, and on this point I see Mr. J. C. Snell, in his very suggestive letters, warns farmers against putting all their eggs into the one basket. Conditions and other points considered, let the farmer select the line or lines likely to be most profitable, and then work them intelligently for all they are worth.

ANOTHER HERD BOOK.

Of the making of Herd Books there is no end. One of the latest proposals is one for dairy cows—favorably considered at a meeting of the British Dairy Farmers' Association recently. At the meeting in question what was described as the "unpedigreed Shorthorn Dairy Cow" was highly extolled. A speaker at another society meeting, which endorsed the dairy herd book idea, gave his notion of a dairy Shorthorn cow as "an animal (pure-bred or not) that will yield

800 and upwards imperial gallons of milk per year, producing a calf every year; a lengthy beast with good open back, good touch, one that will readily feed to 60 stone (14 lbs. to a stone) of beef when dry." By the way, I hear that a herd of these dairy Shorthorns will shortly appear in Canada. Then will come the tug of war for dairy test properties.

OUR HERITAGE OF HEALTH.

Apropos of Texas Fever, Pleuro-Pneumonia et al, Canadians do not half appreciate the priceless boon of healthy herds of live stock. In Britain since Sept. 1st, 1890, there were thirty or more outbreaks of "pleuro," and under the provisions of the new act for stamping out that plague, between 3,000 and 4,000 cattle have been slaughtered. More than once English farmers have had their whole herds destroyed. It is no wonder they decline to take the risk of fresh contagion by permitting unrestricted importations from every quarter. By the way, here is a bit of testimony from that careful and candid observer, Prof. Robertson, on returning from a tour of all Canada. It will interest ADVOCATE readers, and some of its contemporaries as well:—

"Careful enquiry failed to elicit information of a single instance of any dangerous contagious disease in existence throughout the whole area of our Dominion."

THE NEW TEXT-BOOK.

Of the contributions to the December ADVOCATE, perhaps none excited a more keen interest than the review, by Inspector Dearnness, of the new Agricultural Text-Book for Ontario public schools. As an advanced educationist, he sets in view what he regards as the weakness of the book. Of course perfection was not expected at a bound, and the volume is surely a great advance in many ways on what text-book makers used to give us. The authors, too, had a new and confessedly difficult task. The present "light binder" did not take its perfect form in a day. There is an evolution of text-books and educational methods, but in this important study I trust the boys and girls will not again be subjected to the distasteful and detrimental methods of the past. Success or failure will largely depend on the skill and knowledge of the teacher. It strikes me an error has been made in prescribing the first 70 pages, containing so much of chemical and other technicality, as a subject for the high school entrance examination. (The subject is, however, optional.) Would it not have been better to begin with the crops of the farm, breeds, the illustrated chapter on live stock, etc., explaining technical terms and principles as required from time to time, thus leading from the known to the unknown? In such a wide fund of excellent information, it struck me as singular to find that the book did not deal with fruit and flower culture, which surely would be happy school-room topics. Leading English and American farm papers have given the book a favorable reception.

THE BATTLE OF THE BREEDS.

"Observer" hurls another shot into the Holstein camp, and a fusillade of breeders all along the line may be expected. Permit a suggestion, gentlemen, on behalf of the general reader: That all combatants in this inky warfare drop *nom de plumes* and give battle over their own signatures. Then we will know who's who. It was, perhaps, a slip of the pen, but "Observer"

refers to the ADVOCATE'S trophy as one for competition "between the dairy breeds." Readers might infer that some other breeds, such as Shorthorns, Galloways, etc., were not included. Such was not the case. (See August issue, page 242. Rule 1.—"Cows of any breed or age may be entered for competition.") The Devons were there and won second prize, relegating one herd of Jerseys to third place.

PROF. ROBERTSON AND HIS CRITICS.

The ADVOCATE dairy test premiums are offered again for 1891. There is now ample time to arrange details, and every breed making special or general purpose dairy pretensions, should be represented at the meeting of delegates from the breeders' associations. Let the valuation of foods, scale of points, etc., have a full, frank and fair consideration, so that, if possible, there will be no last-minute hitch, causing a dozen herds to retire, as at Toronto. Prof. Robertson has been the target for sharp firing, but his cuticle will probably stand it. A scale of points to suit all is not easily adjusted, as I find trouble on this very point in connection with English dairy tests. At Toronto some contended that the points for fat and "other solids" were not allowed in proper proportion, or at least they did not understand clearly the "why and wherefore" of the matter. In the meantime, here is one point the Professor might, with advantage, dispose of, viz., What was the reasoning or the calculation upon which 16 cents per pound was allowed for butter fat and 2½ cents per pound for solids other than fat? If there be haziness on this point, by all means let it be cleared away.

A POINT FOR CATTLEMEN.

Is this province carrying its proper quota of cattle? Early last year I entered a mild protest, which the ADVOCATE kindly printed, against the annual indiscriminate slaughter of calves, male and female, all through the cheese districts of Ontario, showing that the numbers of young stock were steadily declining, and, from what I can learn, more calves were reared last spring than formerly. In 1886 the cattle, including cows, in Ontario numbered over 2,000,000; now they are estimated at over 120,000 less than that. Almost everything in the shape of a steer or "springer," throughout Western Ontario, has been picked up by shippers, who report "stockers" very scarce. They have sold high, too. There has been a wonderful increase in exports to Britain. From Montreal last season there went nearly 124,000 head, as against 85,668 in 1889, or an increase of about 30,000. Is there not encouragement in the situation for the handlers of good animals for breeding purposes of the beefy sorts, particularly if they can show a milk backing?

JUDGING BY SINGLE EXPERTS.

Enquiry from the secretaries of the great state fairs of Ohio, Iowa, Indiana, Michigan, Minnesota, Nebraska, Kansas and Wisconsin, after the crucial test of experience, brought to light overwhelming testimony in favor of the single expert judge as a vast improvement on the old plan, and far more satisfactory to exhibitors. The suggestions by "D. M. C." and "Exhibitor," in the December issue, are timely. The subject needs overhauling, and now is the time to do it. One thing seems tolerably clear, and that is, that the old go-as-you-please, picked-up-committee-of-three, would do better to pack up their traps and depart. For live stock, the plan

now seems to be for fair managers to arrange with breeders' associations for competent, responsible judges of known integrity.

A WORD FOR THE PONIES.

Very interesting, and well worth preservation, were the articles for some months past on "Ponies and Pony Breeding." These diminutive horses are here for keeps. Hardy and easy keepers, they are, moreover, tractable, handy on their feet, and quite speedy enough for general around-town driving. For the use of ladies and children what can equal them? How about registration?

KEEP THE "ADVOCATE" ON FILE.

Speaking of preserving the pony articles, reminds me to suggest that no reader of the FARMER'S ADVOCATE should lose a single copy. Preserve them all for future reference. Begin with 1891, if you have not before. Bound with the index they make a fine volume for a farmer's library.

Cross-Breeding.

BY DAVID M'CRÆE.

Cross-breeding is the system of breeding animals from individuals of two different varieties. These may be two animals of different breeds, or a pure-bred animal of one breed and an animal of unknown or doubtful breeding for the other. If one of the animals be a grade of a pure breed, then, if mated with an animal of another pure breed, the produce would be cross-bred. Animals bred in this way frequently develop a good growth, and in size and appearance are something superior to either parent. This has been specially remarked in heavy draught horses. Animals bred from good Clyde stallions, with selected Shire mares, have frequently taken a better place for size and growth than either of their parents. The same thing has been noticed in the breeding of carriage horses from good roomy mares and thoroughbred stallions. In cattle breeding it has been followed with great advantage among beef-producing animals.

Miles, in his Principles of Stock Breeding, p. 238, says: "In crossing a pure-bred male of any of the improved meat-producing breeds upon native or cross-bred females, the sire is not only prepotent in determining the external form and characters of the offspring, but he has also a predominant influence upon the organs of nutrition, as is shown in the uniform superiority of the grade animal to its dam in size, feeding quality and early maturity." Notice, he says superior to its "dam." In very many cases he might have added superior to its "sire" also. And the excellence is in the points so much needed by the feeder, viz., SIZE, FEEDING QUALITY AND EARLY MATURITY. Judicious cross-breeding for beef has not been much tried in Canada. It is a paying investment in Britain; it can be made so here. Canada has a large market in Britain for almost any quantity of first-class beef. Our shipments to Britain last year were something over 80,000 head; this year they exceed 120,000, an increase of fifty per cent. in numbers. Many of these were very inferior animals, and were sent as stores. They went lean and unprofitable. Store cattle have been very high the past year in Britain; but the store cattle that will pay are those well bred ones under three years old, that have been well cared for and fed all the good food they could eat every day since the day they were dropped. For farmers breeding such a class of stock cross-

breeding is specially recommended. The bulk of the ordinary cattle in Ontario are either natives or Shorthorn grades. For the natives the best cross is the Shorthorn. For the Shorthorn grades it is not cross-breeding to use a Shorthorn bull; any of the other beef breeds, Galloway, Polled-Angus or Hereford, should give much better results. I appeal to the breeders throughout Ontario if it is not the case that from a pure-bred Shorthorn bull the produce of a common Canadian cow is frequently much better than that from the same bull and a grade Shorthorn, or even that from an inferior pure-bred cow. The first cross is specially good. Breeding from these cross-bred animals is irregular and uncertain.

The value of cross-bred animals for breeding purposes is diminished by the tendency to reversion and the loss of the power of transmitting definite characters to the offspring. And yet this very loss of power is where a point is made in cross-breeding. Inferior mongrel females will breed good animals to first-class males of pure blood. The more mixed the mother is in breeding, the more likely is the cross-bred to be good. There is plenty of room for expansion in this matter of breeding good feeding cattle. Use only pure-bred bulls. Try cross-breeding, then good feeding, warm winter stabling, plenty of grass and grain, and the result you will find to be shipping cattle a credit to yourself and to Canada.

Sale of Bow Park Shorthorns.

As advertised in our last issue, a draft of the famous Bow Park herd of Shorthorns was sold at public auction Feb. 18th. There was a large attendance of representative Shorthorn breeders present, the greater part of whom were Canadians, though a few Americans were present. Before the sale the guests made a thorough inspection of the premises, which revealed the fact that a wonderfully fine herd was kept and reared here, and also that the management of the stock and farm at this great establishment is conducted in a manner seldom equaled in America. Everything seems to be done in the most approved way. Although the writer has visited hundreds of the best herds and farms in Canada and the U. S. A., we must pronounce this apparently the best managed establishment we have ever seen. Mr. John Hope, the able and talented manager, conducted the sale and treated the buyers and visitors in a manner highly satisfactory to all. That well-known and accomplished farmer Mr. John I. Hobson, Mosborough, Ont., aptly remarked that it was easier to find a man suitable to fill the position of Minister of Agriculture than to find one capable of properly managing such an establishment as Bow Park.

The sale commenced at 2 o'clock p. m., and was concluded at five o'clock. In that time seventeen bulls two years old and under (the majority were about one-year-old) were sold at an average price of \$129 each, the highest price, being \$190, paid by Chas. Wilkinson, of Belgrave, Ont., for a very handsome, knightly bull got by Ingram's Chief. None of the bulls sold for less than \$100. The females, though a good lot, did not seem as saleable, which must be attributed to the extremely "hard times." A few heifers and heifer calves were sold, ranging in prices from \$50 to \$170, the latter being paid for an exceedingly fine three-year old heifer by Mr. James Guardhouse, Highfield, Ont.

Stock.

The Columbia Exhibition to be Held in 1893.

At the last meeting of the Agriculture and Arts Association, the following resolution was unanimously adopted:—

Whereas the International and Columbia Exhibition will be held in Chicago in the year 1893, and as the President of the United States will shortly issue a proclamation inviting foreign nations to furnish exhibits, and to express the willingness of this Board to aid in disseminating such information as would induce the stock raisers to exhibit their herds, so that an exhibit worthy of Ontario, which is the breeding ground for pure-bred stock for the American Continent, as well as to call forth such an exhibition of the produce of the dairy as will continue to place this great industry in the foremost place when brought into competition with the exhibits of other countries of the world. And would further suggest to the Government that they be authorized to arrange for the selection of the products of the forests, farms and mines in the same systematic manner as was done for the Centennial prior to the year 1876, that we may be able to convince the people of the European nations of our great resources, as well as of our rapid advancement in the direction of prosperity; that by so doing we may secure, as permanent residents, a large share of the desirable emigrants who are rapidly filling other portions of the Continent.

We call the attention of the Dominion Government, as well as the governments of the various provinces, to this well-considered motion. We hope that each of our provinces will make a most creditable display. A great opportunity will be here given to advertise our country in a most acceptable manner. Canadian live stock breeders must be up and doing, in order to sustain the proud position they now hold. Those breeders who look well ahead and retain and properly feed their best animals, will be victors at this great show.

Clydesdales.

Home owners of Clydesdale stallions have been enjoying a brisk demand for their horses for next season, and at the date of writing one of them, Mr. Peter Crawford, Eastfield House, Dumfries, has no fewer than a dozen highly bred stallions hired. Several of these are promising young horses, got by Prince Lawrence, and from their breeding and individual merits they are likely to be successful at the stud. Mr. Crawford's best horse, however, in the opinion of most of those who have visited his stud recently, is the four-year-old Eastfield Prince 6722, a son of Lord Erskine, and a fine prize mare in Bute, named Maggie Scott. This horse gained first prize at the H. & A. S., Melrose, in 1889, and with their usual energy the Rhins of Galloway Horse Breeding Society have secured him for the Stranraer district. Over thirty horses are now under hire, and there are not likely to be any further engagements until the Glasgow Stallion Show on 6th March. The sires represented by the horses engaged are the following: Eight are sons of Prince of Wales 673; six are sons of Darnley 222; four are sons of Prince Lawrence; three are sons of Macgregor 1487; three are sons of Top Gallant 1850; and two are sons of Lord Erskine 1744. Besides those classed under those heads, there is Lord Erskine himself, engaged for service of forty mares in Dumfries district at £10 each, with £5 additional for each mare proving in foal. Garnet Cross 1662, engaged for the third season in succession by the Strathford district of Perthshire; Mains of Keir

8834, which last year travelled in the Carse of Gowrie, and this year is under hire to the Strathbogie district of Aberdeenshire; Lothian King 6985, a richly-colored horse, owned by Mr. Andrew Montgomery, goes to the Lockerbie district of Dumfriesshire; Brooklyn, a Keir horse, goes for the second season to the Dunblane, Doune and Callander district of Perthshire; Bothalhaugh, a very powerful, big stallion, from Mr. Riddell's stud, is under hire by the Earl of Lonsdale's Cumberland Tenantry, and far off Caithness has hired Mr. Alex. MacRobbie's Gildroy 2nd on very handsome terms.

Perhaps there never before were so many horses got by Princes of Wales 673 under hire as there will be during 1891, and there is room for one or more of them making themselves a name as breeding horses. So far, without any doubt, Darnley has been by far the most successful sire of breeding stallions we have had, and his mares as matrons simply can't be beaten. As many of the best of the Prince's sons are out of Darnley mares, something better than their previous record may be expected of them.

Several important sales will take place early in spring. It is contemplated to have a sale of a draft from their Keir stud, and lovers of well-bred, strong, well-colored mares should not miss the opportunity that will then be afforded them of purchasing such. The Duke of Portland's stud of mares will be sold at Kilmarnock about the same time. These include a number of the pick of Macgregor's daughters, perhaps the best mare ever got by Lord Erskine, and a lot of young stock got by Auld Reekie and other sires. The annual draft sale from the Londonderry stud will be held in April, and altogether, should Canadians visit us early, they are likely to find something to suit them at these sales.

A notable sale of Clydesdales took place in Cumberland this week, when Mr. John Thornton, the celebrated London auctioneer, dispersed the stud owned by Mr. Richard B. Brockbank, Crosby, who is relinquishing farming on account of failing strength and old age. No finer specimen of an Englishman ever took hold of Clydesdales than this long-standing friend of the Cruickshanks Brothers in Aberdeenshire, whose Shorthorn reputation is world-wide. Like them, Mr. Brockbank is a member of the Society of Friends, and combines sterling integrity with shrewd business capacity. I don't know how his Shorthorns sold, but his Clydesdales took the market well. Most of them were up in years, but the following figures will give some idea of the value of a Clydesdale mare in Cumberland: The grey mare Griselda 7008, seven years old, went to the Earl of Carlisle at £52 10s, her color lowering her value a good deal; Crosby Lass, a brown mare, foaled in 1886, and got by Macgregor, was knocked down to Mr. Thorn, Stonehaven, at £136 10s.; Maid of the Mist 2948, fourteen years old, sold for £42, to Sir Edward Loder, and Crosby Trim 5970, a brown-colored nine-year-old mare, winner of many prizes, but unfortunately somewhat uncertain as a breeder, drew £126, at which figure she became the property of Mr. Graham, of Edengrove, Penrith. The top price of the sale was made by the seven-year-old mare, Jewel of Parkhead 8136, the dam of the famous prize filly, Crosby Rose; Jewel's dam is an own sister to Crosby Trim, and her sire was the Keir-bred horse Challenger 1088. She became the property of Mr. Wm. Montgomery at £262 10s.

Her full sister, Jess of Parkhead 8139, a six-year-old mare, drew £225 15s., at which figure she became the property of the Earl of Carlisle. Mr. Graham, of Edengrove, gave £74 11s. for Crosby Jewel, the filly foal of 1890, out of Jewel of Parkhead; Crosby Lovely 8138, a six-year-old mare of the same tribe, made £73 10s., going to Mr. S. P. Foster, of Kilhow, at that figure, and her filly foal of 1890, named Crosby Queen, and got by Lothian King 6985, went at £44 2s. to the same gentleman. Mr. Wm. Montgomery gave £64 1s. for Crosby Pearl, the filly foal in 1890, by Macgregor, out of Crosby Trim. There was little or no demand for the few colts offered, and indeed none of them were such as to warrant any great enthusiasm.

The feature of the Crosby Clydesdales, and indeed of Cumberland Clydesdales generally, is their great weight and substance, and in no part of the British Isles are better big geldings for street traffic bred than in Cumberland. It is cheering to find young Earl of Carlisle taking on to the Clydesdale interest, and another young nobleman is following his example, viz., Sir Richard Graham Bart, the Laird of historic Netherby. Draught horse breeding may not furnish the excitements of the turf, but the results to tenant farmers are more tangible and certain, and it is pleasant to see young noblemen spending their wealth in promoting healthful industry.

An important section of the county of Cumberland is the property of the famed family of the Lowthers, whose leading member is the Earl of Lonsdale. The present bearer of the title is a noted traveller, and lately distinguished himself by an extended tour in the Arctic regions and Alaska. His tenantry have long been permitted to select a Clydesdale horse for service in their district, the landlord paying the premium, and this season they have hired Mr. David Riddell's strong, big stallion Bothalhaugh 6529, got by Cairnbrogie Keir 1993, now one of Colonel Holloway's stud horses, out of a Macgregor mare. Altogether, as far as the trade in travelling stallions is concerned, the prospects at this time are as cheering as they have ever been. I have not been able to learn particulars of the terms on which horses generally so far have been hired, but I imagine if anything is changed, they will be a little easier than during recent years. The doubtful element in our outlook is the trade from Canada and the United States. There seems to be a fear that the McKinley act, during the time it remains in existence, may hamper the Canadian trade in work horses from the States, and, of course, if Canadian farmers find no ready and remunerative market for their work horses, we can hardly expect them to buy breeding stallions. However, matters in this direction may not be so bad as some fear, and possibly all our old friends will again visit us this year.

One gratifying result at least is the evident appreciation of farmers in the United States for Clydesdales. Colonel Holloway's recent sale with its average of nearly \$900 apiece for half a dozen yearling colts, and remunerative prices all round, should put heartening into all breeders and owners of our unrivalled Clydesdales; and the plight in which the Association of American Percheron horse owners finds itself does not indicate unexampled prosperity in that branch of stock enterprise. We may rest assured that if the Clydesdale Horse Society of Great Britain and Ireland, and either the Canadian or American Clydesdale Association were unable to meet their ordinary running expenses from revenue there would be rejoicing in the tabernacles of the Percheron men. We will not try to rejoice at the misfortunes of others, but rather express the hope that the Percheron Society may soon see prosperity, and the supporters of the French horses, recalling their jubilation in the years 1881 and upwards, reflect on the ancient utterance that "pride cometh before destruction, and a haughty spirit before a fall."

SCOTLAND YET.

Clydesdales at Yelverton.

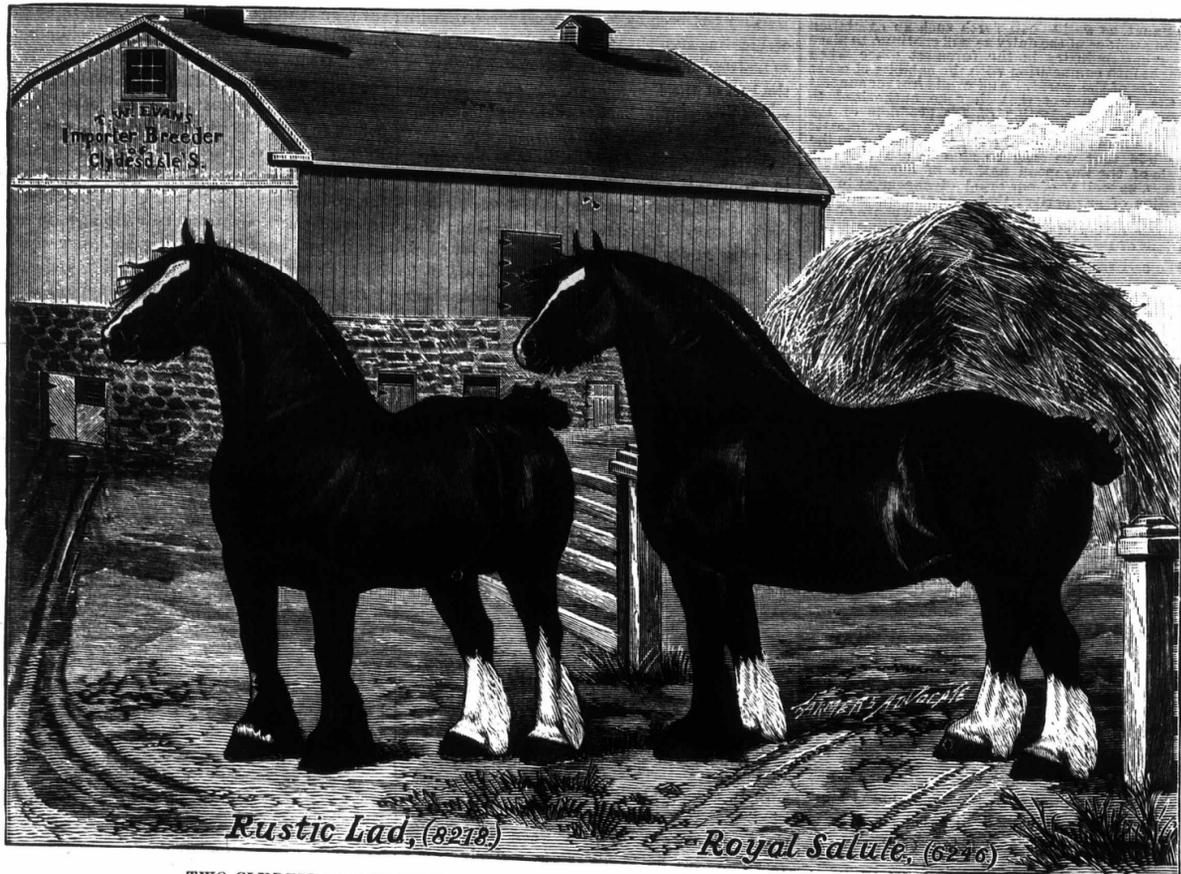
Mr. T. W. Evans, of Yelverton, who lives in the heart of a particularly productive county, six miles north of Pontipool, on the C. P. R., which station is some fifty miles east of Toronto, has made himself known to the public for several years by bringing out a few show-yard stallions and fillies, a number of which have been again successful after arriving on Canadian soil. He has always aimed to bring a few of undoubted good breeding, combined with individual quality, that at once makes quick sales a foregone conclusion, and he thus far has been enabled to sell all out before returning for a fresh lot. This season seven were brought over, including five stallions and two fillies, all of which are of the

gives an idea of the value at which his services were held at home, and how reluctantly he was parted with. Rustic Lad is a two-year-old colt, with feet and legs of the proper material and right conformation. This colt was third at Bishopton and Dalbeattie in strong classes before coming over, and second in a good class at the late Industrial Exhibition, Toronto; he was sired by the Darnley horse Knight of Lothian, lately purchased by the Messrs. Montgomery to assist his half brother, Macgregor, in their stud.

Earl of Casselis is a three-year-old bay, by the Lanark premium horse Harold. This colt has feet and legs of good wearing form, and he has good all-round qualities; is nicely turned above, of blocky type, and moves well.

Cairnbrogie Clydesdales.

With the memory of achievements in the show ring of representatives from this stud during the past year, both in Canada and the United States, the visitor at Graham Bros.' stables is full of expectation to see what the last comers across from the land of cakes and Clydesdales may be. The knowledge that sales with this firm have come thick and fast brings to mind the assortments of past seasons when such old time winners as Macqueen, Macarthur, Macbean, MacClaskie, Macneilage, of the clan Macgregor, were sweepstakes winners, and the thought recurs whether the present selection contains a candidate capable of adding to the honors already won by the previous champions from this stud. It was, therefore, with a ming-



TWO CLYDESDALE STALLIONS, THE PROPERTY OF T. W. EVANS, OF YELVERTON, ONT.

most popular lines of breeding. The two shown in the illustration are Royal Salute and Rustic Lad. The place of honor in this stud justly belongs to the five-year-old horse Royal Salute, by the greatest of all sires, Darnley, first dam being a celebrated prize-winning mare by the famous Lord Lyon, thus combining in Royal Salute two sorts that have generally nicked together in harmony for both successful breeding and showing. Royal Salute himself has been quite a prize-winner in Scotland, and this, with his good quality and smooth finish altogether, makes him a most desirable acquisition to head a stud of pure-bred Clydesdale mares, or to improve those that are being crossed up. The fact that he was the premium horse for the Shorts district, a few miles from Glasgow, where he received £100 premium and a service fee of £8,

Island King is a large brown colt, by the Topgallant horse Cumbrae. He has abundance of clean, hard bone, showy head and neck, and bids fair for more than ordinary outcome.

A very neat yearling is the Macgregor colt Glenlee Chief, and alongside of his Royal breeding he has an individuality that will make him a most desirable horse for breeding to a good class of mares. The yearling filly Elsie Ward won third prize at Kelmalcolm a few days before being exported. She is by the capital breeding horse Prince Gallant. The filly Daisy that won second in 1889 at Toronto, has grown into a useful mare, and is now in foal to Just-the-Thing, which Mr. Evans sold to Mr. Wilson, of Janetville, Ont., after being quite a successful show horse at Toronto. Taken as a whole, the horses in this stud have particularly good action, are good colors, and have the good all-round qualities that buyers of this sort are seeking after.

ling of pleasure and curiosity we were led to the stables to view the arrivals. The weather being cold and the ground too slippery for out-door inspection, the horses were shown us on the show floor of their commodious new horse barn. Like most stockmen, we fully expected that we should not see those in the highest form first, and the two-year-old, Crosby Chief, one of the late arrivals, was the first shown. He is a dark bay, nicely marked with the orthodox white, with deep rib, strong back, good flat bone, strong wide joints, and legs well placed under him, and moves as if he had the full use of them. Although this colt had not yet recovered from the effects of his trip across, there was the undeniable stamp of plenty of size and beauty of form.

Very much the same description will suffice for Crosby Gallant, the same age, next led out, he

having the same required size and draught quality.

Arbitrator, second at the late Toronto Spring Show, as a yearling, is a two-year-old of great beauty, and is much the same type as Macbean that won sweepstakes in 1889 at the show above mentioned. He has a trifle heavier bones, and is probably a size larger, but otherwise is built after the same attractive form.

Cecil's Heir is another of those colts that are full of individual quality. He is a colt of much substance and particularly good at the ground, and displays the same magnificent action as his sire, Marquis of Salisbury, who has been successfully shown both in Scotland and Canada.

Fashion A., also two years old, by the Darnley horse, Laird Darnley, who is own brother to the

the latter beating the renowned Flashwood as a yearling, and also most highly valued in the breeding ranks as a sire. With these high connections, Energy should have a grand future before him.

Among the splendid array of horses rising four is Lord Harcourt, who was a winner before leaving Scotland. This is a particularly flashy horse in appearance, backed with the best possible feet and legs. He is beautifully turned above, his beautiful color, handsome and spirited action altogether making him a most taking horse.

Othello, another of this age, is wonderfully deep-ribbed and grandly colored. He has capital underpinning, together with the best of Clydesdale action.

Dunglass is a beautiful whole colored seal

of thickness, but this colt in this particular outstrips them all. He is indeed a wonderful colt, and those that wish for the width, thickness, and middle of a Shire, with the wearing feet, flinty bone, silky feather, combined with Clydesdale quality, all in one horse, had better look this way first, and they will hardly go further; and in the show ring he will be found a very strong competitor indeed.

Craigisla, a four-year-old horse, sired by the Prince of Wales horse Prince George, his dam being a celebrated prize-winning mare, owned by that popular breeder Mr. Lawrence Drew, and afterwards a great prize-winner at English shows, and was for several years in the stud of Lord Middleton, who bred Craigisla, which is a horse



MACKECHNIE, THE PROPERTY OF GRAHAM BROS., CLAREMONT, ONT.

premium stallion Master of Blantyre, and the celebrated prize-winning mare Louisa. Fashion A. is a smooth built colt of the best possible breeding, and has both size and finish to recommend him, and almost Hackney action at hook and knee.

Last, but not least by any means among the two-year-olds, comes Energy, another to the credit of the wonderful sire Macgregor. This is a particularly hard horse to do justice to in a description, being of that magnificent type that requires comparison to bring out his grand individuality. He has the size of a three-year-old, has the quality and handsome formation of the most refined type of Clydesdales. We think he is to-day the best two-year-old Clydesdale stallion on the continent, and being own brother to the prize horses MacCallum and MacPherson,

brown, has the same undeniable Clydesdale quality in feet, pasterns and legs, and a finished form above that leaves very little that could be improved on.

International, by that popular horse Flashwood, who is own brother to Macgregor. Without doubt Flashwood is individually one of the best horses in Scotland, and has beaten some of the most famous show horses during the past two seasons. International will yet be a credit to his worthy sire, although not yet over the effects of his trip out. His beauty of form, beautifully placed pasterns, grand feet, flat bone, wide clean joints, roundness of form, toppy finish, will make him a strong favorite in any show ring he may enter.

The above illustration of MacKechnie, another son of Macgregor, a sort that can all boast

that should be a most desirable acquisition to head a stud, as his breeding runs with exceptionally good prize-winning and popular strains, and quite the correct cross for Darnley and Macgregor mares.

Royal Lawrence is a five-year-old, son of Prince of Wales horse St. Lawrence, and has proved very satisfactory to his owners on the route for several seasons. He is a very toppy, showy horse, with admirable feet and pasterns and capital quality in bone, and moves beautifully.

The yearling colt Stand Clear, by the Darnley horse Landmark, is a colt of superior breeding, and of smooth, blocky build. His blood lines are full of the names of the famous winners of both continents.

Tinto, also a yearling, is a colt of royal breeding, sired by Craigisla, as mentioned above, dam

by the famous breeding and show horse Lochfergus Champion.

Last of the stallions comes Macneilage; his massive form has often been described, and yet not enough said in his favor. We don't like to particularize. First at Toronto Spring Stallion show in 1890; first and sweepstakes at Toronto Industrial Exhibition; first and sweepstakes at Whitby Show; first and sweepstakes at Markham Show, and at New York National Horse Show he won first in his class, also the champion cup given for the best draught horse any age or breed. He is in quite as good form as we have ever yet seen him, and, better than all, his produce are coming to the front as winners.

The last importation of stallions was supplemented by a beautiful selection of fillies, for which we have not space to particularize. They are full of the Clydesdale character that breeders of this British sort are looking for, and consist of the two-year-olds Effie Macgregor, by Macgregor, and Daisy, by Belted Knight, both of which are likely to be heard from in the show ring. Eight yearlings of capital form, and bred as follows: Miss Weir, by the Duke of Hamilton's horse Almondale; Maid of Dalbeatie, by Strathdee. The balance are sired by such sons of Macgregor as Macpherson, Mackay, Macdermot and Marmion.

Among those sold are a grand lot gone to form a new stud for Mr. Robert Davis, of Toronto, a gentleman, by the way, who has draught horse breeding at heart, and who full well knows what is required in this line, his business being immediately connected with employing heavy teams for city work. Those purchased by him were the three-year old stallion Gilroy, a son of that capital breeding horse Master of Blantyre, by Darnley.

The mares include the Darnley mare Bessie Bell, sweepstakes at Toronto Industrial, and the following mares and fillies that won in their respective classes at the same show: The three-year-old mare Lady Dunmore; two-year-olds, Barr Bell and Edith; yearlings, Lady Muir and Sweetheart. In addition to these, Mr. Davis purchased the two four-year-old mares Nelly and Sally and the yearling Sally, and the five-year-old mare Harriet that won in the team.

Second Choice, by Chastler, won first place in the two-year-old stallion class at Toronto and Chicago, was half brother to First Choice used in the Queen's stud. He and Lady Muir, the first prize yearling filly at Toronto, were sold to Mr. B. P. Clarke, St. Cloud, Minn. The Old Times horse St. Leger was sold to Mr. Steele, Richmond. The above were all included in the first of the three importations made during the season.

Although Messrs. Graham Bros. have been many years before the public as importers of the very best types of Clydesdales, it is only of late years they have paid attention to that English light harness horse, the Hackney. They fully realize the growing popularity of this sort, and have brought over several good ones of this class of late, and the last importation is Sea Gull 2261, by Donegault 174, he by the prize-winning Denmark 177. Sea Gull is three years old, a dark chestnut of true Hackney type. He has grand feet, neatly turned ankles, capital bone, breedy head and neck, capital back, and has true Hackney action.

Taken as a whole, the present stud displays much care in selection. They are large in size, and exceptionally well colored, there being a number of the most beautiful browns and bays. A glance at Graham Bros.' catalogue will show their breeding is in the most fashionable lines.

"Down in Ole Kentucky."

THE HOME OF GEO. WILKES.

A few miles out of Lexington, on the Frankfort Pike, is situated Ash Grove Farm, the property of Mr. Geo. Wilkes Simmons, and known all over America as the home of the Wilkes family of trotters. As it was very late, and a nasty stormy evening when we reached Ash Grove, we were unable to see the brood mares, but through the kindness of Mr. Procter, Mr. Simmon's trainer, we were shown what is probably the greatest collection of Wilkes stallions on earth, comprising no less than six sons and one grandson of the famous Geo. Wilkes. The first horse shown us was Jay Bird, record as a three-year old 2.38½, sire of the great three-year-old stallion Allerton 2.18½, a red roan, standing full sixteen hands, and showing wonderful muscular development. Jay Bird has proved both by his own performances and by his get, that he is worthy of a place among Geo. Wilkes best sons. Next, after Jay Bird, we were introduced to William L, a full brother to Guy Wilkes 2.15½, and known to horsemen all the world over as the sire of the King of three-year-olds, the phenomenal Axtell, with a record of 2.12, a rich bay, standing 15.3. William L, though not showing as much substance as Jay Bird, still exhibits in a marked degree the heavily muscled forearm and powerful stifles that seem inherent to the Wilkes family. The most objectionable feature we could find in this justly famous sire was his hind legs, which are decidedly crooked; but as Mr. Procter informs us that Axtell's hind legs are exactly similar in shape, and as William L has sired four other three-year-olds in the 20 list, we are led to believe that a bent, or sickled hock is not as objectionable in a trotter as it is in other types of light horses. In a box adjoining William L, we found Young Jim, another son of Geo. Wilkes, and himself the sire of three in the 20 list and fourteen in the 30. This was our idea of a trotter; standing 15.3, and weighing 1,200 pounds, Young Jim has size and substance enough to satisfy the most critical observer, while with it he combines an amount of quality and finish that we hardly expected in a horse of his weight. From his clean cut head and neck to his long, smooth level quarters and sinewy legs, he has the word breeding stamped all over him, while his deep chest and well sprung ribs show a grand constitution, and from what we saw of his get he seems to stamp his own good qualities on his colts. Among the other stallions were two sons of Geo. Wilkes, Betterton and Prince Charlie. The first, a full brother to Lumps 2.21, is a very powerful but rather coarse horse, and in our opinion very much lacking in his hind pasterns; the latter is a very smooth, nicely finished fellow, standing about 15.3, and very rangy, with a beautiful head and neck. Although not trained for a record he has shown a mile in 2.22. The other stallion shown us was Eagle Bird by Jay Bird, and like his sire a roan. This horse is an inbred Wilkes, being by a son and out of a daughter of Geo. Wilkes. Standing 15.1, he is a big-little horse, low set and thick, with a wonderful lot of substance; as a two-year-old he made a record of 2.30½, and as a four-year-old one of 2.21.

Among the youngsters, a little latter on, we saw a full brother to Eagle Bird, a three-year-old. This colt, a brown, is of an entirely

different stamp, being a big, rangy fellow, but like his brother he is a natural trotter, and considered one of the most promising colts on the farm. Among the yearlings was a roan filly by Eagle Bird, and out of Mother Lumps, dam of Lumps 2.21. This is a very well put together filly, with any amount of size and substance. Another very strong boned yearling was a black filly by Betterton, out of a half-sister to Eagle Bird, by Waverland Chief, a smooth youngster, with nice lengthy quarters, and an uncommonly good set of legs; but the pick of the basket, to our mind, was a bay colt by Young James, out of Madam Adams by American Clay. As we said before, Young Jim is by Geo. Wilkes, and as Madam Adams is the dam of Clay Wilkes, who sold for \$15,000, this youngster is royally bred, and to say that he does credit to his breeding is simply justice, for a better pattern to our mind it would be hard to find; a rich bay without any white but a small star. He promises to make a 16 hands horse, while for bone and substance, combined with quality, we have never seen his equal. While looking at this colt it struck us forcibly that he was the stamp we need in Canada, to improve our trotters, and at the price Mr. Simmons places on him, \$1,250, he would be a good paying investment.

HIGHLAND FARM.

On the Frankfort Pike, a little nearer Lexington than Ash Grove, is Highland Farm, the property of Mr. W. C. France. Here we found one of the largest establishments devoted to trotters in America, in all over six hundred acres, stocked with some two hundred and fifty head of trotters, including one hundred and ten brood mares.

In our visit to Highland Farm we were again unfortunate in the weather, as it rained a steady downpour all the time we were there, and we were consequently unable to see much besides the stallions; these, however, were well worth a long journey, for here we saw the famous Red Wilkes, sire of no less than thirty-two performers in the 2.30 class. For this horse the owners claim that he is the greatest producer of all the sons of Geo. Wilkes, and when we point out that the thirty-two performers referred to are out of thirty different mares, by twenty-eight different horses, it goes a long way to prove the truth of their claim. On looking at Red Wilkes the first thing that strikes one is his extraordinary substance; standing 16 hands, he weighs 1,280 pounds, and to say that he is muscled like a draught horse is no exaggeration; his stifles are simply tremendous and are let right down into a pair of wonderfully deep, wide hocks, while his short back, powerful loins and close coupling, show him to be a horse of immense strength.

In a box adjoining Red Wilkes we found his half-brother Sentinel Wilkes, by Geo. Wilkes, dam by Sentinel 2.29½. This is a very handsome horse, a solid bay with black points; he is hardly as tall as Red Wilkes, and not nearly so heavy, but in some respects he is his superior; he is far breedier looking and has a much nicer head, while again his pasterns are far better, being long and springy, while Red Wilkes' are inclined to be short and stilted. A young horse yet, he may prove himself a sire of trotters. One of his get, Col. Strader, having made a two-year-old record of 2.32½ and sold for \$6,000.

Here also we saw Allendorf, a son of Onward, Col. Pepper's famous stock horse, and out of Alma Mater by Mambrino Patchen, 3rd dam a thoroughbred mare. This horse, unfortunately, was suffering from a puncture in one of his feet, but in the hurried glance we took at him we could see that he is a horse of great finish, his clean, breedy head, and flat joints showing clearly his thoroughbred blood.

Last of all came Pilot Mambrino, a son of Mambrino Patchen, and out of Santa Maria by Pilot Jr. This horse is now nineteen years old, yet a four-year-old might be proud of his legs, and, indeed, take him all over he is a wonderfully fresh looking horse for his age, standing only 15 hands 1 inch. He is uncommonly well put up, and his expressive countenance and well-shaped head show him to be a horse of unusual intelligence.

BLUE BLOOD.

Meetings of Live Stock Associations

DOMINION SHEEP BREEDERS' MEETING.

The Dominion Sheep Breeders' Association held their third annual meeting in Shaftesbury Hall, Toronto, Ont., on February 6th. A very large number of breeders attended; nearly every section of the Province of Ontario was represented. The subject of establishing Canadian records for the various breeds was fully discussed. From correspondence received by the Secretary, it was quite evident that the majority of those interested were in favor of home records. The following resolutions were unanimously adopted:—

Moved by R. Marsh, seconded by A. Telfer, and resolved—

1. That whereas the fees now charged by the American Southdown Association for recording sheep, viz., one dollar on all sheep or lambs and five dollars for imported animals, are excessive,

2. That the \$5 fee on imported animals is simply so much of a tax on the importer, and tends to discourage the improvement and dissemination of Southdown sheep in America.

3. That we are of the opinion that a large majority of importers and breeders of this class of sheep in the United States, as well as in Canada, are opposed to this high tax or tariff.

4. That the fee for recording imported sheep should not exceed \$1, and for American bred, when sire and dam are recorded, if done within the year in which they are yearned, should not exceed 50c.

5. For the reasons above cited it is deemed advisable and expedient to appoint the following named breeders as a committee, viz.: Messrs. John Jackson, T. C. Douglas, Robert Shaw, John Geary, Graham and Walker, with a view of establishing records in Canada, to obtain all necessary information as to cost, fees, rules and regulations, and the best method of conducting a flock-book to supply the want that is now felt; to take such further steps as to them may seem necessary and expedient, and report their deliberations as soon as convenient to the breeders of this class of sheep, at some suitable time and place, for the purpose of giving the matter further consideration.

Mr. Alfred Brown, of Bethel, seconded by Mr. F. W. Hodson, moved—

That the Dorset sheep record now in operation by the Agriculture and Arts Association, established by the request of a meeting of the Dorset-Horned Sheep Breeders in affiliation with this Association, be sanctioned by this Association, and that any other sheep record started by the request of the breeders of any class of sheep called together by the members on this Board for said breed be endorsed by this Association. The motion was carried.

REPORT OF COMMITTEE.

The Committee on the classification of sheep at shows reported as follows:—

Your Committee, appointed to take into consideration and report on a classification for sheep to be recommended to the leading fair associations, having carefully considered the matter, beg leave to report the following classification:

- Sec. 1—Ram, two shears or over.
- Sec. 2—Ram, shearing.
- Sec. 3—Ram, lamb.
- Sec. 4—Two ewes, two shears or over.
- Sec. 5—Two shearing ewes.
- Sec. 6—Two ewe lambs.
- Sec. 7—Best ram, any age.
- Sec. 8—Best ewe, any age.
- Sec. 9—Pen of one ram, two aged ewes, two shearing ewes and two ewe lambs.
- Sec. 10—Pen of one ram and five of his get, the get to be under two years old and bred by exhibitor.
- Sec. 11—Pen of three shearing ewes, bred by exhibitor.
- Sec. 12—Pen of three ewe lambs, bred by exhibitor.
- Sec. 13—Pen of three ram lambs, bred by exhibitor.

We would also recommend that beyond three money prizes, where the exhibit is deemed worthy, there be a reserve number and highly commended card of honor given, except in sections seven and eight (the sweepstakes for ram and ewe), where a medal would be sufficient. And, as there are records now established for all the leading breeds of sheep, we would further recommend that all sheep to be eligible to compete in the pure-bred classes must be eligible, and should be recorded.

And, while we feel assured that the adoption of the above classification would add very materially to the interest of the sheep department, it would only be in keeping with the classification already adopted for horses and cattle by the Toronto Industrial Association.

All of which is respectfully submitted.

The President pointed out that Mr. Henry Wade, Secretary of the Agriculture and Arts Association, was the proper person to conduct Canadian records, which was agreed to by the Association.

Valuable papers were then read by Messrs.

Henry Wade, J. C. Snell, R. Marsh, Robt. Miller, James Tolton and others, after which the officers were elected for the ensuing year: President, R. Miller, Brougham; Vice-President, James Russell, Richmond Hill; Secretary, F. W. Hodson, London; Treasurer, F. R. Shore, White Oak. Vice-Presidents for the provinces: Nova Scotia, A. C. Bell; Prince Edward Island, Benjamin Wright; Manitoba and the Western Territories, John P. Hutchinson; British Columbia, Mr. Kirkland; Quebec, E. Casgrain. Directors: Shropshires, W. H. Beattie; Southdowns, John Jackson; Leicesters, John Kelly; Cotswolds, J. C. Snell; Merinos, Wm. Smith; Lincolns, John Geary; Horned Dorsets; John Tazewell; Oxford-Downs, James Tolton. Delegates to the various fair boards: Toronto Industrial, J. C. Snell and James Russell, Richmond Hill; Kingston, C. W. Neville, New Hamburg; London, John Geary and W. H. Beattie; Central Farmers' Institute, Wm. Rolph, Markham.

Mr. James Russell was elected to represent Canadian Cotswold breeders on the Board of the American Cotswold Record Association.

The Treasurer's Report showed that the expenses of the Association had been very light during the past year. The receipts were \$303.00 the expenses \$49.70, leaving a balance of \$253.30 in the hands of the Treasurer on the 31st of December, 1890. The following gentlemen were nominated as expert judges:—

Cotswold—John Thompson, Uxbridge; J. C. Snell, Edmonton; Joseph Ward, Marsh Hill; Wm. Thompson, Uxbridge; Joseph Bell, Uxbridge; Thos. Colley, Castlederg; Mr. Laidlaw, Wilton Grove; Heber Rawlings, Forest; Thos. Waters, Rockwood.

Merino—Louis Tapier, Paris; George Weeks, Glanworth; C. Buchanan, Brantford; Wm. Farr, Aylmer; Rock Bailey, Union, Ont.

Leicester and Lincoln—Geo. Weeks, Glanworth; Bilton Snarry, Down Mills; G. S. Cresswell, Edmonton; W. Cowan, Galt; Mr. Allan, Bowmanville; John Miller, Brougham; Wm. McKay, Elm Bank; Jos. Pearson, Whitby; Jos. Snell, Edmonton; J. C. Snell, Edmonton; W. R. Swain, Valencia; Robt. Miller, Brougham; Andrew Telfer, Paris; John Mason, Princeton.

Oxford-Down—Henry Arkell, Teeswater; F. Shore, London; J. Russell, Richmond Hill; Mr. Story, Farm Manager of the Agricultural College, Guelph; Wm. Dickson, Mildmay; James Tolton, Walkerton; Peter Arkell, Teeswater; Joseph Harcourt, St. Annes.

Shropshire—F. R. Shore, London; T. M. Whiteside, Ellesmere; D. G. Hamner, W. H. Beattie; J. Campbell, Jr.; W. S. Hawkshaw; John Conworth; Alfred Brown, Bethel; W. D. Reesor; R. Miller.

Southdown—John Davidson, Monroe, Mich; Simon Lemon, Kettleby; E. G. Cresswell, Egmondville; T. C. Douglas, Galt; A. R. Kidd, Warsaw; Thos. Wilkinson, Hamilton; Wm. Martin, Binbrook; James Anderson, Guelph; James Smith, Mount Vernon.

AYRSHIRE BREEDERS' MEETING.

The annual meeting of the Ayrshire Breeders' Association was held at the Albion Hotel, Toronto, on February 5th, 1891. After the reading and adopting of the minutes of the last meeting, the Secretary, Mr. Henry Wade, presented the annual report, which read as follows:—

The Executive Committee beg to submit for your consideration the fourth annual report of this Association for the year ending December 31st, 1890. In the first place we have added eight new members to our Association, and now have a total membership roll of forty-eight.

REGISTRATIONS.

We have now on record and in readiness for the printer for the first volume of the new series,

CLASS 1.		Total.
911 Bulls	1695 Cows	2605
APPENDIX.		
210 Bulls	355 Cows	565
1121	2050	3171

showing a total registration of 451 during last year; these have not been all new records, as the parents of several have been brought in from the old book in order to record their progeny.

We are pleased to say that a commencement has been made in the printing of the first volume of the new series. It will soon be completed, and a volume will then be sent to each member of this Association.

The Secretary-Treasurer's books have been audited. On the first of January there was \$106.50 to the credit of the Association; by the adding of eight new members it has been increased to \$130.50. A call will be made on this amount to pay for the first volumes that are given to the members.

Ayrshire cattle were well brought out at the shows last year, and in quality and numbers exceeded the shows of the year before. A few more were imported from Scotland to the neighborhood of Montreal. They still come to the front as dairy cattle, and during the last season several new herds have been established. Upon the whole the prospects ahead for Ayrshire breeders are pleasing.

The officers elected were: President, Jos. Yull, Carleton Place; Vice-President, Thos. Guy, Oshawa; Vice-Presidents for distant provinces: Manitoba and the N. W. T., Geo. Steele, Glenboro'; Prince Edward Island, C. C. Gardiner, Charlottetown; New Brunswick, C. C. Fairweather; Nova Scotia, Col. Blair, Nappan. Directors, D. Nicol, Cataract; J. McCormick, Rockton; John Douglas, Warrington; M. Ballantyne, St. Marys; Wm. Smith, Fairfield Plains; Walter Nichol, Plattsville; A. M. Smith, Simcoe. Auditors, H. Coldwell, Orfordville, Wm. Clark, Laural. Directors to the Industrial Exhibition, T. Guy and J. McCormick; to Ottawa Exhibition, Jas. Yull and W. C. Edwards; to Farmers' Institute, Jas. Yull; to Kingston Fair, D. Nicol and Ed. Serson, Kingston.

In connection with the election of officers, the Secretary was requested to correspond with Mr. W. C. Edwards, M. P., North Nation Mills, with a view of securing that gentleman as Vice-President of the Association for the Province of Quebec.

Mr. McCormick suggested that the same list of judges be appointed as last year. It was suggested to strike off the name of Ed. Serson, and add to the list the names of Wm. Crawford, Brown's Corner, and Robt. M. Carrons, Washington, Pa.

Mr. Guy brought forward a discussion in regard to the one or three judge question.

Mr. Shore brought forward a discussion in connection with the necessity of having a delegate appointed from each of the different breeders' associations to formulate a scheme whereby the selection of judges at fairs can be made more satisfactory.

The President suggested the advisability of appointing a delegate to meet with the Board at London, and request them to have a man capable of judging Ayrshire cattle.

Mr. Hodson said Prof. Robertson will meet you on March 12, in order to explain the milk test and talk over other important matters with you.

On motion of Mr. McCormick, seconded by Mr. Smith, Messrs. A. Kains, Byron; Ballantyne, St. Marys, were appointed delegates to the Western Fair Association on behalf of the Ayrshire Association.

Messrs. Guy and McCormick were also appointed a committee to meet Prof. Robertson at London.

Mr. Guy moved the following resolution:

"That this Association has heard with profound regret of the unexpected and sudden death of the late William Weld, of the FARMER'S ADVOCATE, and that they regarded him as a true and faithful friend of the farmers' best interests, and believe his loss will be very much felt throughout the length and breadth of this Dominion; and the sympathy and condolence of this Association is hereby tendered to the friends and relatives of the deceased gentleman, and that a copy of this resolution be forwarded to the widow of the late Mr. Weld."

Mr. McCormick seconded the resolution, which was carried.

The meeting then adjourned.

CLYDESDALE BREEDERS' MEETING.

The annual meeting of the Clydesdale Horse Association of Canada was held at the Albion Hotel, Toronto, on Feb. 4th, 1891. Mr. William Smith, M. P., Columbus, Ont., the President, occupied the chair.

Mr. Guy moved the President's address and the reading of the minutes of the previous meeting, the Secretary, Mr. Henry Wade, read his annual report which contained the following information:—The registration of Clydesdales exceeds in number those of the previous season by about fifty. During the year thirty-one stallions and thirty-two mares have been exported to the United States, and twenty-eight animals to Manitoba and Western Territories of Canada, besides those whose transfers have not been recorded. The membership fees paid during the year exceeded the previous year by \$102. While in Scotland and England last summer Mr. Wade said he was amazed at the prices asked for colts and fillies, and wondered how our people could pay such prices and make the business pay. Many Canadian farmers have an idea that such horses can be purchased in the Old Country for very little, but they have only to cross the ocean to be cured of this fallacy. Speaking of the Spring Stallion Show for 1890, Mr. Wade said it was a grand success. It increases in interest every year. This year we have amalgamated with the Agriculture and Arts Association to hold a two days' exhibition, they giving prizes to all regular breeds of stallions, and the Prince of Wales' prize to the Clydesdales, besides supplementing our list by a handsome donation, paying all outside expenses and allowing us to recommend the judges. This promises to be the best stallion show ever held in Toronto. It will take place on the 11th and 12th of March next at the Drill Shed there. The Clydesdale feature, as a matter of course, will be the great attraction. Our certifi-

ates are accepted at the custom house on the other side of the line without any delay to shippers, provided an affidavit from the breeder of the horse stating that it is the animal sold by him to the exporter, and one by the purchaser to the effect that he has bought it and is going to use it for breeding purposes, is produced. I would also advise the directors to direct that no more certificates from our office record be issued, to prevent their use to represent that the animals are recorded in the Clydesdale Book.

The audited financial report showed a balance of \$91.83 on hand. Since this statement this balance has been increased by \$219.

The election of officers was then proceeded with and resulted as follows:—

President, Wm. Smith, M. P., Columbus, Ont.; Vice-Presidents, for Ontario, Geo. Moore, Waterloo; Quebec, Robert Hess, Howick; Nova Scotia, James McKay, Stellarton; New Brunswick, Hon. David Maclellan, St. John; Prince Edward Island, Hon. James Cowe, Murray Harbour; Manitoba, James E. Smith, Brandon. Directors, R. Beith, Bowmanville; John Bell, L'Amouroux; E. J. Charlton, Danforth; Robert Miller, Brougham; Douglas Sorby, Guelph; Robert Graham, Claremont; John Duff, Rockwood. Auditors, Frank Shore, London; J. Y. Ormsby, Springfield-on-the-Credit. Delegates to the Toronto Industrial Fair, the President and Secretary. Delegate to Farmers' Central Institute, D. McCrae, Guelph.

The Spring Stallion Show to be Held in Toronto.

The stallion show to be held in Toronto on the 11th and 12th of this month promises to be the largest and best exhibition of the kind ever held in Canada. Heretofore the Clydesdales were the only class for which prizes were given. This year a full list of prizes are given to the following sorts: Thoroughbred, Carriage or Coach, Roadsters, Hackneys, Suffolk Punch, Percherons, Shires and Clydesdales. The regular exhibition rates will be allowed by the R. R. Companies to persons attending as visitors or exhibiting at this show. By applying to Mr. Henry Wade, Toronto, any of our readers may obtain free of charge the prize list.

Fat Stock Shows.

A few thoughts on the present aspects and future prospects of our fat stock shows may not be considered out of place at this time. When we consider the vast importance of the live stock industry of our country, the fact that it brings into the country more money than any other industry we have, and that to this we must look mainly for the means of keeping up the fertility of our farms, it becomes our duty to do all in our power to encourage and foster it.

The breeding of improved stock is being encouraged by the various agricultural and exhibition associations by the offering of prizes at the annual fairs, but feeders for the market or the shambles have had but little of this sort of stimulus given them, and yet of all men engaged in the live stock business they deserve to be encouraged. It requires a large amount of patient, persistent work and close attention to make a success of feeding for the best results in preparing stock for either the export trade or for the fat stock shows. There is not often much money in it for the man who does the most work, but it would be ill for the country if this work were not done, and the men who do it are public benefactors.

To our mind there are few more interesting shows of live stock than the fat stock shows. To see a select lot of well-bred stock fully ripened for the shambles at an early age is, to a lover of good stock, a very interesting sight, and it is a wonder, with so little encouragement given, that so fine a display of fat stock can be secured as was seen at the late show at Guelph.

When we compare the very meagre prize list offered at Guelph with that offered at Chicago, and compare the quality and finish of the animals

brought out, there can be no doubt that if one-half the encouragement that is given there were given here we could have a display of stock that would easily eclipse the great show at Chicago. Our stockmen are more skillful feeders, and the greater variety of feeds used here bring out a larger percentage of high class animals, and the plodding industry of our farmers secures the best results.

The work of sustaining a fat stock show is one in which a good deal of the same sort of persistency and patience that the feeder displays in his calling is required. The history of these shows in Canada proves that they have not been sufficiently popular to draw large crowds of visitors, and hence they have not been self-sustaining. Indeed, in many cases the gate receipts have not been more than is often secured at a country tea party. This is one of the difficulties in the way of those who have tried to keep up these shows; and while it is a serious one, we submit that it ought not to be allowed to prove a fatal one. In our opinion the government, through its agricultural department, is in duty bound to recognize and foster an industry on which so largely the prosperity of the country depends; and it should not be expected that such an institution should be self-sustaining.

We have many institutions of an educational character which are constantly receiving government aid and are not expected to pay expenses—directly in a pecuniary way—yet we all agree that they should be sustained and made efficient at any reasonable cost. Since the large industrial associations have taken up the exhibition work formerly done by the Agriculture and Arts Association, and public opinion, whether rightly or wrongly time will tell, seems to have determined that the Provincial Fair has outlived its usefulness, it seems to us that the Council of that Association could not find a better field for usefulness than that of the fat stock show, and we submit that a large part of their attention and of the government grant placed at their disposal should be given to this important enterprise. The different associations of stock breeders should also take a live interest in this work, and by the offer of special prizes in their departments help to increase the interest in these shows. The corporation of the cities in which the show is held could well afford to make a reasonable expenditure in securing suitable accommodation for holding the show, and the business men might do a good deal by offering special prizes to help along an enterprise which, if well managed, would bring a great many visitors to the city. The question of a suitable building is one that has stood in the way of this enterprise, and is still a serious one, but is one that should not be allowed to stop the good work.

An expensive building is not a necessity, and the city authorities might manage to utilize such building as a skating rink, or a drill shed, until better things can be provided; but, even if nothing better than a hotel stables and yards can be secured, let these be enlarged, covered and well lighted at the expense of the city, or the society, if need be, and by all means let us keep up at least one good fat stock show in Canada. Let the prizes be made larger and more attractive, and the classes be increased in number to encourage greater competition. Let the prize list be prepared and distributed early in the year, so that feeders may know what to prepare. Let it be made a permanent institution, so that breeders may feel safe in making their calculations from year to year without the risk of being disappointed by finding no place to display the result of years of preparation, and it is safe to say we may have in Canada a fat stock show that will be a credit to our country and a public good.

Coach Horse Breeding.

BY ARCH. WILSON.

The majority of farmers in Canada have their own particular notion in regard to horse breeding, regardless of the market. Some who have light mares, and have been breeding them to light stallions of no particular type whatever, find there is no market for this class of animal, hears of some one who has sold a team of heavy draught horses at a good price, and takes a notion he would like to do the same; he breeds his mares to a draught stallion to find, again, he is as bad as ever. There are others who having tried the experiment, and find it won't do, go back with their half-bred mares to light stallions again, which is continually adding fuel to the fire. Some, again, think it is impossible to breed a Coach horse without having a cross or two of draught blood in their mares for size. Such a system is preposterous. This class of stock is being raised in Canada to an alarming extent, and in many instances farmers who are raising them keep themselves poor by such mongrels eating them up, and the only possible way of getting rid of them, in many instances, is only by trading them, often having to give their note for the difference, and in many cases the difference they give is nearly value for the article they get. With the climate that Canada has, for raising horses, it ought to be in quite a different position to-day. I question very much if there is a country in the world that has such a climate as Canada so adapted for horse breeding.

A climate is one of the most essential blessings a country can have for the breeding of stock, especially the horse; it influences the stamina and form to a very large extent. There is just as much science required in breeding horses as any other animal, and with a little thoughtfulness and judgment it is easily attained, and one of the most profitable industries a farmer can try.

As a proof, the success of Great Britain I claim as an example. In early times there were imported into Britain stallions of different kinds, which were taken advantage of and judiciously crossed with the mares they had at that time, which has produced horses of different fashionable types; and to see the large amount of horses that are now being taken for breeding purposes to the very countries where the stallions came from in early times, and the demand for British horses and other animals for breeding purposes, it is impossible to look on Great Britain otherwise than a large stock farm, brought to such a high standard by the energy and thoughtful judgment of the farmers, who have always kept in view, and moved with the age they were living in, which can be seen in that beautiful breed of Coach horses, the Cleveland Bay, so named from their color, and the fertile district of that name in the north riding of Yorkshire.

There is no very authentic information about them in early times, almost every writer having his own views, and, as a rule, very conflicting. No doubt they are one of the oldest breeds of horses in England, and were used first of all as pack horses, and afterwards when coaches were first introduced in the reign of Queen Elizabeth. At this time they were very large—between seventeen and eighteen hands high. As roads got better and vehicles lighter, the blood of lighter horses were crossed with them and made suitable for the times, and so on down to the present day.

Recently a society with a stud book was formed to keep the breed in as pure a state as possible, which is most essential in all breeds. Lately a lighter animal has been in great demand, and a society with a stud book has been formed, namely, the Yorkshire Coach Horse Society, for horses with a large infusion of thoroughbred blood in them, which give them still more quality, the cross always being in the dam, great care being taken in the class of thoroughbred stallions used, so that the true type of the Coach horse may still be retained.

The English Coach and Cleveland Bay are the only fashionable coach horses in the world. They are sought after by all the crown heads, nobility and gentry of Europe, for state purposes.

For many years I have always found in my experience that stallions with a large amount of thoroughbred blood in them, but still retaining the type, color and size of the Coach horse, should be in height from 16 to 16.2 hands, and weighing between 1,350 and 1,400 pounds, with plenty of knee action. It is invariably horses of this stamp that come to the front in the show yard, and are the best getters in a country like this, where the majority of mares are very cold blooded.

To make the breeding of Coach horses a success, farmers should always study the kind of mares they have and mate them to suit, but never breed rough mares with draught blood in them to Coach stallions, expecting to get Coach horses suitable for the demands of the market. But mate light mares to good, strong blooded Coach stallions and it will always be a success. The time has gone long ago for the large overgrown Coach horse, as many think it should be; yet, it is almost impossible to sell a Coach stallion to some men in Canada and the Western States, unless he is a great overgrown brute from 16.3 to 17 hands high, and weighing from 1,500 to 1,600 lbs. If such horses were geldings in England they would be of no value whatever as horses for luxury, but would be used as drudges with their commoner bred brethren. Stallions of this kind are not in demand anywhere but in Canada and the Western States, and those that are taken of the right kind are very often mated to a rough class of mares. To hear the complaints of the New York dealers, that it is impossible to find horses to suit the market, one would think, seeing the amount of Coach stallions that go into that country, it could not be so, but it is. Stubborn prejudice seems to have such a hold of the farmers that they seem to think they know the wants of the man better than he does himself, and when they find they cannot sell they clamour for protection, so that they may be able to force such stock on the market.

I assure the farmers of Canada if they breed right, although there were fifty per cent. of duty into the States, it would not injure the market for good horses if they were suitable; it is not the price as much as the quality. And always bear in mind, whether it be Coach, riding or driving horses, or Hunters, to study the markets, and there will always be success.

There is one important point breeders should always consider—the quality and soundness of the sire; that is a matter that is very often overlooked in this country. I can say with safety that there is 75 per cent. of horses raised here professionally unsound, although they may be practically sound. The cause is not far

to seek. There are so many bred from unsound mares that are of no value for any other thing, and supposed to be good enough for this purpose. It would be better for the owner and for the country if such were destroyed.

It should be borne in mind that the better class of horses that are shipped to Great Britain and the larger cities of the states have nearly all to pass a veterinary examination at some time as to soundness, and all who have passed through the ordeal know how harassing a thing it is to have them condemned after they are sold.

There has been formed in South Dumfries and Paris district a breeding society to give a substantial guarantee of mares, with liberal terms, to engage two stallions, a Clydesdale and a Coach, the very best that can be found, for the use of the members. No doubt by forming societies of this kind farmers will get educated how to mate their mares and go on in one line of breeding.

If it is for draught purposes breed them as large and wide as possible with short legs.

For coaching horses, the great thing is a fine front with a grand broadside look, and plenty of knee action; although a horse be a little rough, if he has knee action it will always sell him. I assure the breeders of this country if they raise such stock they will find there will come here from Great Britain and France plenty of dealers and army contractors to buy their stock. There is something like eleven to twelve thousand horses imported into Great Britain every year, and more than that into France.

There is one important thing which ought to be taken into consideration by the exhibitors of this country, that is, the classing of different breeds and ages of horses. Many who are anxious to study and know the qualities of the different breeds are utterly at a loss with the present system.

W. C. Edwards & Co.

The above firm, who are among the largest mill owners of the Ottawa district, have lately gone quite extensively into fine stock operations. With a view to push this part of their business, they have equipped three large farms, all of which are conveniently situated for railway accommodation, being some thirty-five miles down the Ottawa River from the Capital city, the river also affording a convenient route while navigation is open. At each of these farms a different line of breeding is followed and a manager installed to whom all enquiring correspondence should be addressed. That nearest the office of the firm is Pine Grove Stock Farm, situated at Rockland post-office and station, the manager of which is Mr. Alex. Norrie, who is well posted in the requirements of Shorthorn breeding.

The barn on this farm is admirably laid out for high-class stock breeding, and is doubtless one of the best, if not the best, in use for cattle breeding in Ontario. The building measures 150x60 feet, and comprises stone basement, in one end of which are placed two silos in each corner, with large root cellars between, the next compartment being laid out with bins for ground grain, bran and cake for immediate use, while root pulper, water and other appliances are conveniently at hand for labor-saving and mixing feed.

The stable consists of rows of stalls running the remainder of the length of the building, with wide feed passage down the centre. Tied in these stalls are some three car loads of

high grade steers of extra quality, being fattened for the export trade. At each side a large, well-lighted row of box stalls are fitted up for the breeding herd. A stationary engine is used for grinding, chaff cutting, pulping, as well as threshing and cutting ensilage, the required shafting being conveniently placed for this work, and pumping water, the whole forming the most complete equipment we have yet seen.

At this farm the breeding of Shorthorns of a very high character is carried on, and the firm are to be complimented on the general appearance of their stock, as they are in the highest possible breeding condition. For a number of years specimens of a high order have been selected to place in this herd, when, in addition to these, two cows were purchased while the cattle were still in quarantine, from the importation made by Hon. John Dryden in 1887. Of these two, Sweet Rose, bred by Mr. E. Cruickshank, Lathenty, belongs to one of the Booth families for which this herd was at one time distinguished. This cow won first at the Provincial Exhibition held in Ottawa in 1887, and she has indeed turned out a most profitable investment to her present owner, as the four heifers she has produced for them attest. The first of these is Russell Rose, just turned three years old, by the Cruickshank Victoria bull Royal Victor, which takes well after her mother in show qualities and size. She is indeed a beautiful heifer, of the thick useful sort; full of the Shorthorn character that is now required. Bertha of Rockland, by Imp. Pioneer, of whom, as a sire, we will have more to say in future, is much the same type as her elder sister, and is also a worthy representative of her illustrious parent. Rose of Hope, just turned the year, and the calf now at her foot, are the other two from this particularly profitable cow. From the same importation was selected Twilight, also bred by Mr. E. Cruickshank. This cow belongs to a family bred by Mr. Longmore, of Retty, from which herd Mr. Cruickshank obtained some particularly good cattle at the time of its dispersion, and on which he bred the best Sittyton bulls obtainable in his uncle's herd. Although this cow has not the unexcelled producing record of her stable companion, still she has produced two heifers and a yearling. Starlight, by Pioneer, is a very neat and straight red, who appears exceedingly well, even in the very select company in which she is found. The calf at foot, which, although the unfashionable white, bids fair to equal her sister in form. Several other cows and heifers, bearing the impress of the most notable Cruickshank sires that have been used this side of the Atlantic, are to be found in this herd, their thick, natural flesh, early maturing and easy feeding qualities making them distinguishable as the proper type. Several of the old Syme sort, which have done so much to improve the cattle of this county in the earlier days of Shorthorns, and which, from their being so widely dispersed through the county, makes more reasonable in value, still must always be looked up to as those of the most useful type.

The stock bull Grandeur, now in use in the herd, was imported in his dam, which is of the justly celebrated Brawith Bud family, so popular at Sittyton. Grandeur's sire was Patriot, which was also included in Hon. John Dryden's importation of 1887. This bull has much to recommend him. He is one of the thick-fleshed early maturing sort, and is of large size. We shall be much surprised if he does not turn out an impressive sire.

Auction Sales.

It is not often that farmers have an opportunity of buying pure-bred pigs at auction. However, an opportunity is offered this month that is not likely to recur again for a length of time. By referring to our advertising columns our readers will find that the herd of improved large Yorkshire pigs, owned by Messrs. Ormsby & Chapman, Springfield-on-the-Credit, will be dispersed at auction on the 24th of this month. We believe this is the pioneer herd of this breed in Ontario, and should be an inducement for a large attendance. On the following day, the 25th of March, Mr. Robert Dorsey, Burnhamthorpe, holds a public sale, including imported and Canada-bred Yorkshires, Poland Chinas, and Suffolks. At both the above sales implements are included, and as both proprietors are closing out, purchasers may expect the lots offered at their own price.

MR. ROBT. BALLANTYNE'S SALE.

On account of advanced years and the unfortunate accident whereby his son lost his life, Mr. Ballantyne disposed of his farm, and now offers the whole of the stock and implements, without reserve, at public auction, on the 18th of this month. The most important part of the offering will be the Shorthorns, twenty-one of which are catalogued, together with ten calves, that will be sold with their dams. Every cow will have a calf at foot, and will again be bred; and all heifers of sufficient age will also be bred to the stock bull Prince Royal.

The cattle in the herd are all descended from one cow, Lady Bourbon =922=, bred by Mr. John Miller, Brougham, and of the well-known Syme sort. She was sired by Prince of Bourbon, bred in Kentucky; the other crosses down to the imported cow Louisa, by Baron of Kisdale, are those of imported bulls, bred in the most noted herds of that day, viz.: President, bred by Mr. Syme; Young England and Captain, both being bred in England. The bulls used in the top crosses have also been most carefully selected, and we find the following exceptionally well-bred imported bulls: Liberator, bred by Mr. Robert Bruce, Torres, Scotland; Lancaster Royal, bred by Mr. A. Cruickshank, Sittyton; Methlic Hero, bred by Mr. Wm. Duthie, Collynie; Prince Royal, bred by Mr. E. Cruickshank, Lathenly. The cows are a strong, well-fleshed, useful lot, and have the appearance of being good milkers. The heifers denote a thrifty growth, with plenty of natural flesh, and are an even good lot. The calves are very uniform, and are exceedingly promising. The breeding bull Prince Royal, who was imported by Hon. John Dryden, sired by the prize-winning bull Prince Rufus, should be wanted to head a first-class herd.

A lot of farm horses of good Clydesdale and Shire type will also make this part of the sale interesting, as the colts, fillies and mares show careful breeding and useful qualities. Trains from the east and south connect at Stratford for Sebringville, where teams will be in attendance. Trains from the west and north will be met at Stratford at 10 o'clock a.m.

At the coming elections many of the ridings have selected farmers as their candidates. There are individual cases where professional men are well fitted to know the requirements of agricultural communities, but it is difficult to understand how these can take the same interest, or are able to judge as keenly of the situation, as those who have been closely identified with the calling they seek to represent. The day is doubtless drawing nearer when the different societies in the interests of farmers, which are growing stronger each year, will yet make it imperative that those of their own calling alone will be chosen for the rural constituencies.

Mr. Jas. Henderson's Clydesdales.

Two miles north of Kelly's siding, on the St. Mary's branch of the G. T. R., Mr. James Henderson, Belton P.O., has been for some years handling Clydesdale horses. These are of the best and most popular lines of breeding. His five-year-old horse Lord Ullin is one of the very few stallions that can boast of being a son of the famous Darnley, and a sort that through the natural turn of events will, unfortunately for the well being of Clydesdale breeding, now grow more scarce as years roll on. Lord Ullin is a horse of great scale and substance; he has good feet, with heavy bone, attractive head and neck, and is altogether a most useful horse. Lord Ullin took first in 1889 in a very strong ring of ten in three year stallion section at Western Fair of that year. He also won first at Goodwood as a yearling before being exported to Canada. We hear that he has proved exceptionally sure in the stud, and that his get are much admired. His stable companion, Scotland's Pearl, a two-year-old by Lord Erskine, is of more blocky type, quite popular among the breeders of this section of country where draught horse breeding has been followed with much success for a number of years. Scotland's Pearl won second prize at Paisley in a class against forty-two other yearlings, also second at Bishopton and second at Greenock. Since being imported to Canada he won first at Sunderland, first at Woodville, second at Cannington and third at Western Fair. Farmers of this neighborhood have made considerable money by carefully breeding and raising this sort.

Chatty Letter from the States.

Illinois cattle shippers, who are contracting to pay \$6 on the farm for cattle in June, have a good deal of nerve, but it looks as if they had plenty of company who share their views, if they do not care to bet so much.

The hog market is making the boys perspire freely. January receipts were the largest on record for the first month, but the cry is, "still they come," and February will show a tremendous gain over all records for the month. Over 53,000 arrived one day, and over 61,000 another day. Such receipts for the second month were never before equaled. Prices, of course, go down as receipts go up. The winter has been cold enough in the east and north, and in some portions of the south and west, but in the great corn-feeding belt it has been unprecedentedly warm. The result of this has been a great saving of feed and a heavier production of meat than expected. Warm winter weather not only increases the production of meat from the same quantity of feed, but it also induces the consumptive demand. Then, again, meat will not keep as well or as long in the butchers' stalls. All in all, a warm winter is bad for the meat trade. A lot of 1,000 fat Texas goats sold at \$3 per head. They were slaughtered, and will be sold, of course, for mutton. The production of full blood and grade Angoras is getting to be quite an industry. The skins and meat are both valuable. Compared with one year ago, prices for cattle are \$2.75 to \$1.00 higher; hogs, 35c. lower, and sheep are now nearly as high. The year's receipts so far show a small decrease in cattle, a heavy increase in hogs, and a small gain in sheep.

The country demand for thrifty young cattle to feed is really quite strong, and becomes stronger at every favorable turn of the fat cattle market. Choice 1,000 to 1,200-lb. steers have recently sold as high as \$4 for feeding purposes. The strong demand for fat sheep from the Eastern States is regarded as a healthy feature of the trade by dealers. Very few sheep were fattened in the East the past winter. The demand for breeding sheep is only moderate. Sheep men seem to want wethers that they can fatten, shear and turn off early.

Reports from the Eastern States indicate an unusual scarcity of fat hogs. This, in a measure, serves as an offset to the very heavy crop in the Western States. The result is an unusually heavy movement of live hogs from west to east.

Canadian Percheron Stud Book.

A meeting of Percheron breeders of Canada was held February 10th, at 11 a. m., at 30 St. James street, for the purpose of founding a Percheron Stud Book for Canada, under the sanction of the Council of Agriculture of the Province of Quebec. The following officers have been elected: Honorary President, the President of the Council of Agriculture of the Province of Quebec. President, the Hon. M. Louis Beaubien, Montreal. Vice-President, M. W. E. Baker, Demorestville, Ont. Hon. Secretary-Treasurer, M. R. Auzias-Turenne, Montreal. Directors, the Rev. F. Prieur Titulaire, of Notre Dame du Lac, Oka, P. Q.; the Procureur of Institution of Deaf and Dumb of Mile-End, Montreal; the Vice-President of the Council of Agriculture of the Province of Quebec; M. J. X. Peireault, Montreal; M. Peter Campbell, Lachute, P. Q.; M. O. Miclet, St. Clare, P. Q.; M. E. A. Brickman, Rednersville, O.

RULES GOVERNING ENTRY.

Eligibility to entry shall be based upon one or more of the following rules:

1. Any stallion or mare previously recorded in the Percheron Stud Book of France. The original certificate of registration must accompany the application in all cases, under this rule.
2. Any stallion or mare previously recorded in the Percheron Stud Book of America. The certificate of registration in the United States must accompany the application in all cases, under this rule.
3. Any stallion or mare whose sire and dam are recorded in the Percheron Stud Book of France or America. The application to be accompanied by the affidavit of the breeder.
4. Stallions or mares, the produce of five top crosses of sires recorded in the Percheron Stud Book of Canada. In all applications under this rule, the name and address of the breeder of each dam, with affidavit, must be given when application for entry is made. The Secretary may require affidavits in all cases where he may deem it necessary to clearly establish the facts upon which application for registration is based under any of the foregoing rules.
5. All applications for registry of animals bred in France and foaled in Canada must be accompanied by the card of service from the French breeder.
6. Every application for registration must contain all the descriptive, white and other marks, general appearance, and peculiarities, by which said animal can be identified, and the same must be recorded in the registry, and certificate issued for said animal.
7. When proper notification is given to the Secretary, free transfers of ownership will be published in the Stud Book.
8. A registration fee of \$2.50 will be charged for each animal recorded, which will include a certificate of registration issued by the Association.
9. The fund of the Stud Book shall be under the control of the Executive Board, and shall be by such board appropriated for the verification, preservation and publication of pedigrees and stud book annually, when deemed necessary by the Board of Directors.

Should it seem at any time that any breeder shall be charged with any fraud, in regard to any animal owned or bred by him, the Executive Board shall examine into the matter, and if in the opinion of two-thirds of the members present the facts shall so warrant, the offending breeder will lose all his rights to any registration.

For entry blanks or other information, address
THE HON. SECRETARY-TREASURER,
30 St. James Street, Montreal.

The Dairy.

Western Dairymen's Association.

ANNUAL CONVENTION HELD IN WOODSTOCK,
JAN. 21, 22 AND 23.

The fourteenth annual convention of the Western Ontario Dairymen's Association was one of the most interesting and instructive meetings the Association has ever held. The number of dairymen and cheesemakers, especially young men eager to learn, who were present in great numbers, would indicate that the interest in our dairy business is increasing, and the thirst for more knowledge is very apparent. The close attention and interest manifested by the great gathering in listening to the various addresses and by the discussion which followed all, showed the deep, intelligent thought of the audience.

The Vice-President having missed the morning train, the Secretary, C. E. Chadwick, called the meeting to order.

Mr. H. S. Lossee was called to the chair. In the absence of the other speakers, Mr. John Robertson was called on to address the meeting.

Mr. Robertson proposed, instead of giving an address, that a sort of conference or open meeting should be held, and that cheesemakers present be allowed to ask questions and give some of the difficulties which they had met with during the past season in carrying on their work, which proposal was agreed to, and questions relating to the care of milk and aerating the same were asked, and discussed in a very profitable manner. Nearly all seemed to agree that aerating the milk was a decided benefit to it for cheesemaking, both as regards quantity and quality.

Mr. Scott, of Sparta, said nearly all his patrons had used the aerator last season and his cheese were finer than he ever had before, and he attributed the improvement to the proper aerating of the milk.

The Hon. H. C. Adams of Wisconsin was introduced to the meeting. He said he was glad to meet the dairymen of Canada for the first time. He was glad to meet the men of Canada who were so much interested in the welfare of their country. A country which could produce such horses, such cattle and such sheep, and such men as he had seen and met with on his own side of the line, was well worthy of a visit—such men as Prof. Robertson, who came over to us a perfect stranger, but by his clear statements of dairy truth and facts had won the esteem of thousands of dairymen in the States, and had by his clear common sense way of addressing the people done them an immense amount of good. I have come here as a learner. I feel the need of it. If agriculture is to succeed as it should farmers must equip themselves with the best possible education through schools and agricultural papers along intelligent lines. Farmers' Institutes and other meetings for the spread of information should be encouraged.

Mr. B. Hopkins, Vice-President, having arrived, the Secretary read a letter from Mr. J. B. Lane, of Dorchester, President of the Association, stating that he was quite unable to take any further share in the active business of the Association, owing to the state of his health.

After the appointment of the various committees Prof. J. W. Robertson was asked for a "general purpose talk," but said he did not relish the idea—it was not in his line. Dairymen should have something specific in view, whether at home or in convention. It was not enough to make fine cheese for six months of the year and their dairy be idle for nearly other six months. In order to do this cows must milk longer, and some enterprising factorymen should fit up a few factories for winter butter making, which could easily be done at a cost of \$250 to \$300, a few enterprising farmers begin to supply winter milk and the others would soon follow when they found that winter dairying would pay fully better than summer dairying. Every 100 acres of cleared land should be made to carry 25 milk cows, not weeds, but carefully bred, good milking cows. By growing big crops of corn

more milk, more manure, more fertility of soil, and more money would be made from the farm.

Mr. Thos. Ballantyne, M. P. P., addressed the meeting shortly, endorsing what Prof. Robertson said about winter dairying. At one time he did not see his way clearly to endorse winter dairying with cheesemaking, but he could now support it, and was also practising it this winter himself, and he was satisfied it was the proper way to make the most of the dairy. Aerating milk was again referred to, which Mr. B. advocated very strongly, as it not only purifies the milk, but it prevents separation of the cream from the milk so as to preserve the fat more effectually in the cheese.

EVENING SESSION.

Mr. Ballantyne addressed the convention on Dairy Schools, which he introduced by giving a sketch of the rise and progress of dairying in Canada since its introduction by Mr. H. Farrington, and the benefit in late years that has been derived from the system of instruction we have practised; that our Canadian finest cheese are now quoted in England four shillings per cwt. higher than American cheese. Scotch dairymen have followed our example in instruction in cheesemaking, and have gone further and established dairy schools, with the result that Scotch Cheddars last summer were selling at sixty shillings per cwt., while ours were selling at forty-three to forty-four shillings per cwt.

Mr. Ballantyne did not tell us whether this great improvement was due to the labors of the instructors or to the dairy schools. We are inclined to think the most of the credit is due to the instruction given at the dairy home and not all to the dairy school.

The improvement has been verified not only on the market but at the great dairy show in London where the Scotch Cheddars nearly carried all the prizes in the classes which they exhibited, and also won the Lord Mayor's cup for the best cheese on exhibition, beating the English dairymen on their own ground and by makers who were under the instructors at home. Mr. Ballantyne said it seemed the time had now come for another step to be taken in Ontario by the establishment of dairy schools or experimental dairies where makers could go for a few days to see the very latest and best practice in cheesemaking and milk testing. The patrons of his own factory, "Black Creek," had resolved unanimously that as soon as practicable the milk be paid for according to its value.

Mr. John Robertson read a letter written to him by Mr. Andrew Clement, one of the most extensive cheese merchants in Scotland, as follows:—"Regarding your enquiry as to Dairy Schools vs. Instructors, I am of opinion that the latter method is by far the cheapest and attains the greatest benefits, as with a few instructors going around, the whole of the makers can be got at with a very moderate outlay of cash, and by this means we have made great progress with only two instructors. However, if the means are available a dairy school is of great benefit to those situated near the school, and more especially young people who mean to make dairying their business. We find it rather expensive however, and but for a government grant of £200 and something like £500 yearly subscriptions from our landed proprietors we could not carry it on, as the fees obtainable would not avail to pay the cost."

After considerable discussion the subject was referred to the Committee on Resolutions for further consideration—a resolution to be brought before the convention at a future session.

The Hon. H. C. Adams addressed the meeting. Subject: "The Farmer as a Business Man." Time was when a fool could succeed at farming, but it made a mighty smart man hustle now to succeed. The successful farmers in Wisconsin had grit and enthusiasm and business principles about them. Men should not go into a business they did not like. A cowman should not fool with steers, nor a horseman with chickens. Farmers should run their business so as the boys would see enough money and attractiveness in it to stay on the farm; but the boy must not move in the old rut, he must begin where the old man stops and keep progressing right along.

Prof. Robertson addressed the convention on

the value of experiment stations to cheesemakers. Investigation was valuable in two ways, one of discovery and the other of tuition. An experimental station would aid cheesemakers by sending reliable information out and giving reliable instruction to cheesemakers in different months of the season's operations, under the various and different conditions which cheesemakers are continually meeting. He gave a detail of several experiments made under the same conditions, with different quantities of rennet extract and also of different quantities of salt. The first experiment with the rennet extract showed that the rennet was not a curing agent. Cheese made with three ounces of rennet extract to 1,000 pounds of milk cured equally fast with cheese made by nine ounces of extract to the 1,000 pounds. The second experiment was with the different manipulation of the curd after the whey was drawn off. Three different ways were tried: First, continuous stirring of the curd and not allowing the curd to matt; second, part of the time stirred and partially matted afterwards; third, stirred till dry and matted and piled up with occasionally turning the pile upside down and outside ends turned in, gave the following results in the quantity of milk to make one pound of cheese: The first, with continuous stirring, took 10.74 pounds of milk to one pound of cheese. The second, part stirred and part matted, took 10.60 pounds of milk to one pound of cheese. The third, piled and matted, took 10.53 pounds of milk to one pound of cheese. The matting and piling gives the best result in requiring less milk to the pound of cheese, and also makes a more silky and flakey texture in the cheese. The question of paying for milk according to its butter fat has not yet been authoritatively settled for cheesemaking, and more experiments are necessary to settle this and other points. The government will respond to the wishes of the dairymen in these matters, if those wishes were distinctly made known.

THURSDAY'S SESSIONS.

Communications from the following were read:—

From Hon. John Carling, stating he would, if possible, be present at the convention.

From Hon. John Dryden, accepting an invitation, as he was desirous of obtaining the views of the dairymen on subjects of importance relative to the future of the dairy industry.

The question drawer was taken up. In reply, Prof. Robertson said in the spring sufficient rennet should be used to have the curd ready to cut in 15 to 17 min., at 85 or 86 degrees of temperature, and use from 1½ lbs. to 2½ lbs. salt.

Question—How would you handle milk with a strong turnip flavor to make a fine flavored cheese?

Answer—Trade it off for milk from cows that ate no turnips.

Mr. Adams, in reply to a question, said dehorning steers was practised with great success in Wisconsin, but there was doubt as to dairy cattle.

Prof. Robertson addressed the convention on dairy farming in Canada from a large map, showing the ground now occupied with dairy farming and the vast tracts of land where dairy farming could be successfully carried on. Dairy farming must be the main business very soon of Ontario, and to some extent of the whole Dominion. The demand of the people now everywhere was for concentrated and refined foods. Dairy farming gave more remunerative employment to a larger number of people, and dairy products were more concentrated than any other products of the farm. In sketching the great advances in cheesemaking in the East and in the Province of Quebec, he said the Quebec Government engaged to pay one-half of the expense of fifteen instructors for next season, these instructors to pass an examination, and, if found worthy, to receive certificates of competence for their work. Some such course should be taken in Ontario. One thing he could say about these eastern factories, they were cleanly all around them. Sometimes in Ontario he could, like the war-horse, smell the battle afar off. Sometimes you feel the smell of a factory before you see it. This should not be. There is

still great need for inspection and instruction, but he suggested that one man do the work of inspection of milk, and leave the instructors to go on with their work, the milk inspector to be on the road and liable to drop down at any place at any time to look after the well-being of the good patrons or those not so good, and to assist to brace up the moral fibre of weak-minded patrons.

Hon. H. C. Adams discussed the cost of keeping a cow with a good deal of good humor and good sense. The right kind of a cow is one that turns her surplus food into milk and butter. A cow which becomes more profitable as the expense of her feeding increases, is the one that produces the golden calf. Heredity fixes the butter producing faculties. W. A. Mowray, New York, by proper breeding and feeding, raised the yield of his cows from 125 lbs. of butter in 1875 to 276 lbs. in 1886. So much for the saving grace of good blood. Proper rations of food are necessary to cheap production. There are two elements not to be lost sight of in making up rations, that is, the heat producing foods, and the flesh and bone producing foods. These classes of foods properly balanced will help to cheapen production of either milk or beef.

At this stage of the meeting Mayor Douglas, of Woodstock, on behalf of the town and Council of Woodstock extended a cordial welcome to the Dairymen's Association, to the Hon. Mr. Dryden, the Hon. Gov. Hoard and the Hon. Mr. Adams, of Wisconsin.

Mr. Grant, President of the Board of Trade, extended greetings of welcome to the Dairymen's Association, from the merchants of Woodstock.

Mr. C. E. Chadwick delivered an address on the history of the Association, having been its Secretary from its inception.

The Nominating Committee brought in their report with the following recommendations:— President, Thos. Ballantyne, Stratford; 1st Vice-President, John Geary, London; 2nd Vice-President, Wm. Nessie, Bluevale; Directors, Robert Cleland, Harold Eagle, E. Caswell, John Ballantyne, Alex. McLaren, Wm. Symington and John Prain; Secretary, C. E. Chadwick; Treasurer, J. C. Hegler; Auditors, John S. Pearce and John Robertson.

Prof. Robertson and R. Ballantyne gave an exhibition of Prof. Babcock's system of testing milk for butter fat, which process takes about ten minutes to separate the butter fat from the milk of from 10 to 24 samples, according to the size of the machine, and, at the same time, gives the per cent. of butter fat each sample contains. We are getting nearer a simple and correct way of testing milk.

Moved by Prof. Robertson seconded by Mr. B. Hopkins, and carried, "That this Association has learned with deep regret of the sad and sudden death of the late Mr. Wm. Weld, the founder, and editor, and proprietor of the FARMER'S ADVOCATE of London, and hereby place on record its high appreciation of the valuable services which he rendered to the agricultural community of Canada by his long advocacy of improved methods and more intelligent practices in the carrying on of their business, and we deplore the great loss which the country has sustained by his decease."

It was also moved and agreed to, "That it is with sincere regret that we learn of the prolonged illness of our esteemed President, Mr. J. B. Lane, which has deprived us of the pleasure and benefit of his presence at our convention, and we hereby place on record an expression of our sympathy with Mrs. Lane in her affliction, and convey to Mr. Lane our earnest good wishes for his speedy and complete recovery."

Moved by Mr. J. S. Pearce and seconded by Mr. H. S. Lossee, and carried unanimously, "That this convention heartily approves the good work that has resulted from the employment by the Association of travelling instructors and inspectors, and recommend to the government the desirability of making such financial provision as will enable the Association to carry on that work in a still more efficient and extended way."

Mr. John Geary, First Vice-President, in the absence of the President, was called to the chair, and took charge of the proceedings. A vote of thanks was tendered to Mr. B. Hopkins

for the services rendered to the Association during the past year, which he replied to with much feeling.

The Hon. John Dryden, Minister of Agriculture, on rising to address the convention, was greeted with hearty applause. Mr. Dryden said it gave him extreme delight to meet with this great western convention of dairymen. This Association had in the past done much to promote the advancement of dairying in Ontario, which had added much to the general prosperity of the country. Some good reform farmers were a little conservative in their methods and slow to adopt new ways of improvements, such as building silos and studying economical ways of feeding and breeding of stock. Some did not like to be jostled out of the old ruts. In dairying, as in other things, there must be advancement and improvement to hold your own in the midst of so much keen competition, both at home and abroad. Quality will always be in demand. He would guarantee that. He felt satisfied that the work of instruction, which had accomplished so much good in the dairy interests in the past, should be continued with even greater efficiency and to a greater extent than it had been heretofore, and he considered the government was justified in assisting this Association to carry on and extend the good work which it has been doing to improve the quality of our dairy products in every way. He was glad and proud to see such a fine gathering of young men as were present at this meeting. When he went back to Toronto he would instinctively hold his head higher by reason of the thought that he was representing such a class of respectable, intelligent farmers' sons, who were the hope of agriculture and the country's future. After giving some kindly counsel, he closed his much appreciated address amidst the hearty greetings of the convention.

Now comes nearly last, but not least, Hon. W. D. Hoard, who is always made welcome to Canadian dairymen's meetings. His shrewd observation and great experience makes him a tower of strength in the dairy interests wherever he goes, and his addresses are always looked forward to with great expectation, and the large gathering was not disappointed on this occasion. By his inimitable way of putting things and bringing figures to support his statements, his arguments are convincing, and sometimes are convicting to the heedless and careless farmers and dairymen. He said it was the man who makes the milk he was after. The factory and creamery can generally take care of themselves. As far as he could learn the average production of the Ontario cheese factory cow was 2,700 pounds of milk at 70c. per 100 pounds, amounting to \$18.90; add to this \$6, for butter outside of the cheese, gives a return of \$24.90. Anybody with common sense knows that a cow cannot be kept for a year for that sum. Then, there is nothing left to pay for labor but some manure, which the average farmer tried to make as worthless as possible. The trouble is, farmers get mentally lazy. He had enquired by circulars of 1,000 cheese factory and creamery patrons if they had ever made any honest effort to find out what it cost them to keep a cow for one year. Nine hundred and eighty of the one thousand never had—they ran by guess, and were the most talented guessers he ever struck. He asked two hundred cheese factory patrons to tell him what their cows were producing yearly, and one hundred and ninety-seven out of the two hundred could not tell him anything about it, only guessing. He had made a careful calculation of the cost of keeping cows. To keep a cow on pasture in summer, including rent and taxes, cost \$12.60, and for winter \$19; total, \$31.60. As we saw, the return of the average cow was \$24.90, the loss on that average cow was \$6.70. Dairymen were putting good food into poor cows, hence the enormous loss when totaled up. The question now comes up, How shall the dairymen get a good paying cow? Breed her; use a thoroughbred dairy bull; don't fool with a grade bull; the native cow has enough mixed blood in her already; get something pure and potent that will improve your breed of cows; breed your cows in January and February, so they will come in in September or October. You will grow better calves, and your cows will give more milk

in a year than to have them come in in April or May. Winter butter-making would make a man study the fine economics of cow care and feeding; furthermore, it would give the factoryman ten months' business instead of six, as now. He was down on the dairyman who let his cows out to stand in the cold, or roam over the farm just as they pleased during the winter months. In reply to a question, Mr. Hoard said: "For butter-making, Jerseys or Guernseys were, as breeds, preferable, but there were worthless cows amongst them. There were also good families of Holsteins, and others gave very poor quality of milk. And these things had led up to this point, that the pooling of milk must go. It is most decidedly wrong; it is unfair to the man who produces good milk and a premium to the man who produces poor milk."

Mr. Hoard closed his most interesting and instructive address by giving some sound advice on the improvement and breeding of dairy cows for milk and butter, so as to make the dairy business more profitable.

Mr. John Robertson, sr., addressed the convention on the past history of the quality and prices of Canadian cheese under three heads: First, the condition and relative value of our Canadian cheese compared with Scotch and English cheese fourteen years ago; second, the comparison between them four years ago; and third, what comparisons do they have now as to price. Fourteen years ago the Scotch and English Cheddars were from fifteen shillings to twenty-five shillings per cwt. higher than Canadian cheese; but by perseverance and study and discussions at conventions and other meetings we kept improving our quality, as well as increasing our quantity, till we reached the long looked for goal. And four and five years ago our finest Canadian cheese were selling in London as high as Scotch Cheddars, and in some instances ours were preferred before them at the same price. This was clearly brought out at the great Colonial Exhibition in London, where our cheese were admired and drew considerable attention from the public, as well as from the merchants. This awakened the Scotch and English dairymen to a sense of their danger in being outstripped in the business by us, and since then they have made great advancement and improvement. And now, this last season and at the present day, the Scotch Cheddars are from ten to fifteen shillings higher in price than our Canadians are. Are we to remain in this position? I believe we will not. I believe our lost ground can be regained; but it will require an earnest effort with a good deal of expenditure, both of means and brain power. Financially, our industry was of great importance to not only the dairymen but the whole community. One most important factor in the dairy business must be more closely studied; that is, cheap food for cows. Not poor food, but cheap food. A most instructive lesson may be learned from the tests made with milk cows at Toronto fair in competition for Mr. Weld's prize. The three cows that showed the greatest profit, after paying for all their food, and which gained the prize, were fed on cheap food, but good food, at a cost of 9.30 cents per cow per day. The second prize cows were fed on food which cost 12.02 cents per cow per day, and the third prize cows were fed on food which cost 14.26 cents per cow per day. The first prize cows' milk averaged 4.43 per cent. of butter fat; second prize averaged 3.99 per cent. of butter fat; the third prize averaged 5.37 per cent. butter fat. The third prize cows gave the richest milk and most of it, but the cost of production was too great, as shown by the net profits after paying for all their food. First prize profits, \$1.10; second prize profits, 95 cents; third prize profits, 84 cents.

Mr. Robertson next gave some of the faults and defects which our cheese showed on the English market last season. Our cheese had two very serious defects, which affected their money value very much. One was they were too stiff and dry, and checked and cracked when cut.

Mr. Hoard asked for the cause of cheese checking or cracking in the rind or when cut.

Mr. Robertson—It was due in many cases to using too little rennet; other things might cause it, but this had been the cause in several instances.

Mr. Hoard thought it might be due to a want of fat, which aided in retaining moisture in the cheese.

Mr. Caswell asked if it was not a fact that the Scotch and English cheese did not crack.

Mr. Robertson, jr., who has been the instructor for Wightonsire, Scotland, for the last three years, said that cracking had been observed to some extent in both Scotch and English Cheddars, and it was generally considered to be caused by a loss of moisture.

Mr. H. A. Hodgson—The trouble might arise from the curd being too cold when put to press.

Mr. Robertson said Mr. Hodgson's remark was quite correct, but there were other causes of cheese cracking in the rind—too much stirring, too much acid, or too much salt. One other objection to our Canadian cheese last season was the want of a pure flavor and that mellowness of quality which is so much sought after in fine cheese. In fact they are not fine cheese now, unless they have that mellow character and sweetness of flavor which a fine Cheddar cheese must have to bring the highest price.

Mr. Hoard—Have they in Scotland our promiscuous factory system?

Mr. Robertson, jr.—No, they have dairies from 40 to 120 cows; the average dairy consists of about 80 cows; the cheese are all made on the farms where the milk is produced.

Mr. Hoard—The milk supply is under more perfect control; that is a most important point.

Mr. Hoard—Is not the ruling character of the water supply there purer than ours? Yes.

Mr. Hoard—That's it; not so many stinking pond holes. On another point cheesemakers might as well own up to it; they did not always incorporate all the fat.

Mr. Young did not often get milk too rich, but he could incorporate it pretty well.

Mr. Hoard advised that every cheese factory should become a local school for dairy education, where the patrons could meet and see the process of manufacture and discuss dairy matters and be encouraged to read dairy literature, so as to get posted in all the improvements of the day.

Mr. John Robertson, jr., said there was no such thing in Scotland as testing milk for its butter fat, but on an average thought it would run about 4 per cent., from which the finest goods can be made. The absolute cleanliness of the Scotch dairy rooms and the purity of their milk is the great secrets of the superiority of their cheese when properly manufactured.

The subject of milk inspection was discussed by Mr. B. Hopkins, who said that some of the reports left at factories by inspectors were not very definite.

Mr. Robertson said he never left such reports, but always gave the exact figures of every sample tested; but he found some boards of directors not very definite in their actions when they got the reports for fear of stirring up a little feeling in the factory or losing a patron or two. (Applause.) Mr. Robertson's inspection last summer showed an average of 4.02 per cent. of butter fat from 3,125 samples tested, which showed the milk on an average to be of such quality as make a first-class quality of cheese. The faults with our cheese are from other causes, and many of them preventable.

Mr. H. A. Hodgson, London, moved, seconded by Mr. J. A. James, Nilestown, and it was carried, "That this convention desires the President and Directors of this Association to engage as soon as possible four (six if possible) competent cheese inspectors and instructors to be engaged for the season, and being competent speakers so as to attend the annual meetings of all factories possible, and giving the patrons the benefits of suggestions tending to improve the milk and cheese."

Mr. Lockhart asked if the employment of inspectors would be compulsory, as some factories might object, as Mr. Harris had not given satisfaction last season as inspector. The President said the matter would be entirely optional. On motion of Mr. J. S. Pearce, London, seconded by Mr. J. M. Butcher, it was

Resolved: "that the Dominion Government be urged to extend the work of the Dairy Commissioner, Prof. J. W. Robertson, by the establishment of branch experimental dairies in the different provinces, for the purpose of carrying

on investigation into the principles and practice of cheesemaking in summer and butter-making in winter, in order to the establishing of the latter trade, and also aiding in the work of educating farmers, patrons and others who might visit and observe the working of these stations, and by the spread of valuable information, the Secretary to forward a copy to the Dominion Minister of Agriculture."

Some discussion took place as to the advisability of forming county unions of cheesemakers, who could discuss matters relating to their own business in their own way, and could, through their delegates, bring any matter before the convention in a systematic way, which was approved of by the convention.

Mr. Geary, Vice-President, thanked the convention for the honor they had bestowed on him, and for the marked attention given all through the sessions, and closed the convention.

Aerating Milk.

The New York Dairy Commissioner says that milk can be sent farther and will be in a better state for use when aerated down to the temperature of the atmosphere than when chilled and sent on ice.

The process is very simple, and consists in allowing the milk to run from one receptacle to another in fine streams, so as to come thoroughly in contact with the air. It should not be done in the barn or stable, but out of doors where the air is purest. If nothing better is at hand, let it run through an old colander two or three times. A better arrangement is a set of perforated milk pans one above the other, through which the milk may run in fine streams. It is held that tyrotoxicin poison is generated in cream for want of proper aeration, and that un-aerated milk is the great enemy of infants and the great cause of cholera infantum.

Eastern Dairymen's Association.

The 14th annual convention of the Eastern Ontario Dairymen's Association, at Brockville, on January 7 and 8, was the most successful in point of interest and attendance of any ever held under the auspices of the Association. Mr. J. T. Warrington, President, of Belleville, occupied the chair, and among the speakers were Hon. John Dryden, Ontario Minister of Agriculture; Hon. W. D. Hoard, of Wisconsin; Prof. Jas. W. Robertson, Dominion Dairy Commissioner; S. Fisher, M. P.; O. Bush, M. P. P.; Dr. Preston, M. P. P.; F. T. Frost, D. Derbyshire, Mayor of Brockville; D. M. McPherson, President of the Dominion Dairymen's Association; A. A. Ayer, of Montreal; Thos. Ballantyne, M. P. P., and others. In the discussions special attention was paid to winter dairying, continued improvement in the quality of cheese as the main stay of Canadian summer dairying, butter making in winter, the breeding of a better class of dairy cows, better and more economical feeding. The reports of the inspectors and instructors showed that a great deal of adulteration had been carried on in some districts last season, fines having been imposed in 111 cases in one inspectorate amounting to \$1,507, showing the necessity for continued vigilance, in order to prevent skimming and stripping, which are the chief offences, though in a few instances watering was practised. The Treasurer's statement showed a balance on hand of over \$400. Resolutions were passed in favor of dairy schools as dairy experiment stations. Officers were elected as follows:—President, Wm. Eager, Morrisburg; First Vice-President, Platt Hinman, Grafton; Second Vice-President, W. Bissel, Algonquin; Directors, E. Kidd, North Tower; John McTavish, Vancamp; R. G. Murphy, Elgin; D. Vandewater, Chatterton; J. B. Carlow, Warkworth; and H. Wade; Secretary, Harford Ashley, Belleville; Treasurer, P. R. Daly, Foxboro; Auditors, J. G. Foster, Moira, and M. K. Everetts, Easton's Corners.

Experimental Dairy Stations.

The report of the Ontario Creameries' Association in the ADVOCATE for February, foreshadowed the establishment of Experimental Dairy Stations throughout Canada, probably two in Ontario and one at least in each of the other provinces, under direction of the Dairy Commissioner, Prof. Jas. W. Robertson, whose outline of the scheme we append. It was approved by the Minister of Agriculture, and on January 31st sanctioned by the Dominion Government, it being decided to make the necessary grant. In addition to organization Prof. Robertson hoped to accomplish something practically useful this season. It is one of the most important steps ever taken in the interest of Canadian dairying:—

To the Honorable the Minister of Agriculture:—This memorandum is submitted as outlining the plan which I would propose for the establishment of Branch Dairy Experiment Stations in the several provinces of the Dominion.

THE NEED.

I. The magnitude of the dairy interests of Canada is unequalled by any other single branch of agriculture or manufacture in the Dominion. The success of the cheese trade in Ontario and Quebec has been satisfactory to the farmers. The other provinces, in many respects, are as well adapted for the prosecution of this industry, but a little outside encouragement is needed to set it going in them.

I would cite the case of Prince Edward Island, which is admirably suited for the development of dairying upon a large scale. Over twelve years ago several cheese factories were established; they were managed with such ill success that now the farmers are doubtful as to whether there is not some inherent condition in their situation, soil, cattle or circumstances which prevents them from succeeding.

A branch Experiment Station there would serve for direction, illustration and demonstration, and thus help both manufacturers and farmers.

II. Then the milk from cows in Quebec is different in quality from milk in Ontario. Investigations into the best methods of carrying on the business in each of the provinces would furnish valuable guidance for the dairymen of each. As an instance of the need of this, let me refer to the experience of one brief trip to the Saguenay district last summer. One cheesemaker drove sixty miles to receive one day's instruction from me at a factory at Ha! Ha! Bay. His patrons reported afterwards that the cheese from his factory sold for one cent per pound relatively higher than they did before. A branch Dairy Experiment Station could be visited at least once a year by a large number of cheesemakers.

III. Then the instructors of the cheesemakers in the several provinces would acquire uniformity in their methods, from having the privilege of visiting these stations. That would do away with the differing qualities and the names—as "Ontario Cheese," "French Cheese," and give us a better reputation for uniformly fine "Canadian Cheese."

IV. Then the manufacture of small, fancy varieties of cheese, which are in great demand in England—as well as in home markets—could be introduced into Canada through these Experiment Stations. A few trial shipments of these to foreign markets would furnish useful data for the guidance of dairymen and the promotion of trade.

V. Then the farmers in sections are now beginning to turn their attention to winter dairying. The export butter trade of Canada has almost clean gone from us, and in my opinion the only way to build up a large trade in butter is to encourage the manufacture of it during the winter.

No endeavor will be made or should be made to displace the cheese industry by a butter one. Our country is exceptionally well fitted for the production of cheese during the summer, even if

not so well situated as many other competitive countries for the production of butter for export during that season. It is possible to develop the buttermaking industry during the winter months to as great magnitude, and with more remunerative profits to agriculturists, than arise from summer dairying. The possibilities of cheap and suitable winter feed by the use of ensilage have been so well and satisfactorily demonstrated that now milk can be produced at less cost during the winter than upon pasture only during the summer. In the winter season, the average price of butter is almost twice as much as during the summer. Safe transportation can be economically provided for during the cold weather.

VI. The buyers in England hardly know what fresh-made Canadian creamery butter is like. The quantities exported are often stale before they reach the consumer. That fact led the members of the Dominion Dairy Convention in Ottawa last year to pass a resolution urging upon the government the desirability of making a provision of at least \$5,000 for the purpose of making weekly shipments with a view to opening up this trade.

The Danish Government supervised the shipments of butter for a considerable period, and one of the Australian Governments gives bonuses now to promote shipments.

VII. These branch Dairy Experiment Stations would encourage the farmers to furnish milk during the winter season, and also provide small quantities of finest butter to be used as trial shipments for introducing fresh made creamery butter to foreign markets.

Butter has been carried by the Canadian Pacific Railway across our continent to Asiatic markets, and Canadians ought to be able to supply those markets.

The West Indies offer many markets that might be secured to Canadians by the making of a few trial shipments in specially adapted packages. The publishing of the results of these would furnish valuable commercial data and the enterprise of commerce would do the rest.

THE PLAN.

VIII. The plan is feasible, and well within the usual policy of the government in looking after the interests of the farmers, and the foreign as well as the domestic trade of Canada.

IX. Branch Dairy Experiment Stations should be organized in the several provinces for the stimulation and guidance of dairy farmers. Through them it would be practicable to spread acceptable information as to the best practices. Everyone would be welcome to visit and learn. Frequent publications of bulletins on the results of experiments would keep them before the public, and that within a few months from their establishment.

X. New, small and fancy varieties of cheese would be made.

XI. Investigations under the direction of the Dairy Commissioner would be made; and some of the cheese would be brought to the curing-room in the dairy building at the Experimental Farm to prosecute enquiries into the causes of bad flavor in cheese, which is becoming a menace to the success of the trade in recent years.

XII. Butter would be made at the Stations, particularly during the winter, for us as already indicated, viz., to promote winter dairying among farmers and to facilitate the getting a foreign demand at high prices for Canadian butter.

(I put this illustration in here. At the Colonial and Indian Exhibition in 1886 I had charge of over \$10,000 worth of butter and cheese sent there by the Provincial Government of Ontario. The fresh-made creamery butter was sold to take the place of Danish butter, and during intervening years I have had enquiries for such butter from importers, who state that they will pay the Danish price for quality similar to what they received then. Presently and up till now no provision has been made for promoting the commerce in butter.)

XIII. I would suggest that suitable cheese factories or creamery buildings be rented by the year in the several provinces. A guarantee by the Dairy Commissioner would be given to the farmers who furnish milk, that they would

receive for it a price equal to or slightly higher than the average price realized from neighboring factories.

XIV. A sum of \$1,500 annually for the running expenses of each station, and to provide for probable losses in trial shipments of butter would be sufficient to cover the expenditure; an extra sum of \$500, for each Station for apparatus and fittings, would be required the first year. The location of the Experiment Stations need not be permanent in one district in any province. After serving one district for a year or two the Station could be transferred to another; and after several years work, if the Stations had fully served the purpose of their existence, they could be discontinued, and the plant in each could be disposed of.

XV. The Imperial Parliament gives a grant of £5,000 sterling for the support of similar Stations and instruction.

THE ADVANTAGES.

XVI. Some of these have already been pointed out incidentally.

This is a most opportune time for the establishment of these Stations.

Recent occurrences that have interfered with commerce have directed the attention of farmers to the possibilities of making farming pay better by new methods and the acquisition of new markets. The time is ripe for leading the farmers in the right direction.

These Stations would be very useful and exceedingly popular with the agricultural classes. If provision is made for their establishment, no effort will be spared to make them realize more than has been set forth in this brief memorandum.

I have discussed the plan and its advantages with Professor Saunders, Director of Dominion Experimental Farms, and he approves of the proposals. Respectfully submitted by

JAS. W. ROBERTSON,
Dairy Commissioner.

Dairy Observations.

In the month of January Denmark lost by death the greatest dairy scientist, Prof. N. J. Fjord, who for thirty years past has devoted himself to experimental work on practical dairy subjects.

At every convention the question crops up, "Which is the best dairy cow? or which is the best dairy breed?" The reply of Col. Curtis, at a New York institute, to that conundrum, was, "The cow that will make the most milk, containing the largest amount of solids for the food consumed."

Here are four important subjects that present themselves for investigation at the new Canadian Experimental Dairy Stations: The loss of fat in cheesemaking; percentage of fat required to make a good edible, keeping and shipping Cheddar cheese; the causes of cheese going off flavor, and is butter fat percentage a fair measure of the value of milk for cheesemaking?

The necessity of thoroughly washing milk cans is frequently mentioned at dairy conventions. No wonder! It is next to impossible to properly clean an old can which has stood full of sour, half-rotten whey until noon, or perhaps all day, in a broiling sun. If factories will continue sending home whey in the cans, the factory tank must be thoroughly washed out twice a week—once at least. As soon as the can comes home it should be emptied, well rinsed out with cold water, and then with hot. Let them stand where pure air will have access to them.

"Feed a common cow like a Jersey, and you'll think you have a Jersey," somebody remarked

at an Ohio dairy meeting. In practical experience that thought applied would do many farmers good and increase their profits, but it is only a half truth, and to that extent misleading. The potency of good dairy blood must never be overlooked—it is the foundation.

The idea that more frequent and friendly meetings of creamery and cheese factory patrons should be held to discuss the care and feeding of cows and milk-handling methods is a good one that should be generally adopted. One such gathering, and that at the annual business meeting, is not enough. Why not hold a second, say in early summer or early fall? If patrons do their part in milk production honestly and faithfully, they should drop in at the factory occasionally for the purpose of observing whether or not the factoryman and maker are doing their share in keeping the premises in good clean condition, etc.

Now that Canada is making fresh advances in dairying, the question of uniform feeding and care of milk deserves close attention by dairy farmers in every locality. Col. Curtis, a recognized authority on dairying, recently stated at a meeting in New York State, that "To reach uniformity of product it is my belief that a uniform ration and system of feeding, as well as of manufacture, must be adopted by the dairymen and makers. All the milk that goes into one lot of cheese should be made from the same foods. Uniformity of food is of more importance than is the question of breed. In all our best cheese and butter factories there is a newly uniform system of manufacture, but there is nothing uniform in the methods pursued or the foods employed by the dairymen."

As readers of the *ADVOCATE* are aware, Scotch Cheddars have made a great advance in the British markets—overselling Canada—since the advent of qualified travelling instructors, like Messrs. Robertson (brother of Prof. Robertson) and Drummond, of Canada, aided, no doubt, by the influence of the dairy school. Scottish cheesemaking is carried on in large private farm dairies, where the milk is all from one herd, receiving one class of water (pure), food and care, and uniformly good treatment throughout.

A most important part of this process of butter-making is washing out the buttermilk. A new method (patented) is reported in Germany: As soon as gathered in the churn in particles of about a tenth of an-inch in size, it is transferred to a centrifugal machine, whose drum is pierced with holes and lined with a linen sack, that is finally taken out with the butter. As soon as the machine is set in rapid motion, the buttermilk begins to escape; a spray of water thrown into the revolving drum washes out all foreign matters adhering to the butter. This washing is kept up till the wash-water comes away clean, and the revolution is then continued until the last drop of water is removed, as clothes are dried in a centrifugal wringer. The dry butter is then taken out, molded and packed. It is claimed that the product thus so fully and quickly freed from all impurities, without any working or kneading, has a finer flavor, aroma and grain, and far better keeping qualities than when prepared for market in the ordinary way.

In Sweden they are getting tired of the butter shows, where old stagers, who know all the fine points in getting up a tub of butter for show, are handicapping the innocent maker, who sends a tub out of his regular make. A modification of the Danish idea of permanent butter shows has been proposed by the Skane Provincial Agricultural Association; the shows to take place two or three times a year, and each time three consignments will be called for within about six weeks. Creameries declaring themselves willing to show receive wire orders for shipment by express without previous warning. The butter is bought by the Association so as to indemnify the creameries, but no large premiums are offered. A sum of \$2,600 is intended to be spent this way in that province only.

Briefly described, the Babcock method of testing milk for butter fat is as follows: A carefully measured sample of milk is placed in a test bottle having a long narrow neck. Next an equal volume of sulphuric acid is added, and the bottle is placed in a wheel which is revolved horizontally from six hundred to eight hundred times per minute, for about six minutes. At the end of this time the fat of the milk set free by the acid has risen to the top of the liquid; hot water is poured into the bottle, partly filling the neck. On again whirling for a couple of minutes the fat will rise through the water into the neck, in a long column, where it is easily read off by graduations on the neck. By this method the fat in skim-milk, buttermilk, whey, cream, and even cheese can be determined. This gives the creameryman a means not only of dividing money for milk among patrons on the basis of fat delivered, but also of watching his separator and churn to detect losses heretofore realized but not accurately located. After the first cost of the apparatus the expenses of the test are small, the acid being the only item aside from the time required; a pound of acid, costing from two to four cents, will make fourteen tests. Dr. Babcock states that after the samples have been measured out, sixty tests can be made and the bottles cleaned, in two hours. The method is not patented.

Cost of Ignorance.

In no business perhaps does ignorance have to be paid for more promptly than in dairying. When we churn, if we don't know the right degree of temperature for the cream we may either waste many hours at the crank or else have the butter come too soon, with flavor and texture ruined. If we don't know how to feed our cows we may be wasting feed every day; we may be dairying with the wrong breed, and so on through the whole business, if we do not have the knowledge we are always in the way of making heavy losses. In the present state of dairy science it is inexcusable for any one to go blindly, about his work, when he, by a little reading and study, can be as fully informed on every dairy subject as the most expert.

Causes of Ropy Milk.

This is a matter that has puzzled many a dairyman and milk dealer, as well as farmer. Such milk is almost useless and unchurnable and yields a very small per cent. of butter, and it is well to know the cause and remedy, if any. Prof. F. G. Short, the State Chemist for Wisconsin, says this about ropy milk in the annual report of the Food and Dairy Commissioner for that state:

"Ropy milk is said to be produced by a variety of causes; illness of the mammary glands, inflammation of the udder, cold of the same organ contracted by lying down on the ground, atmospheric influences, fodder containing certain plants, distillery slop, unclean rooms and utensils, etc. The remedies are equally numerous. The alleged causes for ropy milk point to two assumptions: either the milk when drawn from the cow is infected with the ferment, or the milk is infected after it is drawn from the cow. No experiments have been made to prove or disprove the first assumption. That ropy milk may be caused by infection after it has been drawn from the cow has been proved by experiment. If sterilized milk be inoculated with ropy milk and kept at a suitable temperature, it will be observed that no cream rises to the top, and that the milk gets ropy within twenty-four hours. After forty-eight hours have elapsed, the milk is of such consistency that it will not flow out of the vessel containing it even if the latter be turned upside down. The most suitable temperature for this development is 86° to 104° F. The energy of the ferment diminishes with rise of temperature, and at 104° F. it is entirely destroyed. Freezing prevents the development of the ferment, but does not kill it."

The Farm.

A Model Subordinate Grange.

The Mutual Grange, No. 32, which meets monthly at Lambeth, Ont., is a model. We give a report of its last meeting that others may take note thereby. At their last meeting the election of officers took place; after the election and installation was concluded, the Black Knot and its destruction of our fruit trees was discussed, the subject being selected at the previous meeting. The discussion was heartily entered into by the members. Several remedies were mentioned and suggestions made, after which the following motion was unanimously carried:—

That we view with alarm the increase of what is known as the Black Knot in our plum and cherry trees, and, as symptoms of it is appearing in some varieties of apple trees, we would call the attention of the proper authorities to the fact, and think that the law should be more vigorously enforced.

A brother then gave a song, which was well received. After routine business, it was resolved that the subject for discussion at the next meeting be "Railroad Monopolies and How They Affect the Interests of the Farmer," to be followed by instrumental music by two members which were named.

For a time the Grange seemed to slumber; many of the Subordinate Granges ceased to meet; but we are glad to notice that a revival has taken place. The Grange is capable of being of great advantage to the farmers. The machinery for organization is very good and should be made use of.

The Permanent Central Farmers' Institute.

The representatives of the county institutes to the above held their session in Toronto from February 3 to 5, inclusive. The attendance was larger than in any previous year, and a number of new faces were to be seen, and among these we noticed many young men of the country. Doubtless these were selected on account of their knowledge of the requirements of the sections of country from which they were elected. Like the former meetings, the proceedings occupying much of the time partook too strongly of the character of the county institutes, which is to be lamented, and this must be ascribed to the executive committee, on whom depend the selection of the papers read. It is all very well, and a profitable time to those who have the good fortune to attend; but this can hardly be the object sought by those who founded this representative body: that more widely reaching information that could be carried from this to the branch institutes is what is required, such as experiments illustrated by specialists in some line of agricultural work. It is impossible that sufficient able men, qualified to teach the better informed and most advanced agriculturists, can get all over the Province of Ontario in a few weeks that are devoted to institute work; and to keep up the interest, new ideas should be advanced. At the past meeting most interesting addresses were given by Hon. John Dryden, Prof. Wm Saunders and others, while President Awrey added much to the life of the proceedings by the admirable manner in which he conducted in his official capacity. We hope to give proceedings later.

The Local Legislature, as before intimated, has elected Thos. Ballantyne, Esq., Stratford, as Speaker. This is another move in favor of agriculture. The present Speaker is not only farming himself, but is qualified to know what is required for the benefit of this, the largest interest of our country, as well as any of his colleagues.

Varieties of Seed.

In view of the varied results which must always attend the growing of all crops, arising from climatic differences and variety of soils, it is most desirable that every farmer should test a few of the best and newer varieties of seed each year on his own farm. This practice would not only enable each person to derive the greatest benefit from the valuable work done by the experimental stations, upon which the home-testing should be based, but would give facilities for becoming acquainted with the characteristic habits of new varieties, and also provide reliable seed at the lowest possible cost. If careful selections were made in this way, not in all cases of varieties giving the largest yield, but of those which combine the greatest number of desirable qualities established by exhibitions of well-doing, the benefits resulting could not well be over-estimated. The summary of tests made with different varieties of oats and barley at the experimental stations in several states during the last few years show the following yields:—

OATS.	Maîne.	Pennsylvania.	Illinois.	Wisconsin.
	Bush. per acre.	Bush. per acre.	Bush. per acre.	Bush. per acre.
White Scotchon	51.		31.9	42.7
Clydesdale	47.3		33.8	
Wide Awake	42.6	39.38	28.6	42.5
Texas Rust Proof			55.9	47.8
New Race Horse	46.6			76.4
Improved American		68.44	24.4	85.3
Improved White Russian			25.6	89.5
White Defiance				91.1
Welcome	48.	50.93	38.4	76.8
White Wonder		49.38	35.6	
White Centennial	23.3			
Canadian Black				50.5
Texas Red			49.7	
Virginia Winter			20.	
Hopetown	25.33		35.9	
BARLEY.				
Mansbury	26.6	31.49		73.4
Scotch		31.91		70.1
Imperial	30.6			
Black		23.09		50.6
Champion Two-Rowed	55.6			
Chevalier	33.3			44.0
Nepaul	39.6			55.3

Below are the results of tests made at the Ontario Agricultural College respecting the comparative yields of spring wheat, barley, oats and peas which have succeeded best with them:—

VARIETY.	Whence obtained.	Bush. per acre.	Lbs. per bush.	Tons of straw per acre.	Date of maturity.
Herison Bearded	France	37.2	64	1.80	Aug. 14
White Fife	Ontario	29.9	60	1.39	" 10
Bart. Trimenia	Greece	26.3	64	1.06	" 11
Rail Russian	Ontario	22.1	57.4	1.91	" 11
Red Fern	Ontario	21.9	60.4	1.78	" 11
Cheyne (two-rowed)	Germany	20.4	62.4	1.13	" 11
Chevalier (two-rowed)	France	19.5	52.4	1.92	" 11
Empress (two-rowed)	Germany	18.8	51.4	1.42	" 11
Oler-trucher (six-rowed)	France	18.8	54.4	1.61	July 31
Early Black (six-rowed)	Germany	17.7	52.4	1.37	" 31
Scott. Improved (two-rowed)	Ontario	17.7	54.4	1.29	" 31
Goanette Black	France	16.1	52.4	1.20	" 31
Hoodan Black	"	16.1	54.4	1.20	" 31
Chenailles	"	16.1	54.4	1.20	" 31
Oderbrucher	Germany	16.1	54.4	1.20	" 31
Darabroy	"	16.1	54.4	1.20	" 31
Sheriff	France	16.1	54.4	1.20	" 31
Shelby	England	16.1	54.4	1.20	" 31
Early Race Horse	Ontario	16.1	54.4	1.20	" 31
Mummy	Ontario	16.1	54.4	1.20	" 31
Early Britain	England	16.1	54.4	1.20	" 31

The Dominion Grange.

The Dominion Grange met in London, Ont., on the 10th, 11th 12th of February. A large number of delegates were present. We hoped in this issue to give a full report of the meeting, but could not do so, as we did not receive the official report from the secretary until it was too late.

A full report of the proceedings of the Experimental Union will be given in our next issue.

Varieties and Cultivation of Spring Grain.

BY J. C. SNELL.

Different kinds of soil require different treatment; also varieties of seed which may succeed well in some sections and on some soils may fail to give good results on other soils. The character of the soil in this county (Peel) is principally clay loam. The land is generally slightly rolling, affording good surface drainage. Very little under-draining has been done; so little, indeed, that it might fairly be said that nothing worth mentioning has been done in that line. Not because the land in this county does not need under-draining—much of it, I am persuaded, would be greatly benefited by it—but it is regarded as an expensive work, and the farmers as a rule feel that they have no money to expend in that sort of improvements. Personally, I am fully convinced, as I believe many others are, that our lands would be greatly benefited by under-draining; yet, like the great majority of my brother farmers, I have to confess to being behind the times in regard to this important work.

There was a time, thirty or forty years ago, when winter wheat was the staple production of this county, and yields of thirty to forty bushels an acre were common, but that day is gone, and though a considerable acreage is still devoted to winter wheat, the preparation for which is almost uniformly a summerfallow, yet it is considered an uncertain crop and is being less cultivated as the years go by.

Spring wheat has only been a partial success with us, and farmers are always timid about giving much land to it. Some years it does remarkably well, yielding from twenty to thirty bushels per acre, while in other years we do not get more than ten to fifteen bushels. Last year spring wheat promised well, as it grew, and we looked for twenty to twenty-five bushels, but many farmers had to report a very much lower average when threshing day came.

The favorite variety of spring wheat for the last few years has been the Colorado, an excellent variety as to quality, and for the past two or three years it gave good returns, but the crop last year was light, caused, we think, by something like a blight, which prevented the grain filling as it should.

Fine samples of White Fife were brought here last spring from Collingwood and from Algoma, and the crop promised well, but the midge and rust shrunk the grain till it was less than half what was anticipated at one time. Wild Goose, a variety which has been cultivated here for some fifteen years and has never been a failure, is still grown to a considerable extent. It is a coarse variety, and the millers and buyers have discouraged its growth, but the farmers have stood by it because it has stood by them, in that they always get a fair crop of it, and the buyers this year have enquired for it, and were willing to pay better prices than usual for it to mix with other sorts to produce a grade of flour for which the millers have found a market. It is very

difficult, however, to find clean seed of this sort, nearly all of it being mixed with oats, and, what is worse, tares, which it is almost, if not quite impossible to separate from the wheat by the use of any fanningmill known to us.

The preparation for spring wheat is generally either root ground of the previous year, or land from which a crop of peas has been taken after sod, or land which has been cultivated for rape to be eaten off by sheep. The land is plowed in the fall, a top dressing of manure is given before the snow comes, and in early spring, the earlier the better, if the land is dry enough to work, is cultivated either with one of the spring-tooth cultivators, now so common, or with a cultivator having rigid hoes with narrow chisel-shaped points. For my own part I prefer the latter, especially for our soil where we have some high knolls on which the land gets hard and baked, and which needs to be thoroughly broken up in order to make a satisfactory seed bed. The harrows follow the cultivator, after which the seed is sown with a drill at the rate of about two bushels per acre, and if the seed is fairly well covered we prefer to leave it so, but if not, a light harrowing is sometimes given to complete the work. If the land gets very dry before cultivating it and breaks up rough, we run the roller ahead of the drill, which makes a very nice seed bed.

Barley has for many years been the principal grain crop cultivated in the county of Peel. The Bureau of Statistics shows that the average annual production of barley in Peel is 895,000 bushels. Indeed this county has had the reputation of raising perhaps more barley, and of better quality, than any other section of Canada, and a few years ago when prices were high many of our farmers made a specialty of this, and grew very little else. In those days the yield was often as high as fifty bushels per acre, and when the price was sometimes as high as 75 cents per bushel, it was such a profitable crop as to tempt men to sow it where their judgment told them it was not wise to do so. The result of continuous cropping with one sort of grain was, in a few years, just what one might reasonably expect, that the yield began to fall off, nearly everything raised upon the farm was being sold off, very little stock was fed, the sheep were all sold as there was no pasture for them. Cattle were not kept, more than a few cows to furnish milk and butter for the family. Barley straw made a poor return to the land for what was taken of it, and consequently the yield dwindled down to about half what it used to be, and now it is doubtful if the average is more than twenty bushels per acre. Since the McKinley tariff came into force, and, indeed, before that, prices have shrunk in about the same proportion as the yield, and our farmers are almost at a standstill wondering and uncertain what is best to sow in order to make the best return for their labor.

I am of the opinion that a comparatively large area will yet be devoted to barley and that to a limited extent it may yet be profitably cultivated; but in order to do this there must be better preparation of the soil by the application of manures or the plowing in of clover, and the ambition of the farmer should not be to get as large an acreage of barley as he can, but to so treat his land as to get a larger return per acre from a smaller acreage.

The common six-rowed barley is the only sort that has been grown here, except that a few have tried the samples of two-rowed sent out from the Ottawa Station; and while some of these in the hands of good farmers on good soil have produced a satisfactory yield of excellent quality, in most cases the barley has proved too light in weight to meet the demands of the English market, and in my humble opinion it is very doubtful whether we can expect to raise this variety in sufficient quantities of standard weight to fill the bill for the market for which it is intended. I would not discourage the trial, however, but would advise our farmers in this matter at least to go slow and not try it on a large scale until it has been demonstrated on a smaller scale that two-rowed barley suited to the English market can be successfully grown here. There is some satisfaction in knowing, however,

that if it does not suit the market for malting purposes, it may be profitably disposed of by turning it into beef and pork, fit for the English or any other market, and no doubt it will make good manure, which is as good as money in the long run. The preparation of the soil and the cultivation practised is identical with that described for spring wheat. Where wheat is not grown, the root ground and that on which peas or oats, or even fall wheat has been grown the previous year, is considered a good place to sow barley; the land is always plowed in the fall, and though the crop need not be so early sown as wheat, yet many of our most successful barley growers sow it as early as they can get upon the land, if it is dry enough to work right.

I am fully convinced from experience and observation of all the circumstances and surroundings of the Canadian, at least the Ontario farmer, at this time, and I would like to emphasize it with all the force of words, that the sheet anchor of farming in this province for the future is to be the raising and feeding of live stock, and to this end I hold that our attention ought to be mainly devoted to the raising of such grains as oats and peas for feeding purposes, and if we have a surplus to sell there is generally a market for these at paying prices.

To my mind there is no grain so safe for feeding to all kinds of stock as oats, and for developing bone and muscle in young and growing stock it has no equal, while as a mixture, combined with peas, it makes the very best fattening ration we have. Let us, then, cultivate more land for clover and grass, more oats and peas, and less wheat and barley, and we shall be more independent of government tariffs and better off every way.

The varieties of oats which have been most successful of late in this county are the Egyptian, the American Banner, the Australian and the Probestier or German oats. All these have done well for us, though the Banner has had only one year's trial, but it showed a better yield in weight than the others. The first named is a very plump grain, without any long tail ends, and should be ground or chopped before being fed to horses, as they fail to masticate them and will in large proportions pass through the animal whole, and will germinate and mix with other grain where the manure is applied or drops in the fields. They are excellent for grinding into meal, being so full of meat, and, I think, on the whole, it pays to grind oats for all stock except sheep. The preparation for oats may be more varied than for any other grain. As a rule I think the plowing should be done in the fall and the sowing as early in the spring as the condition of the land will permit. The cultivation may be very similar to that described for wheat or barley, but we have seen splendid crops of oats on sod that has been plowed in the fall and the seed sown either broadcast or with the drill and covered with a chisel-tooth cultivator—a sharp toothed diamond harrow. The spring-tooth harrow no doubt would do good service in this case, and as a rule we count on a fair crop of oats with more certainty than on any other grain.

Peas are grown in this county to the extent of about 275,000 bushels annually, and are considered a very valuable crop, one that is not exhausting to the land and that has a good effect upon the soil in keeping it clean and leaving it in fine condition for the succeeding crop. As a fattening ration I think we have no grain to compare with peas, and I do not think even Indian corn is its equal in this respect. As to varieties, I believe that what is called Golden Vine has stood the test of years better than any other, though some of our farmers claim that the Prince Albert gives a better yield, but the straw of this is coarse and not so valuable for feeding purposes. Peas are almost uniformly sown here on sod plowed in the spring, which may be pastured with sheep till the other seeding is done, and we often have good crops of peas sown as late as the 20th of May, but we have seen extraordinary crops that were sown early in the spring on sod that was plowed in the fall. The only cultivation given in either case is to sow either broadcast or with the drill and cover with a spring-tooth cultivator or the harrow.

The Aspinwall Potato Planter.

The excellent picture on this page represents quite a new claimant for public favor, and one that seems to win its way very thoroughly wherever it is tried. The machine will plant from five to eight acres of potatoes per day, and all the work of marking, furrowing, dropping and covering is done in a single operation. The planting can be varied in depth from three to nine inches, and the covering is uniform. Instead of the dry earth on top, the covers of the planter draw upon the seed the moist under-earth. The value of this is well-known to all potato growers, for few things are more fatal to the starting of the seed than to cover it with dry earth. The work is superior to hand planting. The furrow being V-shaped, the seed must necessarily be dropped in the bottom in perfect line, and cultivation can be made early and close.

The planter is adjustable for planting either whole or cut seed, and will plant from ten to

Fodder Plants, Roots, Etc.

Read by S. A. Bradford, of the Brandon Experimental Farm, at the Annual Meeting of the Manitoba Dairy Association, Portage la Prairie, January 15th.

Owing to the unavoidable delay in providing the permanent buildings on the Dominion Experimental Farm at Brandon, nothing has yet been done towards testing the different breeds of dairy stock, therefore I am unable to speak on that portion of the work. Although scarcely expecting to be in a position to procure cattle this year, it was thought advisable to conduct some experiments with grasses, fodder plants, and root crops, and it is on this subject I would ask your permission to say a few words.

Owing to the condition of the farm when taken over by the government, only a few small plots of cultivated grasses and clovers were sown the first year. Of these, Lucerne, Red Clover, Timo-

Soon after getting possession of the farm, our attention was directed to the cultivation of the native grasses of the province. In 1889 a small quantity of the seed from several varieties was collected and sown in 1889. Despite the severe drought of that year, several of these varieties germinated and survived the following severe winter; these have now been growing two summers and one winter, and some of them are very promising; other varieties have been sown this year, and additions will be made from time to time.

Millet.—Four plots were devoted to the testing of Millet, and on June 5th the following were sown broadcast: German Millet, Common Millet, Hungarian and Chana, or Indian Millet. The yield per acre of dry fodder was as follows: Chana or Indian Millet, 5½ tons; German Millet, 4½ tons, and Hungarian, 3½ tons. The Chana is a plant introduced from India by Prof. Saunders last year, and is very promising.

Throughout Ontario, and in many portions of the neighboring Republic, the main dependence for cattle feed is on fodder corn. A few years ago



THE MODERN WAY—THE ASPINWALL POTATO PLANTER IN THE FIELD.

twenty-six inches apart. At all these variable distances it drops the potato with absolute regularity. The distance of planting is exactly the same in each row.

A fertilizer attachment can be used which deposits the fertilizer above the potato just as a portion of the earth has fallen upon it, thus all chance for injury to seed is avoided.

The mechanical construction of the planter is good. The materials are of the best, and it will last for many years. There is no cog gear and no fast motion. Excepting the pole and hopper, the machine is made of steel and iron.

A corn planter attachment is now made which will be wanted by many who purchase the potato planter.

Altogether, in its present high perfection, the Aspinwall Potato Planter is an implement few potato growers will care to do without. You can secure the catalogue from the makers by addressing the Aspinwall Manufacturing Company, Three Rivers, Michigan, U. S. A. This machine is very highly spoken of by all who have used it. Each machine is absolutely guaranteed by the manufacturers, whose catalogue contain a large number of very flattering testimonials.

thy and Kentucky Blue Grass survived the winter, and yielded a fair crop last season. The plot of Kentucky Blue Grass has proved very interesting; only a few plants of this grass started in 1889, but during the past summer these plants sent out side roots in every direction, and the ground is now covered with a luxuriant growth of herbage, which remained quite green until late in November. Although not suitable for hay, this grass promises well for pasturage; it requires some time, however, to get thoroughly established in the soil.

During the past season twenty-one varieties of cultivated grasses and clovers were sown with spring wheat. Among these grasses the most promising are Orchard Grass, Fescues, Timothy and Hungarian Forage Plant. The following clovers are also doing well: Lucerne, Mammoth Red, Common Red and Sanfoin. A long stubble has been left to collect snow, and we trust some of the varieties will survive the winter and prove useful for hay or pasture.

it was supposed that the climate of this province was not favorable to the growth of fodder corn; but on the Experimental Farm we have grown it for two years with marked success; this year the seed of over thirty varieties was sown with a common grain drill in rows three feet apart, and kept free of weeds by the use of the single-horse cultivator. When cut on the 28th August, the yield of green corn was from 12 to 46 tons per acre, or equal to one-half of this in dry fodder. These yields may appear very large to one unaccustomed to the growth of fodder plants here, but when it is remembered that in our rich soil all varieties of grain have a tendency to throw out side branches or stools, one can the more readily understand the large returns. With us the corn is stacked in large stooks in the field, and drawn into the barn on the first fall of snow; it cures perfectly in the stook, and is readily eaten by the cattle. Next year it is proposed to sow a large area of this grain to be used for ensilage.

I shall be pleased at any time to give particulars as to the best varieties of corn for this province, manner of cultivating, etc., and I trust a number of you will give this promising fodder a trial next season.

On the South Pacific coast where, owing to severe drought, very few of the cultivated grasses thrive, we find large areas of grain of different kinds grown for fodder. This system has one great advantage for this country; for if the crop of native hay proves to be abundant, the crop of grain sown for hay can be allowed to mature and harvested as a grain crop, the farmer can by this means largely control his supply of fodder. On the Experimental Farm this year twelve different mixtures of grain were sown for fodder; of these a mixture of oats and peas gave the best results, yielding three and three-quarter tons of dry fodder per acre, closely followed by barley and peas with three and a half tons. Wheat and peas gave three and a-quarter tons. These crops were easily cured and greedily eaten by both horses and cattle. Spring rye has given an early crop of two tons, but I do not consider the fodder from this plant equal to a mixture of oats and peas.

Roots.—Seven varieties of swedes, and ten varieties of white and yellow-fleshed turnips were tested during the past season, the best of the swedes gave over one thousand bushels per acre, and the grey stone yielded 1,300 bushels, mangel-wurzel gave 825 bushels and field carrots 381 bushels. It will be seen by the above yields that roots can be successfully grown here. One of our most promising green crops is that of rape and cole; this has done remarkably well with us this year; sown in rows three feet apart on June 3rd, it yielded in October thirty-three tons per acre. Cattle eat it greedily, and with us it has never tainted the milk when fed to cows. It is a very useful feed for keeping up the flow of milk after frost has injured the pasture.

Seedsmen's Catalogues.

From a number of catalogues sent us by leading seedsmen, we call attention to the following:—

That of Messrs. Steele Bros., & Co., Toronto, is large and nicely illustrated, containing much valuable information. In it they mention many new and useful varieties of seed grain. From a large number of grasses, we notice, as being among their most useful sorts, Meadow Fescue, a variety that does well in most soils, making excellent hay and is a good cropper. Their new oats, Steele's White Cave, which are not procurable from any other source, as they have purchased the entire stock, are undoubtedly one of the very best. From our own experience with them we recommend them to our readers with confidence. Their earliest history, as far as known, takes us to the County of Ontario, where, to our knowledge, they gave a yield of over 100 bushels per acre grown on a trial plot. Last year we sent out over 800 packages from this office to various parts of the Dominion, and in every instance where replies were received they were entirely satisfactory. Below are testimonials from leading farmers:—

GLANWORTH, ONT.

The White Cave Oats that I saw growing on the farm of Messrs. Shore Bros., White Oak, was the most promising I have seen during the past season, and should yield most abundantly. When I saw them shortly before harvest they had made a most vigorous growth, standing very thick on the ground, the straw being a good length and very bright and stiff. The crop was remarkably heavy, and was particularly attractive. They should prove a great acquisition, as the grain is thin in the skin and heavy.

W. S. HAWKSHAW, F. R. S.

COLUMBUS, ONT., Dec 6, 1890.

Dear Sirs,—I have carefully examined the White Cave Oats when growing in the field, and from reports and observations, I have concluded it is a very superior sort, being a heavy yield. The straw and grain are most desirable. Yours truly,

WM. SMITH, M. P.

See article entitled "What Our Seedsmen Write Us" for further testimonials.

Messrs. Steele Bros. offer a prize of \$10 to the party growing the largest crop from five pounds of this sort grown from seed purchased from them.

This firm also offer a new spring wheat, Campbell's White Chaff, a sample of which we have examined. It is exceedingly fine. The introducers speak of it as follows:—

This remarkable new variety has now been grown in Canada for several years, and has proved itself admirably adapted to our climate. It originated in Incoe County, one of our finest wheat growing districts. Mr. David Campbell, the originator, selected it eleven years ago; for some years it changed somewhat in character, but the type has now become fixed. We have secured the whole stock of this grand new spring wheat, and feel that we are offering a wheat that will give our customers the greatest satisfaction. Campbell's White Chaff is a bald wheat, club shaped, with a compact and rather heavy head, well filled to the top, and is

a very good, thrifty grower, stooling profusely, for which reason five pecks of seed is quite sufficient for an acre. It grows a strong straw from 2½ to 3 feet high, and of a deep green color which it maintains till ripening; matures from ten days to two weeks earlier than other standard varieties. The grain is white, thin-skinned, and very plump. As the supply of Campbell's White Chaff Wheat is limited, we advise early orders, as we cannot fill any orders after the stock set apart for sale this season is exhausted, and we advise every person who wants any other variety was 30 bush. I have examined this grain very closely for the past two years in all stages of its growth, and I think it is the most promising spring wheat for Ontario in the east we have handled.

Prof. Saunders writes from Experimental Farm, Ottawa, December 29th, 1890:—

GENTS.—We have had two years' experience with Campbell's White Chaff, and it has yielded the heaviest crop of any of our spring wheats. Last year the crop was 36½ bush., when our best crop of any other variety was 30 bush. I have examined this grain very closely for the past two years in all stages of its growth, and I think it is the most promising spring wheat for Ontario in the east we have handled.

JOHN A. BRUCE & CO., Hamilton, Ont., offer seed grown from new varieties of oats introduced by them from the north of Europe, which they claim have proven exceedingly satisfactory. These comprise: Giant Swedish (side), obtained from Sweden. Although of recent introduction there it is largely grown; Holstein Prolific, from the shore of the Baltic Sea, a white variety, with large, branching, open head, and an early sort; Early Archangel, from the extreme north of Russia, which they claim is the earliest variety in cultivation, and possessing the desirable characteristics of having long, bright, stiff straw, and plump, heavy, white grain, of excellent feeding quality.

WM. EVANS, Montreal, whose extensive experience and long business career in the seed line should enable him to select those kinds which are the best, issues this year his thirty-sixth annual descriptive catalogue, which contains a very extensive and complete list of agricultural grasses and cereals of merit. Evans' Improved Pea Bean is claimed to be a decided improvement on the old standard pea bean, in both earliness and productiveness, being an upright grower and heavy bearer, and ten or fifteen days earlier than the old sort.

D. M. FERRY & CO., Windsor, send a fine catalogue with many useful hints to practical people. One of their specialties is the Japanese Buckwheat, a variety of vigorous growth, early maturity, and very large grain of good quality, with thin hull.

WM. RENNIE, Toronto, also has a beautifully illustrated and fine catalogue. Their list of spring grains is very complete, including very many of the leading kinds of spring wheat, barley, oats, peas and buckwheat. He has Chevalier Two-Rowed barley, both imported and that grown from imported seed, as well as the leading six-rowed varieties.

SAMUEL WILSON, Mechanicsville, Pa., whose artistic and handsome catalogue, among other cereals mentioned, directs especial attention to Okanagan Vernal Chaff spring wheat, a sort originally from British Columbia, as one of high merit, and also Wilson's Prolific Side Oats, which, he says, produce large quantities per acre of grain, weighing from 40 to 45 pounds per bushel in ordinary seasons.

JOHN H. SALZER, La Crosse, Wis., whose catalogue is an exceptionally fine one, is replete with illustrations of grain and grasses, showing their manner of growth, and description of habits, yields and relative usefulness. Among the many sorts mentioned, we will only call attention to Salzer's California Prolific barley, which, from description and cut, appears to be an immense yielder, with very little beard, and grain of the largest size.

GEORGE KEITH, Toronto, is among the leading and most reliable seedsmen of Canada. His catalogue, although not of such an elaborate character as some, at once attracts attention by its neat appearance, and, on examination, is found to confirm the impression, at first formed, of usefulness, its suggestions regarding culture being very instructive. The list of agricultural grasses and seed grains, comprising wheat, oats, rye, barley and buckwheat, is complete, and cannot fail to be appreciated by the enterprising farmer.

MID-CONTINENTAL NURSERIES, Fairbury, Neb., whose catalogue contains a very complete list of trees, shrubs, vines and plants, both fruiting and ornamental, and who, from the locality of their nurseries, should be able to furnish the most hardy growers, also furnish a neat little instruction book for transplanting and culture of the different kinds which they grow, that will be very useful and a benefit to those who receive it.

THE GERMAN NURSERIES, Bower, Neb., of which Mr. Carl Londerger is proprietor, are also operating in a latitude which should be able to supply the western provinces of Canada with hardy fruit and ornamental trees, shrubs and plants. His price list contains an extensive list from which to select at regular prices.

CHAS. W. BUTTERFIELD, Bellows Falls, Vt., whose catalogue is to hand, contains an extensive list of plants, seeds, cuttings, etc., comprising many selections of merit.

Besides the above there are among our advertisers Robert Evans, Hamilton; William Ewing, Montreal; and E. D. Smith, Winona, Ont., whose catalogues have not come to hand, but which would, no doubt, be sent free to any person applying, as well as the others whose names appear above. We advise our readers to write to each of these gentlemen for their catalogues.

Seed Testing at the Experimental Farm vs. at Home.

BY JOHN SEABURY.

I notice that you gave the article on testing seeds by Prof. Saunders a place in your number, and as your columns are open for discussion, I ask you to give the following a place also. To my mind this seed question is becoming monotonous and threadbare, and I think the Professor is making a great mistake in taking up the question in this way. My idea of an Experimental station is that it should be an educator of the farmers and people by giving them such information and instruction as will help them and teach them to be better farmers, better experts in their business, and above all to depend on themselves and not on the government for assistance to do the most simple and easiest of experiments and tests, viz., that of testing seeds. Why don't the Professor issue a bulletin and tell the farmers how to do this in their own homes and in their own kitchens. Can the teacher teach his scholars how to read by reading to them? Neither can Prof. Saunders teach farmers how to do this work by sending their samples to Ottawa to be tested. To me it looks childish and ridiculous to ask farmers to send their samples to Ottawa, when they can test them quite as well at home; and even, if not quite so well, it is an educator and instructor, and will be a step in the direction of awakening an interest in this class of work, and this is just the point, and a very important point. Farmers do not, as a class, take enough interest in the details of farm work, and if this interest can be awakened in any way, a good work will have been begun.

Many will say "how can farmers test their own seeds?" Nothing is easier. Take a few small flower pots, or, what is better, some shallow boxes similar to those used by gardeners for setting tomato plants in, and count out one hundred seeds of each variety, and put them in this box, first filling it with nice, clean, good soil—something soft and friable that won't bake or dry too quickly. Clean sand is better than a stiff hard soil. A box 12 x 6 will hold 12 to 18 samples of 100 seeds each of any ordinary variety of garden seeds. Keep this box warm and moist, and watch the growth, and when nicely sprouted count out the number grown, and that will give you the per cent. For instance, if 85 out of the 100 grew, then 85% is the growth of that sample. Should one test on any one sample tested not grow satisfactory, try it again. Don't condemn with one trial, for I have known the second test to be often entirely different from the first, and more satisfactory. Farmers will find this a most interesting and instructive work, and one that everyone should be familiar with, for I venture to say were they more familiar with the germination and growth of seeds, and the beautiful, delicate, sensitive things these young and tender plants are, they would be more considerate and give them a much better seed bed, and by so doing enhance the value and chances of their crops fifty per cent. Before closing I would call the attention of your readers to the article that appeared in the February number of your paper on seeds, page 51, viz.:—"Reply to our seedsmen and some needed reforms." The hints and instructions there given, with my feeble remarks, will, I think, enable any man of ordinary intelligence to test his own seeds, and if he does not succeed just as well as he might wish at the first time, by persevering he will soon be able to do this work to his perfect satisfaction.

What Our Seedsmen Write Us.

Messrs. Steele Bros. write:—According to promise, we herewith forward some findings regarding new grain, etc., we are offering for this spring's trade. We feel justified in calling the attention of the public to them, for while we are always on the watch for the latest introductions in the vegetable and floral kingdom, yet we ever discriminate in the selection of same, being determined that only those well recommended, and from reliable growers and originators, are through our instrumentality placed before the public. We believe with Swift that "That man is a benefactor to his country who has made two blades of grass grow where only one grew before," and think that agricultural editors and seedsmen deserve to be recognized as such, for truly our constituency is a large one, and from the Atlantic to the Pacific the request for information and for the latest and best varieties of cereals, calls for all the energy we are possessed of, and sometimes for knowledge that it is difficult to obtain.

New Spring Wheat.—Campbell's White Chaff.—For some years past we found the almost universal enquiry was, "Have you anything new in spring wheat; we have tried this variety and that, and results have not been satisfactory?" Knowing this feeling, we were pleased when we found a new variety, which originated with Mr. David Campbell, in Simcoe County, near Georgian Bay, a section that has the reputation of always turning out remarkably fine samples of grain. This wheat is from the same parent plant as Campbell's Triumph, a variety which was introduced some years ago, and which has produced such good results in the Northwest. Mr. Campbell says that eleven years ago, when he commenced to grow it, it changed its character for six years, and has only become fixed for the last five years. He has sold us all his crop, with the exception of some sent to the Experimental Farm, Ottawa. Many of your readers will no doubt have noticed the report of this wheat tried there last year and reported in the bulletin, when it produced, under unfavorable circumstances, 38½ bushels per acre, while the next to it was White Russian with 30 bushels, all the other varieties then tested running from 15 to 20 bushels. We wrote Prof. Saunders as to the result of the year's crop, and herewith give his reply:—

Messrs. The Steele Bros. Co.—Gents.—We have had two years' experience with Campbell's White Chaff, and it has yielded the heaviest crop of any of our spring wheats. Last year the crop was 38½ bushels, when our best crop of any other variety was 30 bushels. I have examined this grain very closely for the past two years in all stages of its growth, and I think it is the most promising spring wheat for Ontario in the east we have handled. It is a bald wheat, club shaped, with a compact, rather heavy head, and a very good and thrifty grower. Since we have the wheat in stock it has been examined by many farmers, who are all favorably impressed with its appearance. We sent some for test as to weight, and found it to exceed 61 pounds to the bushel. We feel very great confidence in recommending this new early wheat.

Steele's White Cave is a strong-growing white side oat, ripening just before spring wheat. The straw is bright and strong, the berry white, and on trial plots has yielded upwards of seventy-five bushels per acre, and in field presented in straw, crop and head, a very beautiful appearance. Our supply is limited for this season.

Messrs. Shore Bros., of White Oak, Ont., say:—From one-half bushel of White Cave Oats sown May 7, 1889, we concluded this variety was worth cultivating. We find them to be very strong growers, remarkably free from rust and blight. The straw is stiff and bright, growing to good length. The heads are large and close, the field having a very handsome appearance when green, ripening about five days before that variety on the same land. They are the most prolific of any sort we have yet tried, and will easily yield 70 to 80 bushels per acre, with fair treatment. To those who wish to grow a first class milling sort we can heartily recommend them.

Wm. Smith, Esq., M. P., and W. S. Hawkshaw, Esq., both gave very favorable reports regarding them, which we have given verbatim in our catalogue.

Oats—American Banner.—These remarkable oats still attract public attention. We sold several thousand bushels last season, and so far without any complaint, all unite in pronouncing them great yielders, while the price they are sold at this year places them within reach of all, and you will agree with us that it pays to change seed, especially when you have something really good and that all recommend.

Barley—Carter's Prize Prolific.—This is the variety the government imported last year, and which has done so well here. Our stock was grown by two of the most successful farmers in Markham, Messrs. Pike and Rennie, and has since been thoroughly re-cleaned and tested. We were pleased to see the way the farmers of the Dominion took hold of the barley question last spring, enquiries poured in every day from all sections for the imported seed. Many have called in this spring and reported good results, and we predict ready sale this season for all those who ventured to grow it last year, the sample in almost all cases is very fine.

Barley—Duckbill.—This is a two-rowed barley, and also seems admirably adapted to our climate, many samples shown us have been remarkably plump. It will malt with Chevelier and Prize Prolific, and will be in demand for English trade. We imagine stocks of pure seed will be in great request this season and probably be found somewhat scarce.

THE STEELE BROS. CO. (LTD.)

John S. Pearce & Co., Seed Merchants, London, write us that the Colorado Spring Wheat has done well all over the western section of Ontario, and is, we believe, the safest spring wheat to sow. Among all the other varieties tested by us the past season, this variety is a long way ahead of any of them. The demand for this wheat will be heavy the coming spring. We have only catalogued this variety and the White Russian, as we feel that they are the only sorts that will be safe to sow.

Barley.—There is a diversity of opinion as to the results and prospects of growing the English two-rowed barleys in this country, and from what we have seen and can learn, we think it would be safer for our farmers in this western section if they did not depend too much on their barley crop, except as a feeding grain.

Oats.—The two new oats sent out by us last spring, The Rosedale and Golden Giant Side Oat, have done remarkable well, and the reports from our customers as to these oats are very promising. The American Banner, Black Tartar, Race Horse or Bonanza are also reported as giving fair results.

Peas.—The Mummy has done well, and is a good sort for good rich land, but do not sow it on poor light soils. A peculiar feature of this pea is that the pods are all on the top of the stalk or vine, which only grows about eighteen inches to two feet high, and stands up well till the pods are well filled or nearly matured. The Centennial is another fine pea, and worthy of a more extended cultivation; is a beautiful sample of fine, large, very white peas, and its habits are somewhat similar to the Mummy, but not so marked. Dan O'Rourke, Crown and other field varieties are too well known to need any description.

Mr. William Evans, Seedsmen, Montreal, writes:—With regard to the different varieties of grain grown in this vicinity last year, I may say the crops were generally light, with very few exceptions. Wheat was very light, almost universally, especially that grown from English samples. Occasionally White Russian did fairly. One farmer reports well of a new Russian bearded variety (not Ladoga) which I imported from Russia two years ago. It is an early kind, not unlike the old Black Sea Wheat.

Barley.—I have good reports from some of the parties who grew the Government barley. Sown early on good land it yielded well, but is much discolored owing to the prevalent wet weather. Four-rowed was good in some instances.

Oats were light all over. New varieties had no chance at all. American Banner turned out fairly well, however, in several instances.

Beans.—The improved pea bean which I introduced here turned out very well. It is at least a fortnight earlier than the standard kind, and is enormously productive. Earliness in this crop is a decided advantage here.

Last season was not favorable for experiment with grain, it was too cold and wet throughout. I think it would be very unsafe to make my general statement based on its data. I would rather hope for better things from another year's trials than predicate anything from last years.

Early and Late Sowing.

The early sowing of spring wheat, barley and oats shows in every instance, beyond a doubt, the great advantages of the farmer. The generally accepted truism that the best results are obtained from early sown spring crops has never had enough careful investigation to ascertain how much was the gain or loss from this cause. The valuable services rendered by trials at the Central Experimental Farm at Ottawa in this direction will, we trust, have a beneficial effect in not only inducing others to experiment in different localities, but of impressing more forcibly the advantage of early sowing upon the farming community. The loss on Prize Prolific barley by a delay of one week was nearly sixteen bushels per acre, and Danish Chevalier a little more than eleven bushels, while a delay of two weeks shows an average loss in the two experiments of more than half the crop, or about eighteen bushels per acre. If these tests could be relied upon as conclusive in an absolute sense the loss of one week's time in sowing the barley of Ontario, reckoned at 50 cents per bushel, would be over two and a-half millions of dollars in one crop. In spring wheat the loss of one week only gave a loss of about one-sixth of the crop, while two weeks delay resulted in a loss of one-fourth of the crop.

Oats seemed to be less influenced by late sowing than either wheat or barley. In the case of Prize Cluster there was a falling off of about three bushels per acre for the first week, but a

delay of two weeks resulted in a loss of over six and a-half bushels per acre. The oat area of Ontario each year is so large that the loss of one bushel per acre, taking oats at 40 cents per bushel, is equal to \$752,946.

These tests correspond with our own experience. We will cite two cases. The first was a field of thirty acres of barley. The land was similar in every particular. Fifteen acres of this was sown with six-rowed barley on the 28th day of April. A heavy rain prevented the sowing of the remaining fifteen acres for about eight days; it was then sown with seed taken from the same bin as that previously sown. The first half yielded 50 bushels per acre, the average weight of which was 54 pounds per bushel; the later sown half of the field yielded 39 bushels per acre, the average weight of which was 48½ pounds. A field of fifteen acres of White Russian wheat was treated in a similar way, four acres of which was sown six days earlier than the remainder of the field, and yielded per acre three bushels more than the average of the remaining land, and weighed one pound per bushel more.

Ottawa Central Experimental Farm.

The staff at which consists of Professor Wm. Saunders, Director; James W. Robertson, Agriculturist and Dominion Dairy Commissioner; John Craig, Horticulturist; James Fletcher, Entomologist and Botanist; Frank T. Shutt, Chemist,—thus are they equipped for efficient work in the different departments, all of which we hope to review from time to time, and from which we hope to derive a large fund of information, alike interesting and useful to our readers wherever situated.

Apart from what is being done in feeding experiments at Ottawa, of which we will have more to say next month, we may state here that the eight pure breeds of cattle kept, including Shorthorns, Polled-Angus, Galloway, Ayrshire, Holstein, Devon, Jersey, Quebec Jersey, as well as Grades, are all in the highest state of thrift. High, luxurious feeding is not aimed at in any case, but the most plentiful supply of cheap, bulky feed grown on the farm is used, to which is added a very small supply of the more concentrated sorts, including grain, oil cake, cotton-seed meal, etc. As might be expected where the greatest pains and skill, combined with watchful supervision, is practised, each breed is giving most satisfactory results, each of the buildings being laid out with a view to making each department tell, as well as the most economical expenditure of labor. In order to feed liberally, it is necessary that a liberal amount be grown, and in this particular the management have been eminently successful. Not only have ensilage crops turned out a decided success, but the roots were the finest, taken collectively, of any we have seen during this season, and speaks volumes for what attention and necessary labor will accomplish, particularly as not the first particle of any special or commercial fertilizer has been used. The root-house is divided into bins, holding large quantities of each variety of mangolds, carrots, turnips, sugar beets, etc., and each sort had numbers of specimens equal to those of any show collection at our exhibitions. Size and quality was remarkable in each of the varieties, not in picked specimens, but throughout the entire mass, and the yield of each variety, which is duly recorded, is in every case very large, and in some few particular cases enormous. Another month we hope to publish the weight

per acre of all root crops grown, as well as that of the corn and other crops that are being used for ensilage.

SEED DEPARTMENT.

The work in this line will be of most interest for our agricultural readers at this season, and it is with this department we wish more intimately to connect the review of the work now being conducted at the Central Experimental Station, it being just now farmers are looking out for the best varieties of seed grain.

The granary is admirably laid out for the purpose of keeping each of the different sorts of seed grain separate. It is large and airy, with each of the numerous bins having close-fitting lids, in order that no chance foreign grains be admitted.

Among the spring grains, oats, barley, spring wheat and peas are being experimented with in the order named, in order to find which of the many new and old varieties will yield the largest returns per acre, as well as to test the quality, relative value of the straw, early maturity, difference in hardness, and all other useful points being kept in view. Taken as a whole, the most encouraging results have been attained. Splendid specimens of each of those that are best known in the country, while a number of new kinds had more or less to recommend them. The smaller plots are carefully threshed by a small separator, driven by tread-power, due care being exercised to prevent the different sorts from becoming mixed. By careful weighing, the weight per acre of the small plots is ascertained, and all, both large and small, duly recorded, the greatest care being taken that the exact yield be arrived at.

Attached to the local tests of all varieties, three-pound bags to the number of 12,209, or over eighteen tons, were sent gratis to farmers in different parts of the country during 1890. The following are the numbers of samples of each grain sent:—Barley, 5,189; oats, 4,909; wheat, 2,079; peas, 216; corn, 16, and some few more from the branch farms in the other provinces. From these a great number of replies as to the value that each variety attained in the locality sown; and here we might say that those parties that have given the results obtained will be the first again to be supplied, and although many have obtained a large enough quantity of a new variety of seed grain to supply a whole neighborhood in a few years from this source, still it is by the collective experience of the whole country that the object sought will be arrived at.

Of the large quantity of prize prolific barley imported last spring, the replies and samples received have been most gratifying to the management. This barley was unfortunately very late in being received, Mr. Carter, the seedsman in England, through whom it was purchased, finding it a difficult matter to supply so large a quantity pure; this, again, had all to be re-cleaned, as having been through the elevators foreign seeds had found its way into it on its arrival; to this is ascribed the vexatious delay in sending it out; 7,500 bushels in all were sent out in two bushel lots. One thousand two hundred of the farmers who received this barley report an average of four bushels in excess of the ordinary six-rowed, and 1,000 of the samples sent weighed from fifty to fifty-four pounds per bushel. There is no doubt if this barley could have been distributed and sown at the proper time a much better showing

would have been the result, and doubtless the sowing of the seed grown here will give better yields of heavier grain, as those that are accustomed to sowing any variety of imported grain know how much better the growth is after it becomes acclimatized. A sufficient quantity of the Canadian-grown prize prolific has been exported to brewers in England, in order to test its value for malting purposes. The result is not yet known, but a most encouraging outcome is expected, and will settle forever the advisability of finding a market for this grain in England.

As this station is the central, having other stations in the lower provinces as well as Brandon, the Northwest and British Columbia, the Director is enabled to judge very closely which variety of any of the kinds of grain are best suited to a given locality, and therefore those sent out are, according to past experience, the most likely to succeed. The immense benefit that a few bushels per acre in addition to the crop ordinarily grown would make to the country at large, means a tremendous addition to the grain returns of the country. Governments of other countries have not been idle in pressing forward advanced methods, and Canada is reaching out as fast as any country to attain the highest position as a grain-growing and stock-raising centre.

Associated with the numerous experiments being conducted for the advancement of agriculture, testing the fertility of seeds is particularly useful; failure of crops is too often occasioned by sowing seed a large percentage of which does not germinate; and in barley some varieties are naturally lacking in this quality, which detracts materially from its value for malting. A hot-house, properly furnished for the work for both water and earth tests, gives the percentage of seeds that will grow, as well as their vitality and after-healthy growth.

All that is required is for the farmers or seedsmen to send samples to the Central Experimental Farm (free), and the desired result will be returned in short order, as there is plenty of room for this work.

Below is given the different yields of the several varieties tested at the Ottawa Experimental farm during last year:—

VARIETIES.	When sown.	When ripe.	Yield per acre.	Weight per bush.
OATS.				
Victoria Prize White...	April 22	Aug. 2	38 3/4	41 1/4
Prize Cluster.....	April 22	July 30	37	42 3/4
American Triumph.....	April 25	Aug. 11	37 1/4	35 3/4
Canadian Triumph.....	April 25	Aug. 2	31 1/4	43 3/4
Banner.....	April 25	Aug. 8	30 1/4	43 3/4
Flying Scotchman.....	April 22	Aug. 2	30 1/4	32 3/4
Bonanza.....	April 25	Aug. 5	29 1/4	38 3/4
Welcome.....	April 28	July 29	28 3/4	41 3/4
WHEAT.				
White Fife.....	April 25	Aug. 12	18 3/4	55 3/4
Judket.....	April 25	Aug. 10	11 1/2	58 3/4
Russian Hard Tag.....	April 25	Aug. 8	20 1/4	60 3/4
Red Fern.....	April 25	Aug. 11	19 3/4	61
Rio Grande.....	April 25	Aug. 16	17	59
Campbell's White Chaff	April 23	Aug. 13	14	21 3/4
BARLEY.				
Selected Chevalier...	April 26	Aug. 5	46 1/4	53
Prize Prolific.....	April 22	Aug. 4	40 3/4	52 1/4
Peerless White.....	April 26	Aug. 6	46 3/4	51
Danish Chevalier.....	April 22	Aug. 4	39 3/4	53
Golden Melon.....	April 26	Aug. 6	44	53 3/4
Danish Prentice.....	May 3	Aug. 12	30	53 3/4
PEAS.				
Golden Vine.....	April 28	Aug. 4	36 3/4	65 1/4
Multiplier.....	April 28	Aug. 9	35 3/4	65 1/4
Black-Eyed Marrowfat	May 8	Aug. 9	39 3/4	61 3/4

The Apiary.

Bee-keeping on the Farm.

BY R. F. HOLTERMANN.

The above subject appeared to excite some interest at the last meeting of the Ontario Agricultural and Experimental Union, and therefore, before it slips out of my mind, it will be well to define the position bees should occupy as a branch of the farm. The specialist in gardening, poultry raising, stock raising, etc., will doubtless say, in order to make the very greatest success in their line of business and know most about it, you must have the characteristics which are requisite to success in anything. Next, you must be in the right locality, you must like the business, and next you must make a specialty of it. The specialist in bee-keeping will doubtless say the same. So far, therefore, these other branches which are generally found on the farm do not differ from bee-keeping. There are men who appear to be able to make a success of everything they undertake, and again those who make a failure of everything; the latter will probably make even a greater failure of bee-keeping. Bee-keeping appears to require special attention at certain times of the year. The bees, unless attended to properly during the honey season, will, or at least may, prove a loss; swarms must be looked for and hived, and if there is no honey coming in they need no attention as far as swarming goes, and none as far as taking of honey is concerned. If little honey comes in, the attention is proportionately small, and in no case, with a few colonies, is the labor great. The only difficulty is swarming where children are at home, and most of the swarming is during the summer holidays. The promise of 5 or 10 cents for every swarm detected, makes the youngsters hang about the hives all day with contentment and keeps them out of mischief, besides educating them to observe closely and be useful. Where no children are, and they cannot be placed near the kitchen window and watched there more or less, or the bees watched in some other way, bees had better not be kept unless some of the swarm catching devices are used, with which I have no experience. The queen traps may work, although the bees may not do as well as if the entrance were quite free from obstructions. The farmer must judge from his own locality if it will pay to keep bees there. It would not be wise for every farmer to embrace all the other branches of the farm, so it would not pay every farmer to embrace bee-keeping. No sound reasons can, however, be advanced why bee-keeping should not be a branch of the farm as well as poultry raising, fruit growing, etc., etc. The farmer will probably not make as much money out of bee-keeping as the specialist, yet, not having all his eggs in one basket, he may be in a safer position. He has another advantage in a majority of cases over the specialist; his locality is not as well stocked as the specialist's, and his bees have a better selection of flowers from which to gather the most honey. Again, he can sow Alsike clover, buckwheat, and other useful crops to the advantage of his bees, and no injury to the other branch of the farm.

We want Good, Live AGENTS to Canvass for the "Farmer's Advocate" in every locality in the Dominion and United States. Sample copies and subscription blanks free to canvassers who mean business.

Poultry.

Successful Artificial Incubation.

BY W. G. HUGH.

Does poultry-keeping pay? is one of the vexed questions to which one-half of mankind answers yes, and the other half, nay, nay. It, therefore, depends entirely on the keeping, the keeper and the surroundings. One of the best means whereby poultry have been made to pay at least a fair return, is the method of artificial incubation which has of late years attracted attention and made considerable progress. This system is generally adopted in large poultry yards in England, and a deal more in France. Incubators are very successful if thoroughly understood, and well repay the initial cost of purchase. Suffice it to say, they take up less room and less time than a number of sitting hens, and, when well understood, are as successful as the most careful hen. Do not for a moment imagine you have nothing to do but fill the tank with hot water, light the lamp, fill the drawer with eggs, and wait for the chicks appearing. Careful attention is required. It is not necessary to give a detailed account of all the various machines now in use; some are costly and perfectly useless. I would advise those who think of hatching poultry by artificial means, not to purchase an incubator when it is necessary to pour in gallons of boiling water every night, and at the end of twenty-one days be recompensed by six chicks from your fifty or more eggs. I have hatched forty-five chickens out of fifty fertile eggs. How this has been done I will briefly state. An incubator which can give such results must, in every respect, have the natural conditions of the hen. The essential parts of the contrivance are a cistern of water heated by coal oil, with a drawer beneath to receive the eggs. Ventilation is insured by a supply of air being allowed to ascend through a piece of very open canvas, which is kept moist by its margins being in a tray of water. This supply of air passes through perforated zinc, and a layer of finer canvas on which the eggs rest, so that the under sides of the eggs are exposed to cool moist air, and the upper to the heat radiated from the hot water cistern above. The maintenance of a steady temperature, which must not on any consideration be allowed to rise, even for a short time, above a certain point, is the most important consideration. This is very ingeniously accomplished in the incubator under notice. It consists of a small capsule placed immediately over the eggs, hermetically sealed. Within this capsule are a few drops of a volatile hydrocarbon liquid, which, by fractional distillation, can be obtained of the exact degree of volatility required, so as to boil at any desired temperature; when this is reached, the spirit is immediately volatilized, and the capsule from being flattened is distended into an ellipsoid form. On this capsule rests a perpendicular rod, in its turn supporting a horizontal lever, which carries at its end a disc closing the top of the chimney over the lamp, and so directing the current of hot air through the horizontal tube in the cistern. On the heat reaching the required point, the capsule expands, raising the lever and the disc which closes the top of the chimney, thus allowing the heated air to escape directly, in place of passing through the tube in the cistern. Consequently, overheating is im-

possible while the apparatus is in action, and by adjusting a movable weight on the lever, the temperature may be regulated as required. And when once adjusted to any required temperature, no further attention is needed, and for six months the heat in the egg drawer did not vary more than one degree, while the heat of the atmosphere varied from ten to fifteen degrees. I have found that when the air in the room in which the incubator is placed is about 60° or 70°, the best temperature for the drawer is 104°. During cold weather the drawer may be a degree above 104°, and warm weather a degree below. I have hatched fresh eggs out on the nineteenth day. This I attribute to the steady heat maintained in the drawer.

A much more important point than mere exactness of temperature, is the supply of the proper amount of moisture to the eggs during incubation. The hen in hatching furnishes a good supply of moisture from her body, and in ordinary cases of natural hatching this is supplemented by moisture from the earth upon which she makes her nest. There is in an egg, in addition to the material necessary for the formation of the chicken and for its sustenance, a certain quantity of moisture. During the early stages it performs the important function of intervening between the floating germ and the lining membrane of the shell. If the heated air be too dry, the moisture of the egg is absorbed, the germ comes in contact with the lining membrane of the egg and sticks to it. The effect of this is that when the egg is turned the germ is turned away from the top of the egg where the heat is applied in most incubators, to the bottom, where there is too little heat to keep up the development of the germ. As it is stuck it remains down and the germ dies, and in course of time decomposition sets in, and the egg becomes what is known as rotten. It is necessary to turn the eggs at least once during every twenty-four hours. The custom of turning them had its origin in the fact that it is known that the hen moves her eggs about in the nest, placing those in the centre that had been outside, and vice versa. It is also necessary to air the eggs for at least from ten to fifteen minutes once a day.

I have found that the best method to rear chickens successfully, is to place them when hatched out under a sitting hen. When coming off during the night they take care of as many as thirty chicks, and are much preferred to brooders. Deformed chickens are caused by some unusual vibration of the incubator, or when eggs have travelled a distance. Either let the noise be continuous, or prevent as much as possible. It is not wise to keep quiet for a week, and then drop a cordwood stick near your incubator. Remember that the greatest care is necessary from the ninth to the sixteenth day. You will find that your chickens will be equally as strong as those hatched by the most careful hen.

Auction Sales of Live Stock.

Mr. Rock Baily, Union, Ont., will sell, on March 24th, a number of well bred Jerseys, Merinoes and Trotting Horses. See advertisement.

Mr. J. C. Snell, Edmonton, Ont., will sell Shorthorns and Jerseys on March 25. When writing to us, in referring to the animals offered for sale, Mr. Snell says the Shorthorns are a very good lot, and the Jerseys particularly fine, all being descended from grand butter families. See his advertisement in other columns.

On March 26th Mr. Jas. S. Smith, Maple Lodge, Ont., will sell twenty head of Shorthorns. Mr. Smith has had several auction sales, and on every occasion has conducted them in a most honorable manner. Read carefully his advertisement.

We bespeak for these gentlemen liberal patronage.

Family Circle.

The Bubblyjock.

At Abbotsford Sir Walter sat,
His friends about the board,
In easy after-dinner chat,
When spoke an English lord:
"Talking of troubles, we are told
Each mortal takes his share;
Now there are happy lives, I hold,
Exempt from thoughts of care."
"Not so," Sir Walter said: "No heart
That beats in human breast
But bears apart some inward smart,
Some burden of unrest."
"I'll venture," said my lord, "I'll find
One neck without its job;
One truly calm and tranquil mind:
Take that daff laddie, Jock."
By shaded walks of Abbotsford,
Sir Walter led them down,
Called the poor lad before the lord,
Whom, tossing half a crown,
"You live in luck, good Jock, I see;
Well fed, light work to do?"
"Oo, ay, the maister's gude to me,
An' I hae plenty, too."
"Well said, brave Jock, and now once more—
Of troubles know you aught?"
At once his face was "sickled o'er"
With the "pale cast of thought."
"Trouble enough! Wha could hae mair?"
He shuddered as he spoke.
"Oo, ay, wi' fear I'm fashit sair,
Ye'll mind the bubblyjock?"
"The bubblyjock? What thing on earth
May that be?" says my lord.
And then amid a roar of mirth,
They see, across the sward,
A turkey-cock of stately size,
Slow strutting into sight.
Poor Jock beholds with qualling eyes,
And quickly takes to flight.
"Ah!" says Sir Walter, "it's the same
With all poor human folk;
Our troubles differ but in name,
Each has his 'bubblyjock.'"
—St. Nicholas.

A DOMESTIC REVOLUTION.

INFLUENCE OF A WOMAN'S CLUB.

Mr. Philander Hawkins was a slave. He lived in the land of the stars and stripes; he was a property owner and an office-holder; he came and went, like any other man. Still, he was a slave. He bent the knee to the most despotic tyrant that ever reigned over cowering humanity. That tyrant was his wife.
Mrs. Hawkins was a clever woman, but ignorant, narrow-minded and unreasonable, with a temper that carried all before it, including Mr. Hawkins and the three children. People said Mr. Hawkins didn't dare to say his soul was his own. Still less dared he assert any rights as to the house, the children, or any worldly possessions.
When Mrs. Hawkins drew down the shades and locked up all the front part of the house, and made the family sit in the dining-room, the neighbors hinted that it was "cranky." But poor Mr. Hawkins dared not remonstrate. He was equally powerless when she dieted the family all winter on buckwheat cakes and apple-sauce, and all summer on boiled potatoes and mush and milk.
Mr. Hawkins was fond of music, but Mrs. Hawkins kept the piano securely locked, save on those rare occasions when they had company. Mr. Hawkins longed to go into society, and to entertain his friends in his own home, but his wife set her face against all manner of amusements and recreations, and although Mr. Hawkins had been petitioning ever since they were married that they might have "a little company," this petition had always received a withering veto from the reigning power.
Mr. Hawkins was a Methodist and strongly attached to his own church but his stronger half was a Baptist, and, much against his will and conscience, Mr. Hawkins followed his wife every Sunday to the Baptist church around the corner.
One afternoon Mr. Hawkins sat in his office with a cloud on his brow. He had just come from a stormy scene at home, in which Mrs. Hawkins had informed him that no one in her house should go in and out at the front door except on Sundays.
A knock at the door, and a lady entered, wearing a black silk dress, a stylish bonnet, and a pleasant smile. She introduced herself as Mrs. A., from Boston, and at once made known her errand.
"I am soliciting contributions," she said, "for a most worthy object. I desire to found a club for the ladies of this city. It is called the Woman's Mutual Improvement Club. We shall study history, literature, art, housekeeping, hygiene—in short, all that tends to enlighten and cultivate women. I think I can promise that this club will make the women of this place more intelligent, cultured, independent."
"Stop!" shrieked Mr. Hawkins. "For heaven's sake, stop!"
The lady looked at him in amazement.
Mr. Hawkins was seized with an awful fear.
"Independent! O heavens!" he groaned.
"I'll have nothing to do with the thing!" he

shouted. "I won't subscribe a cent, and I'll do all I can to oppose it."

The lady left precipitately, convinced that Mr. Hawkins was an escaped lunatic.

"Then you aren't in favor of this club?" said his partner, as the door closed behind the lady.

"Well, I should say I wasn't!" thundered Mr. Hawkins. "That woman ought to be suppressed. What right has she to come here, putting any more independent notions into our women's heads?"

But his partner only smiled and winked knowingly at the clerk.

Mr. Hawkins did not breathe a word about that club at home. He feebly hoped that his wife might not hear about it. Delusive dream! The next evening, at tea, she informed him that she had been invited to join the Woman's Mutual Improvement Club, and she had put her name down as a charter member.

Poor Mr. Hawkins! Fate was against him. He went about in a walking night-mare, vaguely wondering what awful thing would happen next.

There was just one thought that gave him the faintest gleam of comfort:

"Whatever comes, it doesn't seem as if Sarah could be any worse than she is now. Perhaps she'll take to going around lecturing on spiritualism or some other strong-minded subject, and if she should, why, the children and I would try to bear up while she was gone."

Two weeks passed. Mr. Hawkins had twice been present at the deliberations of that awful club. Mr. Hawkins had listened with a morbid fascination while she held forth at the tea-table about the first afternoon on "Ruskin." The subject announced for the next day was "Hygiene." Mrs. Hawkins came back from the second meeting and drank her tea in meditative silence. Mr. Hawkins was filled with apprehension. What was Sarah up to now?

After tea, Mrs. Hawkins said, "Leander, you may go to Smith's and order a five-pound roast of beef, and stop at the grocery and get some onions and turnips and molasses and raisins and oranges."

"Say, ma, are we going to have company?" queried her son.

"No, we aren't," replied his mother, shortly, "and nobody asked you to say anything."

Mr. Hawkins laid down his paper, curiosity getting the better of his fear.

"Why then, Sarah," he said, mildly, "What are you going to do with all those things?"

"They said at the club to-day," said Mrs. Hawkins, "that no one could have good health who didn't have good, substantial food to eat. Dr. Wellington Hawes said it was better to pay the butcher than the doctor. And I've been feeling kind of tired and miserable for the last few days, and I believe it's because we don't have hearty food to eat."

Mr. Hawkins' face expressed a thousand different emotions as he retired behind his paper, grimly wondering if that was what had made him feel "kind of tired and miserable" for the last fifteen years.

The family fared better after that. Mrs. Hawkins bought a new cook-book in place of the one that had been in her family for thirty years, and Mr. Hawkins began to take a more cheerful view of life.

The next Monday afternoon Mr. Hawkins came home to find the front curtains up and the sun shining right into the parlor, where sat his wife, talking with a neighbor. Mrs. Hawkins was saying, "They said at the club this afternoon that sunlight was health, and that people have been known to die from living in rooms where the sun never came. So I'm going to keep the shades up after this."

And a second time Mr. Hawkins had occasion to bless that club.

A few weeks later, the club had a day on "Home Decoration," after which Mrs. Hawkins proceeded to take down the hideous blue shades from the windows and replace them with soft, graceful hangings, and hung up some engravings, and put scarfs on the tables and chairs.

One evening Mr. Hawkins found his wife's face weathered in smiles. He couldn't imagine what it meant. But shortly it came that an article at the club asserted that fretting produced wrinkles. Hence those smiles.

But when, at the close of an "Emerson" day, Mrs. Hawkins announced that the Concord philosopher thought that a man and wife might have different religious creeds, and she didn't know that she had any objections to Mr. Hawkins going to his own church after this,—when this happened, Mr. Hawkins was fain to believe that the millennium was at hand.

There was still another round in the ladder of progress, and Mrs. Hawkins never faltered when she reached it, but mounted it boldly. The subject at the club was "Our Social Natures." Mrs. Hawkins walked home from that meeting with two club ladies, and stood at the gate and talked earnestly for half an hour. That evening she informed Mr. Hawkins, with the air of having always thought so herself, that it was natural for people to like society. Carlyle said, "Beware of the solitary man," and Mrs. Dr. Grimes said at the club that it was every woman's duty to look after the social interests of her family.

"She made a splendid speech," said Mrs. Hawkins, "and we all agreed with her. And I've been thinking it would be a good idea for us to have some company, and I'm going to let the children have a party."

That night Mr. Hawkins wrote a letter to Mrs. A., in Boston. He humbly apologized for his rudeness to her. He enclosed a check for a hundred dollars, and told her to use it where it would do the most good, and he concluded with these fervent words: "So long as I live, I shall bless that club. It helped me when everything else failed." HERMIT'S COBB.

Minnie May's Dep't.

MY DEAR NIECES:—

So much has been written lately about physical culture, and as a means of preventing consumption, that a few remarks upon it for your guidance may not be misplaced. By physical culture do not understand that it means training for an athlete, for it does not. Men so trained usually die of some pulmonary disease, as too much training of one particular organ usually defeats its own object. The same rules for physical culture cannot be applied to any two persons, for no two men or women are exactly alike in constitution; so they must each find out for themselves just what their weak parts are, and strengthen them, then a general development can be proceeded with. A regular course of physical culture, as far as it can be done, is given at all colleges and large schools; but those who have not had such advantages can improve both health and figure. More can be done during the growing period of man's life; but much can be done even in maturity to strengthen weak organs and develop weak parts. Pure air is the first great essential to health, and points to the necessity of well-ventilated homes, especially every morning, after so many hours of closed doors and windows and exhalations from sleepers. Who has not witnessed the rush of a pet dog into the fresh air and his wild scamper around, returning to you panting and refreshed. Cleanliness comes next—a sponge or towel bath every morning, with a scrub of soap and hot water once a week, will keep the skin in proper condition to perform its functions, and the hot bath taken just before going to bed prevents a chill, or cold taken afterwards. Next comes food, and as our digestive organization is a very important part of our whole, we should take care that all food is well cooked, and of an easily digested quality. Here comes in the importance of good cookery, and here, my dear girls, is where you should try to attain perfection, for a vast amount of the woes of humanity is attributable to bad cooking. Our clothing should be well and carefully considered. Warm, and close next the skin, and warm and light for outside wear; but it is very difficult to secure warmth without weight in winter garments; the feet should be always warm and dry; some water-proof shoes should be worn in damp weather. A judicious use of light dumb-bells, or Indian clubs is beneficial for weak-chested persons, and can also be used with advantage by persons who are round-shouldered; but those with any heart-weakness should not indulge in such exertions. Walking is invigorating when not pursued to over-fatigue; so is riding, dancing, rowing, or any other form of amusement. All such tend to develop the form and give a wholesome, vigorous tone to it; but it would not be advisable for any one to pursue a course of physical training without the advice of a physician, and under the supervision of a competent instructor.

MINNIE MAY.

Prize Essays.

Minnie May offers a prize of \$2.00 for the best article on the following subject:—"The best and most satisfactory way of utilizing a small space of ground for flowers, to have bloom from the early spring until late autumn." All essays to be in our office by the 15th of April.

Address, Minnie May,
FARMER'S ADVOCATE,
London, Canada.

Our Library Table.

The Household for January comes to us as bright as ever, its pages abounding with all the information a household most requires, and all for the very low price of fifty cents a year.

The Ladies' Home Journal is just as interesting as ever, containing something for all its readers. Some of the best American writers contribute to its pages. A series of short articles from the pen of Rev. de Witt Talmage, entitled "Under my Study Lamp," are of universal interest.

The Ladies' World for February is, without doubt, a family magazine. A large amount of reading matter, besides instructions in needlework, art of entertaining, household receipts, etc., is found in its pages. The price of subscription is so small as to be within the reach of all. Only twenty-five cents per annum, club rates.

The Herald of Health is still the neat, welcome little publication it ever was. Every article abounds with useful information, with which everyone should be familiar, such as health, food, disease; and an article upon good cooking, from the pen of Alice Cassin, is worth the price of the year's subscription alone.

L'Art de la Mode comes to hand full of bright, artistically colored fashion plates, with the very latest advice upon style, color and material, which every woman should consult before purchasing.

Recipes.

NICE PANCAKES.

One pint of milk, two soda biscuits rolled fine, one ounce of melted butter and two eggs, flour enough to make a thin batter. Fry in small cakes with lard.

FRUIT BISCUITS.

Five cups of flour rubbed into one cup of butter and two of sugar, which have been creamed together; add five eggs and half a cup of milk, with two teaspoonfuls of baking powder. Roll thin, spread over with raisins (stoned), then cover with another layer and cut into square biscuits, and bake slowly.

RICE AND APPLES.

Boil rice in milk until quite soft and the milk all absorbed; mix in butter and flavoring according to taste; place a basin in the centre of the dish upon which you want to serve the rice; pile the rice around the basin, smoothing it with a spoon; remove the basin; have some apples peeled, cored and quartered; boil in a syrup of sugar and water until tender, but not broken; lift them carefully into the place where the basin was withdrawn, and set in the oven to brown lightly; when done pour over the syrup and serve with cream.

BLANC MANGE.

Put one quart of milk into a preserving kettle, with one-quarter pound sugar, one and one-half ounces gelatine, and the rind of half a lemon; simmer gently until the isinglass or gelatine is dissolved; strain it through a sieve into a jelly mould, and when cold turn on a glass dish and garnish with red-currant jelly.

Sleeplessness can often be overcome by rising from bed and rubbing the body and limbs briskly with a rough, dry towel, or go up and down stairs quickly several times before going to bed.

PRIZE ESSAY.

An Assortment of Winter Tea Dishes for a Farmer's Family, and How to Prepare Them.

BY MISS ANNIE AUSTIN, SIMCOE, ONT.

"What shall we have for tea to-night? If we only lived in town instead of a few miles away we might have something for a change once in awhile besides cold pork and plain apple-sauce. Now that the men have time to think of something else than having to swallow their tea as quickly as possible, hurrying back to work, I am sure a genuine change would be appreciated, and would tend to make us all feel in the mood for home enjoyment during the coming long winter evenings, as reading aloud by turns, music and social games. Then, during the cold weather, the children taking a cold lunch to school will often like something warm for supper. If I only knew how to vary it properly, I would make out a bill of fare of teas for a farmer's family for each day in the week. I want something that will be nice and inexpensive, too, made up of things that can readily be got on a farm without going to town for them. Cousin Nellie is full of bright ideas; I believe I shall go over and consult her on the matter after the tea dishes are washed and put away." This was the burden on my mind one afternoon in early November. So I hurried with the work, and, taking a paper and pencil and throwing a shawl over my head, ran across the fields to Uncle Will's house, soon telling Nellie my errand. She was quite willing to assist me, saying "two heads were better than one" sometimes, and she was sure we could make a list of lovely teas, that might even tempt the gods.

So, with the help of a few suggestions from Auntie, and amidst much joking and laughing and talk of dyspepsia, heartburn and other ills, it was not long before the paper was decorated with the desired bills of fare, and I returned home eager to try the experiment. Mother kindly gave me permission to do just as I pleased for a week, though she knew it would prove a failure, and I would make them all ill. However, I determined to do my best, and began on

MONDAY.

In the first place, I laid the table with a clean, fresh cloth, putting a pot of flowers in bloom in the centre, and arranging the knives, forks, spoons and dishes around the table as tastily as possible. Some of the pretty, fancy, "company" dishes were also used. That night we had potato pie, (recipes of all I shall give further on) cream biscuits hot, boiled sweet apples, bread, butter and tea. The three last named articles I suppose you to have every night.

TUESDAY.

Codfish balls, brown and white bread, and baked apples.

WEDNESDAY.

Macaroni and cheese, dry toast, canned fruit of some variety, or else apples, as I consider fruit and variety of vegetables every day quite indispensable for good health.

THURSDAY.

Poached eggs on toast, bread rolls or buns, gingerbread, fruit.

FRIDAY.

Pancakes, with syrup, bread, fruit, etc.

SATURDAY.

Headcheese or fried breakfast bacon, baked potatoes, muffins, apple sauce, etc.

SUNDAY.

Thin bread and butter, some fruit or jelly, and some light tea cake and a good cup of tea.

At the end of the week no one was ill, and all voted the change and experiment a success. Father and the boys said I ought to publish it for the benefit of others; so, my dear Minnie May, I place it in your hands. Of course, I would suggest to vary the prescribed bill of fare with cold ham, sausage, beef hash, pork pie, chicken pie, corn cake, oatmeal scones, Graham biscuits, trifles, jellies, cakes, etc., if desired; but I would strongly urge the use of good substantial food, and less of pies, cakes, etc. Something warm and wholesome for a farmer's tea is what is wanted. I would suggest milk, either hot or cold, for the children to drink, and the older ones too, if they like it.

POTATO PIE.

Mince scraps of cold fresh meat; add an onion chopped fine; season well and boil slowly for an hour; thicken with a tablespoonful of flour and butter rubbed together; line a deep pie dish with mashed potatoes, then pour in the mince and cover well with a layer of mashed potatoes; bake for half an hour in a hot oven.

CODFISH BALLS.

Soak over night a piece of codfish; after boiling pick out the bones and pull in pieces with two forks; then mix with mashed potatoes, butter and pepper; make into balls, and bake for half an hour.

MACARONI AND CHEESE.

Take a bowl of macaroni, rinse, pour on boiling water, with a little salt; boil for half an hour, then strain in a colander; grate half a bowlful of cheese and place in layers in a deep pie dish; first a layer of macaroni, then sprinkle over with cheese, adding little pieces of butter and some mustard; fill in alternate layers, lastly covering over with cheese; bake half an hour.

POACHED EGGS.

A very delicate as well as nourishing dish. Break the eggs gently into slightly salted boiling water; when just done lift carefully with a skimmer, and slide it on to a half-slice of thick buttered toast.

PANCAKES.

Mix one quart of sour milk, two teaspoons soda, two of salt, and enough flour to make a thin batter; have ready a frying pan, with some hot lard or dripping, and pour in three small cakes; turn quickly with an egg-lifter; eat hot with syrup, or sugar and butter.

CHICKEN PIE.

Cut up a chicken into small pieces, divide the joints and break the big bones; stew slowly for two or three hours until tender; flavor with salt and pepper, and thicken by rubbing a good tablespoonful of butter and two of flour; pour into a pudding dish; line and cover with good pastry; set away to cool, thus making a delicious dish for tea.

HOT MUFFINS.

Six cups of sifted flour, two eggs, one tablespoon of sugar, saltspoon of salt, half a cup of butter and one pint of new milk, warmed; when all are mixed, add one cup of yeast; make in the morning; let rise till noon; put in muffin-rings till tea time, and bake in a moderate oven. I think it unnecessary to give more recipes for the other dishes, for we have seen and tried so many of Minnie May's, and always found them good.

Robin's House.

"Where shall it be, Mrs. Robin.
This dear little house of ours?
What nook all cozy and shady,
And safe from the wind and showers?"

"Now you are mine, little lady,
My own little bonny bird bride,
'T won't do to be roaming like gypsies
Over the world so wide."

"Come, then, and we'll find in the meadow
Green branches so cool and deep,
Where I'll build you the daintiest palace,
And sing you to sweetest sleep."

Up glanced little fond Mrs. Robin,
With happy, approving look,
And away they flew over the valley,
Just stopping to drink at the brook.

"O see what a beautiful maple!
Shall we build it, my lady, here?"
"No, no, it's too 'traah' and stately;
It is n't our style, my dear."

"Ah! there is an elm, Mrs. Robin,
So graceful: now what do you say?"
But that was too high and airy,
And onward they kept their way."

"Look, look! oh look, Mr. Robin!
For here is the very tree,
Bending its crooked old branches
Into crannies as snug as can be."

"And oh what snow-flakes of blossoms,
Filling with sweetness the air!
And oh what bluebells so climbing
And clustering everywhere!"

So merrily went the young robins
To work like the busiest bees,
Gathering queer little hay-straws,
And odd little sticks from the trees.

And then they bent and they twisted,
As only the birds know how,
'Till at last, all soft and downy,
In the kind old apple bough

Was the dearest and daintiest palace,
The sweetest and coziest nest,
And a jubilant song filled the orchard
As the sun sank down in the west.

So, all through the warm days, the breezes
Whispered their magic spells,
And nearer the bright morning-glory
Climbed, swarming its air bills.

And five little blue eggs were nestled
Under the brooding wings,
And five little younglings were learning
The love-song sir Robin sings.

So, slowly and surely and safely,
They grew 'neath that tender care,
'Till they sprang to the happy sunshine,
Into the glad, free air.

And five more pert young Redbreasts,
At the daylight's earliest peep,
Are chattering under our window,
To waken us out of our sleep.
—Young Folks.

The Household.

SIMPLE COUGH CURE.

Roast a medium-sized lemon; when hot through, cut and press the juice upon three ounces of pulverized sugar. Take a spoonful whenever the cough is troublesome.

TO RELIEVE NEURALGIA.

Take two large table-spoons of cologne, and two teaspoons of fine salt; mix them together in a small bottle; every time you have any acute affection of the facial nerves, or neuralgia, simply breathe the fumes in your nose from the bottle, and you will be immediately relieved.

CROUP.

Pure onion juice will cure croup in the first stage. Cut the onion fine, put in a cloth, pound with a hammer, and squeeze into a small dish; sweeten, and give until it produces vomiting.

TO REMOVE WARTS.

Do not disfigure the hand with caustic to remove warts, but touch them with strong soda water several times a day. They will disappear.

HIVES.

Rub the irritated skin or the pustules with castor oil applied with the tip of the finger. Baby will pass from fretting to slumber while the process is going on, the relief will be so great and so quick.

English Sovereigns in Verse.*Norman Kings.*

William the Conqueror long did reign,
William, his son, by an arrow was slain.
Henry the first was a scholar bright,
Stephen was King without any right.

Plantagenet.

Henry the Second, Plantagenet's scion,
Richard the First was as brave as a lion.
John, though a tyrant, the charter signed,
Henry the Third had a weakly mind.

Edward the First conquered Cambria's dales.
Edward the Second was born Prince of Wales.
Edward the Third humbled France in its pride,
Richard the Second in prison died.

House of Lancaster.

Henry the Fourth for himself took the crown.
Henry the Fifth pulled the French King down.
Henry the Sixth lost his father's gains.

House of Tudor.

Edward of York laid hold of the reins.

Edward the Fifth was killed with his brother.
Richard the Third soon made way for another.
Henry the Seventh was frugal of means.
Henry the Eighth had a great many Queens.

Edward the Sixth reformation began;
Cruel Queen Mary prevented the plan.
Wise and profound were Elizabeth's aims.

Stuart Line.

England and Scotland were joined by King James.

Charles found the people a cruel corrector.
Oliver Cromwell was called Lord Protector.
Charles the Second was hid in an oak,
James the Second took popery's yoke.

William and Mary were offered the throne.
Annie succeeded, and reigned alone.

Hanoverian Kings.

George the First from Hanover came,
George the Second kept up the name.

George the Third was loved in the land.
George the Fourth was polite and grand.
William the Fourth had no heir of his own,
So Queen Victoria ascended the throne.

Why Will They?

Why will people continue to do the things that are to their disadvantage? This is a problem that has puzzled us for a long time.

Why will a man with a mouth like the entrance to the Mammoth cave shave his face smooth, when by allowing his beard to grow he might conceal the opening he so unhesitatingly offer to the world?

Why will a short woman always wear plaids, which make her look even shorter and more dumpy? And why do tall women take naturally to stripes?

Look about you when you take a walk down one of our fashionable streets, and notice the fact that the plainest-faced women wear the most striking costumes, as if they hoped by gaudy colors in dress to make amends for undue length of noses and excess of freckles and pimples.

Short, fat women wear fur-lined circulars, almost to an individual; and tall, lean women affect short walking jackets, and look like liberty poles with night-gowns on.

Long-necked women invariably "do" their hair in a French twist, so as to let all creation observe the fact that their necks are long; and short-necked women stick to frogs on the napes of their necks, and from behind present the appearance of their heads resting on their shoulders.

Small, short men appear in tall hats, under the impression that the tile adds to their height, while in reality it gives them the appearance of a hat walking off with a man. One sees a great deal more hat, proportionately, than he sees man.

Why will women go shopping after samples that they never will buy anything like, and know that they shall not?

Why will people run down every other religion but their own? They know they never make converts by so doing.

Why can two of a trade never agree?

Why does a young man, when he is going a courting, act as if he were doing something he were ashamed of?

Why do old people so hate to see young people enjoy themselves?

What makes everybody like to hear of bad luck coming to somebody else?

There are good souls in the world who will say that they do not enjoy anything of the kind, and perhaps they think so; but just let a scandal arise affecting the minister of "the other church," and see how active those very same good souls will be to find out every minute particular!

Why do boys like to break glass, and stone cats, and tie tin dippers to dogs' tails? Why do men like to see a runaway? Why does everybody in a crowded railway car watch the woman who has a crying baby? Has she not enough to contend with without feeling conscious that every man, woman and old maid who knows about as much concerning a baby as an elephant knows about frying-doughnuts, is looking at her, and wondering why she doesn't do this, and why she doesn't do that?

Why do dyspeptics keep on eating baked beans? Why do fat people, who agonize over adipose tissue, keep on eating candy and using sugar?

Why does a person with "poor circulation" hover over a hot stove, and make the circulation aforesaid still poorer?

Why do men marry women unfitted for them and bewail their fate forever afterward? Why does a girl unite herself for life to a man who she knows drinks, and then spend her life-time in groaning over her lamentable misfortune?

Why do they do it? We have asked the questions, but we are no nearer answering any of them than we were at the beginning.—[Kate Thorn.

How to Destroy Moths.

Close all the windows and all doors leading from the room about to undergo treatment, open wide each drawer and closet, and hang the contents over chairs or upon a clothes-horse brought into the room for the occasion. Take a piece of gum-camphor as large as a hazel-nut for an ordinary room (as large as a walnut for a room 20x16), put in an iron pot, and place the latter within another iron pot or upon an iron stand. Set fire to the camphor. It burns very fiercely, so set it at a safe distance from furniture or hangings; the middle of the room is the best place for it, unless this be directly under a chandelier, in which case it can be placed more toward the side, as the heat is apt to injure the gilding or bronze. The dense smoke soon permeates every nook and corner and suffocates every insect that inhales it. Canary birds or goldfish are to be carried from the room before beginning operations, and as soon as the camphor begins to burn, the operator may leave the room, as, provided she has taken the above precautions, there will be no danger of the fire spreading. The camphor will burn from a quarter to half an hour, but it can be extinguished at any moment by placing over it a stove lid or the cover of the pot. Let the smoke remain in the room about half an hour, then open the windows wide, leaving them so all day. After a few hours airing the traces of smoke will be scarcely noticeable. All the rooms can be treated thus in succession or all at once, a care being taken to guard against fire.—[Harper's Bazar.

The General Favorite.

"'Tis strange," said Mehitabel Jones
To her neighbor, Zeruvia Barry;
"'Tis strange—I declare if it isn't!
That Nancy Terhune doesn't marry.
She's had offers enough, goodness knows;
So that doesn't furnish a reason;
And no longer she blooms as a rose,
For this is her twentieth season.

"Why, there was a picnic that year
At Farmer Terhune's, I remember;
And Nancy was just seventeen,
Her birthday the first of September;
And she was the life of it all,
A creature of frolic and fancy;
And some of the girls that were there
Were mightily jealous of Nancy.

"She wasn't a flirt or coquette,
As ever I could discover,
But, somehow, as soon as she'd won,
She was always right off with a lover;
Yet oh, she was pleasant and kind,
With manners so easy and hearty,
We knew we should have a good time
If Nancy was one of our party."

"And 'tis strange—I declare now it is!
Said Mehitabel Jones, rather nettled,
"That Nancy—the belle of the place—
Wasn't long ago married and settled!
She's nigh on to forty, you know,
And with young folks no longer should mingle;
But she laughs with our girls and our boys,
Who rejoice that she still remains single."

"I see how it is—with a nod—
Said her neighbor, Zeruvia Barry;
"The general favorite's the one
You'll find the least likely to marry.
And though she may be very oft
By match making parties berated,
She'll be missed very, very much more
Than her sisters—the married and mated."
—New York Ledger.

How to be Popular.

BY EMMA V. SHERIDAN.

The girl who has a generous share of good qualities, and who is generous about using them, is the popular girl.

Therefore, if you would be popular, make up your mind to be good-tempered, sincere, hopeful, sympathetic, gentle, and unselfish. Difficult? Yes; but not so difficult as it seems.

The popular girl, the girl who is a "general favorite," occupies a difficult position, and must work hard to keep it. The caprice of a season may hail a beauty, "popular," or a brilliant talker, a favorite; but genuine popularity must rest on more solid basis.

First among needed virtues comes sincerity. Mean what you say. Dear me, it is not necessary for you to say all you mean; that, in many cases, might at once ruin your popularity; but mean as much as you do say.

The girl who always speaks sincerely and never unkindly, can safely afford to "take sides" upon occasion, and she will find her popularity unimpaired, though her opinions may be protested.

Unfailing good-temper is an essential. The cheery, humorous, good-temper that can meet a snub, or an affront, or a discourtesy, and disarm it prettily. The cheery, humorous, good temper that is the saving grace of the picnic when a rain comes up; the comfort of the hostess when the "lion" does not appear; the consolation of the man who wants a smoke and can't; the timely help of the girl whose glove splits or whose dress tears at the last moment; the despair of the gossip who tries to bring every one into scandals; the terror of the ill-tempered, whose shafts fall harmless against the cheery armor.

This humorous, good-temper constitutes a safer laugh-provoking faculty, than does wit. The popular girl must, of course, be depended on for keeping a party merry, and saying things that start a laugh around; but no one must be hurt. The woman whose laugh is feared must be clever, indeed, to sanction her sarcasms.

The popular girl must give other girls a chance; must cultivate the rare virtue of effacing herself now and then; must be quick to see when Alfred and Rosa want to slip off together, and be deft and good-tempered about helping them to do so.

She doesn't come plunging ruinously into the midst of tête-à-têtes, she is the good angel who averts the awful pause that falls upon some unintended admission, or some to-be-regretted slip of the tongue; she is too thoughtful to furnish information when she is not asked, and is careful about putting to embarrassment harmless schemers by injudicious questions. Thoughtfulness in these directions constitutes tact, and the popular girl must have tact. In other words she must be watchful, and thoughtful of others, and put her watchfulness and thoughtfulness to use with kindly motive.

Above all things, the popular girl must not appear to know she is popular. If the men run about to wait on her, and the girls tell her when her dress is pretty, she must consider herself indebted to the kindness of those who favor her, and not regard it all as tribute to her own attractiveness.

Also she must not let her popularity become confined to one set. If the men say of her, "An awfully jolly girl, ready for anything," the woman must not balance it by "She's very free and rather imprudent." She must be a welcome addition to a party, not only from the young people's stand-point but from the chaperone's. The clever men must find she interests them, but stupid men must not feel that they do not entertain her.

The children must shout at her coming, but grandfather must not think her a romp. The man she favors must think her an angel, but the one she leaves must not call her a flirt. The daughter must confide in her little romance, but the mother must feel sure she will not be a letter-carrier. Girls must admire her and not envy her; she must talk base-ball with Charley, and heathen with Charlie's uncle, and, though she has no interest in heathen or base-ball, Charlie and the uncle must both vote her an intelligent girl.

To be a popular girl is no easy task. The girl who achieves genuine popularity is pretty sure to be rather a nice girl, who deserves all the love and praise she gets.—[The Ladies Home Journal.]

"We are Wonderfully Made."

An old preacher told some boys of the Bible lesson he was to read in the morning. The boys, finding the place, glued together the connecting pages. The next morning he read on the bottom of the page: "When Noah was one hundred and twenty years old he took unto himself a wife, who was"—then turning the page—"one hundred and forty cubits long, forty cubits wide, built of gopher wood, and covered with pitch inside and out."

He was naturally puzzled at this. He read it again, verified it and then said: "My friends, this is the first time I ever read this in the Bible, but I accept it as evidence of the assertion that we are wonderfully made."

Sometimes the sense of overmuch control is terribly vexing to a child. I would never refuse it anything without a good reason, and when refusal was necessary I would explain why. You cannot always tell how intense the desire is that prompts the request. You will find that to adopt this system is to have a reasonable child, who accepts your necessary refusal without complaint.

Uncle Tom's Department.

Don't Leave the Farm.

Come, boys, I have something to tell you;
Come near, I would whisper it low.—
You are thinking of leaving the homestead,
Don't be in a hurry to go.
The city has many attractions,
But think of the vices and sins!
When once in the vortex of fashion
How soon the course downward begins!

You talk of the mines of Australia,
They're wealthy in gold without doubt;
But ah, there is gold in the farms, boys,
If only you'll shovel it out!
The mercantile life is a hazard,
The goods are first high and then low,
Better risk the old farm a while longer;
Remember you've nothing to risk, boys;
Don't be in a hurry to go.

The farm is the safest and surest,
The orchards are loaded to-day;
You're free as the air of the mountains,
And monarch of all you survey.
Better stay on the farm awhile longer;
Though profits should come rather slow,
Remember you've nothing to risk, boys;
Don't be in a hurry to go!

—Kansas Spirit.

MY DEAR NIECES AND NEPHEWS:—

Once there was a man who undertook to write a great debt off. Do you know how? By writing books and earning money to pay the debt. It was a brave undertaking, through the point of a pen to write off hundreds of pounds. His name is quite familiar to you, and almost any of my nieces and nephews could give me quotations from his writings. They are beautiful, too, descriptive of scenery and character. For any one possessing a romantic nature, this man's writing has a strange fascination. Listen to him! How pleasing the rhythm, how beautiful the thought, as he describes the sunset hour:—

"The western waves of ebbing day,
Rolled o'er the glen their level way;
Each purple peak, each flinty spire,
Was bathed in floods of living fire."

Had you stood by the cemetery gate as the immortal Scott was borne to his last resting place, what a train of thought would have come to mind; for amid those who came to do the last honors would come his characters of poetic genius. The indignant Helen Macgreggor, brave Rob Roy, the Gipsy Meg Merrilies, Guy Mannering, and many, many others, whose names my young friends will readily recall. But there are two pictures I want to write you before I close. I saw both in living reality the other day. They are of young girls. One is a coquette, who has just stepped into long dresses. She was putting on the airs of a society belle of little sense, and what troubled me the most was, that two of my little nieces were admiring her. They thought her tawdry finery nice, and her airs with gentlemen just what they would like to assume. I saw another, too, older than the other, a maiden of some twenty summers—

"Her goodness and her worth to spy,
You need but gaze on Ellen's eye."

A lowly home is her's, and in it a father lies dangerously ill. She is his nurse, and proud indeed may that sick father be of his eldest child and only daughter, as she smooths his pillow, bathes his head, cools the parched hands, or moves so gently the pained limbs. When the sufferer needs her she hears no other voice, but when for a time repose comes to him she can speak intelligently and well, and has read more deeply than the young girls one generally meets, who have much better opportunity. She has a sensible face and a level head to guide her through the journey of life. I do not think she thought of it, but Uncle Tom was wondering who the happy young man would be who would

claim this young queen of home to be his, and find in her one who had all a woman's love to give—one who had not frittered it in follies and pretences till there was nothing left to give.

Among my nieces and nephews may there be many such, and you yourselves will reap the benefit as well as please
UNCLE TOM.

P. S.—Strange that the two prize-winning stories this month should come from the two extremes—east and west. I trust some of my nephews or nieces in Ontario will beat them all next month. I'm sure you will all be interested in Ed. Fairbrother's autobiography, and regret with me that he must separate himself from us, for a while at least. Now let me hear from you all for April.
UNCLE TOM.

Address all letters to "Uncle Tom," FARMER'S ADVOCATE office, London, Canada.

Back Where They Used to Be.

Pap's got his patent right, and rich as all creation,
But where's the peace and comfort that we all had before?
Let's go a visitin' back to Griggsby Station—
Back where we used to be so happy and so pore!

The likes of us living here! It's just a mortal pity,
To see us in this great big house, with cyarpet on the stairs,
And the pump right in the kitchen, and the city! city! city—
And n' thing but the city all around us everywhere!

Climb clean above the roof and look from the steeple,
And never see a robin, nor a beech or ellum tree!
And right here in ear-shot of at least a thousand people,
And none that neighbor with us or we want to go a d see!

Let's go a visitin' back to Griggsby Station—
Back where the latch string's a hanging from the door,
And every neighbor 'round the place is dear as a relation—
Back where we used to be so happy and so pore!

I want to see the Wiggenses—the whole kit and 'bllin
A drivin' by from Shallow Ford, to stay the Sunday through,
I want to see 'em hitchin' at their son-in-law's and bllin
Out there at Lizzy Ellen's like they used to do.

I want to see the piece quilts that Jones' girl is makin'
And I want to pester Laury about their freckled hired hand,
And joke about the widower she come purt' nigh a takin',
Till her pap got his pension 'lowed in time to save his land.

Let's go a visitin' back to Griggsby station—
Back where's nothin' aggrervatin' any more,
She's away safe in the wood around the old location—
Back where we used to be so happy and so pore!

I want to see Merindy and help her with her sewin',
And hear her talk so lovin' of her man that's dead and gone,
And stand up with Emanuel to show me how he's growin',
And smile as I have saw her 'fore she put her mourain' on.

And I want to see the Samples on the old lower eighty,
Where John, our eldest boy, he was took and buried—for
His own sake and Katy's—and I want to cry with Katy,
As she reads all his letters over, writ from the war.

What's in all this grand life and high situation,
And nary pink nor hollyhock bloomin' at the door?
Let's go a visitin' back to Griggsby Station—
Back where we used to be so happy and so pore!
James Whitcomb Riley.

Young Wife—"My dear, you were the stroke oar at college, weren't you?" Young Husband—"Yes, love." "And a very prominent member of the gymnastic class?" "I was the leader." "And quite a hand in all athletic contests?" "Quite a hand!" My gracious! I was the champion walker, the best runner, the head man at lifting heavy weights, and as for carrying! why, I could shoulder a barrel of flour and—"Well, love, just please carry the baby a couple of blocks; I'm tired."

First Prize Story—How I Killed My Bear.

BY EDWIN WOODHULL, BRANDON, MAN.

Perhaps the heart's desire, of every young sportsman is to kill a bear, deer, or other very large, wild or ferocious animal. Such was my experience, at any rate, from the day that, with the old shot gun resting on the middle board of our backyard fence, I succeeded in killing a beebird that had been making sad havoc among my father's bees, until my hopes were consummated in the occurrence that I am about to relate.

A few years after my debut as a sportsman, my father moved to Manitoba, and on our arrival I remember being much surprised that I was unable to scare up at least a herd of deer and a dozen or two bears from a patch or scrub that was situated about half a mile from our house. My disappointment was partly appeased by the abundance of gophers and prairie squirrels, against which I waged an incessant and not unsuccessful warfare. About twenty-two miles east of the city of Brandon there lies a large tract of sandhill and muskeg, which is covered with a thick growth of timber, poplar, spruce, birch and tamarack. It is from this forest that the farmers for many miles around, even from within a few miles of the Brandon Hills which were at one time covered with heavy timber, obtain their supply of firewood and building timber. This wild country, being by the poor quality of the land surrounding it a long way from any habitation, is the home of numbers of deer, bears, moose, wild cats, wolves and other wild animals that do not thrive in close proximity with man and his deadly desire for money, meat and glory, which have too often caused the death of some fine buck or moose in spite of the protection of the game laws. The Indians are the most successful hunters. However, they make annual hunting trips into this bush about the time of the first snowfall, and never fail to secure a big bag. A party of them from the vicinity of Brandon in 1887 killed two moose, four bears and sixteen jumping deer in two weeks. As this bush is only twenty five miles from our farm, my chances of going on a hunt to that region were good, and when the wood supply on the Brandon Hills gave out, and this fall my father decided that we should have to go to the Spruce bush for our wood, I volunteered as one of the workers. Our plan for getting out the wood was to send three teams and three men to the bush, and they cut the wood and hauled it out ten miles. I was to be

one of the three, and my father readily consented to my taking the first day in the bush for a hunt. I was in great glee. I invited my chum from town to be one of the party, and, as he was the owner of a first-class rifle, and a good shot, I considered that there was nothing that could make our hunt unsuccessful but bad luck. We arrived in the bush on Monday, Jan. 19th, and the next morning, after a hearty breakfast, we started off through the bush on our first bear hunt.

This portion of the story was written during the cold wave that swept over Manitoba on the 1st, 2nd and 3rd of February. It was my intention to go on with my story and tell how my chum and I, after tramping until noon through the dense underbrush up hill and down dale, decided to strike back to camp. We found that we had travelled much further than we had at first supposed, or perhaps the distance seemed greater on account of our being tired. How we dragged ourselves into camp at nine o'clock, thoroughly worn out, too tired to get anything to eat, and both declaring that bear-hunting was the greatest fraud ever invented! On the 5th of February the weather abated enough to permit us to finish our wood-hauling; and now some-

thing happened that spoiled my intentions concerning my story. When we returned on Saturday, there lay on the top of my load a large, brown animal—nothing less than a bear. The story of the bear's death is short and interesting. While hunting timber, quite close to the camp, I discovered Bruin lying in a hole at the foot of a big spruce. I ran to camp and aroused the whole party. When we reached the spot, I crept carefully up and applied my axe with such force to the bear's skull, that even had he been awake, his career would have been cut short. That is all. The skin was sold for \$25, and the meat for 10 cents a pound. So you see bear-hunting has more than glory in it for me.

Second Prize Story—An Anecdote of a Dog.

BY JOHN ST. CLARE BARNABY, BRIDGETOWN, ANnapolis CO., NOVA SCOTIA.

When we lived in Queen's County, my father, Dr. Barnaby, owned a very valuable dog—a

his host, for while he was opening the door, Bravo ran quickly across the room, hopped up on the sofa, and laid down as quiet as it he hadn't resorted to any stratagem to gain "his corner." It was such a clever trick, and he had outwitted my brother so thoroughly, he hadn't the heart to disturb him; so dear old Bravo remained in undisputed possession of the sofa the rest of the evening. Now, Uncle Tom, don't you think he was a very clever, sagacious old fellow?

How Pork is Cut Up.

The accompanying diagram will show how pork is cut up by western packers. Fig. A illustrates the hind loin; B, fore loin; C, spare-rib; D, shoulder; E, leg; F, belly-piece; G, pettitoes; H, heart; I, tongue; J, fry; K, liver; L, kidneys; M, head.

HOW TO CURE BACON.

After killing the hogs, allow them to stand until all the animal heat is out of them, then cut up. Split first through the spine; cut off each half of the head behind the ears; remove the pieces in front of the shoulder for sausage; take out the leaf which lies around the kidney for lard; cut out the lean meat and ribs, then the ham and shoulder, and remove the loose pieces directly in front of the ham for lard. Cut off a narrow strip of the side for sausage, and leave the remainder for salting down. The shoulder and loins should be evenly trimmed and then salted. First rub the skin side well with salt, and then the fleshy side. A bushel of salt is sufficient for a thousand pounds of meat. When salted, the meat should be packed with the skin down. The time for allowing meat to remain in salt varies with the weather, from six to eight weeks; in very mild weather four weeks will suffice. When ready to smoke, hang the meat with the small end downwards and build a fire of green hickory under it every day until it begins to look yellow, when it should be taken down, rubbed with pepper, put in cotton sacks and rehung. Meat thus cared for will keep sweet all summer. Some housekeepers prefer putting meat in pickle instead of dry salt. For such, the following will be found an excellent recipe: Take eight pounds of salt, five of brown sugar, two ounces of soda, one ounce of saltpetre

and four gallons of water; boil and skim; rub the joints with salt; lay in a tight barrel and pour the brine over. This is sufficient for fifty pounds of meat. Four weeks in brine is necessary to salt it before smoking.

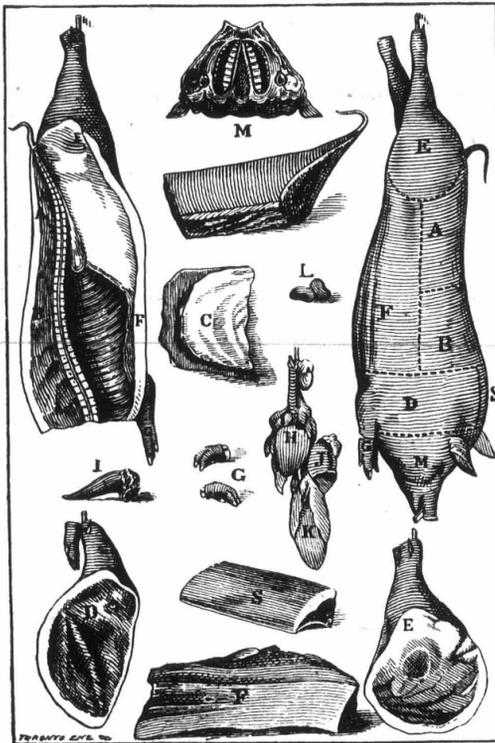
Men do not like women who reason with them, because, as a general thing, women reason so remarkably well.

There are sweet surprises awaiting many an humble soul fighting against odds in the battle of a seemingly commonplace life.

When washing fine white flannels add a tablespoonful of pulverized borax to a pailful of water. This will keep them soft and white.

If you have built castles in the air your work need not be lost; that is where they should be; now put foundations under them.

Little Roger—"What makes you walk lame, Uncle John?" Uncle John—"There was an accident on the bridge to-day, and I got caught in the jam." Little Roger—"I got caught in the jam once, and walked lame for a week."



HOW PORK IS CUT UP.

thoroughbred English pointer, which we called Bravo; and I think he was just as knowing an old fellow as I ever saw or read of. In our dining room, in the old home, there was an old-fashioned sofa, one corner of which old Bravo claimed as his own, and enjoyed many a quiet snooze thereon, dreaming of partridge and rabbits. One evening, after tea, my eldest brother laid down on the sofa thereby monopolizing Bravo's corner. It was not very long before old Bravo came to enjoy his evening nap. Finding "his corner" occupied, he tried every means in his power to roust my brother off. But seeing all his efforts (such as whining, scratching with his paw, and poking him with his nose) in vain, he deliberately walked across the room, commenced scratching on the door leading to the hall, as though anxious to get out. "Well, old boy," said my brother, as he rose to open the door, "out you may go if you want to, but the sofa you don't have," but he reckoned without

Autobiography of a Confessed Puzzler.

Written for the Farmer's Advocate, by Ed. A. Fairbrother, Copenhagen, Ont.

I sat me down in a corner, In a lonely mood to think; Blank paper lay before my eyes, And so did pen and ink.

And what to write was the question, That alas! came to my mind; I'd thought of puzzles and puzzling, Until I was almost blind.

I have it, my autobiog' Will be a very good thing; But how to start? Is the question That does my heart-strings wring.

Born of an honest parentage, And reared as all boys should; 'Til twelve years old or thereabouts, All temptations I withstood.

I shudder when I think of it, A model young man was I; And like the "immortal Washington," I could not tell a lie.

Alas! for me, there came a day When there fell before my gaze A paper that contained a few Of puzzledom's sparkling rays.

Those rays did shine—my fate was sealed, Then little did I dream, That ere six months had passed away, I'd fall in with the scheme.

I wandered on, I look back now, That a hopeless wreck I am In the matter of puzzling by Conning o'er the anagram.

With a little practice from a friend, I took to forming squares, Diamonds, stars and crosses, And other things (in pairs).

The printer oft mistakes would make, My work was "forms" so "flat," At least that's what the "Ed." would say In writing up his chat.

To others in the mystic art I oft did wish to write; Alas! ahem, 'mongst a thousand men There's just one poser, bright.

I wished with them to correspond, Their names were so obscure; Just now to solve this question right Was a conundrum, sure.

'Twas in the year of eighty-six, If I remember right, Friend "Mystic" then of "Golden Days" A directory did indite.

My name appeared, so did my "nom," Amongst eight hundred more; I thought that now I sure would get, Of letters half a score.

I waited, not a blessed one Ever came unto my door; Excepting sample copies asking For a three months sub', or more.

I drove the wedge of puzzledom Still deeper in the crack Of time left hanging on my hands, With a resounding thwack.

I took to puzzling day by day, And sometimes half the night; Until, alas! my mind it fled— I lost my appetite.

Undaunted still, I journeyed on, Bound to be known to fame; I joined the ranks of maniacs, And a puzzle Ed. became.

I offered prizes, rich and rare, To induce the posers to Cast in their lot within the 'Dom, And join the working crew.

But puzzle Ed's must pockets have, That's filled with gold, and more; He must have patience of his own, Or run his boat ashore.

And so it happened unto me, After sending out a score Of issues, that for lack of funds I rested on my oar.

To writing "flats" I then did go, They say it is a crime; But everything before my eyes Does somehow fall in rhyme.

I wonder oft, as I gaze back, If to choose my wretched lot Differently, I was permitted to, I'm afraid, my friends, I'd not.

And now, dear friends, I'd like to say, While pulling in my horns; I wish not to step upon your toes, Or trample on your corns.

All posers in the mystic art Must have, as I've heard say, A plentiful supply of "brains," To aid them in the fray.

Puzzles.

1-TRANSPPOSITION.

Dear Uncle Tom and cousins all, With you I've worked, I think, For five years now, and led the van In wasting printer's ink.

To others now I will resign, And let them take the lead; I've had my day at puzzling, Successful, too, indeed.

You have a leader, better far Than I, within the "Dom"; Who'll first you with her mirthsome wit, X L C R is her "Nom."

To visit you, I may, at times, Let each one, LAST to war; Take excelsior for your watchword, And aim to be a star.

And now, dear friends, I fain would stay, And with you still pursue, The mysteries of the mystic art; But I must say, adieu.

FAIR BROTHER.

2-ILLUSTRATED REBUS.



3-PUZZLE.

I met a man with a load, and asked him what he had in his cart. His answer was:— Three-fourths of a cross, And a circle complete; Two semi circles, a perpendicular to meet; A right-angled triangle set upon its feet; Two semi-circles, And a circle com, let.

MATTIE WOODWORTH.

4-DOUBLE CROSS-WORD ENIGMA.

- In "Cochrane's Hereford's". In "Beith's Clydesdales". In "Jarvis' Yorkshires". In "Miller's Shropshires". In "Dryden's Shorthorns". In "Graham's Cotswolds". In "Guy's Ayrshires". In "Jackson's Southdowns". In "Chick's Dorset Horned". In "Davies' Guernseys". In "Kough's Galloways". In "Palmer's Percherons". In "Harper's Devons". In "Jeffrey's Shetlands". In "Reesor's Jerseys".

The answer, read above, will plainly state what these breeders believe, and where 'tis best to carry their belief into effect.

HENRY REEVE.

5-CHARADE.

One night, when at a party, a lady said to me: "Are you not tired, THREE dear; I'm sure that you must be?" In haste I then made answer: "I cannot thus complain, Except when dancing; I have had a pleasant seat, Miss Jane." But TOTAL that I her assured, of her own mind she'd be: And, in fact, I was a little tired, but certainly ONE, TWO, THREE. ADA ARMAND.

Answers to February Puzzles.

- 3-C A L L A U L S T E R P A L L O R I N D I G O D A W 1-Chest-nut. 2-Knowledge. 4-Counsel may stop awhile Cupid, Arrow. 5-The letter C—Harm, charm; andy, candy raft, craft; a lash, calash; a bin, cabin; ell, cell lad, clad.

Names of those who have Sent Correct Answers to Feb. Puzzles.

Ed. A. Fairbrother, Ada Armand, Mattie Woodworth, I. Irvine Devitt, Henry Reeve, Elsie Mason, Harry Ferguson, Minnie Loucks, Louisa Arnold, B. Barker, T. H. Munro, Jessie Ellis, Maggie L. Marshall.

Manners for Boys.

- Always knock at any private room door. Keep step with anyone you walk with. Never play with knife, fork, or spoon. Use your handkerchief unobtrusively always. Do not take your napkin in a bunch in your hand. Hat lifted in saying "good-by!" or "how do you do?" Rise when ladies leave the room, and stand till they are out. In the dining-room take your seat after ladies and elders. Let ladies pass through a door first, standing aside for them. Let a lady pass first always, unless she asks you to precede her. Eat as fast or as slow as others, and finish the course when they do. If all go out together, gentlemen stand by the door till ladies pass. Hat lifted when offering a seat in a car or acknowledging a favor. In the parlor stand till every lady in the room is seated, also older persons. Rise if a lady comes in after you are seated, and stand till she takes a seat. Hat off the minute you enter a street door, and when you step into a private hall or office.

NEW ADVERTISEMENTS.

Seeds—John A. Bruce, Hamilton. Seeds—J. S. Pearce & Co., London. Seeds—John Miller, Markham. Seeds—Wm. Ewing & Co., Montreal. Seeds—Wm. Rennie, Toronto. Seeds—John Pike, Woodstock. Trees—E. B. Richardson, Geneva, N. Y. Stallion Show, Toronto. Stallion Show at Portage la Prairie, Man. Shorthorns & Berksbires—R. Rivers & Son, Walkerton. Shorthorns—R. K. Sangster, Lancaster. Holsteins—H. & W. P. Ballert, Cassel. Ayrshires and Berksbires—Alex. Hume, Burnbrae. Large Yorkshires—Wm. Davis, Markham. Herefords & Polled Angus—Davies & Co., Lachine. Clydesdales—A. & J. Bell, Athelstan. Shorthorn Cattle—Jas. S. Smith, Maple Lodge. Jerseys, Merinos & Trotters—Rock Balley, Union. Shorthorns & Jerseys—J. G. Snell & Bro., Edmonton. Ayrshires & Friesians—Jaco Kelotz, Belle Meade, N. Y. Fertilizers—F. Rowlin, Hamilton. Fertilizers—W. A. Freeman, Hamilton. The People's Knitting Machine—Whitby. Combined and Single Drills and Seeders—Oshawa. Harrows—G. M. Coesitt & Bro., Brockville. Hay Forks—J. W. Provan, Oshawa. Hay Forks—M. T. Buchanan, Ingersoll. Favorite Seeders—J. O. Wisner, Son & Co., Brantford. Cook's Friend Baking Powder. Bee-keepers' Supplies—E. L. Gould & Co., Brantford. Wanted, Man and Wife—Thos. Weid, Winnipeg. Grand Union Hotel—Winnipeg, Man.

GOOD WAGES FOR GOOD AGENTS to canvass for the Ladies' Home Journal. 200-a-OM CURTIS PUB. CO., Philadelphia, Pa., U.S.A.

BUY WALL PAPERS BY MAIL. SAVE HALF OR MORE AS WE SELL AT FACTORY PRICES AND SELECT FROM BEST FACTORIES ONLY. Pretty Patterns with Match Borders, - 2 to 5c. per roll. Beautiful Gilt with Match Borders, - 5 to 50c. per roll. 6 to 15-in. Gilt Borders to Match Papers, - 2 to 5c. per yd. 4 to 9-in. Borders, without Gilt, to Match Papers, 1c. per yd. Send 6c. in Stamps, for 100 Samples. Name this Paper. Agents Wanted: F. H. GADY, 805 High St., Providence, R. I.

-SEEDS-

- We will forward the following to any address, postage paid, on receipt of One Dollar: 1 oz. Early Egyptian Beet.....10c. 1/4 oz. Extra Early Express Cabbage.....10c. 1 pkt. Fottler's Improved Drumhead Cabbage.....5c. 1/4 oz. Henderson's Early Summer Cabbage.....15c. 1 pkt. Extra Early Selected Dwarf Erfurt Cauliflower.....25c. 1 oz. Guerande Stump-rooted Carrot.....10c. 1 pkt. Paris Golden Yellow Celery.....10c. 1 " Evans' Hamilton Market Lettuce.....25c. 1 " New Early Hackensack Musk Melon.....5c. 1 oz. Non Plus Ultra Radish.....10c. 1 pkt. Volunteer Tomato.....5c. 1 oz. Red Wethersfield Onion.....20c. \$1.25

ROBERT EVANS & CO., Seed Merchants and Growers, Hamilton, Ont. 393-OM

\$50 to \$100 a MONTH
For local and travelling men to sell our hardy trees and plants. Address for terms, E. B. RICHARDSON & CO., Nurserymen, Geneva, New York. 303-a-0

WESTERN ONTARIO
Shorthand Academy
—AND—
BUSINESS COLLEGE,
76 Dundas Street, London

Our Shorthand Department is the best equipped in Canada; 25 Typewriters; students allowed two hours' practice daily. Book-keeping, Penmanship and Business Department limited to 50 pupils. We do not believe in flooding the country with book-keepers who cannot obtain employment. Our motto: A position for every pupil when competent. 303-r-0

ELGIN STOCK FARM



We are one of the largest breeders in the Dominion of **CLYDESDALES**

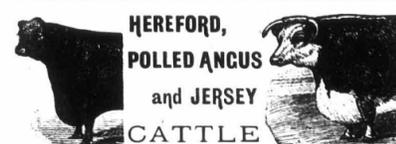
And have for sale a lot of imported and home-bred Clydesdales—male and female.

Durham and Ayrshire Cattle, Berkshire and Chester White Pigs, Shropshire and Cotswold Sheep.

A. & J. BELL,
303-f-0M Athelstan, P. Q.

DAWES & CO., LACHINE, P. Q.

—Importers and Breeders of—
THOROUGHBRED & SHIRE HORSES



HEREFORD, POLLED ANGUS and JERSEY CATTLE
BERKSHIRE AND YORKSHIRE SWINE.

The largest breeding establishment in Canada. Inspection and correspondence solicited. 303-y-0M

HORSES!
BY AUCTION.

BREEDERS' NINTH SEMI-ANNUAL SALE
—WILL TAKE PLACE—
MARCH 25, 26 AND 27,
LONDON, ONTARIO.

FARMERS, BREEDERS AND OTHERS having Horses for sale, should make their entries at once. Buyers will be present from all parts. Place your horses in first-class condition and they will bring good prices. Remember the average for Drivers and Saddle Horses at last spring sale was \$306 per head. Remember the average for Work Horses was \$238 per head at last spring sale. Commence at once to condition your horses for this sale. Do not fail to make your entry early.

TERMS—Entrance fee \$1, the only charge if not sold; commission for selling, 5 per cent.
DOUGLAS H. GRAND,
Manager & Auctioneer.
205 Dundas-St., LONDON. 303-a-0

DISPERSION SALE!
OF THE FAMOUS
BELLE MEADE HERD
OF
Holstein-Friesian Cattle

Lately owned by U. S. Senator John R. McPherson,
AT PUBLIC SALE, THURSDAY & FRIDAY
MARCH 19 and 20,

At **BELLE MEADE FARM, the entire Herd of**
150 HEAD of the most elegantly bred Holstein-Friesians in the world.

Of the renowned families, viz.: Pieterje, Clothilde, Artis, Albino, Anggie, Netherland, Alexander, and others. Bred close to and many of them the "tops" of these families. This herd contains the famous show herd (34 head), selected by the Board of Directors of the Friesian Herd Association of Holland, for exhibition at The English Royal Agricultural Society's Show at Windsor, June 1, 89, in competition with the English Dairy Breeds, and purchased and imported by Senator McPherson that year. This herd was collected by the Senator as a foundation herd with regard to obtaining those cattle which experts pronounce the highest type of the breed.

There has never been a female sold out of the entire herd, and EVERY ONE WILL BE SOLD, without reserve.

This herd is conceded by breeders to be unrivalled in any country. The Hon. Jacob Klotz has had full charge of this herd for the last six years, whose great skill and reputation are well known throughout the country. Catalogues containing full description of every animal will be ready for delivery by March 10th.

Belle Meade is on the Round Brook route, 40 miles from New York, and 50 miles from Philadelphia. Belle Meade Station on the farm. All express trains from New York and Philadelphia will stop at the farm on the days of sale.

TERMS—A suitable credit, on approved note, will be given if desired.
THE FARM containing 1,000 acres of the best land in the highest state of cultivation, and good buildings, will be sold at the same time.
JACOB KLOTZ, Manager, Belle Meade, N. J.
303-a-0

BEATTY'S PIANOS (new), \$145; **ORGANS**, \$35. Catalogue Free. 303-a-0M
Address **DANIEL F. BEATTY**, Washington, N. J.

PUBLIC SALE OF SHORTHORN BULLS, JERSEY COWS AND HEIFERS, AND GRADE COWS, IN CALF OR IN MILK, ON WEDNESDAY, MARCH 25, '91
SALE WILL COMMENCE AT 1 O'CLOCK SHARP.
On the above date we will sell by public auction at our farm, four miles from Brampton, on the G.T. R. and C. P. R., and two miles from Edmonton, on C. P. R., five Shorthorn bulls, from ten to fifteen months old, two of them out of imported Campbell cows; five pure-bred registered Jersey cows and heifers; one yearling Jersey bull, first prize bull calf at Toronto Industrial Exhibition, 1890; twenty pure-bred unregistered Jersey cows and heifers, a number of them in calf to registered bulls; twenty head grade Durham cows, in calf or in milk.
Terms—Eight months' credit on approved notes. Certificates of registration of all pure-breds will be furnished on day of sale. For further information apply to
JOHN SMITH, J. G. SNELL & BRO.,
Auctioneer, Brampton, Edmonton, Ont.
303-a-0M

PUBLIC SALE OF SHORTHORN CATTLE
—AT—
MAPLE LODGE STOCK FARM,
—ON—
THURSDAY, THE 26th OF MARCH, 1891.

On the above date we will sell by public auction 20 head of Shorthorns, consisting of

Thirteen young Cows and Heifers and seven young Bulls,

principally the get of the Bates bull Duke of Colonus = 2282= and the Cruickshank bull Conqueror = 12312=. Both Bates and Cruickshank families will be represented. They are an excellent lot individually, and are choicely bred, and mostly from our best milking families.

TERMS—Nine months' credit, or 8 per cent. per annum off for cash.
TRAINS—The morning and evening trains, both ways, on G.T. Ry. and L.H. & B. Ry. stop at Lucan Crossing Station, one mile east of our stables. The one o'clock mail train from the east on G. T. Ry. will stop at the farm on the day of the sale to let passengers off.
Send for a catalogue and come to our sale.

JAMES S. SMITH,
MAPLE LODGE P. O.,
Middlesex Co., Ont.
303-a-0M

NORWAY SPRUCE, Straw-berries and Raspberries. Send for price list. **A. DAWSON,** Mohawk, Ont. 302-a-0M

DISPERSION
—OF THE—
HILLHURST HERD OF HEREFORDS

BY PRIVATE SALE.
The Grand Imported Prize Winner and Sire of Winners, Cassio 11353 (6849).

5 YEARLING BULLS; 23 IMPORTED AND HOME-BRED COWS, 5 TWO-YEAR OLD HEIFERS,
in calf or with calves at foot; **11 YEARLING HEIFERS; 14 HEIFER CALVES;**
12 BULL CALVES.

The show herd has taken first at all the leading shows in Ontario and Quebec during the last four years, and in only four instances has failed to secure first honors for individual exhibits. Owing to the farm being overstocked and the many disadvantages and extra expense consequent upon keeping three distinct breeds, I have determined to close out my entire Hereford herd at **bottom prices**, in lots to suit purchasers, and will arrange to deliver car load lots at any point on C. P. R. west of Winnipeg after May 1st. Write for Catalogue and prices.

303-b-0M **M. H. COCHRANE,**
HILLHURST STATION P. O., P. Que.



The Coulthard Scott Co.,

OSHAWA, ONT.
COMBINED AND SINGLE DRILLS AND SEEDERS,
Spring-Tooth Cultivators. Iron Disk Harrows.
SCOTCH DIAMOND HARROWS.

HON. JNO. DRYDEN, M. P. P., Minister of Agriculture, says:—
It was my good fortune to win one of your Combined Champion Seed Drills given to the South Ontario Agricultural Society as a special prize some three years ago. Having used it each season since in all kinds of grain, I am glad to be able to say that it has given me the utmost satisfaction. The draft is light; the seeding is regular and easily controlled as to quantity per acre. My head teamster who has worked it always since I have had it is loud in praise of it, and declares it is "just the thing."
Live hustling agents wanted where we have none.
JOHN DRYDEN, M. P. P., Brooklin.
303-c-0M

NINTH SEMI-ANNUAL AUCTION SALE
 —OF THE—
WYTON STOCK BREEDERS' ASSOCIATION

—WILL BE HELD AT—
Wyton, Thursday, April 9th, at 1.30 o'clock, p.m.,

at which time we will offer for sale a number of

BULL & HEIFER CALVES, Also YEARLINGS AND OLDER
ALL STOCK THOROUGHbred AND GUARANTEED.

TERMS: Twenty-five per Cent. Cash, balance 3 and 6 months, satisfactory paper.

Trains leave London for Wyton at 7.30 a.m., and 2.15 p.m. Trains arrive at Wyton from Stratford and St. Marys at 11.00 a.m.
 Trains leave Wyton for London at 5.00 p.m., and for Stratford and St. Marys at 6.00 p.m.

For further particulars and Catalogue, apply to

W. B. SCATCHERD,
 Secretary, WYTON, ONT.

PIGS! - CATTLE! - PIGS!
TWO GREAT CREDIT AUCTION SALES.

On Tuesday, March 24th,

MESSRS. ORMSBY & CHAPMAN,
 Springfield-on-the-Credit, Ont., 20 miles from
 Toronto, will sell by public auction,

50 Improved Large Yorkshire Pigs

Including Imported and Home bred Boars, fit for
 service, sows, in pig, and young stock of all
 ages. Also seven head of

Pure-bred Shorthorn Cows and Heifers

And a number of Horses & Implements.

SALE to commence at 10 a.m. Hogs and Cattle to
 be sold after lunch. Trains met morning
 and noon at Streetsville, on C. P. R.,
 and Pt. Credit, on G. T. R.

TERMS—\$10.00 and under, cash; over that
 amount, 7 months' credit, on approved notes. Eight
 per cent. discount for cash.

ALL WILL BE SOLD WITHOUT RESERVE.

If you want a good Pig at your own price, attend these sales.

303-a-OM

JOHN THOMSON, Auctioneer.

On Wednesday, March 25th,

MR. ROBT. DORSEY,
 Burnhamthorpe, Ont., 12 miles from Toronto,
 will sell by public auction, his whole

STOCK OF PIGS

—INCLUDING—

Imported and Canadian-bred Yorkshires,
POLAND CHINAS AND SUFFOLKS!

—ALSO HIS—

Implements, Horses and Cattle.

Do not forget that Mr. Dorsey has been exhibiting
 33 years, and is now retiring. The stock is A 1.

Sale to commence at 10 a.m.

Hogs to be sold after lunch. Morning trains met at
 Cooksville, on C. P. R., and Malton, on G. T. R.

TERMS—\$10.00 and under, cash; over that
 amount, 7 months' credit, on approved notes.

IMPORTANT AUCTION SALE
OF THOROUGHbred STOCK.
A.J.C.C. Jersey Cattle, Merino Sheep
and Trotting-bred Horses,

—ON—

TUESDAY, MARCH 24, '91

The Cattle consists of 9 head of the choicest
 strains of the St. Lambert-Victor Hugo Jerseys of
 both male and female.

The Sheep comprises my entire flock of Ewes and
 Rams, 75 head of thoroughbred registered Spanish
 Merinoes.

The Horses consists of a Brood Mare (Toronto
 Chief), and two of her colts, sired by Winfield
 Scott, together with Farm Horses and all my Farm-
 ing Implements, and 30 Head of Swine.

The sale will take place on my Farm, 5 miles
 south of St. Thomas, and 1/2 mile east of the Village
 of Union, commencing at one o'clock sharp. The
 stock will be sold immediately after the arrival of
 noon trains.

Teams will meet these trains. No postponement
 on account of weather.

Terms of Sale.

Seven months' credit on good approved joint
 notes, without interest. Liberal discount for cash.
 Send for catalogues.

ROCK BAILEY,
 Oak Grove Farm, UNION, ONT.

CREDIT
SALE OF SHORTHORNS

Registered Cows, Heifers and young Bulls.
 Several fine cows with calves at foot, by the Water-
 loo Bull, Duke of Vittoria = 2286—, son of 54th Duke
 of Oxford, from Imp. 2nd Duchess of Vittoria, bred
 by Mr. Murray, of Chesterfield, Ont. Most of the
 young stock are Adeliza descendants of that well-
 known flow Park Cow Adeliza 19th, by the match-
 less bull, 4th Duke of Clarence, and are by Water-
 loo Duke 16th, Duke of Vittoria, and other A 1
 Bates' Bulls. Catalogues on application.

SALE AT 1 P.M., SHARP, ON

THURSDAY, MARCH 26th, 1891,

At the buildings on Dundas St., opposite Eastwood
 P.O., and almost adjoining Eastwood Station.

Eastwood Station is on main line of Great Western
 (G.T.R.), 4 miles east of Woodstock. Trains run
 conveniently, arriving at about noon, and leaving
 at 3.30 p.m.

N.B.—At same time several fine half bred young
 mares, broken to saddle and harness, by Imported
 Strachino and Sharpcatcher, will be offered; and a
 selection of registered Shropshire ewes and rams,
 chiefly shearlings. Address,

T. C. PATTESON,
 Postmaster, TORONTO.

IRISH SOX,

Hand-knit by Donegal peasantry, pure wool, very
 warm, durable and comfortable. 12 pairs sent post
 free for Five Dollars. Men's long knickerbocker
 Hose, 6 pairs sent post free for 5, 6 or 7 Dollars,
 according to quality. Post Office Orders payable—
 B. & E. M'U'GH (Limited), Belfast, Ireland.

301-c-OM

DISPERSION SALE!

ON ACCOUNT OF THE DEATH OF MY ONLY SON, AND HAVING SOLD
 MY FARM, I WILL SELL BY PUBLIC AUCTION, ON

WEDNESDAY, MARCH 18TH, 1891,
 — MY ENTIRE HERD OF PURE-BRED —

SCOTCH :- SHORTHORN :- CATTLE

— CONSISTING OF —

Seventeen Cows and Heifers, Three Bulls from 15 to 18 Months Old, and
 the Imported Cruickshank Bull Prince Royal = 6418 = (56349).

All of the cows and heifers old enough to breed; will have calves at foot sired by imported Methlick
 Hero = 2723 = (a son of the \$1,000 cow, Mademoiselle, imported by the Experimental Farm, Guelph), and
 Prince Royal, a winner and sire of winners, both at Toronto and London shows last fall. There will also
 be sold eleven head of High-Grade Cows and Heifers. The farm is three miles from Sebringville, a station
 on the Goderich branch of the G. T. R.; four miles from Stratford, Perth Co., Ont. Catalogues sent on
 application, containing full particulars. Address—

ROBERT BALLANTYNE,
 302-b-OM Langside Farm, SEBRINGVILLE, ONTARIO.

Permanent Canvassers Wanted in Every County

To whom paying wages will be given. Write for particulars.

FARMER'S ADVOCATE, London, Ont., or Box 214, Winnipeg, Man.

**PROVINCIAL
Spring Stallion Show**

—TO BE HELD IN THE—
DRILL SHED, - TORONTO,
—ON—
MARCH 11 and 12, 1891;
Under the auspices of the Agriculture and Arts Association and the Clydesdale and Shire Horse Associations of Canada.

Prizes will be given to Thoroughbred Carriage or Coach, Roadsters, Hackneys, Clydesdales, Shire, Suffolk Punch and Percheron Horses. Horses to be stabled in the city, and brought in at the hour that will be advertised. Seats will be provided for visitors. Admission each day: Adults, 25 cents; Children under twelve, 10 cents.

HENRY WADE,
Secretary.

303-a-O

MISSOURI NURSERY CO., Louisiana, Mo.
Salesmen wanted; special aids; magnificent outfit free.

STARK NURSERIES, Stark Bros. Nursery
Founded 1835. Oldest in the West. Largest in the World. BEST of everything. Nearly 500 salesmen sell our stock in almost every State and Territory; volume of annual sales now exceeds that of any other Nursery. We sell direct through our own salesmen, without the aid of tree dealers or middlemen, and deliver stock, freight and all charges paid.

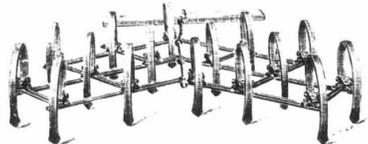
NO TREES Last and bear like whole root trees; or like plum, prune and other trees on *Mariout*, the best plum stock grown. Idaho and other New & Old Fruits (by mail); ornamentals, root grafts—everything. No larger stock in U.S. No better. No cheaper. 302-b-OM

COSSITT'S DISC HARROW



Pronounced by the Farmers to be perfection. All Steel Discs, with the latest improved Scrapers. Don't fail to see our 1891 scrapers; the point we claim on these is, they are not constantly rubbing on the Disc, causing friction, and thereby adding to the draft. To clean Discs, simply touch foot to spring on side of seat, this brings Scrapers in contact with Discs, cleaning them instantly. Our new Hinges are so constructed as to allow the flexibility desired.

**THE
LEADING SPRING TOOTH HARROW**



ALL STEEL FRAME.
The Teeth are best oil-tempered steel; easily adjusted to cut any depth. Our Patent Tooth Holder is made of malleable iron, and will hold the tooth wherever placed. The frame stands high, which prevents clogging. It leaves the soil loose and level. We still manufacture our celebrated Model Buckeye Mower, the Thica Patent Dump Rake, and New Light Reaper. Agents wanted. Write for circulars. 303-b-O

G. M. COSSITT & BRO., Brockville, Ont.

PLAYS Dialogues, Tableaux, Speakers, for School, Club & Parlor. Best out. Catalogue free. T. S. DEWISON, Chicago, Ill.

SEEDS. To introduce my Seeds, I offer 12 pkts. of Vegetable or Flower Seeds for 25 cents, postage paid. Catalogue free. **JOHN PIKE, Woodstock, Ont.**

303-b-OM

MOTTO.—"Square dealing and the best stock in the market for our customers."

Trees, Vines, Plants, Ornamentals, &c.
Just the kinds wanted, strictly first-class. Send you order to the Central It will pay you. The Mailing Department receives special attention. **A. G. HULL,** Central Nursery, St. Catharines. 301-e-OM

DEDERICK'S HAY PRESSES. Made of steel, lighter, stronger, cheaper, more Power, ever-lasting and competition distanced.

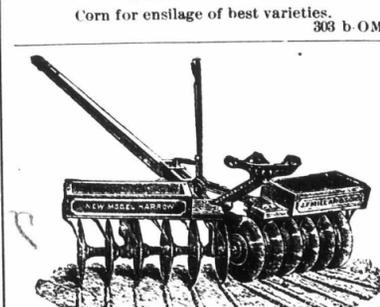
Address for circulars and location of Storehouses and Agents' **P. K. DEDERICK & CO.,** Dederick's Works, Albany, N. Y., or Montreal, P. Q.

SEEDS WM. EWING & CO., 142 McGill St., Montreal.

SEED -- MERCHANTS.
GARDEN AND FARM SEEDS of every description. Our Illustrated Catalogue mailed free to all applicants.

CHOICE LOWER CANADIAN GROWN TIMOTHY A SPECIALTY. Send for sample and compare with western grown.

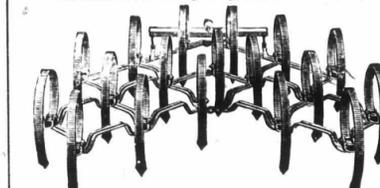
TARES, CLOVERS, GRASSES AND SEED GRAIN. Corn for ensilage of best varieties. 303-b-OM



The "New Model" Rotary Disc Jointed Pulverizing Harrow.

All Steel Discs with Patent Automatic Scrapers. The only Disc Harrow made with Scrapers that will keep discs clean without any attention from the driver. No Disc Harrow is complete without this great improvement. Receives everywhere highest commendation, because very effective in work, simple in construction, durable in wear, convenient in handling.

The Celebrated Stevens (Patented) All Steel, Arched Frame Spring Tooth Harrow.

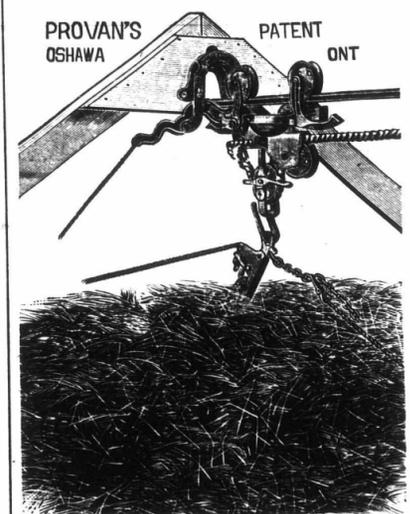


Away ahead of all others; all steel frame; no wood to decay and wear out; lightest draught spring tooth harrow made; teeth quickly adjusted—only one nut to loosen; will not clog or bury. On stony land its work is perfection; in sticky ground there is none like it.

Good live responsible agents wanted in every part of Canada. Write for circulars and prices. **J. F. Millar & Son, Morrisburg, Ont.**

**PROVAN'S
Horse Fork and Sling**

IS THE BEST MADE.



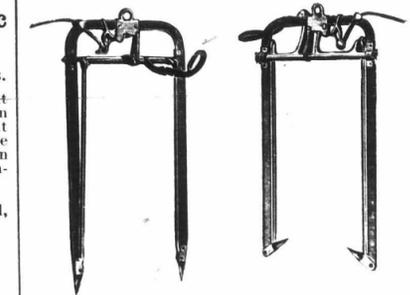
SIMPLE, STRONG, DURABLE

Many farmers who had other kinds have taken them down and bought mine after seeing it work. My Machine Handles Sheaves as well as Hay and Peas—It is the Simplest and Best Stacker Manufactured.

It has been in successful competition with the best in the market during the past six seasons. Its superiority to all others places it beyond doubt, as it is positively the only Double-Acting and Self-Reversing Machine on the Continent that has the following advantages:—A loaded fork or sling can pass the stop block. The pulleys can be instantly lowered or elevated to their position. This avoids all climbing or untying of the whiffletrees. The track acts as a strengthening brace, never warps, and is stronger and better adapted for unloading at the gable, as well as the centre, than any other. It is easily moved from one barn to another. The track used for this car is the best for the following reasons:—It is round; the car runs easily, and is not affected by a side pull. Any boy can change it with ease. Pulleys can be instantly raised or lowered at pleasure.

GUARANTEE.

We guarantee every Machine sold by us to do first-class work, and to unload one ton of hay in from three to five minutes, when properly handled and put up, and if it fails to do so, will be taken back and money refunded.



SENDING TO FARMERS ON TRIAL.

It has been for years a part of our business to send our machine on trial to fair-minded responsible farmers living at remote distances, such machines to be put up by them and used until their harvesting be half done, when they are required to decide whether they will keep the apparatus or return it; if the latter, we will pay return freight charges.

J. W. PROVAN,
OSHAWA, - ONT.,

Sole Manufacturer and Patentee. We guarantee satisfaction in every instance. 303-b-eot-OM

STOCK FOR SALE.

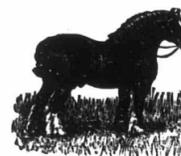
FOR SALE,

At a very low figure, a grand young Cleveland Bay Stallion.—W. C. BROWN, Cleveland Bay Stock Farm, Meadowvale, Ont. 297-g-OM

A. B. SCOTT & SON,
VANNECK, - - - ONTARIO,
IMPORTERS AND BREEDERS OF

REGISTERED CLYDESDALES

The get of McGregor, Belted Knight, Good Hope, etc. Colts and fillies, winners at all the large shows, for sale at moderate prices. 293-y-OM



CLYDESDALES & Shetland Ponies.
A. K. TEGART,
Importer and Breeder, offers for sale choice stallions and mares of the above breeds. Address: Tottenham, Ont. 298-y-OM

IMPORTED -- CLYDESDALES

I have just returned from Scotland with my last importation, all good, hard-shanked, heavy-boned colts, including prize-winners at several leading shows. I can sell a first-class horse as low as any importer in America. Do not buy till you see my stock. Also a few choice fillies, imported and Canadian bred. 297-g-OM

NEIL SMITH, Brampton, Ont.

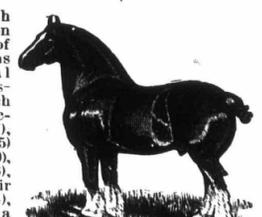


ROSEDALE FARM
HIGHFIELD P. O.,
MALTON, - ONTARIO.
Jas. Cardhouse & Son
Importers & Breeders of
Shire and Clyde Horses
and Shorthorn Cattle.
First-class stock at rock-bottom prices. Write or call. 298-y-OM

ROBT. NESS, Woodside Farm

—IMPORTER AND BREEDER OF—
CLYDESDALES, SHIRES, SHETLANDS, AYRSHIRE CATTLE

The eleventh yearly importation consists of some of the best specimens of the several breeds. Clydesdales from such noted sires as McGregor (1487), Crown Royal (4315), Top Gallant (1850), Macfarlane (2988), Macbeth (3817), Sir Hildebrand (4034), Golden Guinea (3990), Old Times (579), Good Hope (1879), Knight of Snowden (2212). The stock is selected by myself with great care. Intending purchasers are invited to inspect.



The farm is situated 40 miles south-west of Montreal, on the G. T. R., and 100 miles east of Ottawa, by C. A. R. Howick Station on the farm.

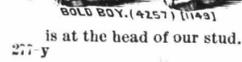
ROBERT NESS, HOWICK P. O., Que.
Visitors always welcome. 291-y-OM

D. & O. SORBY, GUELPH, ONT.,

Breeders and Importers of

FASHIONABLY BRED CLYDESDALES

We always have on hand a large number of imported and home-bred Clydesdales (male and female) of good breeding and quality, which we will sell at honest prices. Our specialties are good and well-bred horses and square dealing. Come and see us or write for particulars.



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Pure-Bred Registered Clydesdales & Jerseys

Bred from pure imported stock. Young stock for sale at farmers' prices. 293-y-OM

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Imported and Canadian bred

CLYDESDALES.

We challenge competition for quality and smoothness in our horses. Imported Stallions and Mares of the most desirable strains. We have been most successful in the show rings with mares, colts and fillies of our breeding. Stock for sale at reasonable prices.

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PRIZE-WINNING Clydesdale Horses & Mares



Address—**Jeffrey Bros., Whitby, Ont.**

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—Letters and telegrams—
Manilla, Ont.,
(60 miles from Toronto, on the Midland), importer of

REGISTERED CLYDESDALES.

The fifth annual importation consists of the get of the famous sires Lord Erskine, Top Callant, Sir Michael S. Kelmorie, Stock all selected by myself, and for sale at the lowest living profits. 301-y-OM



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First Prize-winning Stallions, the get of Darnley (222) and Lork Erskine (1744).

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306-y-OM SPRINGVILLE P. O.,
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THOROUGHbred AND TROTTING-BRED STALLIONS FOR SALE
Messrs. Donaldson & Carmichael, Hillsburg, Ont., offer for sale the thoroughbred stallion Goddard, 7 years old, 16 hands high; bred by Chinn & Morgan, Lexington, Ky. Also two grand young Road Stallions, both standard-bred and registered in Wallace's American Trotting Register. Confederate, by Confederate Chief, dam by Highland Boy, 5 years old, 16 hands high, solid bay, black points, Confederate, by Confederate Chief, dam by General Staunton, 3 years old, 16 hands high, bay, star and one hind foot white. For prices and particulars address, DONALDSON & CARMICHAEL, Hillsburg, Ontario. 302-c-OM

YOUNG PERCHERON STALLION,
Registered, for sale cheap, or will exchange for other stock. Apply to,
303-a-0
G. BALLACHEY, Brantford.

ISLAND HOME



Stock Farm, H. C. Farnum, Importer and Breeder of Percheron & French Coach Horses. Offer a very large stud of horses to select from. I guarantee my stock, make prices reasonable and sell on easy terms. Visitors always welcome. Large catalogue free. Address H. C. FARNUM, Grosse Isle, Wayne Co., Mich. 100-y-008

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THE LARGEST IMPORTERS & BREEDERS OF
Shire and Hackney Horses
IN AMERICA.

100 Head of Registered Horses on hand 100

Prices to suit the times. Long time given to responsible parties. Address—

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300-f-OM BUSHNELL, ILL.

ENGLISH PEDIGREE LIVE STOCK.

SHIRES, CLYDESDALES, SHORTHORNS, HEREFORDS, JERSEYS, AYRSHIRES, KERRIES, SHROPSHIRE, OXFORDS, HAMPSHIRE AND SOUTHDOWNS, DORSETS, LEEFESTERS, LINCOLNS, AND COTSWOLDS, BERKSHIRES AND YORKSHIRES.

Choice registered stock of the best strains and highest merit for sale at moderate prices. Foreign buyers assisted in purchase and shipment at one per cent. Stock purchased and shipped under experienced herdsman for two-and-a-half per cent. Bankers, Lloyd's Bank, Shrewsbury. Special low freights. Highest references from foreign breeders. All commissions personally executed. 1827 Shropshire sheep, alone, exported to America in 1890, besides horses, cattle, pigs, and sheep of other breeds, to that and other countries. All importers should apply to—

E. GOODWIN PREECE,
306-j-OM Exporter and Live Stock Agent,
SHREWSBURY, ENG.

THE SIRE OF CHAMPIONS.

STALLIONS:
William L., sire of Axtell, three-year-old, 2.12; Jay Bird, sire of Allextion, four-year-old, 2.13½; Young Jim, Eagle Bird, Betterton, Etc.

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"GEO. WILKES" SIMMONS,
300-f-OM PHENIX HOTEL,
Lexington, Ky.

THE German Coachers

VICTORIOUS!
20 first, 23 second, one third, and four highly commended ribbons and two grand sweepstakes prizes taken at the American Horse Show and the Illinois and Nebraska State Fairs

this year by the Hanoverian Coach Stallions and Mares owned by
OLTMANN'S BROTHERS, WATSEKA, ILL.
Farm 80 miles south of Chicago. 300-f-OM



FOR SALE, ROAD AND CARRIAGE STALLION

GREENWOOD, foaled 1885; height, sixteen hands; weight, 1,225 pounds; sired by Middlesex (formerly Greenwood), son of Hambletonian 10; first dam by Morgan Devereaux, by Black Hank; second dam own sister to Toronto Chief. Also two Shorthorn Bulls, one three years old and one ten months.

E. LAIDLAW & SONS,
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PERCHERON AND CLYDESDALE STALLIONS FOR SALE.

The noted Percheron stallion Clovis No. (634) in the Percheron Stud Book of France, and No. 5346 in the Percheron Stud Book of America, dark dapple grey, seven years old, 16 1/4 hands high, 1,800 pounds weight, sound, a sure and excellent foal getter. One of the handsomest horses in America. At the great National Concourse at Nogent le Rotrou, France, in 1886, in a ring of fifty-two three-year-olds, Clovis won third prize out of nineteen prizes awarded. Will sell as we require a change of blood.

Also for sale the pure-bred Clydesdale stallion Rokeby (1324) 4245, rising three years old.

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Shorthorns, Berkshires.

Representatives of the Scotch families are **MINA'S & STRATHALLAN'S**. The sires in use are the Sweepstakes Silver Medal Bull

SIR CHRISTOPHER and RED KNIGHT, winner of 1st prize at Toronto and London in 1888; also, prize-winning Berkshires. 297-y-OM

FOR SALE!

THREE SHORTHORN BULLS

Well bred and good animals. Ages 9 to 13 months. At farmers' prices. Apply to

JOHN IDINGTON,
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SHORTHORN BULLS

HOME-BRED AND IMPORTED

Shropshire Sheep.

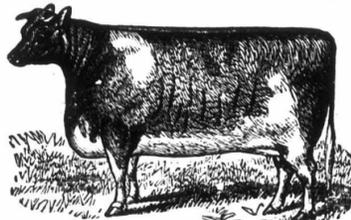
The imported 2-year-old Aberdeen Hero

And a choice lot of young bulls of our own breeding.

Some No. 1 imported Ewes & Lambs FOR SALE.

SHOE BROS.,
WHITE OAK, ONT. 298-y-OM

ARTHUR JOHNSTON,
Greenwood, Ont.,



Announces that he has for sale, at MODERATE prices, a large and exceedingly good lot of young things of both sex. The calves, yearlings and two-year-olds, are particularly good—all by imported sires and mostly from imported dams of the best strains obtainable in Scotland.

EXCELLENT CLYDESDALES OF BOTH SEX FOR SALE.

New Catalogue for 1891 now ready for delivery. Send for one; they are sent free.

My motto: "No business no harm."

Greenwood P. O. and Telegraph Office, Claremont Station, on C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see them. 290-1f

Shorthorns, Yorkshires and Berkshires.

My Shorthorns are bred from stock imported by such noted breeders as Arthur Johnson, J. C. Snell and Green Bros. I have a few choice heifers for sale. My Improved Large Yorkshires were imported directly from the famous herd of C. E. Duckering, Kirton, Lindsay, England. I have some young pigs imported in their dam, for sale. Prince Regent, bred by Snell Bros., heads my Berkshire herd. Times are hard and my prices are right. Write or call. **A. F. MCGILL, Hillsburg, Ont.** 303-a-OM

SHORTHORN COWS, BULLS AND HEIFERS.

A few choice Berkshire Boars, fit for service; a number of grand young Boars, three months old, all sired by an imported Berkshire Boar, and out of imported and registered Sows. A few good Sows, in pig, about 8 or 9 months old. Prices reasonable.

H. J. DAVIS,

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Shorthorns for Sale.

Bulls and heifers, sired by Laird of Kinellar, of the Campbell-Buchan Lassie family, from which we have some fine show animals, several prize takers at the Provincial Show, 1889.

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Five choice Durham Bull Calves, from nine to thirteen months old, good colors and pedigrees. Also a few nice young registered Berkshires, male and female. Prices moderate and terms easy. Correspondence promptly answered. Visitors welcome.

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Extensive breeders and importers of **Clydesdales, Shorthorns and Shropshires.** Business established in 1848. We always have on hand and for sale a large number of imported, and home-bred animals. A visit, or correspondence solicited. 294-y

SHORTHORNS

—AND—

COTSWOLDS

FOR SALE.

My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select. Prices to suit the times. Satisfaction guaranteed. Correspondence promptly answered. Visitors welcome.

JAMES GRAHAM,
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BOW PARK HERD

—OF—

PURE-BRED SHORTHORNS.

We have on hand Eighteen Young Bulls, fit for service, that we offer at reasonable prices and easy terms. They are good individuals, and well bred. ADDRESS—

JOHN HOPE, Manager,

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Three Shorthorn Bulls, from nine to twenty months, bred from imported stock. **S. B. GORWILL, Ballymote.** 303-a-O

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Three young Bulls, fit for service, of good milking strains and good colors, also some Cows and Heifers, imported and home-bred, and Heifer Calves. Prices of bulls from \$50.00 to \$80.00 each. Apply to

R. R. SANGSTER,

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We breed Scotch Shorthorns, founded on choice representatives, from the famous Aberdeen herds of Duthie, Marr and E. Cruickshank, headed by the Cruickshank Victoria-Nonpareil bull **INDIAN PRINCE**. Produce only for sale. Address—



THOS. BALLANTYNE & SON

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CHOICE HOLSTEINS FOR SALE.

I have a few very nice pure-bred registered Holsteins, bulls and heifers, for sale at very reasonable figures. Write or come and see me. Also one or two high grades.—**JNO. A. LINE, Sherwood, Ont., Richmond Hill Station.** 291-y-OM

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.

SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT., (24 miles west of Toronto).



MINK 402, H.F.H.B.

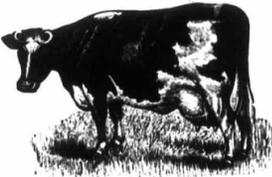
This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 291-y-OM

RETIRING FROM FARMING.

Grand Clearing Sale of the oldest established herd of

HOLSTEIN-FRIESIANS

IN CANADA. MUST BE SOLD.



Together with one of the choicest stock farms in Eastern Ontario, containing 170 acres, highly improved and in an excellent state of cultivation; water supplied by spring and wind-power; close to railway station and steamboat landing on River St. Lawrence; residence located in a thriving village with churches, schools, etc., at door. A rare opportunity for investors. Our herd of Holsteins is one of the best in the Dominion, and includes representatives of the choicest milk and butter families of both sexes and all ages. Must be sacrificed in three months without reserve. Write for prices, or come and see our herd.

M. COOK & SONS,

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HOLSTEINS, CLYDESDALES AND CARRIAGE HORSES.
I have one of the oldest herds of Holsteins in Canada, founded on the best blood in America; also registered Clydesdales and Carriage horses.
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PURE-BRED REGISTERED HOLSTEIN-FRIESIANS
All imported or bred from imported stock. "Sir Mac," of the famous Aaggie tribe, heads the herd.
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PURE-BRED REGISTERED HOLSTEIN CATTLE.
The sweepstakes herd at the Toronto Industrial Fair, where my stock bull Woodbine Prince (6712) also took the first prize and sweepstakes silver medal. I keep no cattle that are not of the highest standard.
A. KENNEDY,
298-y-OM Woodbine Farm, Ayr, Ont.

HOLSTEIN-FRIESIANS
THE CHOICEST AND MOST UNIFORM HERD IN CANADA.
Telegraph and Post Office, New Dundee, Waterloo Co.; Petersburg Station on G. T. R. Send for our new catalogue.
A. C. HALLMAN & CO
294-y-OM

Holstein Friesians
Of the most remarkable families and greatest performers. Stock of all ages for sale at the lowest possible prices. Railway Stations - Tavistock and Hamburg, on G. T. R. Post Office - Cassel, Ont.
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BROCKHOLME STOCK FARM.
Holstein-Friesian Cattle.
ADVANCED REGISTRY STOCK.
Netherland Romulus, a grandson of Netherland Prince and Albino the second, heads the herd. Young stock for sale.
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HOLSTEIN BULLS FOR SALE.
Two nicely marked Yearling Bulls of the best milking strains.
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HOLSTEIN-FRIESIAN
STOCK FOR SALE AT REASONABLE PRICES.
All my stock I have carefully chosen for their extra fine breeding and large milk records, and are all registered in Holstein-Friesian Herd Book. A visit, or correspondence solicited.
R. HOWES CRUMP, Masonville,
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LAKEHURST JERSEY STOCK FARM,
Oakville, Ontario.

T. E. BRAMELD, Proprietor, offers for sale, at very reasonable figures, choice A. J. C. C. Jerseys from his prize-winning herd; also a few extra good high-grade Cows and Heifers, and registered Improved Large Yorkshire Pigs. Write for prices.
P. O., Station and Telegrams, Oakville, on G. T. R.
322-y-OM

Clair House Vineyards, Cooksville, Ont.

B. W. MURRAY,
BREEDER OF
THOROUGHbred JERSEY CATTLE
-AND MANUFACTURER OF-
Pure Native Wine.
Write for prices. 298-y-OM

Riverside Farm.
PURE-BRED A. J. C. C. JERSEYS
-AND-
ESSEX PIGS.
Prince of Oaklawns (imp.) 12851, heads the herd. Young stock for sale. Also a few choice unregistered and high grade cows.
Farm one mile from Streetsville Junction. **J. H. SCARLETT, Streetsville, Ont.** 297-y-OM

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All ages and sex, of best milk and butter strains. St. Lambert blood prevailing. This herd has won sixteen medals (gold, silver and bronze), one hundred and forty prizes in money, several diplomas, many discretionary prizes, solid silver cup at Kellogg's New York sale for best prices on five head, silver tea set donated by FARMER'S ADVOCATE at London, 1889, for three best dairy cows of any breed.

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Brockville, Ontario, Canada.
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PRIZE-WINNING AYRSHIRES FOR SALE.
I have at present one of the largest & 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.
MAGGIE OF ROCKTON

JAS. McCORMICK,
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FOR SALE.

Pure bred Ayrshire Calves, with pedigree, \$10; two and three crosses from heavy milkers, \$5; Pure-bred Improved Yorkshire Pigs, farrowed in February, \$5 each. Can furnish pairs not akin. Orders booked.
ALEX. HUME,
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Ayrshire Cattle & Poland China Hogs, MERINO SHEEP AND FANCY FOWLS.

We have the largest herd of Poland Chinas in Ontario. At the last Industrial Fair we carried off 17 prizes out of 26, including both prizes for pens. We breed from none but the best, and our aim is to supply first-class stock at living prices. We mean business. Write, or come and see us.
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PARK HILL HERD OF AYRSHIRES.
This herd took all the first prizes in Quebec in 1887 and 1888, and in Ontario in 1889, in competition with all the leading herds. Young stock for sale, all of which is from the celebrated bull ROB ROY (3971), which is at the head of the herd.
JAMES DRUMMOND,
291-y-OM PETITE COTE, MONTREAL, P. Q.

Imported and Canadian-Bred

AYRSHIRES AND CLYDESDALES FOR SALE.
I have on hand a large herd of finely-bred Ayrshires of splendid quality. My Clydesdales are also first-class. Stock for sale. Prices and terms liberal.
THOS. BROWN,
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Prize Winning Ayrshires for Sale.



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

THOS. GUY,
290-y Sydenham Farm, Oshawa, Ont.

FOR GOOD HEREFORD CATTLE
-WRITE TO-

F. A. FLEMING
Address, **WESTON P. O., ONT.,**
Or 15 Toronto-St., Toronto, Ont.
Mention this paper. 300-g-OM

SHROPSHIRE! SHROPSHIRE!
JUST IMPORTED.

I have just arrived from England with forty-six Shropshire Yearling Ewes and a number of choice Ewe Lambs & Rams, all selected by myself from six of the leading British flocks. The ewes are all in lamb to noted English sires. My flock now numbers over 70 head. Parties wishing to found a flock, or buy choice specimens at fair prices, are invited to write for particulars. Come and see me. Visitors welcome. Satisfaction guaranteed.
291-1f-OM
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SHROPSHIRE -- SHEEP.

This flock has won numerous prizes in England for the last twenty years, besides America, France and Africa. Has been established over seventy years. Several of the best flocks in England started from this flock thirty years back. Sheep always for sale.
F. BACH & SON,
289-y Onibury, Shropshire, ENGLAND.

SHROPSHIRE

I have on hand a splendid lot of
IMPORTED EWES
from the best English flocks, and are now being bred to a first prize imported ram.
S. C. MILLSON,
295-v-OM GLANWORTH, ONT.

SHROPSHIRE
-AND-

Improved Yorkshire Pigs.

A choice lot, imported by ourselves. Sheep from the flocks of H. J. Sheldon, F. Bach, R. Mansell, J. Thonger.

Yorkshire pigs from last year's prize winners.
W. MEDCRAFT & SON
SPARTA P. O. and Telegraph Station 297-y-OM



SHROPSHIRE SHEEP
DAVID BUTTAR,
 Corston, Couper-Angus, N.B., Scotland
 Has taken all the principal prizes in Scotland for several years. His sheep are of the purest blood, and carefully bred; every sheep eligible for registration. Pedigrees and prices on application. 294 y-OM



PRIZE-WINNING SHORTHORNS
 —AND—
Shropshire Sheep
 Now ready for shipment. Imported and Canadian bred Rams, Ram and Ewe Lambs, the get of the choicest imported sires. Good heads, good carcasses and good fleece. None better in the Dominion. Write for prices. Address—
 289-tf **JOHN DRYDEN, Brooklin, Ont.**



SOUTHDOWNS!
 My sheep are imported from the flocks of Henry Webb, Geo. Jonas, J. J. Coleman and W. Toop. Will now sell a few ewes from the above in lamb to imported rams, also a few ewe lambs of my own breeding.
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 Glendale, Ont.
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TAZEWELL & HECTOR,
 Importers and breeders of Dorset Horned Sheep and Improved Yorkshire Pigs. JOHN TAZEWELL, Indian Village farm, Port Credit, Ont. THOS. HECTOR, The Cottage, Springfield-on-the-Credit, Ont. Stations—Pt. Credit, on G. W. R., Streetsville, on C. P. R. 298-y-OM



DORSET HORN SHEEP
 MY SPECIALTY.
 These sheep drop their lambs at all seasons of the year; are good mothers and most prolific. Devote Dairy Cattle, good milkers and grazers. Flock and Herd established nearly one hundred years. Also shire Horses and Berkshire Pigs. Sheep, Horses and Pigs exported to America have given every satisfaction.
THOMAS CHICK,
 Stratton, Dorchester, Dorset, England.
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Improved Large (White) Yorkshire Pigs and Scotch Shorthorns.
 Entire breeding stock of Yorkshires are imported; specially selected from stock of F. Walker-Jones and Sanders Spencer, Eng. Registered sows and boars supplied not akin. Shipped to order and guaranteed to be as described.
J. E. BRETHOUR, Brant Co., Ont.
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THE-GLEN-STOCK-FARM
SCOTCH SHORTHORNS,
SHIRE HORSES,
Improved Large (White) Yorkshire Pigs.
 Our pigs are specially selected from the prize-winning herds of Sanders Spencer, Ashforth, Charnock and F. Walker-Jones, who won upwards of \$10,000 in prizes in three years. Orders now booked for young registered pigs. Shorthorns and shire horses for sale.
GREEN BROS.,
 INNERKIP, Oxford Co., Ont.
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Improved Yorkshire Hogs and Shropshire Sheep,
 All bred from imported stock and registered.
 293-y-OM **JAS. HALL, Edmonton, Ont.**

IMPROVED -:- LARGE -:- YORKSHIRES!
 All bred from imported stock and registered. Imported boar "Holywell Wonder II." heads the herd
JAMES FIELDS,
 293-y-OM Castle Hill Farm, ANCASTER, ONT.

Improved Large Yorkshire Pigs
 From the strains of Sanders Spencer and F. Walker Jones, England. Registered young pigs for sale. Apply to
WILLIAM GOODGER,
 Woodstock, Ont.
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YORKSHIRES ONLY!
 MESSRS. DUNBURY & JACKSON, Oakville, Ont., have for sale choice young Boars and Yells of the Improved Large Yorkshire breed, bred from stock imported from the best herds in England. Orders booked now for spring pigs. P.O., Telegrams and Station, Oakville, on G. T. R. 302-y-OM

"We lead. All others follow."
 —HEADQUARTERS FOR—
IMPROVED LARGE YORKSHIRES
 MESSRS. ORMSBY & CHAPMAN, the pioneer importers and breeders of these famous pigs, have a choice selection of imported and home-bred stock for sale. The kind the bacon trade calls for—lengthy, deep-sided pigs, combining size with quality. Send for catalogue. The Grange Farm, Springfield-on-the-Credit, Ont. Stations—Streetsville, on the C. P. R., and Pt. Credit, on G.T.R. 297-y

IMPROVED LARGE YORKSHIRES
WM. DAVIS,
 Kine Croft Farm,
MARKHAM,
 Offers at very moderate prices several sows, six to ten months old. Some of my sows have farrowed. Can fill orders early for pigs at 8 weeks old, not related. All my breeding stock are imported from Jones' and Spencer's herds. Satisfaction guaranteed. Correspondence invited. Visitors welcome. 303-a-OM

IMPROVED - YORKSHIRE - PIGS
 OF THE BEST QUALITY CAN BE OBTAINED AT MODERATE PRICES, FROM
C. E. DUCKERING,
 THE CLIFF, Kirkton, Lindsay, England,
 the oldest and most successful herd in the country, having gained since 1856 nearly 3000 prizes. All pigs supplied either entered or eligible for entry in the herd book. 300-y-OM

Improved Large Yorkshires.
 We have animals of all ages for sale, of good breeding and excellent quality.
SMITH BROS., Credit Valley Stock Farm,
 CHURCHVILLE, ONT. 301-tf-OM



IMPROVED BERKSHIRES.
 Imported and home-bred; from the best strains.
-YOUNG STOCK FOR SALE-
 at Right Prices. Apply to—
Richard Delbridge,
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POLAND CHINAS
 All pure-bred and registered. From the very best strains in America. First come first served. Write for prices. I mean business.
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R. H. HARDING,
 Mapleview Farm,
 THORNDALE, ONT.
 Importer and Breeder of Improved Chester White Pigs. First-class stock for sale at all times. Also a fine Carriage Stallion, rising two years old, for sale cheap; sire imported. Inspection invited. 301-l-OM



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 Importers and Breeders of Ohio Improved Chester White SWINE.
 ALSO REGISTERED POLAND CHINA SWINE
 Our herd of Chesters won the sweepstake herd prize at the Toronto fair this fall.
Young Stock for Sale.
 Single rate by express. 298-y



BORNHOLM HERD OF OHIO IMP. CHESTER WHITES
 This herd received more first prizes at the Toronto Industrial Exhibition in 1890 than any other herd shown of that class. Young Stock always on hand and for sale. Pedigrees furnished. Prices away down. Mitchell Station on G. T. R.
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E. D. GEORGE
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 Importer and Breeder of Ohio Improved Chester White Swine
 Four fine large Young Sows, bred to Free Trade 4359, Uncle Sam 4361; 12 Boars, three to five months, that are extra. Pairs not akin. Special rates by express. 292-y-1



SUFFOLK AND BERKSHIRE PIGS
 From imported stock, \$6 each, \$10 pair. Address
 293-y-OM **F. J. Ramsey, Dunnville, Ont.**
BERKSHIRES
 —AND—
COTSWOLDS.
J. G. SNELL & BRO.
 EDMONTON P. O.,
 Brampton and Edmonton Railroad Stations.

For forty years we have led all others in these lines, both in the show yards and breeding pens. We now have a choice lot of young pigs, varying in age from six weeks to six months; all are descended from fashionable bred, prize winning English stock. We also have a grand lot of Cotswolds, a large number of which are yearlings. Good stock always for sale. Visitors welcome. Write for particulars. 298-y-OM

The Great AMERICAN HOG
 Two thirds more raised than all breeds in the United States. Rapid growth. Most Pork for food consumed by actual test. Pedigreed. 200
 FOR SALE. 299-j



G. M. ANDERSON, Tyneside, Ont.
A. FRANK & SONS, The Grange P. O.,
 Ont., Cheltenham Station, C. P. and G. T. Railways.
 The Centennial - Sweepstakes herd of **SUFFOLK PIGS** being the oldest, largest, and most successful prize winners in America. The boar Lam-First, at the head of this herd, is 17 months old and weighs 410 lbs.



Shorthorn Cattle
 of the Cruickshank blood. Young bulls for sale, got by Baron Camperdown - 1218 - imp., (473-9) and Baron of the Grange - 1054 - 291 y-OM
JOHN SMITH,
 Live Stock Auctioneer, Brampton, Ont. Sales conducted in all parts of Canada and the United States. Pedigree stock specialty. Write for terms. References:—J. C. Snell, Brampton, Ont.; M. H. Cochrane, Compton, P. Quebec; T. C. Patterson, Eastwood, Ont. 297-y-0

STOCK GOSSIP.

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

See the advertisement of Mr. Patterson's sale in this issue.

Remember the sale of Thos. Good, April 2nd. See page 63, February issue.

Dominion Hog Breeders' Meeting will be held at the Albion Hotel, Toronto, at 7 o'clock p. m., March 11th.

The Third Annual International Fair will be held at Detroit, Mich., August 25th, 26th, 27th, 28th, 29th and 31st, September 1st, 2nd, 3rd and 4th, 1891. For further particulars, address Geo. M. Savage, secretary, Detroit, Mich.

R. Rivers & Son, Walkerton, report an increasing demand for Berkshire pigs, three going to Manitoba and two in Western Ontario the past month. A few good ones for sale yet. See their advertisement in another column.

The Wyton Stock Breeders' Association write us that they will hold their usual semi-annual auction sale at Wyton, on Thursday, April 9th, at 1.30 p. m. All stock are guaranteed to be thoroughbred. The sale is chiefly composed of young bulis and heifers.

Mr. E. Goodwin Preece writes us that he has just shipped from Liverpool, per SS. Iowa, to Boston, for the well-known importer, Mr. C. S. Bingham, of Mich., 80 head of magnificent Shropshire rams and ewes (lambd 1890), selected from four eminent Shropshire flocks.

H. George & Sons, of Crampton, write us that their herd of Ohio Improved Chester Whites and Poland China Swine are coming through the winter in good shape. We never had them looking better at this time of the year. Orders are coming in fast for spring pigs and pigs about four months old. Our sales since Feb. 1st are as follows:—R. Hopkins, Ottawa, one sow; John Smith, Orono, one boar; A. A. Rolph, Orono, one boar and sow; Joseph Redmond, Peterboro, one sow; Thomas A. Choate, Warsaw, one boar; John Bartlett, Oshawa, one sow; Michael Shane, Ingersoll, one boar; Mr. Hogg, Thamesford, one boar; J. J. Cassidy, Ailsa Craig, one boar.

W. S. Hawkshaw writes us from Glanworth, Ont., that his recent importation of Shropshire ewes have held their own, notwithstanding the rough weather experienced crossing the Atlantic, and their lambs are coming strong. He sold to Mr. W. B. Cockburn, of Aberfoyle, ten ewes, with the knowledge this gentleman has of taking care of sheep, no doubt he will be heard of again; also one pair of ewes to Mr. W. E. Wright, of Glanworth, who has a flock worthy of special notice; also two pair of extra choice ewes go to fill a gap in the highly bred flock of Mr. James MacFarlane, of Clinton, and one pair to Mr. Dumkin, of Brucefield. The enquiries after these sheep are greater than I ever knew.

Mr. Arthur Johnston, of Greenwood, by a change in his advertisement this month, announces that his annual Shorthorn catalogue is now ready and will be posted free to any person writing for it. It contains the pedigrees of seventy-five animals—fifty-five females and twenty bulls. By families there are twelve Kinellar Nonpareils, of Cruickshank origin, seven Gordon Castle Wimples, with Cruickshank and Campbell top cross, eight Kinellar Minas, two Cruickshank Duchesses of Gloster, with another about due, four Cruickshank Victorias, with two more to come shortly, three Cruickshank Lavenders and Lancasters, two Kinellar Clarets, four Kinellar Roses, two representatives of Her Majesty the Queen's herd, with many other families of equal fame and merit.

We are in receipt of Mr. Patterson's catalogue of sale, to be held on Thursday, March 29th, at Eastwood, within a few rods of the railway station, of which so much was said a year ago. The list testifies to the owner's love of pure Bates blood, with which his herd is in all cases largely topped, and of the virtues of which his stock bull Duke of Vittoria, bred by Murray, of Chesterfield, is an excellent exponent. He is a Waterloo, by the famous Bow Park bull 54th Duke of Oxford. There are several Adelizas in the list, one Fame, and others of good family. Duke of Vittoria and the whole herd will come under the hammer, as Mr. Patterson is disposing of the farm on which they have been kept, and purposes having only horses and sheep in future at the old Vansittart home-stead. There will also be offered some choice registered Shropshire ewes and lambs of last year's crop, got by the imported ram King Thomas (7714) from imported ewes, and some young horses, etc.

Bollett Bros. report their stock doing exceptionally well this mild winter. Some valuable calves have been dropped lately. Sykie, their first prize and diploma winner, dropped a strong, straight, nicely marked bull, sired by Sir Westwood. The great backing on both the side of sire and dam, should make this a valuable sire of the head of some fine herd. Michigan Maid dropped a beautiful heifer, sired by the silver medal winner, Barnton. This calf traces on both sides to great performers and prize-winners. Jennie E. also dropped a beautifully marked heifer, by Sir Westwood. This we believe to be one of the richest calves we ever bred. These cows are far surpassing their former great records. They lately sold: to J. H. Patten, Esq., of Paris, two three-year-old cows, Bonnie Queen 3rd and Clintonia 3rd; they believe that these two young cows have not their equal in Canada; to R. S. Park, Esq., Whitewood, N.W.T., the three-year-old Barrington cow, Lady Valentine 2nd. The demand from all over the Dominion has never before been so strong, showing the great interest there is taken in this breed.

THE PEOPLE'S KNITTING MACHINE.

Retail Price only \$6.00. Will knit Stockings, Mitts, Scarfs, Leggings, Fancy-work, and everything required in the household from homespun or factory yarn. Simple and easy to operate. Just the machine every family has long wished for. On receipt of \$2 I will ship machine, threaded up, with full instructions, by express C. O. D. You can pay the balance, \$4, when machine is received. Large commissions to agents. Circular and terms free. Safe delivery and satisfaction guaranteed. Address **CARDON & GEARHART, Whitby, Ont.**

SPECIALTIES -
FINE ART IN LIVE STOCK MECHANICAL
WOOD & GROWING
HIGH GLASS
TORONTO ENGRAVING CO
BRIGDEN MANGER
REMOVED TO
53 KING ST W
COR BAY
TORONTO

LADIES

SEND FOR CHEAPEST LIST OF **Plants, Seeds and Cuttings** IN AMERICA.

LIST FREE. Novelties—Geraniums, Moonflower, Fuchsias, etc.
CHAS. W. BUTTERFIELD, Florist & Seedsman,
Bellows Falls, Vt. 303-a-OM

Hamilton Fertilizer and Casing Works
HAMILTON, ONT.

THE BEST AND PUREST FERTILIZER MADE.

	Price per ton.
Use Rowlin's Complete Fertilizer,	\$30.00
Use Rowlin's Pure Animal Fertilizer,	25 00
Use Rowlin's Pure Fine Bone Meal,	40 00
Use Rowlin's Evaporated Bone for Poultry, in two sizes, 1/2 inch and wheat size,	40.00
Per 100 lb. Bags,	2.50
400 lbs. per acre will double your crop.	

SEND FOR CATALOGUE AND ANALYSIS.

F. ROWLIN, Proprietor.

We use no acids or chemicals in the manufacture of those fertilizers; we guarantee them strictly pure. 305-c-OM

LADIES, SEND HALF-A-DOLLAR FOR YARN REEL—Handiest Made—Catalogues Free.
J. J. HAZELTON, Guelph, Ont.
300-y-O

The Grand Union Hotel

WINNIPEG, MAN.

Newly fitted and refurnished. First-class and thoroughly equipped with all modern improvements. Centrally located, and in the vicinity of the Opera House. Cuisine unexcelled in the Northwest, and under the management of an experienced chef. Graduated prices. Free omnibus.

303-y-O **A. E. J. PERCIVAL, Proprietor.**

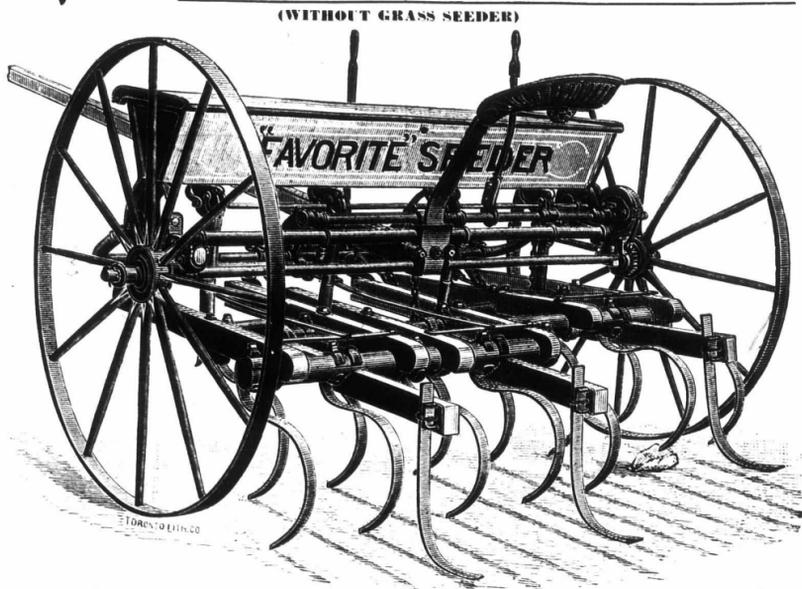
SEEDS **RENNIE'S GREAT DOLLAR COLLECTION OF GARDEN SEEDS \$1.00**

RENNIE'S SEEDS ARE THE BEST
And in order to induce hundreds of new customers to use them, we are offering this complete collection of the very choicest Vegetable Seeds, including many novelties, FREE BY MAIL for \$1.00 in existence: New Chantenay Carrot; Rennie's Nonpareil Lettuce, the best in cultivation; Crawford's Half-Dwarf Celery; New Early Canada Water Melon, the earliest variety grown; Champion Market Musk Melon; Olive Gem Radish, the finest new radish; New Cory Corn, the earliest Sugar Corn in the world; and best varieties of Beans, Early and Late Cabbage, Cress, Cucumber, White Mustard, Red and Yellow Onion, Parsley, Parsnip, Early and Medium Late Peas, Radish Spinach, Tomato, Turnip, Sage. The entire collection will be sent FREE BY MAIL to any address in Canada for \$1.00. Order at once, and induce your friends to send with you. We will send Five of the above Collections for \$4.00.

RENNIE'S ILLUSTRATED GUIDE—MAILED FREE UPON APPLICATION

WM. RENNIE, TORONTO, CAN.

WISNER'S Favorite Cultivator and Broadcast Seeder Combined



MANUFACTURED BY **J. O. WISNER, SON & CO., BRANTFORD, ONT.**

STALLION SHOW

— AT —
PORTAGE LA PRAIRIE, MANITOBA.

The Fourth Annual Stallion Show will be held at the town of Portage la Prairie, Man., on Saturday, the 11th day of April, 1891. The prize list is as follows:—

	1st.	2nd.	3rd.
Thoroughbred Horses.....	\$100	\$—	\$—
Cleveland Bay (registered).....	100	—	—
Yorkshire and French Coach.....	50	35	20
Clydesdales.....	50	25	—
Any other Pedigreed Draft Horse.....	50	25	—
Agricultural and General Purpose Horses.....	20	10	—
Roadsters.....	20	10	—
Standard-bred Roadsters and Hackneys.....	50	25	—

For circular containing prize list, rules, etc., address
A. A. MACLENNAN, Secretary.
Portage la Prairie, Man., Feb. 14, 1891. 333-b-OM

CONDIMENT



For HORSES, CATTLE, SHEEP, PIGS, DOGS and POULTRY.

A delicious combination of Tonic, Stimulant, Nutritious and Fattening Food, which purifies the Blood, prevents and cures Disease, and improves the health of all animals by its use. One trial will prove its usefulness and economy. Send for testimonials, prices, &c., &c. 238-y-MO

TO STOCKMEN AND BREEDERS.

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

For the destruction of Ticks, Lice, Mange, and all Insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy. The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock:

"MAPLE SHADE" HERDS AND FLOCKS.
BROOKLIN, ONT., Sept. 4th, 1890.
DEAR SIR, - I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested. I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders.
JOHN DRYDEN.

Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to

ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT.
Sole Agent for the Dominion. 333-y OM

Come to Virginia.
BUY A HOME
Of State Authorities.

Mild climate and comfortable surroundings.
WRITE TO THE
Commissioner of Agriculture and Immigration,
RICHMOND, VA. 333-b-O

J. F. QUIN, V. S. BRAMPTON, ONT.
Ridgling horses successfully operated upon; write for particulars. 275-y

Save Your Hair

By a timely use of **Ayer's Hair Vigor.** This preparation has no equal as a dressing. It keeps the scalp clean, cool, and healthy, and preserves the color, fullness, and beauty of the hair.

"I was rapidly becoming bald and gray; but after using two or three bottles of Ayer's Hair Vigor my hair grew thick and glossy and the original color was restored."—Melvin Aldrich, Canaan Centre, N. H.

"Some time ago I lost all my hair in consequence of measles. After due waiting, no new growth appeared. I then used Ayer's Hair Vigor and my hair grew

Thick and Strong.

It has apparently come to stay. The Vigor is evidently a great aid to nature."—J. B. Williams, Floresville, Texas.

"I have used Ayer's Hair Vigor for the past four or five years and find it a most satisfactory dressing for the hair. It is all I could desire, being harmless, causing the hair to retain its natural color, and requiring but a small quantity to render the hair easy to arrange."—Mrs. M. A. Bailey, 9 Charles street, Haverhill, Mass.

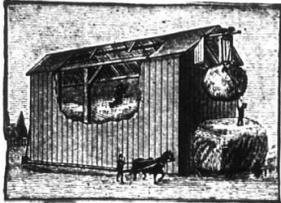
"I have been using Ayer's Hair Vigor for several years, and believe that it has caused my hair to retain its natural color."—Mrs. H. J. King, Dealer in Dry Goods, &c., Bishopville, Md.

Ayer's Hair Vigor,

PREPARED BY
Dr. J. C. Ayer & Co., Lowell, Mass.
Sold by Druggists and Perfumers.

BUCHANAN'S
(Malleable Improved)
PITCHING MACHINE

For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable iron cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter

Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED

Circulars, Prices and Terms on application to
M. T. BUCHANAN, Ingersoll. 333-b-O

STOCK GOSSIP.

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

SUFFOLK PUNCH AND HACKNEY HORSES.—J. & H. Beck, Thorndale, Ont., recently sent us the following:—"Our stock of Suffolk Punch and Hackney horses are looking first-class. Our stock of Suffolks are much reduced in numbers by recent sales, yet what remains are of the very best. We sold to Messrs. Mossom, Boyd & Co., of Bobcaygeon, Ont., the following Suffolk horses:—One aged mare, two two-year-old fillies, one yearling filly and one yearling stallion. They were all shown at the Toronto Industrial, except the yearling stallion, and took the following prizes:—Aged mare, Blossom, imported, 1st prize; two-year-old filly, Maud, 1st prize and silver medal as best mare any age; in class two-year-old filly, Primrose, 2nd prize; yearling filly, Princess, 1st prize. We had only a small lot of Suffolk horses at the Toronto Industrial. They took the following prizes:—For stallion three years old and upwards, 1st prize and silver medal with Enterprise, being only three years old and imported in Sept. 1889; 2nd prize on Vanity for mare with foal by her side, the only time she was ever beaten in the show ring, having won three silver medals and five diplomas in good company. First prize on Duke of Thorndale, foal of 1890. At the Western Fair, London, took the following prizes:—For Suffolk Punch stallion, three years old, 1st prize on Enterprise, 1st prize on Vanity, 2nd prize on Patch, 1st prize on Duke of Thorndale as foal of 1890, 2nd prize on Perfection of Thorndale as foal of 1890. The first Hackneys we imported was in the fall of 1889. This was a two-year-old stallion named Perfection (well if he is not thought very well of him. He is a dappled brown in color, stands about 15.3 hands high, has plenty of bone, of good quality and is an excellent mover. We imported another Hackney stallion in the fall of 1890 named Sir Garnet, also a dappled brown. He is three years old and stands nearly 16 hands high and is a model horse. He took 1st prize at the Western Fair, London, Perfection taking second place. This breed of horses is used in England for various purposes, hence the name Hackney. We have some of the above breeds of horses for sale. They are all registered and are highly bred. We have had many inquiries since advertising in your valuable paper, although only in the breeders directory.

Mr. J. C. Snell, Edmonton, Ont., reports an active demand for Jerseys and a growing interest in the production of high-class butter, for which extra good prices are freely paid by special customers in the cities and towns. The County of Peel is noted for this specialty, and Jerseys are proving very profitable property. The Cotswolds and Berkshires at Edmonton are wintering well, and a good steady demand has kept business moving quite satisfactorily. The prospect of a good crop of lambs and pigs is also very encouraging.

Mr. Wm. Davies, Markham, Ont., writes: "I am pleased to say that the Guernseys and Yorkshires at Kinécroft Farm are doing well. Since my last I have made sales of a heifer to I. T. Wilkinson, British Columbia, and bulls to J. Neil, Collingwood, and Isaac Hilborne, Elmira. I have now thirteen cows and two bulls in service, and a fine bunch of heifers coming on. Though but few of the fawn and white are owned in Canada, they are much appreciated by those who know their merits, not the least of which is the impressiveness of the sires, hence their suitability for grading of ordinary dairy stock. I give you below a few sales of pigs, which have given great satisfaction to purchasers:—Boars to Wm. Warrle, Solina; W. Hayward, Kenilworth; Geo. Inglis, Maple Hill; F. Houston, Dollar, York Township; I. Flack, Banda; Wm. Payne King, Oakwood; J. Lennox, Churchill. Sows O. Hayward, Kenilworth; Levi Pike, Locust Hill; W. C. Huff, Mountain View, and several others. Last but not least, an imported sow to the Experimental Farm at Ottawa. We have now scattered these pigs from Prince Edward Island to British Columbia, and think that the pork packers, who have been agitating for long lean hogs, will soon be gratified, as the hogs so scattered will soon make their mark.

NOTICES.

Little's Sheep Dip is advertised in our columns. This is a good mixture, and should be used in every flock in Canada. Data concerning it will appear in our next issue.

Be sure and read the advertisement sent us this month by the Hon. H. M. Cochrane. This gentleman offers for sale his entire herd of noted Herefords. Write him for particulars and a copy of his catalogue.

The Belleville Business College and Shorthand University of Belleville, Ont., we are pleased to say, is meeting with great success. The attendance at this institution this year is more than double what it was last season. Mr. Robt. Bogden, the proprietor, is a practical accountant and a good business man, and no doubt pupils under him will receive a thorough training.

J. O. Wisner & Co., Brantford, manufacturers of agricultural implements, advertise in this issue a new implement, called the Favorite Cultivator and Broadcast Seeder. This is simply the well-known Favorite Cultivator, with a Seeder Box, and as it is sold without a grass seeder, the price is very low. The firm guarantee satisfaction, and are able and willing to back up any guarantee they may give.

Graduated Prices. Recently Furnished.
LELAND HOUSE,
 W. D. DOUGLAS & CO., Proprietors.
 The Finest Hotel in the Northwest.
 Corner City Hall Square, Main & Albert Streets,
 CITY HALL SQUARE,
 WINNIPEG, MAN.

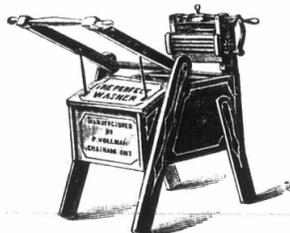
ORNAMENTAL SHRUBS--ROSES

And all kinds of Ornamental and Fruit Trees.
 Small Fruits. Red and Purple Berberry for
ORNAMENTAL HEDGES.

Evergreens—The Colorado Blue Spruce a speciality. Forest Tree Seedlings for timber claims in large assortment. Very low prices.
Instruction Book for planting and managing ornamental trees and shrubs, vines, flowers, etc., 10c. Special ornamental catalogue free.

Mid-Continental Nursery Co.,
 Fairbury, Neb., U. S. A.
 Mention this paper. 302-c-OM

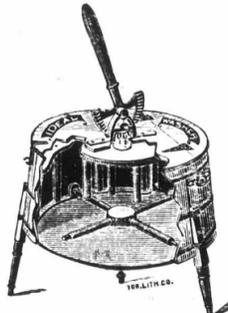
THE PERFECT WASHER



Has given the greatest satisfaction to all who have used it, combining ease in working with a great saving of time and the least possible wear on the clothes. All machines are warranted for

one year, and breaks from imperfect manufacture will be replaced free. Sample machines will be shipped on trial. Testimonials furnished. Address, PHILIP VOLMER, Manufacturer, CHATHAM, ONT. 301-y-OM

THE IDEAL WASHER.



WASHES
 EASIER,
 QUICKER
 AND
 CLEANER
 THAN
 ANY OTHER.

The Ideal Washer is undoubtedly the best washer made; it is the only washer having revolving rollers inside, thus preventing any friction of the clothes; it will wash a batch of clothes in from two to four minutes perfectly clean. Thousands in use all over Canada. Good responsible Agents wanted everywhere. Now is the time to begin. Write for circular and prices.

THE IDEAL MFG. CO., ST. THOMAS, ONT.
 301-d-OM

HOME STUDY

Secure a Complete Business Education at Your Own Home.

Thorough and practical instruction given by MAIL in Book-keeping, Business Forms, Penmanship, Arithmetic, Business Law, Letter Writing, Grammar and Shortband. Prepare for Success in Business. Low rates. Distance no objection. Satisfaction guaranteed. Over 1000 students registered. Send for free Circulars to

BRYANT & STRATTON'S COLLEGE,
 24 Lafayette Park, Buffalo, N. Y.
 300-y-OM



SHROPSHIRE SHEEP

—AND—
COLLIE DOGS.

A choice lot of Ewes bred by Mr. David Buttar, Couper, Angus, Scotland: two Shear Ewes, imported last season, and their produce. Also Collie Dogs just imported. 296-y-O-M
W. H. BEATTIE, Wilton Grove, Ont.



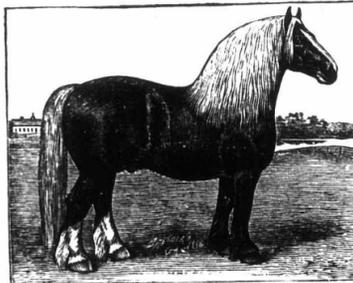
REMEMBER! The place to purchase Percheron Horses or Jersey Cattle is at the Log Cabin Stock Farm. Every Animal will be sold at a price profitable for the purchaser. Those that don't suit us (they may suit you) will be sold for the first offer we can afford to take. Address, **LOG CABIN STOCK FARM, DETROIT, MICHIGAN.**

LA COMPAGNIE
Du Haras National
 30 St. James-St.,
MONTREAL, CANADA.



HON. LOUIS BEAUBIEN, Pres., MONTREAL.
 BARON EDEGRANCEY, Vice-Pres., PARIS, France.

NORMAN, PERCHERON, BRITON STALLIONS.
CANADIAN HORSES.



BLAIR BROS., Aurora, Ill.

—IMPORTERS OF—
CLEVELAND BAY, GERMAN COACH HORSES,
 English Shire and Clydesdale Horses.

TWO NEW IMPORTATIONS THIS SEASON.
 We have a choice lot, selected with reference to style, action, and quality, combined with good pedigrees. We have winners at many of the greatest shows of England, including the great London and the Royal Shows. We offer first-class animals of the choicest breeding at very low prices. Every animal recorded and guaranteed. Visitors welcome. Catalogues on application. Stables in town. Address as above. 301-e-OM

SALZER'S SEED POTATOES

There is genuine pleasure in cropping from 300 to 500 bushels Potatoes from each and every acre you plant. Now the way to do this is to get SALZER'S SEEDS. 60,000 BUSHELS SEED POTATOES CHEAP.

My WHITE BONANZA OATS took the American Agriculturist's prize—\$500 in Gold—for highest yielding Oats in America; cropping 184 bu. per acre.
 I am the largest grower of NORTHERN GROWN SEEDS, sufficient for family—postpaid—\$1. in America, and make a great specialty of FARM SEEDS, Grasses, Clover, Wheat, Corn, Oats, etc. My Farm Catalogue is beautifully illustrated, contains several brilliant color plates painted from nature, elegant enough to adorn any parlor. Send 5c. for same, or we will send Catalogue and grain samples upon receipt of 8c.
JOHN A. SALZER, LA CROSSE, WISCONSIN.

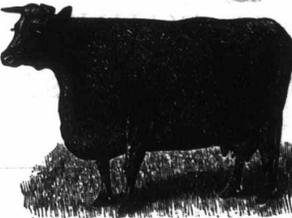


WILSON'S WINTER PINE APPLE MUSK MELON, the greatest 19th Century. You can HAVE DELICIOUS MUSK MELONS ALL WINTER. HENDERSON'S NEW BUSH LIMA BEAN.—Splendid Lima Beans raised without poles. NEW MAMMOTH RED ITALIAN ONION. Will grow Two-Pound Onions from Seed first year. THE NEW EARLY IGNOTUM TOMATO.—Largest, smoothest, and best tomato in the world. WILSON'S IMPROVED SURE HEAD CABBAGE.—Best winter cabbage. Always heads, never fails to head.

Wilson's Seed and Plant Catalogue and Live Stock Annual 116 pages, 200 engravings, handsome colored plates, full of useful information. Most reliable Catalogue published. Garden, Flower, and Field Seeds. New Potatoes, Plants, Trees, Roses, Choice Land and Water Fowls, &c., &c. ALL THE ABOVE SENT FOR 25 CENTS, stamps or money. Address **SAMUEL WILSON, MECHANICSVILLE, PA.**

H. CARGILL & SON,
CARGILL, ONT.,
BREEDERS OF SCOTCH-BRED

Shorthorn Cattle!



With Campbell, of Kinellar, bull, imp. Albert Victor, at the head of the herd; also several imp. Urys, also bred at Kinellar, and a daughter, and grand daughters of the sweepstakes cow Rose of Strathallan 2nd, and other useful sorts. A nice lot now on hand for sale.
298-y-OM

HEADQUARTERS FOR **Booker Brook Farm,** Our aim is to combine size and quality with speed & style.
Goldust Stock, Eminence, Shelby Co., Kentucky.

THE HOME OF **T. & J. HORNSBY,** We have sold more horses into Canada than any other breeder in the State.
Lexington Coldust, sire of Sir Rodger, 2.23½; Indicator, 2.23½, made in a fourth heat when 19 years old.

Trotting-Bred --:-- Horses OF THE BEST STRAINS.
Write for Catalogue and References of former purchasers. 300-f-OM

Silver Lake Stock Farm, **PRETENDER 1453**
Frankfort, Ky. AT THE HEAD OF OUR STUD.

S. BLACK & SON,
BREEDERS OF—

Trotting-Bred = Road = Horses

This is one of the best bred sons of the famous Dictator, and is himself sire of Beuoni, three-year-old record 2.28¼; Hermitage, 2.23½; Blue Dick, 2.30, etc.

We have a choice lot of young Stallions and Fillies sired by Pretender, Onward 1411, and others for sale at reasonable figures. We keep none but the best, and do not look for fancy prices. Send for illustrated catalogue and prices. 300-f-OM

DR. CARVER 7369, **Rideau Stock Farm** **PALM LEAF 7634,**
two-year-old record 2.40. **KINGSTON, ONT.** Foaled 1887.
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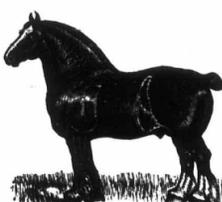
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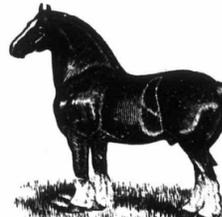
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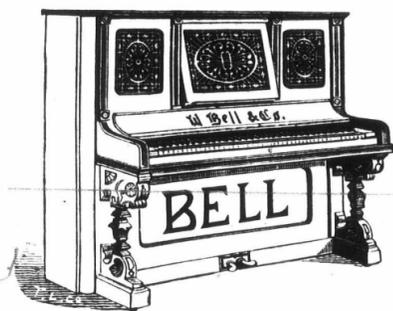
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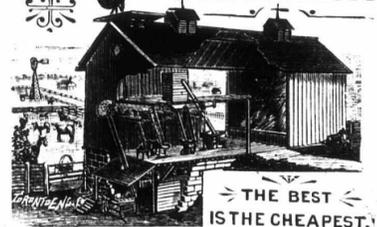
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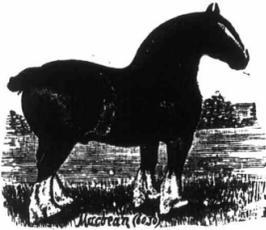
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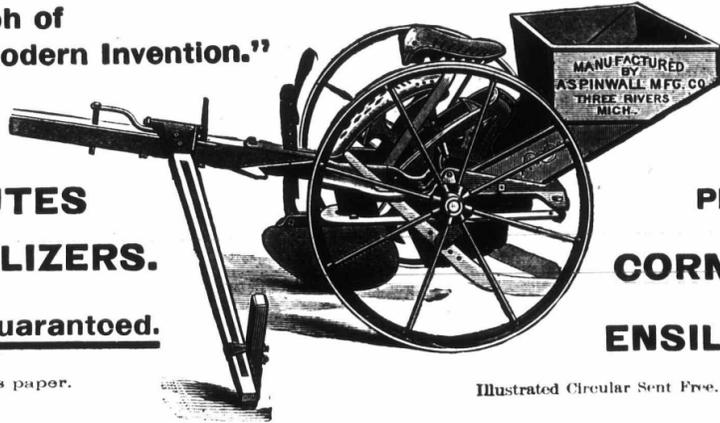
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