

THE FARMER'S ADVOCATE

AND HOME MAGAZINE



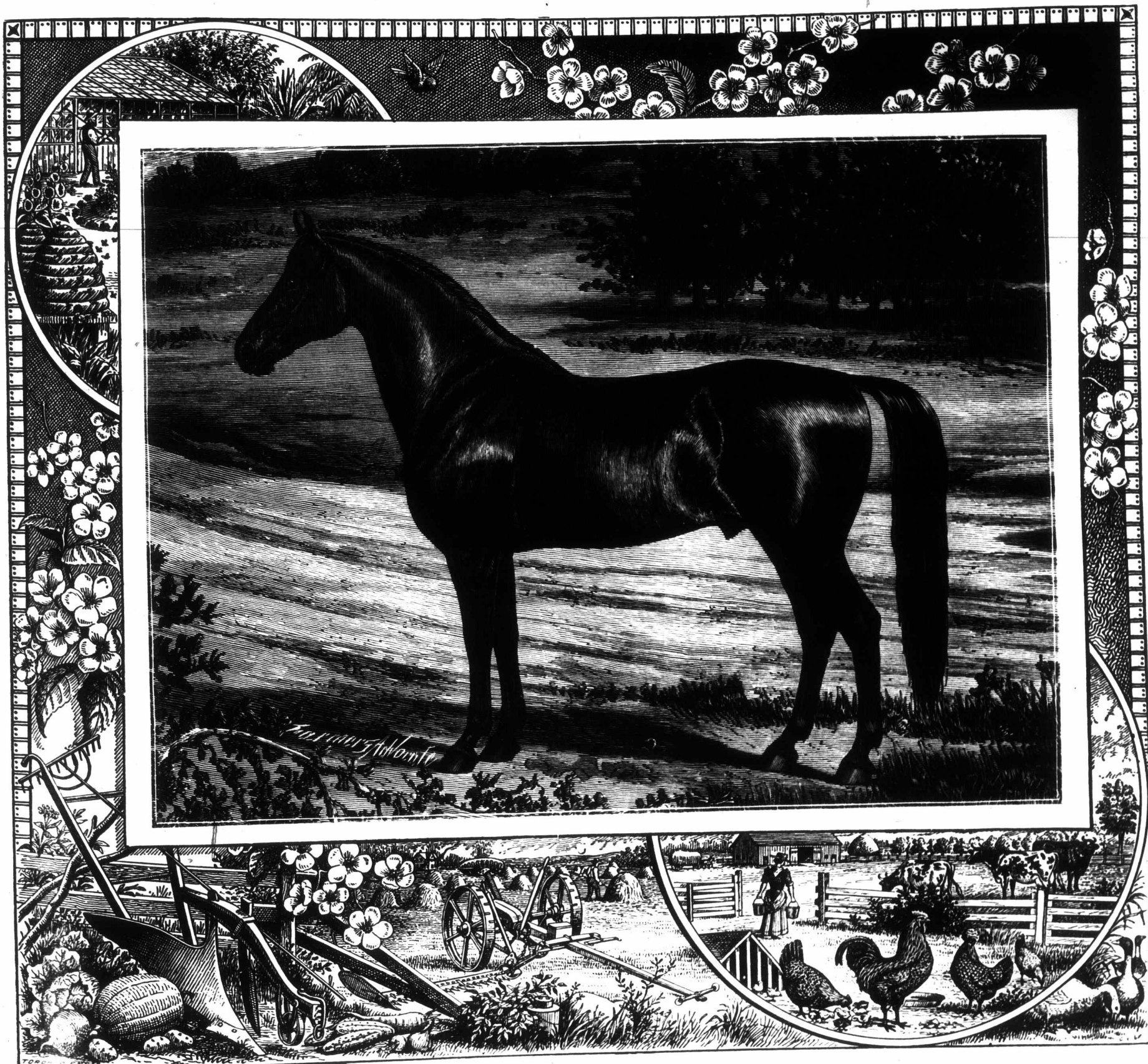
* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. XXXI.

LONDON, ONT., AND WINNIPEG, MAN., JUNE 15, 1896.

No. 408



THE NOTED STANDARD-BRED STALLION "WILDMONT,"
THE PROPERTY OF FARES & COCHRANE, MORDEN, MAN.

EDITORIAL.

Forward Movement in Dairying.

CHEESE FACTORY INSTRUCTION SYNDICATES.

The continued high reputation Canadian cheese has acquired in the markets of Great Britain depends upon uniformly high quality of the product. No doubt we have among our makers, factories, and dairy herds, individual attainments surpassed by none in the world, and in so far as these best conditions permeate the whole Canadian cheesemaking industry the higher will the reputation of our cheese ascend and remain. Quebec cheesemakers have recognized this, and have now in working order not less than thirty-five syndicates, which are conducted as nearly as possible like one monster first-class factory. Quality and uniformity are receiving so far the whole attention of the syndicates, but there is now a movement on foot to avail themselves of the wholesale purchase and distribution of a uniform grade of the best factory furnishings, as the cost to the factorymen can, in the aggregate, be reduced by many thousands of dollars, at the same time insuring a quality that will improve the appearance and standard of the cheese.

Another line receiving consideration in Quebec syndicates is the improvement of the quality of milk furnished the factory. It is also proposed to make the makers liable to a fine if they do not absolutely refuse all milk that is tainted or off flavor. The practice of sending sour whey home in the milk cans is also to be taken up and prohibited. This practice has probably done more to impair the reputation of our cheese on the consumers' table than anything else, as it requires some little time for its contaminating influences upon the flavor of the cheese to develop.

It is believed that if the factory furnishings and milk can be provided of a first-class, high-grade quality, the question of flavor will be definitely settled. The other important point receiving attention is the qualifications of the cheesemaker. This is carefully looked after in Quebec, not only preparatory to but in course of his regular factory work, as was recently pointed out in these columns.

We are pleased to note that Western Ontario is falling into line, a syndicate having just been inaugurated, comprising the following factories: Nilestown, Dorchester, Burnside, Avon, Harrietsville, Lyons, Gladstone, Elgin, Yarmouth Center, Mapleton, Glanworth, Pond Mills, Geary's, Proof Line, Devizes, Cherry Hill, Thamesford. We commend the good judgment of factory owners upon the step they have taken, which ought to be successful, for it rests on the solid basis of increased knowledge. They are placed under the inspection of Mr. J. B. Muir, of Avonbank, who is a bright, first-class maker, of long and successful experience with both cheese and butter; noted always for his thorough cleanliness, order, and skill. Avonbank was one of the first factories to pay for milk by test and to adopt winter buttermaking. Mr. Muir will devote his whole time during the factory season to the inspection, which will enable him to make frequent visits to each factory and spend the necessary time with those most needing instruction. The condition of the factory and surroundings, appliances, process of making, curing, boxing, condition of milk, and other details will receive his watchful attention. The Dairymen's Association and the Boards, or factory owners, unite in providing the remuneration. Inspector T. B. Millar will be relieved of the supervision of the factories in the Syndicate, thus allowing him a little more time for the extensive work under his charge, thus enabling him to give closer supervision to detail, which strikes us as a move in the right direction.

The duties of the Syndicate Inspector, outlined by the Western Dairymen's Association, are as follows:—

- (1) It shall be the duty of the Syndicate Instructor to visit each factory in the Syndicate as often as his time will allow, and to give such instructions and advice to the maker as he may consider beneficial and helpful in improving the quality of the cheese and of assistance in carrying on the work connected with the factory.
(2) In cases where the maker in any factory in the Syndicate has some special difficulty which he cannot overcome, it shall be the duty of the Instructor to visit that factory as soon as possible and to do his utmost to remedy the difficulty.
(3) In no case will the Instructor be expected to test every sample of milk when he visits a factory. If desirable, however, he will make a test of samples which the maker or committee, from a previous test, may consider to have been tampered with.
(4) Neither the Instructor nor the Association will be responsible for the quality of the cheese

made on the day of the Instructor's visit, or for any cheese made during the season when following the instruction given, as there may be conditions connected with the milk and the curing of the cheese over which the Instructor has no control.

(5) In short, it shall be the duty of the Syndicate Instructor to supervise and oversee the operations of the factories comprising the Syndicate, and to use his best judgment in advising such ways and means as will bring about an improvement in the quality of the milk; a better class of factory building and equipment; a more uniform article of cheese, and better methods of curing the same; and to use his best endeavor to enhance the value of the cheese in the district represented by the Syndicate, and to make it more uniform throughout.

(6) When any special difficulty occurs, makers and others are requested to notify the Secretary of the Association, Mr. J. W. Wheaton, London, Ont., or the Instructor, at once, so that the matter may be attended to without delay.

Carried on as we trust it will be, this Syndicate—which will be known as the Middlesex Cheese Factory Syndicate—should prove of material and early advantage to the factories co-operating for the purpose of securing an output of cheese at once high in quality and uniform.

What British Farmers Have Done for Themselves.

To the individual farmer distinct gain often comes from a survey of the operations of a neighbor, so we may benefit by a study of the conditions and methods, reverses or successes of farming as conducted in other lands.

In an exhaustive treatise on "Recent Changes in Farm Practices," published in the journal of the English Royal Agricultural Society, Mr. W. J. Malden reaches the conclusion that the chief factors that have sustained many on the land during the past twenty years of ungenerous seasons and falling prices have been: 1, the more frequent cropping of the soil; 2, laying down arable land to grass; 3, live stock improvement; 4, the employment of improved machinery; 5, greater intelligent energy; and 6, reducing personal expenses.

Increasing the pasture land for live stock involved changes in the old rotations. Catch crops, such as vetches, rye, winter oats and barley, etc., sown from June forward, and consumed before that time the following year, are cultivated much more widely than they were a few years ago; and this breaks the old rotation. More frequent cropping necessitates closer attention to working the soil, and dead fallowing is not practised to nearly such an extent as formerly. There is also a tendency to apply a greater proportion of manure to pasture and meadow land, the need for which we believe is drawing near, if not already at hand, in some portions of Canada. Barren meadows here and there begin to tell the tale. It is believed that in England a still larger proportion of the manure will yet find its way to the grass land. Growing out of this is the more general and skilful use of artificial manures on the tilled land, particularly for catch crop growing. The proportion of home-grown grain consumed in stock feeding on the farm has largely increased, but at the same time Mr. Malden states that the quantity of imported foods has very much increased.

Converting arable into pasture land was one of the earliest remedies suggested when growing grain for sale became unprofitable, and during the twenty years ending 1894, 3,280,000 acres were added to the area of pasture in Great Britain, temporary pasture being also augmented. The corresponding shrinkage was largely in wheat land. Despite the increase of pasture, however, we find that there were 4,454,000 fewer sheep than in 1874, but a small increase in cattle (222,000). The conclusion is therefore inevitable that the laying down of arable land to grass has not been a complete success, and further, that the plow and grass must go together. The Old Country farmer finds, too, that the winter must be reckoned with. For stock feeding on a large scale, roots, litter, etc., are necessary if the pastures are to be stocked. Without good winter feeding, good-bye to early maturity, which is every day becoming a more imperative requisite of all stock destined for the butcher.

Great advantage has come to British agriculture along the line of live stock improvement, its pure breeds of horses, cattle, sheep, and swine being famed the world over, and with the progress of which the establishment and maintenance of various associations, with their carefully conducted stud, herd and flock books, have had so much to do. In fact, it might be said that the records constitute an essential feature of these important organi-

zations and have been largely instrumental in insuring their permanent success.

The use of improved machinery has lessened the need for hand labor, facilitating the handling of larger crops more expeditiously; but how much it has lessened the general outlay is another question.

Great attention has been paid to the development of dairying, market gardening, and fruit growing. The production of specialties also claims attention, but the demand for such is more restricted than in case of the great food staples, and their growth and handling requires vastly more skill.

In this connection Mr. Malden indicates the greater extent to which farmers read on questions relating to their own business, and though an imperative necessity growing out of the changed conditions for farming, it is yet an encouraging sign of the times. Despite this, a Scottish contemporary points out the lamentable absence of the agricultural journal in many a British farm home, whereby the tenant farmer loses the advantage of an ally not to be secured in any other way.

Canadian Mutton.

A Canadian who recently visited New York City was impressed with the apparent appreciation of the products of his country, which was shown by prominent signs in many of the best butcher shops—"Canadian Mutton." The same quotation was also noticed on the bill of fare of the best restaurants. Upon indulging in some of the home-grown meat, the question arose mentally, Why do we not get such mutton at home? Probably the smaller Canadian markets are too often supplied with the scrub stuff that is not fit to ship, and, indeed, which the shipping buyer does not care to handle. If our local butchers, as well as our local cheese dealers, would handle only first-class goods, the quality offered would do a great deal toward increasing the consumption and therefore the demand of these two nutritious articles of diet. The stringy, dry, so-called lamb so generally put upon the hotel table causes the consumer to vow that he will not again ask for even "spring lamb."

A Notable Standard-bred Horse Portrayed.

The illustration given the place of honor in this number represents a noted horse. This portrait is true to the life, which proves the falsity of the statement often made, to the effect that a fast-going Standard-bred horse is assuredly an ill-shapen, homely individual. Conformation, substance, and general style were too long sacrificed on the altar of a mere "record" by trotting horse breeders, but a different policy is now being pursued. This engraving depicts the Standard-bred stallion, Wildmont, who has proved himself, in race contests and in the stud, to be justly entitled to high honors as a superior individual and getter of handsome roadsters and race-track winners. He was foaled in 1890, and at four years old made for himself a record of 2.27. His breeder was Nat. Bruen, Burlington, Iowa, and he is now owned by Fares & Cochrane, Morden, Manitoba.

Wildmont is a beautiful brown in color, 15½ hands high, and weighs 1,170 pounds. He has neck and head of rare elegance, and shows a girth, back, loin, flank, and such prominence of chest that fully explain the wonderful vital force and endurance that have been exhibited by him. He stands upon strong, sound limbs and feet, and is a game and resolute fellow. In his 30 public engagements he placed 24 to his credit. At Chicago, in 1893, in his three-year-old form, he not only won his race but was awarded diploma for State of Illinois as road horse. Since his arrival in Manitoba he won 1st prize at Winnipeg Industrial Fair, 1893; he was beaten at Winnipeg Industrial Fair, 1895, but went on from there to Portage la Prairie and won 1st and diploma, to Brandon and won 1st and diploma, then to Regina at Territorial Fair, where he again met and defeated the 1st prize winner at Winnipeg Industrial, winning 1st in a good field of horses. Wildmont's colts are large, handsome, and prize winners in the show ring.

Pedigree.—Wildmont 2271, by Egmont 1828, by Belmont 61. Egmont has to his credit six in the 2.20 list, namely: Lobasco, 2.10½; Combination, 2.16½; North-West, 2.15; Trigo, 2.16½; Clear Grit, 2.19½; Lady Campbell, 2.17½; and 28 others in 2.30 or better. Dam Advance, by Administrator 357, one of the great brood mare sires; he by Hamiltonian 10.

Wildmont has proved himself the sire of speed as well as of beauty, being the sire of Chloe, 2.17½ in a winning race, and can trot in 2.10; Ruth, 2.24½; Nulla Bona, 2.29½, champion three-year-old of Manitoba and the Northwest, with only ten months breaking in and handling; she can trot in 2.25; and several others that can go into the 2.30 list when called on to do so.

JUNE 15, 1896 THE FA THE 1. Th fifteen is is hands the mos farmers, in Canad 2. Term in ar or 31. 3. Adv tract 4. Disc notifi paper your ind 5. The A is rec must 6. The L resp order 7. Remi Engl risk. 8. Alwa pape unles 9. The I tion 10. Sub regu 11. We such print to in Boot Exp are be ft our post 12. Repl offic 13. No a after 14. Lett side 15. All with any Adre EDITOR 245- 246- ers Hav Stand Eating try; Th STOCK: 247- of Shee Industr Subject 249- Th FARM: 249- Under mer Fe Timoth ment; DAIRY: 250- Cheese Cheese Good S Cost of POULT 252- More a ENTOM GARDE 253- VETER APAR QUEST LIVE S 255- Letter FAMIL CHILD MINNI THE Q UNCLE GOSSEL dot NOTIC BOOK ADVER To H less g to ma plans ful a few This crush drive the b or th are t must there grait then vent dige

THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONT., and WINNIPEG, MAN.

JOHN WELD, Manager.

1. The Farmer's Advocate is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.
2. Terms of Subscription—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, 6s., or \$1.50. New subscriptions can commence with any month.
3. Advertising Rates—Single insertion, 30 cents per line. Contract rates furnished on application.
4. Discontinuances—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.
5. The Advocate is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
6. The Law is, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
7. Remittances should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.
8. Always give the Name of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done.
9. The Date on your Label shows to what time your subscription is paid.
10. Subscribers failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once.
11. We Invite Farmers to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
12. Replies to circulars and letters of enquiry sent from this office will not be paid for as provided above.
13. No anonymous communications or enquiries will receive attention.
14. Letters intended for publication should be written on one side of the paper only.
15. All communications in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—
THE FARMER'S ADVOCATE, or
THE WILLIAM WELD CO.,
LONDON, ONTARIO, CANADA.

CONTENTS.

EDITORIAL:—
245—Illustration.
246—Forward Movement in Dairying; What British Farmers Have Done for Themselves; Canadian Mutton; A Notable Standard-bred Horse Portrayed. 247—To Prevent Horses Eating Too Rapidly; Sugar Beets and the Best Sugar Industry; Appreciated Abroad as Well as at Home.

STOCK:—
247—Live Stock Interests; Ayrshire Matters. 248—Breeds of Sheep in Relation to Soils, Markets, and Crops; The Sheep Industry in New Brunswick; The Sheep-Worring Dog—A Subject Needing Ventilation; The Philadelphia Horse Show. 249—The Bath and West Show.

FARM:—
249—Observations; Cultivating Corn; Salt as a Remedy; Underdraining with Tile—How the Work is Done. 250—Summer Feeding of Swine; Shallow vs. Deep Tillage for Corn; Timothy Hay; Buckwheat; Good Silage; Road Improvement; Cement Floors; A Good Wagon Jack.

DAIRY:—
250—Making Championship Butter. 251—"Quality" in Cheese; The Babcock Test in Cheesemaking; U. S. Filled Cheese Legislation; Swine Feeding at the Factory. 252—A Good Standard to Work To; French Rules for Milking; The Cost of Milk Production.

POULTRY:—
252—A Farm Poultry House; A Cheap Egg Tester. 253—More and Better Eggs.

ENTOMOLOGY:—253—Injurious Insects—June (2); Wireworms. GARDEN AND ORCHARD:—
253—Cultivating the Onion Patch; Staking Tomatoes.

VETERINARY:—253—Home Treatment for Farm Animals. APIARY:—254—Hives; Shipping Comb Honey.

QUESTIONS AND ANSWERS:—254—Veterinary, Miscellaneous. LIVE STOCK MARKETS:—
255—Toronto Markets; Montreal Markets; Chatty Stock Letter from Chicago.

FAMILY CIRCLE:—256. CHILDREN'S CORNER:—256. MINNIE MAY'S DEPARTMENT:—258. THE QUIET HOUR:—258. UNCLE TOM'S DEPARTMENT:—258. GOSSIP:—259, 262; 263—Annual Meeting of American South-down Breeders; etc.

NOTICES:—260. BOOK TABLE:—263. ADVERTISEMENTS:—259 to 264.

To Prevent Horses Eating Too Rapidly.

Horses that eat their grain very rapidly get far less good of it than a slower feeder that takes time to masticate more thoroughly. Among the many plans advocated as a preventive to this both harmful and wasteful habit, one of the best is to add a few handfuls of dry shorts to the grain ration. This applies more particularly to road horses, which crushed grain is apt to render too loose when being driven. Some feeders resort to the plan of keeping the bottom of the manger covered with stones two or three inches in diameter, among which the oats are thrown. This plan has the desired effect, but it must be hard on the animals' teeth. For farm horses there is no better way than to feed crushed or whole grain mixed with chopped hay. Mastication will then of necessity be accomplished, which will prevent colic and fit the grain for being thoroughly digested and assimilated.

Sugar Beets and the Beet Sugar Industry.

The cultivation of sugar beets for the manufacture of sugar has been tried sufficiently in Canada to indicate that a fairly remunerative industry is awaiting development. True, the refining plant is costly; a certain and large supply of beets is necessary to the successful carrying on of a business, and to fully realize profits the residuum products must be properly utilized in stock feeding, etc. Foreign countries have been allowed to outstrip us. In Europe, during the last 40 years the production of beet sugar has increased 22 times, the actual output for 1893-4 being: In Germany, 1,393,374 tons; Austria-Hungary, 841,809; France, 579,111; Russia, 660,000; Belgium, 325,000; Holland, 75,015; and other countries, 111,000 tons. In 1887, we notice that the United States produced only 600,000 lbs. of beet sugar, but in 1893 (the last return at hand) this had swelled to nearly 45,000,000 lbs. A bimonthly periodical is issued in the interests of the industry, and Nebraska supports a "Sugar School," where instructions are given upon the whole subject, from beet growing to beet analysis and refining. All this is surely evidence that as a branch of Canadian agriculture and manufacture this industry should receive more attention. The Canadian Government, by statute, was required to pay a bounty of \$1 per 100 lbs. of beet sugar produced, with an additional 3/4 cents for every pound testing over 70 degrees. The time for such bounties was limited to 30th June, 1895, but this has been extended to July 1st, 1897, the bounty now being 75 cents per 100 lbs., with one cent for each degree or fraction of a degree over 70 degrees. During the year ending June 30th, 1895, the bounty paid amounted to \$29,449.

So far as suitable soil and climate are concerned, many portions of Canada compare favorably with foreign centers of beet culture. In fact, the sugar beet does not differ from other plants in requiring certain conditions of climate to yield favorable results. The subject of temperature has been pretty carefully studied, and it is found that an average of 70° Fahr. for June, July and August is about the proper heat for successful beet culture.

The most suitable soil is a light loam, preferably containing some lime, but heavy soil will answer if well drained. The beet gets the greater part of its food from the ground at a depth of eight to twelve inches; hence freedom from excess of water is necessary. The preparation of the land for the crop is much the same as for mangels. The land should have been plowed in the fall, and as soon as it can be worked in the spring it should be again plowed to the depth of about twelve inches. (A deep soil is therefore a necessity.) Allow the ground to lie about one week before the time of seeding, then plow once more, to the depth of four or five inches, and work the soil up into a fine, light condition. Plant the seed after allowing the land to lie five to seven days. No manure should be applied unless in the shape of well-rotted compost put on in the fall. In ordinary soil the rows should be eighteen inches apart; in very rich, less; and in poor, a greater width. The object should be to prevent the beets attaining to a greater weight than two pounds each. The seed should be planted one-half to one inch deep and about sixteen pounds to the acre. The plants come up in about ten days if the seed has been soaked over night before sowing. They should be singled out (four to six inches apart) early, to prevent plants growing spindly. Hoe like turnips and keep clean. A hoe should be run through the drills and thus keep the soil well up to the necks of the plants when hoed for the last time. The best beets are deep in the ground. If any artificial manure is to be applied it should be borne in mind that the end for which the crop is grown is not the production of the largest roots, but such as will yield the greatest quantity of crystallizable sugar. For this purpose medium-sized roots, hard grown and well ripened, turn out best. A large amount of stimulating manure tends to too much leaf growth and to keeping up the growth when the roots should be ripening, in September or October.

European growers have made great progress in the saccharine quality by testing chemically the growing beets and raising seed from those testing highest. The farmer grows them for the factories at so much per ton, and whether profitable to him or not will depend on the cost of production, yield per acre, and the price received, just as in the case of any other crop.

Appreciated Abroad as Well as at Home.

Mr. John Allan, of Aberdeenshire, Scotland, in renewing his subscription to the FARMER'S ADVOCATE for another year, writes: "THE ADVOCATE always comes with the utmost regularity, and it always brings something new."

The prospects for more than a light hay crop in a large portion of England are very slim, owing to a very dry May. At the end of May the ground was dry and cracking and the pastures were badly scorched; in fact, the showing is little better than it was in 1893, when a water famine was experienced on much of the clay and chalk soils. The weather, too, has been cold and backward.

STOCK.

Live Stock Interests.

We notice that South American buyers have been attending cattle sales in France, paying handsome prices for bulls and other breeding stock. This recalls the address delivered by Mr. Richard Gibson before the annual meeting of the Dominion Shorthorn Breeders' Association in February last, in which he drew attention to the attitude of the South American buyers in the English market—not only to the quantities they have taken, but to the qualities of their purchases also. Nothing has been too good for them nor price too high—for instance, the purchase of Sir Lionel Studley, a Booth bull, for \$3,500—and whenever they could hear of or see an extra good animal the agents of the breeders in Buenos Ayres or the Argentine were after him. The very best of English, Scottish, and Irish stock that could be bought have been expatriated. Price has not stood in the way, providing the animal was good enough. The numbers exported have been enormous. We do not wonder, therefore, that Mr. Gibson asked, "Is there no means of reaching this market by our breeders?" That they have invaded French herds shows in addition that the demand is yet strong. United States breeders have been attracted by the possibilities of this trade for their bulls and other breeding stock, the practicability of which would doubtless depend largely upon the transportation facilities available. It should certainly be looked into. This and scores of other subjects of vital interest to live stock husbandry—by all odds the most important department of Canadian agriculture—but recall the serious need existing for a good, practical live stock authority in connection with the Experimental Farm staff, where, as an advisor to the Federal Department of Agriculture in such matters, his services would also be of very great value.

Now, it is well-known that when U. S. breeders require an infusion of really first-class, fresh blood for building up their herds and flocks, they come to Canada to get it. The World's Fair accentuated, though it was not required to show, the superiority of Canadian breeding stock. The herds of Canada should certainly furnish valuable drafts for the South American, or, for that matter, any other trade. We trust Mr. Gibson's suggestion will yet be made the subject of proper enquiry.

Still more important matters requiring attention are the ninety-day cattle quarantines between Canada and the States, which so seriously hamper the trade of breeders and the original utility of which disappeared with the embargo requiring our cattle to be slaughtered within ten days of landing in Britain. Our cattle quarantine regulations are also a hindrance against securing fresh breeding stock from British herds.

Ayrshire Matters.

(Paper read by Mr. H. E. Eyre before the Dominion Ayrshire Breeders' Association.)

The kindness with which you received a paper of mine in 1892 has induced me to offer you again a few thoughts on Ayrshire matters. Were it necessary for me to give an excuse for presenting another paper to this Association, I would give an excuse similar to the one given by the late Sir John Macdonald for keeping the N. P. alive so long. "I ought," said the veteran statesman, "to do something for the N. P.; it has done so much for me." This, gentlemen, is my feeling towards the Ayrshires.

I shall not waste your time by speculating upon the origin of the breed, neither shall I give you a list of the breeds said by their promoters to be akin to the Ayrshires. Suffice it, then, to say that with the espousing of our favorite cattle there dawned upon the then poor, discouraged, ill-clad and ill-fed people of Ayrshire an era of prosperity that has increased in intensity as well as in magnitude, until its light and heat of comfort have permeated the whole of the land of the harebell and heather. They have also crossed the billowy Atlantic with the animals that produced them, and we enjoy in our bosoms the fruits of over a century's care and labor in selection and development.

That broad-minded political economist and philosopher, Henry George, has said that "Land and labor are the prime factors of wealth." If we grant this hypothesis, we are immediately confronted by the question, how best to utilize these elements?

Experience in this country answers by the propagation and development of the dairy industry. The first step in this direction is to decide on the cow that will give the best returns for the time and labor expended on her. The writer of this paper spent years in solving this problem. He visited good herds of different breeds, closely observed their treatment and its results, found that each breed had its merits and its fancies, and that all breeds had furnished to the annals of the exhibitions some phenomenal animals. He was finally compelled, when he had exhausted all means available to him, to conclude, contrary to his best impressions, that the animal that will best suit all classes and conditions of farmers in this country is the Ayrshire cow. Not yet content, he consulted a number of successful dairymen who were not married to any breed, but had tried specimens of different breeds, and their consensus of opinion strengthened the former conclusion. Indeed, one farmer and drover who lived in the suburbs of a smart little town, and was breeding another kind of cattle, said con-

identially: "Although I find the cow fanciers of the towns and villages readily purchase the calves from my herd at fairly remunerative prices, yet I must admit that for buoyancy, constitution, ability to assimilate all kinds of food, power to endure hardship and respond nobly to kind treatment, the cow *par excellence* is the Ayrshire." He even went further and said: "During the last twenty years I have bought and sold a great many cows. I very often find when I drive into a man's yard and select some sleek, high-headed and good-looking animal, and ask the owner to put a price on her, that he will say, 'That is our Ayrshire cow and we cannot spare her.'"

Did I hear some one say: Does he not know that it was not an Ayrshire cow that won the sweepstakes at the leading fairs last fall? Yes, and I know, too, that the winner is owned by a relative of my own and in my own county—the banner dairy county, dear old Leeds. Gentlemen, if the ghost of your poet, Robbie Burns, will forgive, I will say:

"Auld Leeds whom ne'er a place surpasses
For splendid cows and bonnie lassies."

Do you think I would detract from the laurels of Mr. Gilroy's magnificent cow? Certainly not. I feel more like scolding your Ayrshire breeders who have so long headed the list that you seem to have become plethoric or surfeited with prizes. I doubt not but the surprise you got last fall will make you hungry again for the fruits of the ring, and I expect when we meet next winter, instead of dilating upon the conquests of a distant cousin, I may have the opportunity of rejoicing with an Ayrshire brother.

No, gentlemen, there is no place to stand still. Either retrogression or progress will be the lot of every man. He who is content to stand at ease on fields already won will have the grim satisfaction of seeing his competitors turn up richer treasures at his very feet.

Before closing, I desire to express a wish that each member of this Association may be careful to never, under any circumstances, not even to make a sale or win a prize, insinuate anything against the honor of another breeder or merits of his herd. Such reprehensible conduct always has a reflex action, and will turn again and smite the striker. Better by far that each should endeavor to emit a ray of sunshine across the path of his fellow, and that all should labor to improve our favorite breed for our own particular benefit and the prosperity of the common weal.

Gentlemen, I again invite you to criticize this paper, believing that by interchange of thought we can benefit each other, and remembering that it was in a discussion on my first paper that the millionaire lumberman and breeder of the Ottawa Valley, while naming the fancy breeds in which he was interested, declared that for the farmer and dairyman the best animal in the world was the Ayrshire cow.

Breeds of Sheep in Relation to Soils, Markets, and Crops.

BY RICHARD GIBSON.

A wealthy man who has purchased a farm near a city of 175,000 inhabitants wrote me lately outlining his plan and asking advice. His object was to supply the choicest lamb and mutton to the local market, and he mentioned that he had been advised to "go in" for Southdowns and Hampshires. My reply was to the effect that he was right as regards Southdowns, but why Hampshires? It is true they attain great weight at an early age; but can we here provide such crops as is usual in Hampshire. I suggested Dorsets from the standpoint of a profitable business transaction. I have been several times asked why I gave such advice, and to save further correspondence I beg use of your columns. In the first place, they are the breed of all others to provide house lamb—a luxury for the wealthy; hence an article, though limited in demand, that always commands abnormal prices; besides which they are hardy and require but little more attention than a flock of grade Merinos, except at yearning time.

The Hampshire is one of the brightest examples of the skill of the English flockmaster, and on the peculiar soils, on the chalk formation, with the climate, and in connection with the variety of crops grown, no breed can approach them in weight of carcass; at an early age three-quarters of a pound per day is no unusual increase. If I were farming in the South of England, on the chalk, no other breed would I for one moment consider. My father kept a flock of from 500 to 600 ewes near Overton, and what I know of them was learned there. They are hardy, have grand constitutions and appetites, and while the ewes are the scavengers, eating all the leavings of the lambs and fattening sheep, they manage to rustle along on such food and conditions under which no other breed could survive. On the other hand, the lambs live like fighting-cocks; no expense or care is spared in providing a succession of crops for their benefit; and if the flowers in my lady's garden would help to push the lambs along, I am afraid shepherd and "maister" would be folding them thereon. But let us see what Prof. Wrightson has to say on the treatment of Hampshire lambs, and, moreover, he is their greatest advocate and friend, and I would advise all sheep men to get his book, the latest English production, titled "Sheep—Breeds and Management." After writing of the weights attained, etc., he goes on: "The result shows the wonderful earliness of maturity in improved Hampshire Down sheep as a breed, in

which quality they are unrivaled, and also the merits of the system of feeding which can produce it. The three factors for the achievement of such a result are: First, the breed; second, the mode of feeding; and third, the peculiar soil and climate of a Southern county adapted to the growth of summer fodder crops."

Now, I just want each reader to go over the above once more carefully and note there are three conditions to success, two of which it is impossible for us to obtain on this Continent. The question naturally arises, If these conditions are true as regards Hampshires, do they not apply to many of the other breeds in a greater or less degree? If so, may not some of the failures which we hear of be traced not to the breed experimented with alone, but to the neglect to provide such crops as they require for their highest development? When we know more of the history of the various mutton breeds, the nature of the soil and crops grown thereon, and general environments, we shall be the better able to select the breed most likely to succeed under our especial management. But let us return to Prof. Wrightson's account of the lamb life of the Hamp. during February (the lambs are dropped in January). He writes that "at this time they are in receipt of eight different sorts of food per day." Following the system as pursued, he comes to: "Take for example a fine midsummer day when the lambs awaken upon a fold of vetches. The shepherd is up betimes and begins by giving them some allowance of cake (oil cake). He then grinds them some mangels (into troughs), which they eat with great relish." [The mangels are of the previous year's growth, and illustrate what I have so persistently urged, viz., the growth of this root for spring food.] "They are next admitted to a fresh fold of vetches, after which they are walked quietly to a neighboring piece of good rape or cabbage. After two hours or more, and in the heat of the afternoon, they are allowed to spread themselves over some old sanfoin or aftermath clover. They will then return to the vetch fold, and after receiving another feed of corn (grain, etc.) they lie down to well-earned repose, having increased their weight by one pound each."

Is there any wonder that Hampshire lambs grow rapidly with such rations; or when neglected to be supplied with such a variety of succulent food, that they fail to make the weights as recorded? And the breeder is apt to blame the breed when he is alone in fault, either in not providing the food necessary or in selecting a breed that under his conditions of farming he could not do justice to.

This is not an attack on Hampshires, but is a sort of introductory to a series of letters which I purpose writing upon exercising due care in selecting the breed adapted to soils, market, and crops.

[NOTE.—We have arranged for a number of copies of Wrightson's excellent work on Sheep Husbandry, referred to by Mr. Gibson, and which was reviewed briefly in these columns some time ago; and a copy may be obtained by sending us the names (accompanied by three dollars) of three new subscribers to the FARMER'S ADVOCATE.—EDITOR.]

The Sheep Industry in New Brunswick.

To the Editor FARMER'S ADVOCATE:

SIR,—I have only a dozen ewes, and sometimes think I should not keep any, as I am only about two miles from the town, and think cows are more profitable where we can sell milk. Then there is the dog nuisance to be considered, though our Assembly passed an act last session which I hope may diminish that. My sheep were turned out in excellent condition. The hay crop being short and grain very cheap, we fed more grain and less hay than usual. I certainly think sheep raising might, with profit, be very much extended, particularly in these Maritime Provinces. The business here has declined greatly in the last three years, as the price of lambs which were bought in September and October for the American market fell from an average of about \$3 to about \$2, or perhaps a little less. Almost all the sheep in our county are Shropshires or Shropshire grades; in fact, I might almost say the same of the whole Province. There are a few people who breed Leicesters, and a very few others who stick to the Cotswolds. I had many enquiries for lambs last year, and could have sold many more than I had at fair prices. Only a few days ago a neighbor who has Shropshires came to see if he could get two or three Cotswold ewe lambs. He said the Shrops were good, hardy sheep, with nice fine wool, which was much liked at the factory; but when he asked if they would give any more for it than for coarse wool, they did not respond, so he had concluded to make a change, and wanted something which would give him more wool. I think one of the very best lambs I ever saw was a cross of a Shropshire ram and Cotswold ewe, and I dare say crossing the other way would be good also. When Shropshires were first introduced in our county most of the sheep were Cotswold grades, and the first cross was so successful that it gave the new breed a great boom. Now, however, I find there is quite a demand for Cotswold rams to increase the size and length of wool. Our Government is going to buy quite a number, I believe, to be disposed of at the time of the Provincial Exhibition about the first of October.

Carleton Co., N. B.

C. R. CARMAN.

The Sheep-Worrying Dog—A Subject Needing Ventilation.

To the Editor FARMER'S ADVOCATE:

SIR,—I was particularly well pleased with the last issue of the FARMER'S ADVOCATE, more especially to observe the increased attention you are giving to sheep raising, an industry which, to my mind, will give us a better net return than some branches of farming about which more noise has been made. All your correspondents overlook one hindrance, viz., the sheep-worrying dog. Possibly they have not personally experienced losses through one of these raids, but I believe with a good many it has really been more of an obstacle than low prices for sheep products. Now, while I am thankful for the valuable information already given in your journal, on sheep raising as well as other practical subjects, I would appreciate a discussion of the best way of abating this hindrance to sheep farming.

S. B.

[NOTE.—Our columns are open for a discussion of this subject, and we invite correspondence thereon, believing that its ventilation will prove beneficial to the industry. Three points suggest themselves to us:—

1st. What steps may the sheep raiser himself take to prevent or abate the danger from sheep-worrying dogs?

2nd. What should be done, in the event of a raid, in caring for injured sheep, etc.?

3rd. What changes, if any, should be made in the laws bearing on this subject?]

The Philadelphia Horse Show.

The horse Show Association of Philadelphia held its fifth annual exhibition in the open air, St. Martin's Green of Wissahickon Heights, on May 26-30. A couple of rainy days materially interfered with the attendance, while they lasted, but caused a great crush upon the two final days. The exhibits surpassed those of last year in numbers, which increase was made up in the Hackney, Thoroughbred, hunter and jumper classes. Breeding classes and trotters in harness were rather light.

Hackneys, of course, made the big showing. This immensely popular breed, which is being given the advantage of the best purses and the highest class of schooling and skill in breeding, is well-nigh totally eclipsing all other classes of horses at these great modern horse shows. The race track has had its day a long time, and still holds sway in many cities, but when the great enthusiasm of the trotting or running meet is remembered to result largely from "jockeying" and "bookmaking," an honorable, fair-minded horse lover cannot but feel it a dishonorable enthusiasm as compared with the expressed appreciation of really meritorious beauty and style of the animals themselves.

The Hackney judges consisted of Messrs. A. B. McLaren, Alexis, Ill.; Robt. Graham, Claremont, Ont.; and H. K. Bloodgood, New Marlboro, Mass., who executed their duty in a critical, intelligent and conscientious manner, commanding the approval of all fair-minded persons who witnessed the placing of the ribbons.

Canadian Hackneys were not in evidence on this occasion. Keen competition was a marked feature of the various classes. The recipients of the awards in the mature stallion class over 15.2 hands were: Langton Performer, from the stud of F. C. Stephens, Maplewood Farm, N. Y.; Senator Cochran's Royalty, the head of Donigal Farm Stud, Pa.; and Mr. Joseph E. Widner's Lord Rufus 2nd, who won in the mentioned order. These are all great horses. One of Maplewood's recent importations, Clifton 2nd, scored in a hot class of stallions below 15.2 hands. We are pleased to notice that the great mare, Winnifred, taken to Maplewood along with the lamented Ottawa, from the stud of Robert Beith & Co., Bowmanville, Ont., demanded the attention and favor of the judges in the brood mare class, securing, as she honorably did, the second award. She has a noble foal at foot from Ottawa. She was defeated by a mare, Dorothy, from the stud of Mr. Widner. The championship mare of the show was found in Mr. Stephens' two-year-old, Lady Sutton, who won the first prize as a yearling in New York last year, when she also won the junior championship. Langton Performer did the job of the day by going off with the best male award. He is a bigger horse than most of them, while his quality, manners and action can hardly be surpassed.

The competition in half-bred Hackneys was keen, to say the least; in fact, the action exhibited by a number of the contestants was not surpassed by their more aristocratic brothers.

Saddle horses are undergoing a decided improvement in these days of horse shows. Quality and spirit are both necessary adjuncts to a winning saddle. Hunters, too, are improving, and were much in evidence on this occasion. Ponies were fine, numerous, and much admired.

Just two classes were provided for Thoroughbreds; both those were creditably filled. Trotters were scarcely up to standard, but some good ones were among those present.

Weak carbolic acid (about one part acid to forty of water) sponged on the hair of horses and cattle will drive away the whole tribe of flies, mosquitoes, and the like. It is easily applied and it will conduce to the comfort of both the beast and its owner.

The Bath and West Show.

The Bath and West and Southern Counties Society of England held a very successful exhibition at St. Alban's on May 27th to June 1st. The number of entries, as compared with those of 1895, shows a marked increase. The horses numbered 220, compared with 136 last year; cattle, 574, against 490; sheep, 220, against 212; while in most of the other departments the display was of fully average merit. The total entries of 1896 were 1,850, and of 1895, 1,664.

The draft horses shown at this exhibition are always largely of the Shire breed, of which there was a much better than usual turnout this year. It seems a little strange to us that gray stallions received the championship and reserve awards. The former, Mr. A. P. McMullen's Iron Chancellor, by Chancellor, is spoken of as a massive horse of great width and weight, and is grandly furnished. Lord Rothschild's old Gray Paxton was the reserve number. Young stallions were numerous and good, but mares with foals were not very largely represented. Mature mares without foals made up a beautiful class, headed by the well-known winner, Rokeby Fuchsia, who also was the recipient of the Shire Horse Society's gold medal. Shire fillies were a grand lot.

A small number of Clydes, chiefly from the stud of Lords A. & L. Cecil, made up some nice classes of mares and fillies.

The section for any agricultural breed, for geldings only, brought out a number of very useful animals. It is worthy of note that a Clydesdale won first in the four-year-old class, followed by a horse of the Shire breed.

Hunters made up well in the programme, and Hackneys were quite keen in competition, although the numbers were not large. Notably among the latter were a number of fine mares from the stud of Sir Walter Gilbey, several of which bore away well-deserved honors. No stallions are reported to have been present.

Cattle.—The forty-two entries of Devons, without an inferior beast, is a highly creditable number when the distance they had to travel to reach St. Alban's is considered.

The Shorthorn showing was notably large and good. Mr. G. Harrison's Champion Cup, one of seven entries, was awarded the sweepstakes award, and his stable mate, Lord Boycott 2nd, came next to him in this class. The first prize two-year-old came from the herd of H. R. H. the Prince of Wales. In calves, a pair got by Scottish Archer, and bred by Mr. W. Duthie, had it warm for first place. A prize of £10, offered by the Dairy Prize Fund Committee, for the best pure-bred Shorthorn cow or heifer in milk, was awarded to Mrs. E. Ross for Lady Peggy Farewell, which also won second in the cow class. This being a new feature, just two entries competed.

The Hereford section was well filled, there being in all forty-eight entries. Their robust constitution and aptitude to fatten, together with their uniform color and type, occasioned much admiration.

The Sussex breed demands considerable attention in the Old Land. This was evidenced by an entry of forty-four animals.

Jerseys and Guernseys filled, perhaps, the best sections in the cattle department. A goodly number of the best awards in the former were captured by Sir Gilbert Greenall and Lord Rothschild, who possess great herds. The latter breed made a record by its 71 entries of extraordinary specimens. Especially were the heifer classes to be praised, which indicates that the popularity of this valuable breed is growing.

Aberdeen-Angus cattle never occupy much space at the English shows, but upon this occasion the exhibit was better than usual.

Kerries are becoming more popular in England year by year. Deep milking on a poor soil is certainly a very desirable qualification, which this breed has, probably, a greater claim to than any other. A fairly good representation was present on this occasion. Dexters made an equally good representation in the bull and cow classes, with a large one of heifers.

Sheep.—Leicesters, Cotswolds, Devons, Longwools, Southdowns, Hampshires, Suffolks, Shropshires, Oxford, Somerset and Dorset Horns were all represented. Cotswolds, Southdowns, and Shropshires were notably large in entry and superior in quality. In the last named, 34 entries in shearing rams, 14 pairs of ram lambs, and 13 pens of ewes made up a great show. The well-known flocks of Mrs. Barrs, Messrs. J. Bowen Jones, A. E. Mansell, R. P. Cooper, P. L. Mills, and A. Tanner did most of the honor-taking. The chief among Cotswold exhibitors were Messrs. Russell Swanwick, Hulbert and Craddock, who shared the honors.

Goats and poultry had their places, which were by no means insignificant. Of the latter there were 43 entries.

The working dairy is a prominent feature of this show. Separators and other dairy appliances were at work each day, which, with the 283 competing female buttermakers, kept the cool, sweetly-kept building thronged throughout the days. On one of the days competition was confined to students of dairy schools, when splendid work was accomplished.

The British Dairy Farmers' Association will hold their annual excursion and conference this season at North Wales, June 9th-12th.

FARM.

Observations.

LUCERN.

Dropping in to see Mr. H. Elford, of Holmesville, Huron Co., Ont., the other day, we were especially struck with his very fine crop of lucern, which he was cutting and feeding to his cows and horses. At the time of our visit (May 30th) it was about two feet high on the average, and Mr. Elford, Jr., informed us that they had been feeding it since May 6th. The plot contained about four acres, about half of which had been cut, the remainder being about to be cut for hay. The earliest cut was growing up again very fast and would soon be ready for a second cutting. The soil and subsoil are gravelly loam. This plot was seeded in the spring of 1895 with barley, on land that had been in hoed crops in 1894. For the second year this is, we think, the best stand we have yet seen. Fifteen pounds of seed were put on (sown at same time as the barley), seed falling in front of drill hoes and then harrowed.

Mr. Elford gives his cows all the lucern they will eat twice each day, and is well satisfied with results. He intends to stable his cows all summer during the day. His stable is a model of sweetness and cleanliness. With a clean stable, soiling crops, and housing during the day in hot weather, Mr. Elford is on the way to sound success in dairying. He needs a Babcock milk tester yet to grade and weed his herd, and he intends to have one soon. Mr. Elford and family are most hospitable and genial, and will be pleased to show strangers what they are doing.

A HYDRAULIC RAM.

For an outlay of \$14 Mr. J. W. Hill, of Summerhill, Huron Co., has a No 4 hydraulic ram that is one of the completest arrangements for supplying water for farm use that we have yet seen. A drop of three feet from the spring to the ram constitutes the head, and with this head about 1 1/2 gals. of water per minute are raised to the dwelling-house—about a 30-ft. lift. From this a tank is filled that supplies the stable, hog pen, etc. All the piping, drains, tank, etc., cost Mr. Hill about \$70. He knows how to build a water tank. His is first an ordinary 1 1/2-in. stove cistern (about five feet across and six deep), hooped. The whole is covered with two-inch plank, which extends six inches beyond the tank all around. A curb six inches wide is put all around the outside bottom of the tank, and then boards up and down, leaving a 6-in. air space, then two sheets of tarred paper all around, then another sheeting of inch stuff; a similar false cover on top. Frost has no effect on the contents. Sawdust filling is not to be compared to it, either in efficiency or durability. Mr. Hill has built a very neat little cheese factory on his farm that is completely equipped. His son, G. W. Hill, took a course at Guelph Dairy School in the winter session of 1895.

In many ways we considered Mr. Hill a utilizer of his advantages much beyond very many in the profession of dairy farming. **OBSERVER.**

Cultivating Corn.

To the Editor FARMER'S ADVOCATE: To corn growers the perusal of E. F. White's article in your last number should be valuable information, and in connection therewith I would suggest some points in the cultivation of the corn plant, and if followed out drouth need not be feared:—

1st. Shallow cultivation—not more than one and one-half inches. The reason therefor is that about 70 per cent. of the roots of the plant are between two and four inches of the surface, and if deeper cultivation is adopted root pruning is the result.

2nd. Frequent cultivation to prevent evaporation, as mentioned by Mr. White.

3rd. Cultivation immediately after a rain storm, so as to break up any crust that may be formed on the top of the ground.

4th. Cultivate with flat knives instead of shovel teeth, and what will be found of great assistance: take a 2x6-in. plank (length in proportion to the width of the rows), drive four rows of four-inch wire nails through—one and one-quarter inches apart and slanting back a little. Hang this behind the cultivator and the ground will be thoroughly pulverized. Last year was very dry, but with this cultivation our corn did not feel the drouth, and at no time was the ground dry at one and one-half inches from the surface. Try it. **J. E. G.**

Ontario Co., Ont.

Salt as a Remedy.

To the Editor FARMER'S ADVOCATE: SIR,—Your paper lately contained paragraphs relating to the ravages of the wireworm, etc. My small experience may be of some use. I had seven and a half acres of oats on sod, part plowed last fall and part this spring. On the 20th of May I observed the crop failing, it then being about two inches high. On examining it I found that a dark blue grub about an inch long and the wireworm were the cause of it. One corner of the field they were just getting into. I plowed all up but one acre at this corner and on this I sowed 600 lbs. of salt in two doses at an interval of two days. At this date (June 2nd) the oats are looking well and the ravages of the pests seem effectually stopped. **M. GLEW.**

Huron Co., Ont.

Underdraining with Tile -- How the Work is Done.

(Continued from page 183.)

BY R. G. SCOTT.

If a field has a fall of one inch in every hundred feet, it can be successfully tile drained. If the fall is greater, of course the satisfaction will be greater. Some farmers are losing money every year because they think their farms are too flat to tile drain. It depends upon the kind of soil how far apart the underdrains should be laid. If the soil is heavy clay, I want a drain for every 33 feet—that is, a rod on each side of each drain; if the soil is lighter, the drains may be farther apart. But as tile draining is a boon to almost all kinds of land, in dry seasons as well as wet ones, I want to be sure that the drains are not too far apart. With me, the soil must be light indeed if my drains are serving less than two or two and a half rods on either side.

The mistake in many places in the past has been in digging drains too deep. My judgment is that a drain three feet deep in stiff soil is just a half a foot too far down. A mistake might be made by going to the other extreme. If the soil is light and the fall good, a three and a half or a four foot drain will work and draw from a greater distance on each side. But I would prefer to expend upon the extra tile for closer drains than to pay the extra cost for digging deep ones. Of course judgment must be used regarding the depth, but my experience has taught me, for my land, that two feet three inches, and two feet six as an average, is the right depth.

Having determined the matters of depth and width for drains, the question presents itself, How is the drain to be dug? Ditching machines costing from \$350 to \$500 have been used in some places. But these are beyond the reach of farmers in general. Many are afraid of the cost and labor of draining by hand; and there can be no question as to the drudgery of cutting drains in the past. Take a man with 80 or 100 acres that he knows should be drained. How often is it the case that he simply does not start the work because he has not the time, he thinks, to do anything worth while upon it himself? He could do but a little in the spring before seeding, or a little in the fall when the rains come, but it would be so little! Then to hire an experienced ditcher at 35 cents or perhaps 30 cents per rod to have it properly done—well, that is very costly, he concludes; and so Canadian farmers by the score have said that they can't afford it. In this way hundreds of thousands of dollars have not been allowed to come to farmers in this young Dominion.

Notwithstanding this, however, a goodly number of farmers have gone to work with spade, shovel and scoop, themselves, and dug out their drains. Some others have had the work done by professional ditchers. I waited for years, hoping that something would turn up to lessen the labor and expense of digging ditches, but all the while I was under the conviction that I was loser by delay. Finally I made a start with the old-fashioned implements, but subsequently tried an American drain plow, which, though it cost me less than \$20, I now count the best implement on my farm. A team attached to an eight-foot whiffletree furnishes the power. It can be worked to a depth of three feet, a special attachment finishing the bottom for the tile. The depth of cut for each round is regulated by a curved slider between the beam and point. The drain may be started a foot wide and run down until at the bottom it is just wide enough for the tile. Two men and a good team can complete 700 feet of drain ready for tiling in a day.

When the drain is ready for laying, the workman begins at the outlet to place his tile. Special care must be given to fixing the mouth. Instead of having the tile come to the very mouth of the drain, it is better to set down a wooden box, say six feet in length, so that frost and atmospheric exposure will not crumble it. A piece of sewer pipe, if it could be got, would be better than wood for this purpose. With the end fixed to the satisfaction of a common-sense man, he is ready to get the bottom of his drain in shape for water-carrying purposes. If there is any part of farm work that cannot bear slipshod treatment it is the finishing of a bed for tile. The tile next the wooden or pipe end needs to fit, the next tile to that should be up close, the next to fit up to that, and so on. If the tiles are strung along the ground ready for him who is to handle them, he sometimes is satisfied to lay them as he stands at the top and fits one up to the other with a home-made appliance of a handle, say six feet long, with a ten-inch piece at right angles, and bored an inch from the end. With this he can let the tile down, and when down can strike it gently into place. But even with the nice groove in the bottom made by the gouge attached to my drain plow, I like to get down into the drain, fit one tile to its neighbor by hand, and walk on the tiles as the work is being done. It is, to me, delightful employment in view of what is to be accomplished by it.

Side drains running into the main drain have nothing special about them unless at the place where they join. A side drain, or lateral, as it is usually termed, may do with a tile of lesser size than the main. Tilemakers want to be up to time with tiles for the junctions. When they can provide all the obtuse-angled pieces called for for the joining places of laterals and mains they will have done a thing that has been lacking in many quarters. A lateral should enter a main at an obtuse

angle, not at a right angle. If the double pieces can not be bought of the tilemakers, a man with a head, a pair of hands, a hammer and a file, can make a fit out of the material on hand. When the tiles are down, the filling in process is mechanical; it can be done with the spade or shovel, or with the team and common plow by rolling down the earth on the top. It is well, however, that with hoe or spade the workman should bring down to the top of the tiles some of the earth dug out last, and firm it well in the bottom with the feet. With the bottom securely packed the remaining filling can come down according to the inclination of the one in charge.

Two extremes are to be avoided by the farmer when he begins underdraining his field. For one thing, he ought not to commence without counsel from somebody. It is a pity that not more in Canada are experienced in the work. But things are looking up, and the next year or two will see thousands of acres tile drained that are now half productive or unproductive. Let the farmer in beginning this work read the best articles on the subject, consult the most experienced men within reach, and use the best implements. For another thing, he must guard against listening to everybody. There are agnostics and skeptics in the agricultural sphere as in some other spheres. If we listen to those who do not know much upon the subject, but who make up for their ignorance by their thoughts, and supposings, and doubtings, and false prophesying, we may be worried in a department of farm work in which there is a great deal of real pleasure. Let the work be done in the right way, and as soon as possible, and it will mean tens of thousands saved and gained to the farming community.

Summer Feeding of Swine.

The item of labor in porkmaking may amount to considerable or it may be very little at this season of the year and for several months to come. The process of porkmaking should commence soon after the litter is farrowed. The object should be to keep them growing as rapidly as possible from the first, because a day of standing still means a day's feeding without a return, and the fewer of those the better.

A series of green foods can be had in succession on most farms throughout the summer with very little preparation. The clover field supplies the first pasture and will last in good order until the green peas are ready to feed. It is not well to make sudden changes, as even a pig will get sick if unwisely fed. The new food may be introduced by throwing in a few forkfuls daily for a week before the permanent change is to be made. If there is then a small field of peas to be fed the pigs may be turned in at once, or it may be wise to hurdle a plot which can be "hogged off" thoroughly without any waste. Along with this, if sweet whey or skim milk forms the drink, which should not be fed in a larger quantity than eight pounds per day to a full-grown hog, steady and profitable growth may be expected. After the pea season has passed, second-growth clover or corn will be on hand to form the bulk of the diet. As finishing time approaches, a grain ration composed of corn, peas, barley or shorts will be profitably fed in conjunction with the green fodder. Fed in this way, the land upon which pork is produced will have gained fertility. Hogs and hog products have been holding their own remarkably well this season. As in days gone by, he is still the "gentleman that pays the rent."

Shallow vs. Deep Tillage for Corn.

A number of experiments in corn growing were carried on at the Missouri Agricultural Experiment Station for three consecutive years, when deep and shallow cultivation received due attention.

The deep tilling was done with the ordinary walking cultivator run four times at the depth of five or six inches. In the first cultivation the narrow shovels were used, afterwards the ordinary shovels.

The shallow tilling was done with an implement having a number of narrow knives running an inch or more beneath the surface, loosening the soil and effectually destroying the weeds in its path, but not lifting the soil sufficiently to cover the weeds in the hill unless quite small.

The results were: In every case shallow tillage gave the largest yield. The gain from this method ranged from 2.1 to 14.3 bushels per acre, or from 4 to 30.6 per cent. In 1890, nearly one-third more corn was produced on the plots tilled shallowly than on those receiving the ordinary deep tillage. These results are corroborated by similar trials at a large number of Experiment Stations and the experience of the most successful corn growers in this and other countries.

Timothy Hay.

While clover hay is preferable for feeding all stock except working horses, it is the only sort for which there is always a market. True, in a winter like last, any kind of well-cured hay would sell for a good price, but we feel safe in saying that nine-tenths of the hay sold was timothy. An admixture of other grasses and even a little clover seems to militate against it in bringing the highest market price. When the crop is to be sold the market does not object to fairly well matured hay, but when a grower is to feed his own timothy, it is a mistake to leave it standing until the seed is about

formed. When this is done the stalks become woody and thus less nutritious and less digestible than greener cut hay. The object should be to secure the greatest possible amount of assimilable nourishment for the animals, and according to common sense and the teaching of science, this is secured when the crop is cut as soon as possible after the first blossom appears. In order to get rid of the dust which is then present, it is well to delay cutting until that blossom is blown off. Cut at this stage, with suitable weather for curing, and the best possible timothy hay can be secured. The heads remain perfect, the substance that would make the seed if allowed to stand longer is all in the stalk, and the leaves are sweet and green.

In bright, breezy weather, timothy cut in the morning will be ready to rake up and perhaps haul in in the afternoon. By the employment of improved machinery the work of cocking can be dispensed with when a modern hay loader is made use of. The curing will be aided materially by a couple of runs over with the hay tedder, which will lighten it up to the sun and wind. When conditions are favorable for going ahead the mower may be kept at work a portion of each day, followed by the tedder a couple of hours later, and the wagons not far behind. The danger of having a large amount of hay damaged by a wet spell is then reduced to a minimum and the work passes off gradually and pleasantly, and the character of hay secured will be of the highest possible quality.

Buckwheat.

Among the grains that have not "slumped" to any extent in price within the last few years is buckwheat. This crop is grown more and more year by year in many sections, especially as a catch crop. There are several places in the rotation in which it can be advantageously placed. As a regular grain crop it is perhaps the best to sow upon dirty land, for the reason that it should not be sown before June 20th, which provides a grand opportunity for weed-killing before that time. As a destroyer of "couch" grass it is hard to surpass. By its luxuriant growth this troublesome weed seems to succumb almost entirely. From three to five pecks per acre is a good seeding.

In a well-advanced season like the present, barley, fall wheat, and early peas will ripen early, after which a fairly good crop of buckwheat may be secured from the same land. It will ripen if sown about August 1st, and furnish from a few acres a good return of fowl and hog feed. Whether or not it is desired to take a crop of seed from such a field, it will pay well to sow the land for a green manure crop. This will kill weeds, render the land very mellow for the following season, and add humus to the soil, which will increase its moisture-retaining power in a high degree.

When grown for a grain crop it may be cut with a self-binder, shocked and threshed like other grain. It must not, however, be tightly bound in large sheaves, else it will take a long time to dry. It should not be hauled more than a few days before threshing, lest it will heat and mold. Careful handling and a close covering to the rack when hauling is necessary to avoid much loss of seed by shelling.

We would offer one caution. Do not sow it on land upon which a clean grain crop is to be grown the next season, as some of the seed that shells will likely come up amid the grain. When feed grain or a hoed crop is to follow there can be no objection to growing buckwheat. As a bee-pasturage it is very productive of nectar, but the honey produced is of a strong, low-priced grade, but will answer well to feed the colonies upon during the winter.

Good Silage.

Silage that is not good is either sour, moldy or rotten. The cause of over-acidity is almost invariably immaturity of the corn at the time of filling. This is very often due to too thick sowing, which prevents the admission of sufficient sunshine to the ground among the corn while it is growing. A crop of immature corn is simply a lot of water held by green, woody fiber. If corn has been planted too thickly and has come up well, it will pay to thin it out by means of a hoe. In all cases we want the corn grown enough and sufficiently ripened so that it shall contain the largest amount of starch, which will, if properly put into the silo, come out in excellent form.

Moldy silage is due to a lack of moisture. It must be moist enough when put in to fill all the material, else mold spores will develop and mat the whole mass together. Lack of moisture may be due to the corn being allowed to over-ripen before cutting or else allowed to dry out after being cut. When the crop has passed the glazing stage or been allowed to dry out after being cut, sufficient moisture should be added when the silo is being filled to make up for the deficit.

Rotten silage is occasionally met with and is invariably due to the entrance of air. A slight crevice in the silo is enough to do the damage. To sum up: It is altogether the best plan to grow corn suitable to one's district, no thicker than to admit of each stalk bearing and maturing a good cob. Then cut it at the glazing stage and fill evenly and compactly, as it is cut, into a deep, strong, air-proof silo with properly constructed corners. Then there will be no over-sour, moldy or rotten silage deeper than a few inches of the top.

Road Improvement.

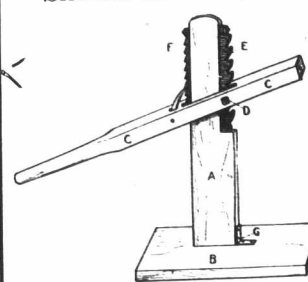
A note from Hon. John Dryden, Minister of Agriculture, Toronto, Ont., advises us that the services of Mr. A. W. Campbell, C. E., Provincial Instructor on Roadmaking, will now be available, as arrangements may be possible, to visit localities requiring same, in giving assistance to roadmasters, overseers of highways, and members and officials of municipal councils, without expense to the latter. As indicated in the May 15th FARMER'S ADVOCATE, in which a portrait and sketch of Mr. Campbell appeared, together with a seasonable article on road work, his principal duty will be to give assistance in the manner above indicated. He has visited several localities in that capacity already.

Cement Floors.

Never a summer passes but a great many new floors are needed and are constructed in stables and pens. We would say to our readers who are contemplating reflooring outbuildings, that one or two farms that have cement-floored stables should be visited to ascertain what satisfaction they are giving. We may say from our own experience that wooden floors, even if they could be put in for half the cost of cement, are much the dearer in the end. Not only will they soon wear out, but while they last they are not so healthful, are wasteful of manure, and are not so comfortable either for beast or man.

A Good Wagon Jack.

SIMEON SNYDER, Waterloo Co., Ont.:—"Take a



piece of hardwood board for A and fix it firmly, by means of iron brace (G), into hardwood plank (B). Then bolt on A the pieces of iron, E and F. Take also hardwood for lever (C). Put a bolt through it at D—a pretty strong one, because it alone has to hold the weight. Then fix in H, make a hole through C, put A through this hole, and let D hang in one of the notches of E, and your jack is finished."

DAIRY.

Making Championship Butter.

The Australasian gives the following description of how the championship butter at the Sydney (New South Wales) Show was made, 55 factories competing, each one sending 5 boxes:—

"The milk was separated at a temperature of 85° Fahr., after which the cream was passed over a cooler which brought down the temperature to 60°. (Alpha separators were used.) It was then pumped into the maturing-vat, when a starter was used to bring on the acidity to the desired stage, the cream being cooled down in the vat to 55°, and being occasionally stirred. The next morning—that is, 20 hours after the milk was separated—the cream was run into the churn, which before use was thoroughly rinsed out. Van Hassett's butter color, at the rate of 3/4 oz. to 100 lbs. of butter, was added to the cream, and the churn was then started, being driven at the rate of 38 revolutions per minute. The butter commenced to come in thirty minutes. The churn was stopped, the butter being in a granulated form about the size of peas. The buttermilk was then run off and allowed to drain. A thorough washing in two waters was then given the butter, the last water coming away clear, and being at a temperature of 60° Fahr. The butter was then allowed to drain in the churn for thirty minutes, after which it was taken out of the churn and passed over the butter-worker, where it was salted at the rate of four per cent., and one per cent. of preservitas was added and slightly worked into the butter. The article was then placed in a trough and passed into a cool room, where it remained till the next morning, the room being kept at a temperature of 50°. When taken out of the cool room in the morning the butter was again passed over the worker to abstract as much of the moisture as possible and to get the right texture in the butter. Enamelled boxes were next brought into requisition, and in these the butter was packed, but not before a lining of parchment paper soaked in a solution of preservitas was placed in the boxes. The boxes of butter were then placed in the cool room till they were dispatched for Sydney on February 11th. The outside temperature when the butter was packed was 100°."

The Argentine Republic is rapidly becoming an important competitor for the supply of butter to British markets, as the result of the first year's operations, though these were largely experimental. Argentine butter has practically already become an established commercial success. Cattle and grass are plentiful and labor very cheap. Not only is the original cost of production small, but peculiar advantages are derived from the Argentine currency. Since 1885 the gold premium has risen so high that the purchasing power of £1 in gold is now equivalent to £2 10s. in the depreciated paper money of Argentina, in which, except as regards British machinery, the expenses in that country are paid.

The qu... so import... the follow... Oliver. T... Agricultu... late Dr. A...

"The means at... butter; n... made chee... ter." Dr... two chees... of good ju... standing i... smaller ar... was wort... no inco... dairy to... ment." (w... water and... In exp... ripening... "The pec... though d... contains... transform... ripening... but by def... speaking... decompos... this ripen... the origin... adapts its... cheese wh... tough, an... is; while... this series... effected... rich appe... ing it th... the mou... in this i... nounced... neverthe... of that s... rich tast... chiefly, d... The a... during th... cheese m... ter-fat ha... "melting... made fro... by the ex... the prep... simple w... than a pr... ing) whic... not alwa... of simila... obtain th... ing or el... of ripeni... Ripen... been don... occur in... indigesti... yet larg... loses in v... average... end of c... pounds o... cent. V... pounds i... is report... total mo... solids 4.8... five mor... total cas... centage) of casein... In a... "Change... "In ever... pounds i... cheese w... form of... months... gen in... further... facture... used co... nitrogen... five mor... As w... pounds... rendere... with ou... ing or... larger t... being ec... or ripen... ammon... The... paration... wide or... much li... Cheddar... Dairy... Man... On som... seeding... week in... conditi...

"Quality" in Cheese.

To the Editor FARMER'S ADVOCATE:

The question of "quality" in Cheddar cheese is so important that I would ask permission to quote the following from "Milk, Cheese, and Butter," by Oliver. The quotation is taken from the Royal Agricultural Society's Journal. The author is the late Dr. Augustus Voelcker:—

"The rich appearance of old cheese is by no means attributable to a very large proportion of butter; nor is the poor condition of new or badly-made cheese referable solely to a deficiency of butter." Dr. Voelcker further remarks in relation to two cheeses which he analyzed, that "In the opinion of good judges the Cheddar cheese No. 1, notwithstanding a larger amount of butter (35.53%) and the smaller amount of water which it contained (30.32%), was worth less than No. 4 by one penny per pound—no inconsiderable difference in the returns of a dairy to remunerate capital and skillful management." (Cheese No. 4 referred to contained 32.92% water and 33.15% butter-fat.)

In explanation of the changes which occur in the ripening of a first-class Cheddar cheese, he says: "The peculiar mellow appearance of good cheese, though due to some extent to the butter which it contains, depends in a higher degree upon a gradual transformation which the casein curd undergoes in ripening. The curd is hard and insoluble in water, but by degrees it becomes softer and more soluble; or, speaking more correctly, gives rise to products of decomposition which are soluble in water. Now, if this ripening process is improperly conducted or the original character of the curd is such that it adapts itself but slowly to this transformation, the cheese when sold will be, comparatively speaking, tough, and appear less rich in butter than it really is; while in a well-made and properly-kept cheese this series of changes will be rapidly and thoroughly effected. Proper ripening thus imparts to cheese a rich appearance, and unites with the butter in giving it that most desirable property of melting in the mouth. On examining some cheeses deficient in this melting property, and accordingly pronounced by practical judges defective in butter, I nevertheless found in them a very high percentage of that substance—clear proof that the mellow and rich taste of cheese is not entirely, nor, indeed, chiefly, due to the fatty matters which it contains."

The above corresponds with our experiments during the past two years. We have found that cheese made from milk of medium richness in butter-fat had all the desirable qualities of a mellow, "melting" Cheddar cheese. At other times cheese made from such milk would be pronounced "harsh" by the experts. Evidently there is a *something* in the preparation of cheese for ripening (because the simple making of cheese is nothing more or less than a preparation of it for proper curing or ripening) which we do not yet understand. Why are we not always able to make first-class cheese from milk of similar quality day after day? Either we do not obtain the proper condition for and during ripening or else we do not always obtain the right kind of ripening agents or ferments.

Ripening of Cheese.—Very little work has yet been done in America regarding the changes which occur in the ripening of cheese. The change of indigestible curd into digestible, palatable cheese is yet largely a mystery. We do know that cheese loses in weight during the ripening or curing. The average loss of weight at the Guelph Station at the end of one month on cheese weighing 28 to 30 pounds (14½ in. diam.) was from four to five per cent. Van Slyke reports an average loss of 13.53 pounds per 100 in five months. The loss of water is reported by him as being 26.58 per cent. of the total moisture in the green cheese and the loss of solids 4.82 per cent. He reports: "No loss of fat in five months, but a loss of 6.15 per cent. of the total casein." The Guelph Station found the percentage loss of moisture to be 14.9; of fat, 9.3; and of casein, 15.3 at the end of one month.

In addition, the New York Station reports: "Changes in form of casein in ripening of cheese." "In every case the amount of soluble nitrogen compounds increased very much in five months." "The cheese when green contained no nitrogen in the form of ammonium compounds, while at five months there was 2.92 per cent. of the total nitrogen in the cheese in this form." This Station further observed that: "The cheese in the manufacture of which the largest amount of rennet was used contained considerably more of the soluble nitrogen compounds than did any other cheese at five months."

As we understand it, the soluble nitrogen compounds are those which are partially digested or rendered more easy of digestion. This accords with our experience that rennet does have a digesting or ripening effect on cheese, and that the larger the quantity of rennet used, other things being equal, the more quickly will the cheese cure or ripen. We have also noticed a strong smell of ammonia when boring cheese about 1½ years old.

The field of investigation relating to the preparation for and changes in ripening cheese is a wide one, and when fully surveyed will throw much light on the cause of good and bad quality in Cheddar cheese.

H. H. DEAN.
Dairy Dept., O. A. C., Guelph.

Manitoba has had a phenomenally wet spring. On some farms in the low-lying sections little or no seeding had been done up till the end of the third week in May. The roads have been in a deplorable condition.

The Babcock Test in Cheesemaking.

[Compiled from a paper given by Prof. Babcock before the Wisconsin Cheesemakers' Association.]

For more than twenty years after the establishment of co-operative dairying in Wisconsin profits were divided among patrons in proportion to the weight of milk delivered by each, without dissatisfaction, until watering or skimming was suspected. At that time all milk was considered about equally valuable, and the cows were almost entirely natives or "scrubs." The introduction of pure-breds of the Jersey and Guernsey breeds brought in animals that gave richer milk. In the meantime persons who owned Jersey cows were not content to pool their milk with that of the ordinary cows, and so kept their milk at home and made butter. To such an extent was this carried on that the factory system was seriously threatened. The introduction of the simple and accurate Babcock test has already solved the question for creameries, and in this class of factories to-day, the world over, the amount of fat delivered is accepted as the most equitable basis for dividends.

The proposal to adopt the same standard for cheese factories has from the first met with considerable opposition from those producing a low grade of milk. It was claimed that when milk contained more than 3 to 3½ per cent. of fat the excess was always lost in the whey and contributed nothing to the yield or quality of cheese, and when careful experiments showed that both the yield and quality of cheese improved with the per cent. of fat in the milk it was said that the improvement is not proportional to the increase of fat, and therefore the fat cannot measure its value.

To show that such objections are invalid, Prof. Babcock presents the results obtained in a number of careful and extended experiments. Dr. Van Slyke, of N. Y. Station, conducted experiments in a large number of factories for two seasons, when the composition of the milk and yield of cheese were noted. Without going into details, it will suffice to say that Dr. Van Slyke concludes that with normal unadulterated milk, containing from three to five per cent. of fat, the yield of cheese is nearly proportional to the fat, averaging for the two years 2.72 pound of green cheese for each pound of fat.

The dairy students from Wisconsin Dairy School working for a dairy certificate are required to send monthly reports of their work to the School. These reports show the per cent. of fat in the milk and the yield of cheese. A compilation of 347 of these reports, which represent three seasons' work and a production of nearly 4,000,000 pounds of cheese, showed almost identically the same yield of cheese for each pound of fat in the milk as found by Dr. Van Slyke.

There is, however, another factor to be considered, and that is the influence of rich and poor milk upon the quality of cheese. Although authorities differ upon this point, to Dr. Babcock's mind there is no question but that rich milk properly handled makes a better flavored, better textured cheese than poor milk, and that the difference is sufficient to fully compensate for the slightly diminished yield from a pound of fat in the richer milk.

The result of the "Columbian" cheese test also confirms this teaching. The difference between the Jersey and Shorthorn milk was nearly one per cent. of fat. Now, if the milk from the two breeds had been pooled and the cheese actually made divided between them in proportion to the milk given, the Jersey herd would have received 86 pounds of cheese less than it was entitled to, and, of course, the Shorthorns would have had the benefit of this. If, on the other hand, the cheese had been divided upon the basis of fat, the Jerseys would have received about seven pounds more than they were entitled to and the Shorthorns correspondingly less, the error in the last case being only one-twelfth as large as it was when the quantity of milk alone was considered. This is upon the basis of yield, no account being taken of the quality of the cheese. The quality of these cheeses was determined by three independent judges, the price depending upon the scores. Fixed in this way, the average price of the Jersey cheese was a trifle higher than the Shorthorn cheese. When this is taken into account the value of cheese from the two herds is almost directly proportional to the fat.

Another advantage of the relative value plan is the better quality of milk which it ensures. In conclusion, Dr. Babcock refers to Prof. Dean's plan of adding two per cent. to the fat reading. This gives poor milk an advantage and it gives the actual yield of cheese more nearly than dividing it in proportion to the true per cent. of fat. Dr. Babcock objects to this plan because it considers only the yield and ignores the quality of the cheese produced. Another, is that it puts a premium on the skimming of milk, and, carried to an extreme, makes separator skim milk, from which practically all of the fat is removed, worth one-third as much for cheese production as whole milk containing four per cent. of fat. Such a system Dr. Babcock believes is contrary to the best interests of the cheese industry. When any discrimination is made it should always be in favor of the better class of milk, as it is more nearly just to all parties concerned than any other practical plan yet proposed.

The German Reichstag has voted against the trade in options and futures in agricultural products, with a majority of 200 to 30.

U. S. Filled Cheese Legislation.

An important subject has been agitating the minds of American Representatives and Senators ever since the opening of the last session. It is what is known as the "Filled Cheese" Bill, and has been pushed hard by friends of honest dairy products, who now feel proud of the success of the passage of the measure by good majorities through the House of Representatives and the Senate. American dairymen are heartily sick of feeling that American cheese has been a by-word for adulteration at home and abroad, hence the strenuous efforts of the promoters of the Bill.

The provisions of the Bill, to sum up briefly, provide for a tax of one cent per pound to be paid by the manufacturers, and a license of \$400 for each factory in which "filled cheese" is made. A license fee for wholesale dealers, of \$200 per year, and a fee of \$24 per year for retail dealers. It also provides for the branding of both boxes and cheese, so that no mistake can be made in the character of the goods. Both wholesale and retail dealers must display in a conspicuous place in their places of business signs, "Filled Cheese Sold Here." Retail dealers in filled cheese shall sell only from original, stamped packages, and shall pack the filled cheese, when sold, in suitable wooden or paper packages, which shall be marked and branded in accordance with rules and regulations to be prescribed by the Commissioner of Inland Revenue, with the approval of the Secretary of the Treasury. Now that the Senate has put this just and honorable Bill so creditably through its hands, there can be little or no doubt about its favorable treatment at the hands of the President. A late dispatch from Washington states that the President has signed the Bill.

Swine Feeding at the Factory.

BY F. J. S.

There is considerable to be made at this industry if well and wisely followed, and, doubtless, if not so followed much may be lost.

The present position of the work, as it usually exists, cannot be considered as all that could be desired. There is a tendency to quantity rather than quality throughout the work. To turn a tap and run whey into the troughs, and then to toss in shorts or ground wheat, barley, oats, or other grain—to do this three times a day is not all of swine feeding. The writer's experience in swine feeding is that the profit accruing is in proportion with the thoroughness of the work.

The Whey and the Whey Tank.—They should be fed sweet as far as possible. It cannot be always so fed under these conditions, but it may be fed while it is not more than mildly sour, even at the factory. The statement will bear consideration that good cold water is worth more, pound for pound, for feeding swine in hot weather, than excessively sour, off-flavored (rotten) whey; neither is it possible to make good pork from such food, any more than one would expect an egg of fine flavor from a hen picking her food in the barnyard. The second point of importance in the condition of whey is uniformity. But how shall we secure these conditions? First, the tank that receives the whey from the factory should be thoroughly cleaned every day. Foulness is unnecessary, unjustifiable, and unprofitable. This should be done after the morning's feeding and before the day's whey comes off. Thirty (30) minutes on the end of a long-handled brush, by the man in charge, will do the work. Cold or tepid water at first, then hot water, brought from the factory by the whey trough, are the necessary adjuncts, coupled with a steam pipe to complete the work. No labor around the pens will give better returns than this. Not only so, but it is absolutely necessary for the best doing of swine and for the highest quality of pork; while the cheese in the factory adjoining demands every possible precaution to suppress foul odors. A pound of whey should never be found in the tank when the day's "dipping" commences. Such becomes a mother ferment with disastrous results. All surplus whey should be run off. Surplus whey and tank washings should be piped to a blind well or other suitable place. The former can often be sold at a profit in the neighborhood.

Feeding.—But how should they be fed? Often when abundant the pigs are fed too much of it. This whey is much worse than wasted. Not only is it no use to the animals consuming it, but a positive injury to the digestive apparatus. A clever feeder will detect unerringly the boundary line by the condition of the bowels, and will avoid the danger. One is constrained to say at times, How few men can feed a pig! Most of the success or failure of swine feeding depends on the man in charge. The largest feed of whey should be given at noon while it is sweet, the next at evening, and the least in the morning. Clock-like regularity is essential—less is not enough. Faucets in the receiving tank will open directly into a pipe conveying the whey to the troughs in the pens, which latter are best arranged, as is usual, on each side of a central passage. Feeding swine together in a field lot exposed to the sun and rain and flies, with insufficient trough-room for all to drink at once, and scattering whole grain on the ground, is a practice not endorsed by successful swine feeders. A single trough running the full length of the building, supplied by whey which runs to all the pens on one side, is, we think, a poor system. Each pen should have its separate trough, without communication with other pens. The whey may be supplied with little more labor and the feeder may then have a chance to exercise

his judgment and his skill, not alone with whey but also with the grain ration. The square is preferable to the V trough. The pigs having drank all they need, the grain ration (ground) should be given. Shorts at current prices is one of our best and cheapest swine foods, especially for young pigs, but variety is better than any single fodder. For pigs four months and under, shorts and barley make a most excellent combination. Shorts with peas and oats, the latter ground fine, make a splendid ration with whey. With advancing age corn (grain) makes a very desirable addition, being perhaps the most profitable grain that can then be fed. The proportion of corn should depend on the age of the animal and the nearness to "finishing."

But how should these grain mixtures be fed? Certainly not by pouring them on top of a trough full of whey—grain should be eaten and not drank. Too watery a mixture results in imperfect digestion—less pork for each pound of grain fed. This is a very important dietetic maxim: It is better to feed the grain dry than very watery. It should be mixed with whey till of the consistency of a moderately thick batter, such as would run out of a pail. This may be done either in each trough or in one large mixing vat. We think twice a day often enough to feed the grain ration—morning and evening.

Pen Management.—The number of pigs in a pen we would regulate by the trough room, and therefore have pens wide rather than deep. The floor should be water-tight and sloping to the gutter at the back. Open floors are productive of much stench. With a wide hoe or scraper one minute will serve to clean the sleeping floor and gutter of each pen, which is best done while the pigs are eating. The floors should be cleaned at least twice each day. A cistern at the end and outside of the building will receive the cleanings of the pens, which may then by a coarse, large-bored pump be pumped into a tight box on a wagon and drawn on to the land. This manure, if rightly used, will return a handsome interest on the whole investment.

As the season advances, should whey become scarce, we would recommend to mix the food with water as a substitute. A plot of green corn under these conditions would return a neat profit. A light sprinkling of gypsum on the floors and in the gutters will do much to preserve sweetness and will add to the value of the manure. A mixture of wood ashes, salt and sulphur kept in each pen will pay one hundred per cent. on the investment. A few sods thrown in occasionally are excellent.

Under this system and routine one man can attend to three hundred hogs, putting in ten hours a day.

A Good Standard to Work To.

A very good annual average yield of milk is 5,000 pounds instead of 3,000, and 200 to 225 pounds of butter per cow instead of 125 pounds. Many herds kept in a plain, practical, farm fashion attain still better results. There are manifestly many cows in the country, probably some millions, that do not produce the value of their annual cost, however cheap and wastefully poor their keeping may be. It is apparent that if but two cows were kept, of the suggested standard of production, in place of every three of the existing average quality, the aggregate products of the dairy industry of the country would be increased more than ten per cent., while the aggregate cost to their owners ought to be less and probably would be. Every possible influence should be exerted to induce dairy farmers to weed out their herds and keep fewer cows and better ones. At least the average quality of cows kept for dairy purposes should be brought up to a respectable and profitable standard. For the present the cow owner may reasonably require something over two gallons of milk per day for four months, then two gallons a day for the next four, and at least two months more in milk during the year, with constantly decreasing yield. This provides for an annual yield of 5,000 pounds of milk, or about 575 gallons, which is a fair ideal standard for the dairy cow in the United States.—From *Alford's Statistics of the Dairy; Bulletin II., U. S. Dept. of Agriculture.*

French Rules for Milking.

- (1) Work rapidly; slowness causes loss of cream.
- (2) Milk thoroughly, to the last drop, because the last milk is the best.
- (3) Milk at the same time every day.
- (4) Milk cross-wise—that is to say, one fore teat on the right and a hind teat on the left and vice versa; the milk thus flows more copiously than by parallel milking.
- (5) Milk with five fingers, not with index and a thumb, a fault too common with milkers.
- (6) Do not employ any kind of milking machines.
- (7) To milk young, restive cows, raise one of the fore feet. Never strike them.
- (8) Always keep the hands clean, and also the cow's udder and dairy utensils.
- (9) During milking avoid distracting or disturbing the cow. Those who neglect any of these prescriptions infallibly lose milk.

The Cost of Milk Production.

On the basis of a year's observations with the herd at Cornell University Experiment Station, H. H. Wing, Professor of Dairy Husbandry, reaches the following conclusions:

1st. With a fairly good herd, carefully fed and kept, milk can be produced for sixty-five cents per cwt. and fat for sixteen cents per pound for the cost of food consumed.

2nd. That individuals of the same breed vary more widely in milk and butter production than do the breeds themselves.

3rd. The larger animals consumed less pounds of dry material per 1,000 pounds live weight per day than did the smaller animals.

4th. That in general the best yields of fat were obtained from cows that gave at least a fairly large flow of milk.

5th. In general, the cows consuming the most food produced both milk and fat at the lowest rate.

6th. For the production of milk and fat there is no food so cheap as good pasture grass.

POULTRY.

A Farm Poultry House.

To the Editor FARMER'S ADVOCATE:

SIR,—I herewith send you plans for an inexpensive farm poultry house. Fig. 1 represents a perspective; Fig. 2, a plan; and Fig. 3, an end elevation of the same. Two noteworthy features in the

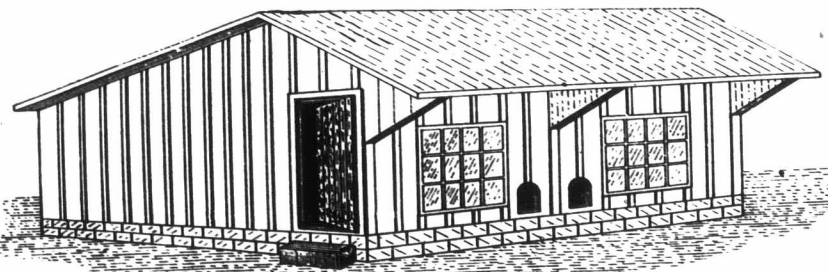


FIG. 1.—POULTRY HOUSE ELEVATION.

design of this house are in the extension of the roof and receptacle for winter droppings; the one preserving dry earth or dust continually through the summer season, which is so essential to the health and comfort of the flock, and the other in reducing the labor of those in attendance to a considerable extent, and at the same time preserving the manure until such time as it is wanted. This poultry house is 16 x 20 feet and designed for 50 fowl, and should not contain over 60, separated into two flocks.

In building this house a trench should be dug about 2 feet deep by 18 inches wide, then filled in

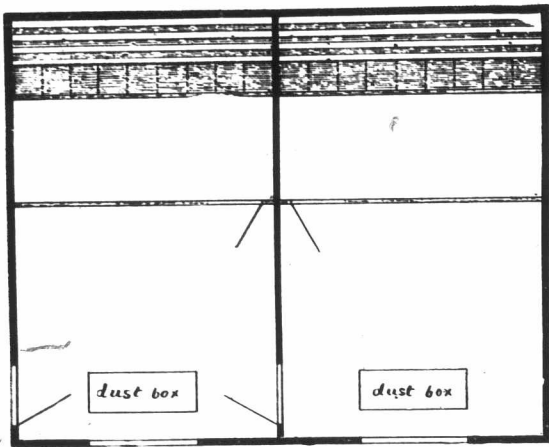


FIG. 2.—GROUND PLAN.

with small stones to level of earth, after which comes the mason work, one foot high; this completes the foundation. Next come 2 x 6" sills bedded in with mortar—and do not be afraid of using too much of this—thus preventing rats and mice from scratching their way through into the house. We are now ready for the frame work, which is composed of 2 x 4" studding and 4 x 4" plates. The studding in front, or south side, are 7 feet long, and for rear, or north side, 5 feet long. I should use 13 2x6" rafters on a side. On the north they are 134 inches long from heel to toe, and on

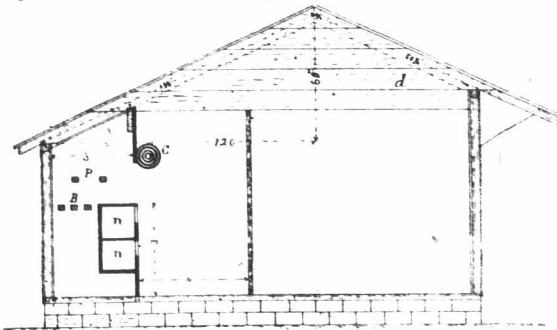


FIG. 3.—CROSS-SECTION.

the south 80 1/2 inches from heel to toe. In cutting bevels of rafters, take the figures representing the half span, and pitch lines and arrange them in the form of a fraction, thus: 10/12; now dividing these by, say, 10, we get 1/12 = 1/12. Now these figures, or their equivalent, are those which are used in cutting the said bevels: that is, 6 inches on tongue and 12 inches on blade of steel square; using blade to cut heel, or that bevel which rests on plate, and tongue to cut toe. About 1/2 inch may be allowed for projection of rafters on south side. In nailing these rafters to plate I should use 6-inch

wire nails, first countersinking for the same with half-inch bit the proper depth so as to give the nail a good hold in plate. In boarding up on the outside I should of course first tack on my tar paper, then take boards 12" wide and nail on under the eaves of south side, then nail the others vertically as shown. By manipulating thus, a 12-foot board sawn in two will answer for front and rear of house. For inside of poultry house, tongued and grooved lumber should be used; hemlock would do, and it should be perfectly dry; if not dry I would advise tacking it up for a season until it got thoroughly cured; of course, tar paper should be used same as outside. If waterproof paper were used in connection with sheeting and shingles for roof, it, no doubt, would be much better for preserving an even temperature through the winter months. Nests for Leghorns, size should be about 13 x 13, and 14 inches high inside; opening, 6 inches wide and cut down half way. They are shown in dotted lines in plan, and arranged one above the other as shown at N in end elevation. The windows should be as low as possible so as to admit of the sun's rays at dust boxes, and they should be double if winter eggs are required. Double doors are a necessity for poultry houses, one to swing inside and the other outwards. The ordinary droppings board is dispensed with in this connection, and 2 1/2 x 3-inch cedar scantlings placed about three inches apart are arranged in its stead, thus allowing the droppings to fall through to the pit below. The two dots at P in elevation indicate perches, and should be same size as those below at B, and

of same material if it can possibly be got, as dry cedar is such a good nonconductor of cold. The concentric circles at C represent a piece of canvas rolled up and ready for use. This I know the poultry will appreciate if attended to and let down on winter nights when mercury is descending below zero.

The dust boxes should be of convenient size and let in level with the floor, and they should have movable covers to keep dust clean when not in use; a bath once a week in winter will suffice. The partition through the center of the building should be boarded about 2 feet high, then wire netting of say 3-inch mesh to complete, fastening the same to boards above at D, which are part of partition. The longitudinal partitions as seen in plan and elevation should have small windows in, as there are none in the rear of the house.

Now, this house as viewed in plan and elevation is intended for winter use only. A general cleaning and transformation should take place about the first of April. The droppings from the pit should be removed, and the longitudinal partition taken down and set aside, to be used again on the approach of another winter. The perches should be taken down, cleaned, and set up again in the more roomy part of the house. If these perches are sun-chinked so much the better, as then they make excellent traps for lice, and they can be disposed of in short order by scalding with boiling water. I think it would be wise to hang these summer perches from above with, say, three-eighths inch iron rods, and within about three feet from floor. Droppings boards may be used to advantage in the summer months, although they are a harbor for lice, and therefore should be of a portable nature. My plan would be to have one under each perch, of the proper width and supported by iron legs and these legs set in tomato cans. Perches or boards should not come in contact with any part of the house through summer months, if one desires to keep vermin down to a minimum.

The canvas (C) should be lowered and made fast to board over nest boxes after housecleaning, so that the fowl can not get up and squat in their winter quarters. Two small doors should be constructed in the rear of the building, through which the droppings may be removed, and care should be exercised in fastening in the fall, so as not to admit of a particle of cold. For water arrangement see FARMER'S ADVOCATE of October 15, 1894. I have no provision for a ventilator in these plans, from the fact that I think the farmer's poultry house is as well without one. To have a good dry house the inside should be filled in with earth level with top of stone; the last few inches should be of heavy clay, and well rammed in. This I find makes a very good floor for a poultry house. It can be conveniently got, 12 x 6 cedar timbers would answer the purpose of stone for a foundation.

Simcoe Co., Ont.

A. T. GILBERT.

A Cheap Egg Tester.

The reputation for always offering fresh eggs for sale is certainly worth something when the same purchaser is to be dealt with week after week. This can be obtained only when absolutely fresh eggs are offered. While a person is ever so careful and honest, a stale egg will steal in among the good ones during the hot weather, especially when they are fertilized. The use of an egg tester, however, will certainly be of value in preventing bad eggs going to market. The *Poultry Keeper* describes a simple and effective home-made contrivance for testing eggs, which is made as follows: Take an old stovepipe and set it over a lamp;

now with side, black long inch cloth a few h and you not cost old sto piece o bottom set the cloth. through a brood at the mass. appear

Whi is still breedin he is a ductio has bec ments Experi are ke about pens w pens, t larger similar unfert number fold an

BY

Sev from ing fle part w year a and co that n

A flea-b which and m worm even n cut o when the m was m amon soned stanc will 1 brood coop alway. Th this grub.

fami early ably mixt this will flour can pou tryin appl met a ba it o whe with seer only vig tles

dur soo his not 25th or l

bee toe is k suc bec

now with a can-opener cut a two-inch hole in the side, about the height of the flame; now take a black piece or cloth, about four inches wide and long enough to go clear around the pipe, cut a one-inch hole in the center of the cloth, then put the cloth around it and sew the ends, with the hole in the cloth over the two-inch hole in the pipe; punch a few holes in the bottom of the pipe, for draught; and you will then have a good tester that should not cost you anything, as the tester can be made of old stovepipe, two fruit cans soldered together, a piece of rain spout or an old oil can with both bottom and top melted out. To test eggs simply set the pipe over the lamp and hold the egg to the cloth. A perfectly fresh egg is clear and alike throughout. A fertilized egg that has been under a broody hen a couple of days will show the air cell at the large end, and a little later a cloudy, spidery mass. Any departure from the uniformly clear appearance is an indication of a lack of freshness.

More and Better Eggs.

What! Is it really possible that the rooster is still allowed to run with the hens, now that the breeding season is at an end? To put it plainly, he is a positive injury to the business of egg production, as we pointed out in a late issue, and which has been conclusively proven by a series of experiments covering this point, undertaken at the N. Y. Experiment Station, which showed that when hens are kept without a male, eggs are produced at about 30 per cent. less cost than exactly similar pens where cocks and cockerels are kept. In some pens, too, the production of eggs was nearly a third larger in lots where no males are kept than in similar lots having males present. Not only are unfertilized eggs produced cheaper and in greater numbers, but the keeping quality is increased ten-fold and more.

ENTOMOLOGY.

Injurious Insects--June (2).

BY PROF. JAMES FLETCHER, LL.D., DOMINION ENTOMOLOGIST.

Several letters of inquiry have been received from readers of the FARMER'S ADVOCATE concerning field and garden pests. These are for the most part with reference to insects which occur every year and do more or less injury in every locality, and concerning which it might have been supposed that no special information was necessary.

A letter comes from Picton, Ont., stating that flea-beetles are competing with cutworms to see which can do most injury to root crops. Turnips and mangels have suffered very much, and the cutworms are so numerous that they are destroying even newly-set raspberries, keeping the new growth cut off even with the ground. For these latter, when occurring in such vast numbers, undoubtedly the most effective remedy would be that which was mentioned in my last article, viz., distributing among the plants to be protected bundles of poisoned weeds or other vegetation. Where circumstances allow of it, turning poultry into gardens will frequently be a useful measure, and a young brood of chickens, with the old hen shut up in a coop so that she cannot do injury by scratching, is always useful in a garden.

THE TURNIP FLEA.—There is never a year that this insect (which is shown in the figure, with the grub, very much enlarged) does not cause much loss, not only to the turnip crop, but to cabbages and other plants belonging to the mustard and cress family (*Cruciferae*). The mature beetles pass the winter under clods of earth, leaves, etc., and come forth early in spring, ready to attack any plant of the above family. They are sometimes a serious enemy on early radishes and cabbages in the seed bed. Probably the best remedy is to dust the plants with a mixture of Paris green and some dry powder. For this purpose almost any PERFECTLY DRY powder will answer—hardwood ashes, land plaster, lime, flour, and even finely-sifted road dust. The poison can be diluted with from twenty-five to fifty pounds of the powder to one of Paris green. After trying many experiments as to the best way of applying this poison, I have found that the easiest method is to put about one pound of the mixture in a bag of fine muslin or cheese cloth and distribute it over the plants (if possible, early in the morning, when there is dew upon them) by tapping the bag with a light stick. Upon turnips, land plaster seems to have a specially beneficial effect. Not only are the plants stimulated and pushed on to vigorous growth by the land plaster, but the beetles are poisoned at the same time.

There are several broods of the turnip flea-beetle during the season, and by experience a farmer soon learns what is the best time for him to sow his roots. In this part of Ontario it has been noticed that turnips sown from June 15th to 25th are less attacked than those sown earlier or later.

THE CUCUMBER FLEA-BEETLE.—Another flea-beetle, which frequently does much harm to potatoes and tomatoes, as well as later on to cucumbers, is known by the above name. It may be treated successfully with the same remedy, and it has also been found that when potatoes and tomatoes have

been sprayed with Bordeaux mixture to protect them against fungous diseases, this application has been very satisfactory in preventing injury by the cucumber beetle.

THE COLORADO POTATO BEETLE.—This well-known and troublesome pest will demand the attention of farmers and gardeners during the rest of the growing season, and in reply to several inquiries I would say that there is no remedy so good as Paris green, which may be applied either in powder, as for the turnip flea-beetle, or mixed with water in the proportion of one pound to 100 gallons of water (for the potato).

PARIS GREEN is the standard remedy against all mandibulate or biting insects. It is a chemical combination containing chiefly arsenic and copper, about 60 per cent. of it being arsenic. It is to this latter it owes most of its virtue as an insecticide. It is, I think, almost an ideal material for the purpose to which it is applied by entomologists. The danger of its being mistaken for some other substance of a harmless nature is reduced to a minimum by its characteristic bright green color, the color green being very generally recognized as indicative of poisonous properties. Its insolubility in water and under most conditions to which it is likely to be exposed renders its use very simple, although this fact also necessitates the constant agitation during the application of all liquid mixtures containing it, in order that the Paris green, which is very heavy, may be kept in suspension uniformly through the whole liquid. Its fine state of division makes its dilution, either with liquids or dry powders, very easy, and its extreme virulence as a poison makes it possible to dilute it very much indeed without loss of its efficacy as an insecticide. It has been discovered of late years that by mixing an equal weight of quicklime with this arsenite the caustic effects which sometimes follow its careless use on vegetation can be in a large measure prevented. This discovery has simplified immensely the question of the most suitable remedy for mandibulate insects, for now a standard strength of one pound of Paris green, one pound of quicklime and 200 gallons of water may be recommended for use on all kinds of vegetation. If it be thought more convenient to apply the poison in a dry form, it may be mixed with fifty times its quantity of any dry and finely divided powder.

From inquiries made from time to time at Farmers' Institute meetings it becomes advisable to draw special attention to the fact that Paris green does not dissolve in water, and, therefore, no matter how long it may have been mixed it is necessary to stir up the mixture constantly while it is being applied, so that the poison may not sink to the bottom.

Wireworms.

A pamphlet recently issued by Miss Eleanor A. Ormerod, F. E. S., upon the wireworm, contains facts with which a familiarity is of advantage to growers of crops. This troublesome pest of which we hear occasional complaint is one of the most mischievous of insect enemies. They are remarkably long-lived, for they continue in the grub or larval state for a period of three to five years, according to circumstances. Their depredating work consists in not only totally destroying great numbers of growing plants, but great quantities of roots are gnawed and partially killed by their habit of going from one to another, taking a bite here and there as they pass.

In their mature state they are the dark gray "click beetles" or "skip-jacks," which are known by their habit of springing with a click to their feet when left lying upon their backs.

These beetles lay their eggs in the earth, close to the root of a plant, or between the sheathing leaves or amongst leaves near the ground, and such places as grass pastures or clover leas are especially preferable. When full-grown the worms may be from a half to five-eighths inch long, smooth, shiny, and yellow or brown, almost round in form, and possess three pairs of short legs near the head, which is hard and furnished with hard jaws.

When about to turn to the chrysalis state they go deep down into the soil and form an earth cell, in which they change to the pupa and thence to the beetle condition.

The remedies recommended by Miss Ormerod, which are peculiarly applicable to England, with its large sheep flocks, are to pasture down infested grass and clover leas as bare as possible just before plowing it. For this purpose sheep and cattle should be huddled upon small areas at a time and fed with oil cake, corn or other feeding stuffs, so that each inch of the land shall be trodden and eaten bare. The plow should follow the moving of the stock.

Amongst dressings found serviceable for applications to land before breaking up are salt, lime and gas lime. Salt, from five or six cwt. to ten or twelve cwt. per acre. Lime given hot so as to burn off the grass, and thus destroy the food of the wireworms, is recommended. Gas lime is particularly serviceable when the ground can stand idle for a couple of months after treatment to allow the dressing of from two or three tons per acre to become oxidized and thus less harmful to the succeeding crop.

It is well to apply stimulating manures, such as nitrate of soda and superphosphate, and roll the ground firmly upon infested land which cannot be thoroughly treated, and thus aid the crop to get beyond the tender stage.

GARDEN AND ORCHARD.

Cultivating the Onion Patch.

An important crop to many farmers and gardeners is that of the onion, which, like other hoed crops, responds well to liberal cultivation and careful attention. The operation of stirring the soil should commence as soon as possible and continue at short intervals. Until the bulbs are well grown, cultivation can hardly be overdone. It is well to stir the surface as soon as practicable after a rain, so as to prevent the formation of a crust on the surface. Wheel hoes are altogether the best, both for expedition and thoroughness. Horizontal and vertical cutting attachments each share in doing the work well. The former are best to use while the plants are small, because they throw the soil away from rather than to the plants. The vertical knives do better work when the bulbs begin to bottom, when care must be exercised not to run them deep enough to injure the roots. The double wheel hoe, which straddles the row, can be used successfully with care as long as the plants are not large enough to be injured, whereas in large plants the single hoe must be used to do the work. When the onions are bottoming, an attachment should be used which will throw the soil away from the rows. By attending carefully to surface tillage, a crop will be insured, even though the rainfall is very light. Unless the land is rich an application of quick-acting fertilizer will pay well for the doing.

Staking Tomatoes.

Some of the advantages of staking are: The fruit is never on the ground; it ripens much more evenly with free circulation of sun and air; it is easily gathered, none being missed; the vines are not torn or trampled upon; and the yield is much in excess of what it is when so much of the strength goes to vine, for trimming must accompany staking. Drive small stakes in rows 3½ feet apart and two feet in the row. They should stand three or four feet above ground. Set a plant at each stake. When the plants start side branches, cut them out, using a small, sharp blade of a pocket knife, and always cutting from the plant to avoid danger of injuring the stalk. Tie the plant to the stake with a rag string.

Allow no side shoots to grow, and tie every foot, or as the plants seem to need it. When they reach the top of the stake, clip the center. There will be no more growth of vine, and the strength all goes to the large clusters of fruit that are grown on one stalk. Sometimes two main stalks are allowed to grow, both being tied with one string, but never a side branch. This may seem like close cutting, but fact, not theory, verifies its virtue. I once helped my brother care for 350 plants in this way, and he sold \$50 worth of tomatoes from the patch, receiving fancy prices for none but the very earliest, and selling the last as low as 25c. per bushel.—[Am. Agriculturist.]

VETERINARY.

Home Treatment for Farm Animals.

[From an address by F. Torrance, B. A., D. V. S., President of the Manitoba Veterinary Association.]

(Continued from page 93.)

WOUNDS.

A few words as to the home treatment of wounds.

The use of barbed wire fences has made accidents to farm stock of very frequent occurrence, and experience tells me that the majority of farmers have something to learn regarding the treatment of these wounds. In the first place, and as a general rule, it is better not to stitch them together, unless it is done by a surgeon, and for this reason: These wounds are generally of a ragged, irregular shape; and if they are deeper than the skin, the parts below are badly lacerated. Now, in order to get the benefit of stitches the wound must be brought together, muscle to muscle, skin to skin, with no gaps between them anywhere, and this is an operation requiring more skill in proportion to the extent of the wound and the amount of laceration. If the skin alone is drawn together and the wound in the muscle beneath allowed to gape, the stitches only have the effect of keeping in the matter which is sure to form in the deeper parts of the wound, and healing is delayed instead of helped. Stitches, then, as a rule, should be avoided. There are cases when they are absolutely necessary, but these are cases where a surgeon should be called in, and I wish only to talk to you about the injuries which you would not hesitate to treat yourself. If the wound is small, clean, and not bleeding, the less it is meddled with the better. Any little ragged bits of skin or flesh may be cut off with a clean, sharp pair of scissors; and if it is not fly time, nature will do the rest. A protecting scab will form over it and healing will go on satisfactorily beneath it. But this is only in small wounds which have not been contaminated by dirt of various kinds getting into them. These require cleansing, and this should be done with a clean cotton or linen rag and boiled water containing a little carbolic acid. Don't take a dirty pail, an old sponge, and the first water that comes handy. Instead of cleansing the wound you are really making it fouler than ever, by planting the germs of suppuration in it. You may wash out the hair and dust, but you implant the bacteria, which will develop in the wound



and cause it to suppurate. After the wound has been cleansed with plenty of boiled water and a clean rag, it is usually dressed with carbolized oil. There are better applications than carbolized oil, but it is so well-known and widely used that it is probably the only home remedy at hand. Carbolized oil should not contain more than 10% of pure carbolic acid, and may be freely applied to wounds two or three times a day. Do not apply any caustic substances to a fresh wound. I have seen great harm done by the application of fresh lime, powdered bluestone, and burnt alum to wounds, and I caution you to avoid them.

A few days after the wound has occurred it is likely that pus or matter will be found in it or running out of it, and care must be taken to see that the matter can get out freely. If there is any depending part of the wound or pocket where the matter can remain, it should be syringed out with carbolic acid and water twice a day at least. Soap and water should be used freely once or twice a day to keep the matter from forming foul crusts around the wound, and after each washing the carbolized oil may be applied with a feather.

The deeper parts of the wound will now be seen filling up with little pink fleshy granulations, and sometimes, under the mistaken idea that these are "proud flesh," they are burnt off with caustic. This is only destroying the material with which nature is filling up the breach, and if it is persisted in will delay the healing process considerably. These granulations should not be interfered with unless they attain such a size as to project above the level of the surrounding skin. Then the application of caustic substances is indicated, and powdered bluestone may be sprinkled on the wound once a day, or the parts touched with a stick of lunar caustic.

The wounds made by barbed wire are seldom followed by much hemorrhage or bleeding, but sometimes, if a large blood-vessel is torn across, there may be very great loss of blood, and even death. In these cases there is often no time to send for a surgeon, and if anything is to be done, it must be by the people at hand. There are several ways of stopping bleeding. Some of them, such as the application of a ligature to the wounded blood-vessel, are only of use to the surgeon. Others, such as the application of pressure to the bleeding point, are within the reach of anyone. If no bandages or appliances are at hand and the animal is losing blood fast, do not hesitate, but plunge the hand into the wound and try by pressure on one part after another to find the bleeding vessel, and when it is found, keep the fingers firmly pressed on it until bandages, etc., can be procured. Then begin with a piece tightly folded into a shape and size to fit the situation, place it quickly in position and hold it there while another is prepared a little larger and laid over the first, and so on until the wound is filled up. Then apply a bandage round the leg or body, as the case may require, to keep everything in place. This bandage, if properly applied, should not be taken off for at least twenty-four hours, when it may be carefully removed.

If the wound is on the leg, the bleeding may be stopped by pressure, not on the wound, but on the parts between the wound and the source of the blood. Thus, if an artery is wounded (you will know it by the blood flowing in distinct jets), the blood is coming from the heart to the wound, and the compress must be applied between the wound and the body. On the other hand, when a vein is opened, the blood is flowing to the heart from the extremity, and the compress must be applied between the wound and the foot. A compress of this kind must be tight enough to stop the circulation, and for this reason should not be applied for any great length of time, or gangrene, or death of the part below the compress, will result. But as a temporary means of stopping the bleeding until surgical aid can be summoned, it should be known to every stock owner.

APIARY.

Hives.

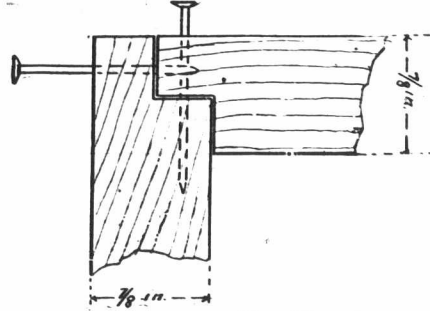
As the number of colonies increase, hives will of necessity have to be supplied. In regard to the particular style or form of hive to be used it might be stated that an experienced apiarist may be successful with any of several sorts which receive favorable recognition. Frame hives managed with intelligence and skill are essential to the greatest success, while inaccurately made frame hives, neglected, as is too often the case, so that the combs are built irregularly between or across the frames, are not one whit better than box hives. Even with accurately built hives some attention with regard to spacing the frames is necessary while comb-building is going forward in order to keep them separate one from the other.

The frame and hive most in use by progressive bee-keepers is the invention of the venerable and much-lamented the late Rev. L. L. Langstroth. It is known as the Langstroth hive and is so commonly popular that a description is hardly necessary at this juncture. It will suffice to give the important dimensions. The outside dimensions of the frame most in use and upon which the patent expired years ago is 17 1/2 inches long by 9 1/2 inches deep. This is made of seven-eighths inch wide bars, as a rule, but it is considered an advantage to have the top bar say an inch wide and the bottom one one-half or five-eighths, so that it can be easily lifted from the hive when full of honey. It is always well to have the top bar quite five-eighths

inch thick so that it will not sag and break the comb when well laden. The end and bottom bars will do one-fourth inch thick. The top bar must project about three-quarters of an inch over the ends of the frame so as to rest upon the ledges or rabbets of the hive.

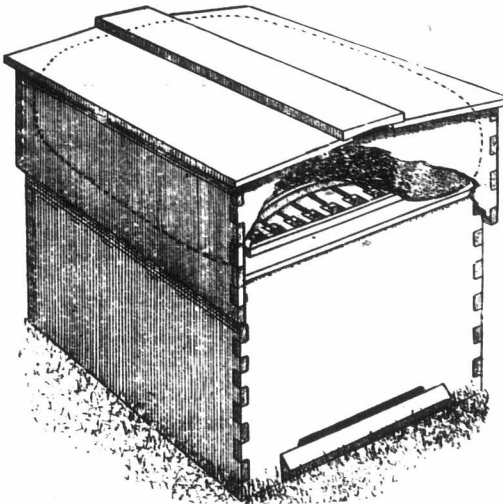
The frames should be made one-quarter inch shorter at the bottom than at the top, which will greatly aid in lifting out the laden comb. Between the frames and the bottom board on which the hive rests, one-half inch space answers, but five-eighths inch is preferable.

The hive to hold the frames should be the plainest kind of a box, the frames resting on rabbets made in the upper edges. Constructing it with joint locks, as shown in the accompanying figures taken from Frank Benton's Bee Manual,



[Manner of Nailing Hives]

issued by the Washington (U. S.) Dept. of Agriculture, and nailing in both directions, makes a strong hive body. The latter may be single-walled for mild climates or where cellar wintering is practiced, but for severe regions it is advisable to have permanent double walls with the interspaces filled



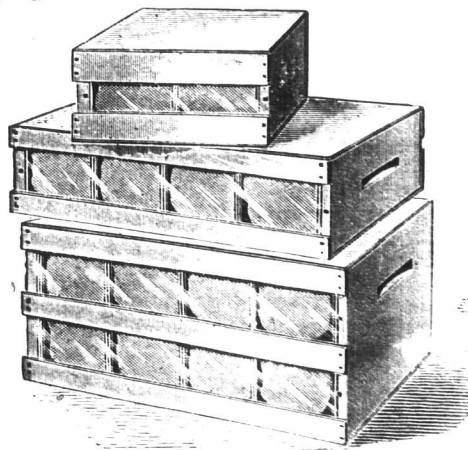
[Lock-Joint Chaff Hive.]

with chaff, ground cork, dry sawdust or similar material, or else outer cases should be provided, giving space between the latter and the hive proper for dry packing.

The width of the hive will depend, of course, upon the number of frames decided upon, 1 1/2 inches being allowed for each frame and three-eighths inch added for the extra space at the side. If a top story to contain frames for extracting is placed over the brood chamber, its depth is to be such as to leave the space between the two sets of combs not over five-sixteenths inch, and in this, as in the lower story, the space between the ends of the frame and the hive wall should be no more than three-eighths inch.

Shipping Comb Honey.

No doubt some bee-keepers will soon want to market comb honey, which can usually be disposed of locally. The larger apiarists, however, usually like to sell in a wholesale way, when some sort of a shipping crate must be used. The shipping cases



[Honey Shipping Cases.]

herewith illustrated represent an excellent style of box in different sizes. It will be noticed that the front is of glass, which will show the honey to good effect.

Comb honey to be shipped should have the sections well and uniformly filled and attached all round. The sections should be packed in perfectly tight, to prevent breaking loose or crushing of the comb. Should there be a space at the ends or top of the sections it should be packed thoroughly with excelsior so that they cannot move in the case.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

BRONCHOCELE ON YOUNG HEIFER.

J. E. BENNETT, Ontario Co.:—"Will you please advise me with regard to my heifer, eleven months old. The windpipe is enlarged twice its ordinary size, and she breathes heavy at times. The neck behind the jaw bones is swollen considerably. She is in good condition and thriving splendidly. Do you think she has actinomycosis? I am treating her for this as you have advised several times already. Will the treatment surely cure the disease, if taken in its first stages?"

[From the fact that you say your heifer is in good condition and thriving splendidly, we do not think that it can be actinomycosis. Generally as a result of this disease the teeth are involved and do not serve the purpose of masticating the food and the animal becomes poor in condition. We are inclined to the belief that your animal is suffering from a form of "bronchocele," which is interfering with respiration, causing the enlarged windpipe, and unless it appears to give great inconvenience, should not recommend any treatment. The treatment of actinomycosis by the administration of iodide of potassium has always been successful in our hands.

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

PERHAPS PERNICIOUS ANEMIA.

ROBERT HAYWOOD, Emerson:—"I have a 11-year-old mare; is a big beast and looks strong, and when in stable eats well and feels well, but as soon as put to work goes off her feed and plays out. I can see nothing the matter with her."

[You have not stated how long your mare has been in the condition you have mentioned, and from the limited description of the case you have given it is difficult to form a correct diagnosis. It is possible that the animal may be suffering from "pernicious anemia," a microbic disease which is quite prevalent in several parts of this Province, and is of a somewhat fatal character. I would advise you to have the case examined by a competent veterinary surgeon.

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

SICK FOWLS.

A. C. HARE, "Ballybrack," MacLeod, N.W.T.:—"Kindly inform me, through the columns of your paper, of a cure for a disease in fowls, resembling "mumps." The base of the beak swells into a hard lump on one side near the eye. I find it generally fatal. Fowls will not eat well and soon waste away and die. Have lost quite a number from it. I suppose it is infectious, but does not attack many, apparently."

[Open the beak and swab the throat with end of soft feather dipped in a solution—of borax, two drams; water, six ounces—twice daily, and apply a weak tincture of iodine to the external swelling three times a week. Put one ounce of the chlorate of potash in half a gallon of drinking-water.

W. A. DUNBAR, V. S.]

PUFF ON KNEE.

ALLAN PAUL, Alameda, Assa.:—"My blood colt, one month old, was born with a soft puff on each knee the size of an egg, which has gradually changed to hard gristle. Knees are firm but crooked, and are getting more so. What would you advise?"

[Apply strong tincture of iodine three times a week: Iodine, two drams; iodide of potassium, one dram; alcohol, two ounces; mix. Continue the treatment until enlargement is reduced.

W. A. DUNBAR, V. S.]

LUMP JAW AND SWEENEY.

S. P. FOX, Brandon:—"Please tell me in the next issue of the FARMER'S ADVOCATE what will cure lump jaw in cattle and sweeney in horses?"

[For "lump jaw" give twice daily for two or three weeks, iodide of potassium, one dram. This is a medium dose for a full-grown animal. For "sweeney," rub the wasted parts twice a week with the following liniment: Strong liquid ammonia and turpentine, equal parts; raw linseed oil, two parts. Let the animal's work be light, if worked at all.

W. A. DUNBAR, V. S.]

Miscellaneous.

KAFFIR CORN.

FARMER, Frontenac Co., Ont.:—"I have read several references to what is called Kaffir corn, and would like to see a few notes in a reliable journal like the FARMER'S ADVOCATE regarding it as a fodder crop."

[Kaffir corn is of South African origin, belonging to the same group of plants as broom corn and other non-saccharine sorghums. Some ten years ago it was introduced into the Southern States and later into the Northern States, where it is reported

to have given favorable results. Its drought-resisting qualities have recommended it especially to farmers living in localities too dry for the best development of corn.

Kaffir corn, like other crops, yields best on rich land, responding well to generous treatment. It may be grown on stiff clays, light sands, river bottoms, and on poor uplands, and it will yield profitable returns on soil too poor for other corn.

At the Kansas Station the red and white varieties yielded per acre: The former, 58.25 bushels of grain and 6.05 tons of fodder; the latter, 32.55 bushels of grain and 5.33 tons of fodder.

BLUE WEED.

R. McN., Middlesex Co., Ont.:—"I have a small clover meadow so completely covered with blue weed (specimen forwarded) that the grass is almost entirely hidden from view."

[Blue weed (Echium vulgare) is a biennial. It is both upright and spreading in its habits of growth, each plant having several branches springing from a single stalk. It grows to the height of from one to three feet, according to conditions.]

Like other biennials, blue weed is not difficult to keep out of cultivated portions of the farm, but its eradication in permanent pastures, fence corners and road sides is not an easy task. Mowing is of little use, because it will flower and seed from low branches, which will shoot out from the mowed off stump.

LIVE STOCK MARKETS.

Toronto Markets.

There is little change to record in the volume of business over last week; if anything it is somewhat lighter. This week's market was overloaded with cattle; as a consequence prices went lower.

Export Cattle.—Cables are discouraging, quoting prices no higher than 5 pence per lb.; that is, 10c. per lb., sinking offal. It is not a difficult sum in simple addition to reckon where a profit is made, considering that the highest price was 4c. and the lowest 3c.

Butchers' Cattle.—Hardly anything went above 3c. per lb., except three or four fancy heifers; some went as low as 2c. per lb. Messrs. Le Roi Vincent and Cautell were on the market from Montreal, but only took four loads for that market.

Bulls.—A few head changed hands at from 2 1/2c. to 3c. per lb. Three bulls shrunk 166 lbs. from the farm to the market. Three bulls, 6,575 lbs., fetched 3c. per lb. One bull, 1,500 lbs., sold for \$28.

Table with columns: Location (London, Liverpool, Glasgow, Newcastle), Cattle, Horses.

Stockers and Feeders.—There is slow demand for all kinds, with the most activity in half fat feeders; none wanted at present; good half fat steers averaging from 1,000 to 1,200 lbs. each sold for 3c. per lb.

Lambs.—Trade not extralively; yearlings sold fairly well at from 4c. to 5c. per lb., with and without wool, respectively. A nice bunch of lambs brought 5c.; the top price spring lambs were selling at from \$2.75 to \$3.75 per head.

Milk Cows.—All finally sold, but the market dragged along all day. Many were poor in quality. Quotations from \$20 to \$30 per head.

Hogs.—The only redeeming feature of to-day was the steady price of hogs. Choice hogs are still keeping in good shape, although prices did not advance. The market was steady at 4c. per lb. for best selections weighed off cars.

Butter.—Supplies still keep coming forward liberally, and there is bound to be a heavy surplus at the close of the season. Dairy butter is moving well, but it has to be strictly first-class to bring the quotation, 11c. to 12c. per lb.

Wool.—The most active market at present is for wool, and fair supplies have been coming into the market during the week. Dealers are paying about 18c. for choice fleeces, 15c. for rejections, and 11c. for unwashed; pulled super, 21c.

Grain Markets.—Steady; one load only on the market, selling at 73c. The low prices offered by Toronto buyers is keeping farmers from delivering. There is practically no demand for Ontario wheat for export.

Table with columns: Grain (Wheat, Oats, Barley, Peas, Flour), Price (1896, 1895, 1894).

Peas.—Only one load in, which changed hands at 51c. per bushel. A bid of 49c. was made to-day from the East.

Hay.—Liberal offerings; 20 loads in; sold slowly at \$10 to \$13.50; one load at \$15 per ton.

Straw.—Five loads of straw sold slowly at \$8 to \$9 per ton.

Montreal Markets.

The long-continued depression in the British markets is causing a very pronounced depression in our own. Since the opening of navigation exporters have continued shipping, hoping against hope that markets would improve; but these hopes have been vain; cattle cannot be bought here low enough to see a margin.

Butchers' Cattle fluctuate considerably, but very few make over 3c. per lb., although at one time for a number of markets makes the half. A bid of 49c. was made to-day from the East.

Sheep and Lambs.—Old sheep are unchanged, at from \$2.50 to \$5.00 each, according to quality. Spring lambs are coming in freely and of a better quality generally; the weekly receipts vary between 400 and 500, selling from \$2 to \$4 each.

Calves.—The receipts of calves are falling off now, only about 1,200 being in last week. The lighter runs have not caused any appreciable difference in price, with very few exceptions, \$7 per head being the highest paid.

Hogs.—Since last writing live hogs have moved up a full 1c. per lb. here, but on heavier runs reported from Toronto have sagged again about 1c. per lb.

Hides and Skins.—The active demand noted in our last report has been maintained, and a further advance of one cent per lb. has taken place in beef hides, bringing them up to 10c. for No. 1, 5c. and 4c. for Nos. 2 and 3—both heavy and light.

The British Markets.—To say the least, the depression in these markets is unprecedented—sales this week again losing money. It must be remembered that these cattle have been bought very low; that is, around 3c. per lb., and on a 35 and 40 shilling freight to lose money is something almost unheard of before.

There were offered for sale this week in Great Britain, from Canada and the United States, 11,849 head of cattle, 7,777 sheep, and 19,905 quarters of beef.

Table with columns: Destination (To London, To Liverpool, To Glasgow, To Southampton, To Bristol, To Hull, To Dunkirk), Live Cattle, Live Sheep, Qrs. of Beef.

This will give some idea of the quantity of cattle and dressed meats shipped weekly from this side. There is to be added to this the Irish shipments, and also Australian and Argentine shipments (shipments from this latter place are dropping off now and will be very light for three or four months, so that, taking everything into consideration, it is not to be wondered at that low prices are the rule.

The French Trade.—The few remarks made in last report with reference to French shipments seem to have been verified earlier than at first supposed, as the last steamer has sailed for there (on the 29th), and so far as the steady trade is concerned it is at an end, and the Canadians in France are coming home.

Chatty Stock Letter from Chicago.

Top prices for different grades of live stock, with comparisons:—

Table with columns: Cattle (1500 lbs. up, 1350 @ 1500, 1200 @ 1350, 1050 @ 1200, 900 @ 1050, Stillers, Stks. and F., Fat cows, Canners, Bulls, Calves, Texas steers, Texas C. & B.), Hogs (Mixed, Heavy, Light, Pigs), Sheep (Natives, Western, Texas, Lambs, Spring Lambs).

Cattle feeders feel the low prices quite keenly, and the demand for stock cattle and "feeders" is therefore smaller than it was awhile ago, though feed prospects are better.

The cattle market is uneven. The quality of the offerings is generally poor to medium, and many of the cattle are good enough. On one day recently cattle sold as follows: A load of extra fine 1,427-lb. Polled-Angus steers sold at \$4.50, but only one other lot of cattle sold above \$4.

Hog dealers are divided as to what the future will bring. Some of them think low point has been reached, and that supplies will fall short from now on, but by far the larger number take a much more bearish view of the situation.

The following shows the latest prices on various kinds of meat products compared with a year ago:—

Table with columns: Meat Product (Clear Pork, Mess Pork, Family Pork, Lard, Green Meats, Pickled Meats, Dry Salted Meats, Smoked Meats), Price (1896, 1895).

There is nothing new to report in the horse market. Trade was fairly active and prices ruled steady. In the regular auction most of the offerings are selling at \$45 to \$90 per head. The quality is rather common.

A Chicago horseman, of considerable experience, declares that the whole country is bare of really good horses and thinks the foreign buyers, who are now operating here, did not come until they had cleaned up Canada's supply of good horses.

Life, grit, and style is what is needed. Broken-down race stallions are doing good service in some places and are certainly ahead of the grade draft horses to cross with the cold-blooded mares of common stock. Some Shetland ponies were recently picked up in this city by a Boston shipper for \$60 to \$100 per head. They were good ones.



A FIN DE CYCLE INCIDENT.

BY EDNA C. JACKSON.

They had been engaged just eleven minutes by the clock, and were in the stage of trying to explain how it happened.

"Why do I love you, darling?" the Professor was saying. "Because you are my ideal woman: so pure, so modest, so flower-like! You have none of the bold ways and language of the so-called *fin de siècle* girl; no mannish posing as an athlete!"

Renie moaned mentally. "Must I spend my life on a pedestal! I can't—It's too condensed! I must get those antiquated ideas of his remodelled to the present century! I wish I were not so afraid of him!" She meant to confess, "some time" that she loved yachting, rowed a shell like a mermaid, jumped gates on her trusty steed, and went in for athletics, as she often remarked, "for all she was worth." Thus she drifted deeper and deeper into this good man's confidence and away from her own.

"Do you know," she said, with a swift, upward smile, "I thought you—you cared for Bill Richmond?"

"Miss Richmond! I must confess that on a slight acquaintance I was inclined to admire her; but—heavens!—she poses as an athlete, swings Indian clubs! How could one admire such a woman! But I must go. I promised to meet Manager Stevens; the strikers are acting outrageously. Good night, Renie, my pearl, my angel!"

"Part! Angel!" Renie drew a long breath as the door closed upon her ardent lover. She clasped her hands in mute protest as she continued: "This pedestal is growing narrower and narrower! I shall certainly tumble, and what a smash there'll be! I'm not ready to be an angel; wings would be horribly in the way. Or a pearl! Shut up in a shell with an oyster. Ugh!" She dashed up the stairs and flung a door wide open. "Jim! Oh Jimmy, Jimmy, Jimmy!"

"Here," quietly remarked a boyish voice at her elbow. "Save the roof; never mind the remnants of your lungs. What's the row?"

"Hush!" cried Renie, dramatically. "I'm dying for exercise! I'm yearning for Indian clubs!" She seized a pair of arms, and the supple form swayed to and fro as she swung the clubs with lightning speed, round and round, above her rumped, curly head, tossing and catching them deftly.

"All very well, missie," commented her young brother, glancing critically up from his task of pumping air into the pneumatic tire of his bicycle, "but what would Attorney Horace P. Waldon, alias the 'Professor,' say if he saw you doing the Comanche act in this rickety style?"

Renie's face flamed scarlet as she remarked: "I do not know that Mr. Waldon is the ruler of my actions."

"I'm glad of it; but if I did not know that you are a girl that never fibs, Renie," returned Jim, gullelessly, "I would doubt that statement. I really thought he meant 'biz' by the token of all these flowers and visits. I'm glad he don't; for though he is no end of a good fellow, he'd be a mighty uncomfortable sort of a brother-in-law. You've read of those loads that wrap a solid rock around themselves and indulge in little cat-naps of five thousand years or so? I imagine that, through the transmigration of souls, the Professor might have been one of those toads, and still clings to his antique toad ideas—Why, what's up?"

The mischievous eyes, so like her own, watching her furtively, saw my lady's white brow contract in a wrathful frown.

"James Raine! How dare you talk so of the best, noblest, kindest, manliest?"

"Whew! Anything more? Then you did fib a while ago, young woman!"

Two pairs of merry eyes met and two pairs of lips laughed.

"Renie, he is a good old chap, after all; so are you! Come along, now, and I'll teach you to ride the bike. I have borrowed a lady's wheel on purpose."

"Oh, Jim, will you!" she cried, rapturously, springing to her feet; then, with a sudden thought, sinking back again.

"But—but—I guess I'd better not! What would the Professor say if he saw his ideal floweret riding a wild, dizzy bike?"

"Renie Raine! You promised me to ride!" exclaimed the boyish, indignant voice.

Renie looked up delighted. "I believe I did, Jim! It wouldn't do to break a promise, would it?"

"I should think not! Come along; it's late. Hustle!"

A minute later two young forms were hovering in excited but solemn discussion over the wheel, on the quiet, asphalt-paved street at the back of the house.

"I'll hold you until you learn to steer," said Jim. "Now" (after a few minutes' drill) "try it alone."

"It's all the fault of these miserable skirts!" stormed Renie, giving the poor wheel a small kick. "Skirts are always in the way!" Once on the downward path, the wretched girl descended with lightning speed.

"Jim" (she lowered her voice as she whispered the awful resolution), "I'll get bloomers!"

Jim flung himself across his wheel in an agony of suppressed hilarity.

"Oh, if My Lord Professor should see you in that rig and riding the bike—you absconded creature!"

"Jim!" (These were tears on the long lashes.) "Do you really think he would care—if I wear a skirt over them?"

"Care! Certainly not! Of course we won't break on his enraptured sight all at once."

The next night found the two again struggling with the bicycle. But alas for Renie! What saintly pedestal was ever graced by a rig like this! Full Turkish trousers of blue, blouse, and saucy cap crushed over boyish curls!

"You must keep your feet going," exclaimed the teacher.

"Tread water! Go with it! Why didn't you go with it?"

"Didn't I go with it?" moaned Renie, prone on her left ear. "Ain't I with it now? Leave me alone, James Raine! I want to think."

"Run, Renie, run!" suddenly shouted Jim. "Here comes His Nibs the Professor, peering around near-sightedly."

"Jim!" whispered Renie, around the corner. "What shall I do? I'm discovered! I'm lost!"

"My mackintosh! There on the fence! Bless the Fates, he's near-sighted and this street's dark! Good evening, Mr. Waldon."

"Good evening. I—I thought I heard Miss Renie," remarked the Professor, peering around near-sightedly.

"Good evening," said a soft, innocent voice near by, and a small figure hovered just in the shadow of a sheltering tree. Jim jumped on the wheel and basely deserted, much to the Professor's satisfaction.

"Little violet," he murmured fondly. "How like you is that dark, graceful, nun-like robe!"

Renie laughed a low, half-hysterical little peal.

"A boy's mackintosh, a mile too big, over bloomers!" she was saying inwardly. "Oh, my! A nun in this!"

"I cannot, darling! Until these labor troubles are over I will have but little time even for you, my pearl."

"Pearl," muttered Renie, surveying her dreadful combination of trousers and mackintosh with deep self-contempt. "It is an outrage to deceive him so!" she said to herself as she walked away.

"Don't you laugh, James Raine!" she continued, coming upon that young person sitting on the edge of the porch, in the moonlight. "I am going to be a good, quiet, womanly woman henceforth."

"Um-m!" drawled Jim reflectively. "What a nice pair of antiquies you will be. Oh, say, Renie," in a brisk tone, "in that case you won't want the new bike father and I selected for you to-day?"

Renie, who had passed into the hall, was back in a flash. "Jim, you don't mean it!" she exclaimed, rapturously. "What is it like? Tell me quick!"

"It is one of those earthly vanities which you have forever renounced, young woman!" replied Jim, grimly.

"It's a pity, too," he sighed. "Such a beauty, all nickel-plated. We meant it as a surprise, but, of course, since you don't want it!"

"James Jefferson Raine! Who said I didn't want it! Oh, you dear boy!" His neck was clasped in a smothering embrace.

The result of the matter was that Renie became an expert wheelerwoman in a wonderfully brief space of time. But she shed tears in sleepless nights of remorse over her reprehensible double life. Several times she bravely resolved, since she could not decide between her lover and her wheel, that she would boldly ride around by his office and reveal to him her offending in all its enormity; but the next day she would weaken, seek the streets less frequented by him, or fly miles into the country.

It was a cool morning in July when Horace stopped at Renie's door. "I must go to Bulkeley on horseback," he explained, "as the railroad is in danger of being blocked before I get back. I will come back late to-morrow, long after your blue eyes are closed, violet." He thought how fair and sweet she looked in her white, lace-trimmed wrapper.

"You should have a bicycle," suggested Renie. "See there," Bill Richmond flashed past on her wheel.

"If we both rode like-like that," she faltered, "I might go with you—part way."

"Even for that great pleasure, Renie," he said, freezing, "I would think I had paid a great price for your company in the loss of my ideal. But there! Don't cry over such an absurdly impossible thing, my pet. It angered me even to think of your name being used in reference to such an unwomanly exhibition."

"That settles it!" declared Renie, after the door closed upon him. "I will give up my bike, James! This afternoon I will take a farewell ride; to-morrow you must take the wheel away—anywhere—only Jim, bringing the front legs of his tipped-up chair to the floor with a thud, "I believe you mean it this time, Topsy."

"I do," she said firmly; "then I will tell him all—and—if he cannot forgive me!"

"You'll still have your bike, Topsy!" called Jim after her with cheerful consolation. But she had gone to her room, where she succeeded in making her eyes so red and swollen that she concluded to put off her farewell appearance until the next afternoon.

After a long ride in the summer twilight she realized that her last appearance as a rider must positively be drawn to a close.

"Almost night, and I am miles from home," she said, slightly dim-eyed. "I can make it shorter by taking the wagon-track through the woods."

It was dark under the trees, and the moist leaves made a soft and noiseless track for the wheel. That is why the voices of two men reached Renie's ear while she herself was unnoticed.

"What were they plotting? Murder, surely. And whose? Soon she was convinced that her own Professor was to be robbed and murdered on his way home with money to pay the workmen."

A soft rustle of leaves, a rush as noiseless and swift as a swallow's flight, and straight past the two tramps flew a small form on a wheel. In an incredibly short time Renie had passed through the woods and reached the railroad. It was a very white, resolute face that she turned toward the path over which she had just come. Two men were watching the mill road over which he must come.

"I don't know exactly what to do; but I'll spoil their plans somehow," she said firmly. "It is twelve miles to the forks of this and the mill road. I can only get there in time by leaving the road and taking the railway," she said. "He told me he would meet the eight o'clock train there, get some valuable papers—it must have been that dreadful money—and start for home at once."

With trembling fingers she took out her watch. There was just time.

"Oh, if that train will only be late!"

She loosened her encumbering skirt and tossed it away, lifted her wheel across the rail and mounted instantly. It was not an ideal bicycle track. Stones and ties bumped her up and down; but she only bent lower and lower, with set lip, passed over rough and smooth with indifference. Sometimes a long reach of smooth path by the track gave her a gain of time, though the instant consumed in lifting her wheel over the rail, and remounting, made her frantic. Sometimes steep embankments towered over her, making the way dark and uncertain.

"If I can only get there in time, only in time!" she whispered to herself, with a crash and a bump, she fell, striking on her back across a sharp tie. She had run into a cattle-guard. Stunned and breathless, she staggered to her feet and mounted, with the painful consciousness that her back protested against every move.

"I won't faint," she muttered, half hysterically. "What is it the new school, my teachers? All things are imaginable, have no back, no pain, no—What's that?"

Suddenly before her yawned, densely black, the tunnel. She had forgotten that. And what is that far-away humming and rumbling of the rails behind her? Half a mile straight through the tunnel is the goal she seeks. She can take the road to her right; it leads around the hill a mile and a half. It is safe for her; the alternative is the tunnel. She knows the meaning of that distant rumbling. A stone in the darkness—a broken tie—that a break in the wheel—in that means no escape. Will she risk it? Not once does the brave wheel slacken; not once does its rider waver! Into the black cavern she speeds and is swallowed up in darkness. Perhaps the angels are clearing the way—perhaps she gets on them softly. The track is straight as a die, and in the smooth center there is a chance for her. She is hardly conscious; all life seems to be merged in feet and close-set lips. A dim opening is before her; how faint it is! Nearer, nearer! A scream that reverberates deafeningly against the rocky walls makes her heart leap and stand still. *The train has entered the tunnel!* It is now or never—a race for life. The earth trembles. Nearer the opening comes, nearer the rushing monster!

Professor H. P. Waldon, riding serenely along toward the crossing, thinking with hushed reverence of his fair lady-love asleep in her lily bower, hears the screech of a locomotive, reins in his horse, then beholds issue from the blackness a vision that makes him spring to the ground with the impression that he has gone suddenly stark, staring mad.

That same lily maid, with bare head and flying hair that looked as if had never heard of hairpin or comb; face showing white against smoke, headlight and starlight in bloomers; on a bicycle that turns off just in front of the engine, but not so far but that, as she staggers towards him with outstretched arms, the poor wheel is caught up by the slackening train, tossed high, and falls beside the track a finished cycle.

Mr. and Mrs. H. P. Waldon (the title "Professor" seems to have dropped from him of late) spend most delightful hours together perambulating the country per cycle. The wrecked one stands as a precious relic in Mr. Waldon's library. And Renie wears bloomers. Her husband says she converted him to a belief in their utility by the first words she gasped as she staggered into his arms that night.

"I—I never could have made it without a skirt on!"

THE CHILDREN'S CORNER.

A "Proverb Hunt" will now begin this column. A prize is offered for correct solutions of the first three pictures. Only children of subscribers may compete, and competitors must be under sixteen years of age. Answers should be sent in for each group, e. g., 1-3, 4-6, 7-9, etc. A prize is offered for each group of three pictures, and a better one at the end of the year for the largest number of correct answers. Letters marked "Proverb Hunt" will not be opened until ten days after the third picture of each group is issued. The first letter opened, containing correct answers, will be prize winner; all others will receive honorable mention. Address your letters to Cousin Dorothy, FARMER'S ADVOCATE, London, Ont., and mark them "Proverb Hunt"—outside the envelope.



HIDDEN PROVERB—NO. 17.

MY DEAR COUSINS,—

I must remind you that all MSS. for the historical competition must be sent in at once. They should reach London not later than June 30th. I have just received two—one describing the death of a British martyr; the other, of one in Carthage. Both are very good. As usual, the "Proverb Hunt" prize is carried off by one of the champions, John Sheehan. G. B. Rothwell deserves honorable mention, as he also has sent in a correct list of answers, viz.: 13—"There's many a slip 'twixt the cup and the lip"; 14—"Never swap horses when crossing a stream"; 15—"Old men for counsel, young men for war." Violet Clarke answered the first two correctly. G. B. Rothwell says that his books are increasing since he tried the "Proverb Hunt." Such a nice letter has reached me from one of my old friends, Blanche Boyd. I must quote some of it. She says: "I think the *ADVOCATE* is dry, except the 'Children's Corner' and 'Uncle Tom's Corner,' which are very nice. I think. Perhaps the 'grown-uppers' like the rest of it, but we do not happen to be one of them, we will have to wait till we are; then perhaps we will also like them. Rather hard on us; then perhaps we will also like them. We are willing to do our part about raising chickens and sheep. We are willing to attend to that; it is easy enough to eat them without learning the latest scientific methods. Here is another quotation: "I like you already, and always will; you must feel quite important with so many cousins." Is it any wonder that the "Corner" is a real pleasure to attend to when my relations say such nice things as that? I am very sorry for your disappointment, Blanche; something must have got tangled up somewhere. Many thanks for the advertisement, which I have sent on to the "cousin" who wanted it.

COUSIN DOROTHY.

The Candy Country.

How it happened she could not tell, but a sudden gust of wind caught the big umbrella, and away Lily went like a thistle-down, over houses and trees, until her breath was all gone and she had to let go. Down she went crash into a tree which looked like glass, for she could see through the red cherries and the brown branches. She picked a cherry and ate it. Oh, how good it was!—all sugar and no stone. Then she found that the whole tree was made of candy, so she ate some of the twigs, then climbed down, making more surprising discoveries. What looked like snow was white sugar, and the rocks were chocolate. In the little white houses lived the dainty candy people, all made of the best sugar, and painted to look like real men and women. Carriages rolled along drawn by red and yellow candy horses, sugar cows fed in the fields, and sugar birds sang in the trees. Lily danced along toward a fine palace of white cream candy, with pillars of striped peppermint stick and a roof of frosting. She ran up the chocolate steps into the pretty rooms. A fountain of lemonade supplied drink; and floors of ice cream kept people and things from sticking together, as they would have done had it been warm. Lily soon learned to know the characters of her friends by a single taste. The young ladies were flavored with violet, rose, and orange; the gentlemen were apt to have cordials inside of them, as she found out when she ate one now and then, and got her tongue bitten by the hot, strong taste. The people all lived on sugar, and were always sweet-tempered. If any got broken they just stuck the parts together and were all right again. The way they grew old was to get thinner and thinner till there was danger of their vanishing. Then the friends of the old person put him in a neat coffin and carried him to a great golden urn which was full of syrup. Here he was dipped and dipped till he was as good as new. This was very interesting to Lily, and she went to many funerals. But at last she began to get cross, as children always do when they live on candy; and the little people wished she would go away. No wonder, when she would catch up a dear sugar baby and eat him, cradle and all; or break some old grandmother into bits because she reproved her for naughty ways. Lily calmly sat down on the biggest church one day, crushing it flat. The king ordered her to go home; but she said, "I won't!" and bit his head off, crown and all. Such a wail went up at this awful deed that she ran away out of the city, fearing that some one would put poison into her candy.

"I suppose I shall get somewhere if I keep walking; and I can't starve, though I hate the sight of this horrid candy," she said to herself as she hurried over the mountains of rock candy that divided the city of Saccharissa from the great desert of brown sugar that lay beyond.—(TO BE CONTINUED.)

Memnon.

Amidst the countless ruins of Egypt two giant monuments stand out from the rest and recur to the memory whenever the name of Egypt is uttered. One is the mighty head of the Sphinx that has kept calm watch through the centuries at the foot of the great Pyramid of Cheops, and the other is the colossal statue of Memnon in the plains of Thebes, originated in a past so remote that it can only be dimly guessed at through a haze of myth and scanty tradition. These offspring of human thought and skill have existed throughout the whole period of recorded history, and long anterior. To the Greeks and Romans they were venerated antiquities of unknown origin, and they bid fair to stand—

Till the great globe itself,
Yea, all which it inherits, shall dissolve.

Twelve years ago the whole English race followed with intense interest the progress of English arms up the Nile, through the panorama of Egypt, in the attempt to rescue Gordon in the Soudan. Interest is again being shown there by a movement which bids fair in the long run to render Egypt and its monuments a permanent possession of England. Were the giant stones of Memnon susceptible of thought, we could well imagine the smile that might cross his time-scarred face were these plans and expectations uttered at his feet as the pageant of the past recurred to him of the mighty empires that have been founded, have flourished, and decayed while he sat impassive through the ages.

Memnon is one of the Homeric heroes. He is said to have brought a host of Ethiopians to the aid of Troy in its fight for existence with the Greeks; he appears on the scene after the death of Hector,

the right arm of Troy, and after rendering much service is finally killed by Achilles. Ages afterwards the Greeks gave his name to the largest of the two giant statues—sixty feet in height—which had been seated from time immemorial in the plain of Thebes. The name became in after time inseparably connected with the statue, though it is in reality the representative of one of the innumerable Egyptian monarchs, some obscure Amenophis of the 18th dynasty, whose name and titles are still to be deciphered on the base. This so-called Memnon monument was celebrated throughout the whole ancient civilized world as the famous vocal statue. At sunrise it is said to have uttered sounds like the throb of harp strings. The testimony to the fact is very respectable. Strabo, who visited the statue about eighteen years before Christ, in company with several friends, states that they all heard it. Other famous writers also verify the fact. Much controversy has prevailed as to the reason of the sound. Some ascribe it to the trickery of priests, who struck the sonorous stone, of which the statue is composed, in some secret way; others give a more scientific explanation, attributing it to the passage of light drafts of air through the cracks, or the sudden expansion of watery particles under the influence of the fiery rays of the rising sun.

There is little doubt, however it is explained, but that this curious phenomenon was frequently audible. Upwards of 100 inscriptions of Greek and Roman visitors are still visible on the legs of the vast figure, recording the visits of ancient travelers to listen to its music. Amongst the names are those of the Emperor Hadrian and his wife Sabania; another Emperor, Septimius Severus, also visited it. To the feet of ancient Memnon to-day flows a ceaseless stream of humanity from the world over, and to the thoughtfulness amongst them he is still vocal of many things as impressive as any of the broken chords that awed the world of old.

Do one thing well; "be a whole man," as Chancellor Thurlow said, "to one thing at one time." Make clean work, and leave no tags. Allow no delays when you are at a thing: do it and be done with it. Avoid miscellaneous reading. Read nothing that you do not care to remember; and remember nothing that you do not mean to use.

Some Crazes.

There is so much written nowadays about the bicycle craze that it seems to be already an old, old subject—and yet how new! I cannot recollect anything I ever read or heard of which has so suddenly jumped into prominence as the present bicycle. Other fashions and fads have, from time to time, gradually taken root—so gradually, in many instances, that we often awaken to the fact that "something" has disappeared, and its place taken, without our much noticing the change, and often, too, the old "something" reappears in odd nooks and corners, as there are always some very conservative people who refuse (until absolutely obliged) to part with their dear old fad. Not so with this fad, however. It would indeed be an impossible nook or corner where you would come across the former high wheel. Where on earth have all the old "bikes" gone, I wonder? There must be a cemetery somewhere, I think, for old bikes, so utterly have they disappeared. Now, old horses have some use, for do we not hear ghastly rumors to the effect that ancient chargers make very nice canned delicacies? Mind, I never tasted one—at least, not knowingly—and I don't think I ever shall. In the words of an old song-parody, "I cannot eat the old horse," etc. I think I would sooner take a bite out of an old bike than a veteran equine. Canning is, however, a subtle art, and tough things can be made tender and innocent-looking. This union of subjects, "Bikes and Horses," leads me to think how prosaic everything is becoming. I entirely approve of the bicycle, and also admit the wonderful saving of poor horses afforded by electricity and other contrivances for

bicycle will ever be used in warfare? Is it not already, with war correspondents? If a very long distance had to be traversed I dare say the bike might be more useful than the horse, inasmuch as the speed could be kept up for a longer time—a fine thing for carrying dispatches or running after (or away from) the enemy! Just fancy King Richard, or his equivalent, shouting wildly, "A bike! A bike! My kingdom for a bike!" And if that bike were forthcoming and bore off His Majesty to safety, what an "ad." for the firm who made it! Shade of Shakespeare, I humbly ask thy pardon for seemingly parodying thy well-known lines. Dear me! even this sentence may be all wrong, for is it not now the fad that Shakespeare did not write his own plays, but that to Sir Francis Bacon belongs that honor? However, suppose we hold fast to our Shakespeare and let Bacon go. We won't substitute him for the "immortal William" without much further proof than is at present advanced by the Baconites. And so we will bury him, along with the old "bikes," in that shadowy cemetery already mentioned.

FRANCES J. MOORE.

A New Ailment.

KENNET WOOD.

Energetic, care-free individuals laugh at the suggestion of such an ailment as house nerves and say it is only imaginary. But thousands of women will testify otherwise and admit that of all complaints this is the most tiring.

People of sedentary habits who spend all their time indoors frequently become morbid, brooding and irritable. The failure of any one member of the family to reach home at the usual time brings forth gloomy forebodings of disaster; the absence

of any one at night causes floor-walking and tears, even though such person be of mature years, sound health and abundant ability to care for himself. A projected journey is overcast by recitals of all the horrible accidents that have happened since the year 1. Meals are unsatisfactory, clothes never fit, no one sympathizes or condoles with the sufferer, and the result is a human wet-blanket that can effectually blight the slightest approach to gaiety.

The reasons of house nerves are legion. Introspection is one. A woman who studies herself, her wants and desires, her ailments and loneliness, is on the fair road to an asylum, did she but know it. It is all right for poets to speak of

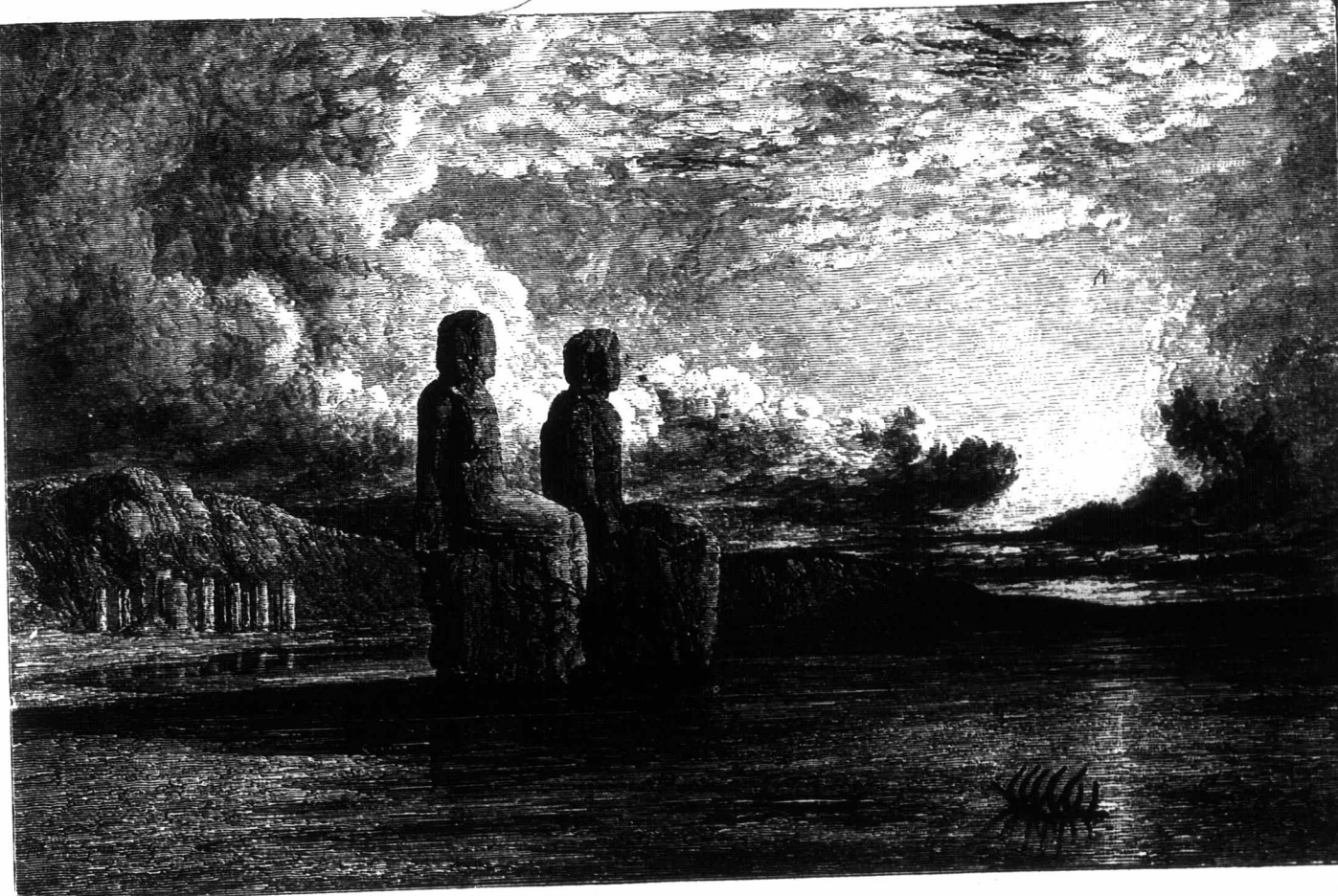
"Know thyself." The woman, or man either, does not live to whom daily contemplation of her own acts and impulses is not detrimental unless tempered by contact with the great outside world.

Some women, it is true, are tied down by children and household cares to a ceaseless indoor life, but they are not generally the ones who succumb to house nerves, one reason being that, forced out of contact with others, they yearn always for the privilege of mingling in some sort of society, embracing every chance thrown in their way toward that end. But the woman who stays at home because she might get sick by venturing out in the cold, or because her neighbor can entertain better than she can, or dress better—or perhaps the habit has become fixed by degrees to that extent that it is like parting with a tooth to get out of the routine—this is the woman who broods and fancies and cries over mental pictures of catastrophes that never happen and meets troubles which never come.

Many a woman who takes the trouble to look at the reason will acknowledge these flights of fancy. One touch with the outside world and away they go, these dreams leaving her the brighter for it.

Any parent who owns a highly imaginative child owes it to society at large to throw it with healthy, merry companions, who always effect a complete cure, for mirth is infectious. But if the unhappy owner is repressed and kept indoors, some family in the future will feel the effects.

The cure is simple, but few follow it. Throw away your medicine and go visiting. Patronize all the gayeties that your pocket-book affords. Take long walks in the sunshine, and whenever a morbid thought comes, think up a necessary errand and it will dissolve like mist before the sun.



MEMNON.

our street cars; but, somehow, I fancy the horseless carriage will be a hideous thing—stumpy-looking and uncanny. I was reading lately of how the romance of country life was dying out—with all the new-fangled farming implements—so useful—so wonderful—but oh! how unromantic. Probably every one knows that lovely picture, the Angelus, for it has been copied in every imaginable form. There stands the handsome young mower, with his scythe, and opposite to him the sweet girl—both with bowed heads, for the ringing of the Angelus in their country means the cessation of work and the silent prayer. How different when the ring of that bell means simply that the "whirr" of the mowing machine stops, only to be resumed at the proper moment.

To return to bicycles. It is now being noted that this trade is outrunning almost all others. The makers can scarcely keep up with the enormous demand, and this, I suppose, means fortunes for someone. In some instances at least the craze ought to do good, for it is said that smoking and tobacco-chewing are on the decline, as men seldom indulge when wheeling. Now, moderate smoking is no great sin, but oh! if tobacco-chewing—that disgusting habit—is declining, what a blessing! Whether drinking will die out is a question, because undoubtedly the "scorchers" will stop occasionally and quench their thirst. I read, too, that the bicycle affects even the concerts and plays, that the bicycle affects our men and women taken up so completely by their wheels; and as to railways and street cars, there is said to be a perceptible falling off in their receipts. Is it not marvellous to think that this little "twin wheel" machine should be wielding so powerful an arm? I wonder whether the

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

We hear a great deal nowadays about the advantages of a college education for girls, and much of it is true and good; but there is one creature who stands infinitely more in need of our pity than the girl to whom Fate has denied a college training, and that is the one who has got from that education nothing but a bitter dissatisfaction with her lot in life—the girl whose education has but increased her wants and desires without the power to gratify them or to make the best of life without them.

When Mary Jane writes home, complaining of the style of notepaper used, growling about the handwriting—also that it grows more shaky week by week—and giving directions to have her letters in future addressed to M. Jeannette Browne—then—the situation grows interesting. Depend upon it, vacation will bring home a sharp-tongued, irritable, discontented creature whose life is mightily suggestive of that beautiful text: "Lord, I thank Thee that I am not as other girls are, nor even as my parents here." And she's serious about it. She is not as other people are—the people she used to know and associate with. What have they in common now? Surely it was only in her childhood's wildly imaginative fancy lived the wit and humor, the depth of thought and terseness of expression, the nobleness of heart and life, that commanded the reverence of her early days. Gone now—gone—like the mists of the morning. She has reached a higher plane of development. Towering now above the undergrowth to which she once looked up, and lacking the companionship of her lofty-minded college friends, she naturally finds the situation somewhat bleak. I say lacking the companionship of her college friends, for she has brought none of them with her—wouldn't have her best chum visit her for anything in the world. And right here it might be remarked parenthetically that her bosom friend is never from the same district as herself. Now, I'm ready to admit with Byron that there is a charm in solitude, but neither the pleasure nor the profit of it will be appreciated by the girl whose solitude is the outcome of an inflated idea of her own worth and an unwillingness to be known in her own real station. And a most uncomfortable position she makes it—uncomfortable for herself and all around her. She is ashamed of her home—its furnishings no longer satisfy her fastidious taste; ashamed of her friends—of their uncouth manners, homely tastes, and lowly ambitions. Alas for the girl who would replace the big Testament with some work on deportment—who would rather see the gray heads bending over the last new novel, or some political treatise, than above that book which has inspired all that is good or great in political, social or intellectual life.

As I have said, what might they not have done had they been a little less self-sacrificing! It's just possible that father might not have been so far behind the times had he spent on current literature a little of what went for his daughter's books. And mother might feel a trifle more at home in the parlor had she not seen so much of the kitchen. Nor would she look quite so much of a dowdy had she paid a little less attention to her daughter's wardrobe. Nor would her shoulders have been so stooped, her hands so unsightly, had she kept a girl; and—excuse me, Mam'selle, but your board-money would have settled that nicely. The "old folks," with a little of what was expended on the daughter's education, could have had an opportunity to "bum around a little and knock the hayseed out of their hair," as your slangy city friend puts it. The girl's journey to the Temple of Knowledge has been a triumphal procession—all along the way are strewn the palm-branches of parental sacrifice.

And what is the outcome of it? Alas for the girl whose acquaintance with French and German, with Greek and Latin, has enabled her to draw from the storehouse of ancient and modern literature no high thoughts, no incentive to purer, nobler living; whose knowledge of music has never yet convinced her that there are no discords like those produced by anger, impatience, and discontent. And yet it cannot be said that, even for such a character as this, the time spent has been wholly in vain. The ambition has been roused, which is in itself a good thing, though for the time being it is turned into an unworthy channel. Nor is the girl wrong in trying to engraft the refinements of city life upon a country existence. The trouble comes from over-estimating these things. Not by quarrelling with one's lot in life does success come, but in making the most of everything which that lot affords lies the secret of all true living. Or, as Browning puts it:

"The common problem, yours, mine, everyone's,
Is—not to fancy what were fair in life,
Provided it could be:
But, finding first what may be,
Then find how to make it fair."
Up to our means—A very different thing."

MINNIE MAY.

THE QUIET HOUR.

"The Night Cometh."

Work in the morning—the rising sun
Peeps golden across the hill,
Saluting the glistening, noisy brook,
That feeds the old gray mill.
In the meadow the reaper's merry voice
Chimes sweet with the lark on high,
Nature is busy its work to fulfill,
For the darksome night is nigh.

Work in the noontide—the day steals on,
Laden with duties for all;
Why loiter ye then by the wayside?
Arise and answer their call.
The sparkling dewdrops have gone to the sun,
The lark is down from the sky,
In the meads the grass falls fast to the scythe,
Day wanes and the night is nigh.

Work unto death, for time wingeth fast;
Toll for thy Master and Lord;
The vineyard's large, the harvesters few,—
Oh sweet is His blest reward!
Then toll for the souls that know Him not,
Or knowing Him yet deny;
The hour cometh when no man can work;
Yes, toll, for the night is nigh.

Witnesses.

"A true witness delivereth souls."—Prov., xiv., 25.

"Truth is great and it will prevail"; but truth in the abstract is like a disembodied spirit, and cannot exert a power upon the world. It must be incarnate in a living witness ere its effect be felt.

One witness, faithful and true, has appeared among men. He is the Truth in human nature, and the truth makes the captive free. But in Him, and by Him, and for Him, Christians are witnesses too. Every one whom Christ calls out of the world He uses in it. Deserters from the powers of darkness are, one by one as they come over, incorporated in the armies of the living God and sent back to do battle against their former lord. You have need of Christ and He has need of you. He would call you home, and give you rest, if He had not some needful work for you to do in this outer world. The very fact of a Christian being here, and not in heaven, is a proof that some work awaits him.

And the special work for which Christians are left in the world is to be witnesses. "Ye shall be witnesses unto Me," said the departing Head of the Church. On high, whither He was going, witnesses were not needed. The Lamb is the light of heaven, and they who bask in His rays need none to tell them that He is great and good; but in this outer world, where enmity and ignorance prevail, Christ has need of witnesses, and has chosen to this office all who are called by His name.

He does not send angels to proclaim the message of salvation. He does not command the thunders to pronounce His name, and the lightnings to write His character on the sky. The epistle in which He desires to be read is the life of His disciples. It should be encouraging and stimulating to the humblest Christian to know that the Lord who redeemed him has appointed his special path and work. It is required that we be witnesses unto Him wherever we are and whoever may question us. Two qualifications are required in a witness: truth and love (Eph., iv., 15). These are needed, but these are enough. With these "one will chase a thousand, and two put ten thousand to flight." A Christian's profession is his direct and positive testimony that he is not his own, being bought with a price, and is bound to serve his Lord. As soon as this profession is emitted, the cross-examination begins. If he is not a true witness he will stumble there. An inquirer who saw you at the Lord's table, meets you at the market place. If he saw the solemnity of a trustful worshipper there, and feels the gripe of an overreacher here, he counts your testimony for an Christvertrue, and sets his conscience free from the restraints of begun conviction. The keen eye of an adversary, sharpened into more than natural intensity by the reproof which your profession administered, tracks you into the world and questions you there. Every inconsistency raises a shout of triumph in the circle who will not have this man to reign over them. They speak of the evidences of Christianity, and much has been done in our day to confirm and publish them. But, after all, Christians are the best evidences of Christianity. Alas, we have for eighteen centuries been writing books to prove Christianity true, and living so as to make men think we do not believe it. Living witnesses have far more power than dead letters. Our Lord's last command was that His followers should be witnesses unto Him in the place where they then were. In all the neighborhood as far as your influence reaches, and when opportunity occurs to all mankind, your witness should be true and faithful. Occupy till He comes. At His coming we would like to be found busy in the work which He prescribed. There is no other work worth living for, or fit for dying in.

"A true witness delivereth souls"; and a false witness? Is he not the stone over which they stumble? It is not in the power of any man to be neutral in the conflict between light and darkness. Good and evil in actual life are like land and water on the globe. If you are not on one you are on the other. There is no belt of intermediate territory for the irresolute to linger on. Let no man think that if he does no good he at least does no evil. One of the heaviest complaints made against Jerusalem was that she was a "comfort" to Sodom and Samaria; that those who had the name of

God's people so lived as to make the ungodly live at ease. If the salt retain its saltiness, surrounding corruption will be made uneasy by the contact. If Christians live as like the world as they can, the world will think itself safe in its sin; and those who should have been the deliverers will become the destroyers of their neighbors.—W. Arnold.

UNCLE TOM'S DEPARTMENT.

Puzzles.

All matter for this department should be addressed to Ada Armand, Pakenham, Ont.

1.—PLANTING—AND WHAT CAME UP.

Now that the merry days of May
Have glided into June,
Fresh flowers spring up to deck the day
In place of those that passed away,—
It seemed far, far too soon.

'Twas in the early days of spring,
A "country dance" I planted;
Next, my "winter wraps" did I bring,
Because they were not wanted.

Then one day I found a "poisonous snake,"
And planted it deep ere it made me quake;
The ground had now become parched and dry,
So I hasten to plant that old "Paul Pry."

At last, a raging "storm of thunder" and rain
Was planted in deep, lest it come ne'er again;
"Two letters" of the alphabet
Now in the ground were set,
As a leafy background
To a bed of mignonettes.

Quite near "Paul Pry," was it not very queer,
I planted a "jar with a very large ear."
The "emblem of constancy" I placed close by,
I hope you will all know the reason why.

My garden I hope will be "rich in flowers,"
If we chance to obtain some summer showers.
CLARA ROBINSON.

2.—ENIGMA.

1-2-3 is a reason;
2-3-4 is round;
4-5-6-7 for squeezing,
His match is seldom found;
5-6-7's the organ which
The organ's made to please,
7-8-9-10 the suitor rich
Presents upon his knees.

RICHARD JOHNSON.

3.—ANAGRAM.

'Twas late, and I pondered vainly
O'er the "P.'s" in the ADVOCATE;
With piles of books around me,
And my hair in a rumpled state;
Striving to crack the nutshells
That proved as hard as fate.
With my brain almost on fire,
I concluded to go to bed;
And soon on my downy pillow
Rested my weary head.
I dreamed, and lo! in the doorway
There appeared—oh! awful dread!—
A horde—pray excuse the title—
Of puzzlers, small and great.
They'd come with the wicked purpose,
To pelt my aching pate
With their awful, awful "P."—nuts
Contained in an ADVOCATE.
Oh! puzzlers, dear, this anagram,
Or fable I should say—
If this is not the RIGHT NAME,
Supply its place, I pray—
Is meant a plea for pity
To your ardent hearts convey.

CHARLIE S. EDWARDS.

4.—CHARADE (Phonetic).

When I first joined this SECOND,
Not very long ago,
Oh! little then I reckoned
How fast I'd have to go.

There isn't one FIRST in it,
As the COMPLETE rhymes show;
The prize—well, I can't win it,
And so am filled with woe.

A. P. HAMPTON.

5.—ANAGRAM.

Oh, Mr. C. S. E.,
You're a little off, I fear.
Has too much study made you
Just a trifle queer?
I'm afraid you'll be ill,
With so much on your brain.
If you DARED CHASE W. RIL,
What would be your gain?

A. P. HAMPTON.

Answers to May 15th Puzzles.

1.—Tartan. 2.—The Storm; In Old Madrid; Girl Wanted; Love's Sorrow; Daisy Bell; Sweet Marie; The Band Played On.

3.—And to his last, Stout Percy rued
The fatal chance; for when he stood
'Gainst fearful odds in deadly feud,
And fell amid the fray,
Even with his dying voice he cried,
'Had Keeldar been but at my side,
Your treacherous ambush had been spied—
I had not died to-day."

4.—It is only noble to be good. 5.—Somewhat. 6.—April (April). 7.—Mental—Lament.

8.—C 9.—Breath.

C A B
C A T E S
C A T A L P A
B E L A Y
S P Y
A

SOLVERS TO MAY 15TH PUZZLES.

Clara Robinson, A. P. Hampton, Ada M. Jackson, Charlie S. Edwards, A. Archie Bligh, Ada M. Jackson and Archie Bligh, for May 1st.

I am sorry to say that Ethel Clough's and May King's letters escaped my notice until very recently, and I hope they will accept this late acknowledgement, as I shall be very happy to number them among my nieces. A. A. B. your puzzle was not original, consequently I could not use it.
U. T.

Western Canada's Great Industrial Fair, WINNIPEG.

ONE WEEK
JULY 20 - 25, 1896

\$15,000.00 in Prizes

THE GREATEST ANNUAL EDUCATIONAL AND AMUSEMENT EXPOSITION AND FARMERS' CARNIVAL EVER YET HELD IN THE WEST.

The largest exhibit of Horses, the finest display of Cattle and other Live Stock, as well as the greatest collection of Agricultural, Horticultural and Dairy Products, also Farm Machinery in operation, ever brought together to this country.

The brightest, most novel and startling special platform attractions on the Continent have been secured.

Railway Facilities.

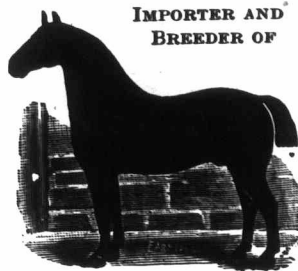
GREATLY REDUCED PASSENGER RATES. FREE TRANSPORTATION FOR EXHIBITS.

A detailed programme is being prepared. Send for a copy, which is mailed free on application.

ENTRIES CLOSE JULY 11th.

L. A. HAMILTON, F. W. HEUBACH, President, Manager. Box 1348, WINNIPEG. 12-b-om

A. B. HOLBERT



Shires, Clydes, Percheron, Royal Belgian, German Coach, French Coach, Hackney, Cleveland Bay, Yorkshire Coach, and Thoroughbred Stallions and Mares, and Shetland Ponies for sale.

He has the largest assortment of imported horses of any firm in America. Canadian distributing point, Woodstock, Ontario. Write

A. B. HOLBERT, GREELEY (Iowa), or WOODSTOCK (Ont.). 3-m-o

1864. HILLHURST FARM. 1894.

HACKNEY HORSES, Shorthorn and Aberdeen-Angus cattle, Shropshire and Dorset-Horn sheep.

M. H. COCHRANE, 16-2-y-om HILLHURST STATION, P. Q.

FIRE PROOF ROOFING
ILLUSTRATED CATALOGUE FREE
METALLIC ROOFING CO
MANUFACTURERS, TORONTO

\$18 a Week Easy. You work right around home. A brand new thing. No trouble to make \$18 a week easy. Write to us quick, you will be surprised at how easy it can be done. Send us your address any way. It will be for your interest to investigate. Write today. You can positively make \$18 a week easy. IMPERIAL SILVERWARE CO., Box XA, Windsor, Ont.

FAIR OR EXHIBITION CHROMOS AND DIPLOMAS. Exhibition of Fair Chromos in striking colors—attractive stock designs. They cost but little more than cheap printed bills, and draw the crowd. Fair Diplomas cost but little, and are more highly appreciated than cash prizes. Orders filled by return Express.

THE LONDON LITHO. CO. (LTD.) LITHOGRAPHERS AND PRINTERS, LONDON, ONT.

MUST BE SOLD



A few Imported Mares in foal to Grandeur. Also a promising yearling Hackney Colt. They will be sold very cheap.

QUEEN. D. & O. SORBY, - GUELPH, ONT. 6-2-y-om

THE GLEN STOCK FARM

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

7-y-om WHITE SIDE BROS., INNERKIP, ONT.

FOR SALE—Brood Mare (Cleveland Bay) with foal by her side; Shorthorn Bull, fit for service; Shorthorn Cows and Heifers, registered; Berkshire Sows, soon to farrow; at bargains. Write, or come and see. A. J. C. SHAW & SONS, Thamesville, Ont. 12-y-om

Duroc - Jerseys FOR SALE

Orders booked now for spring delivery. Three sows now due to farrow. Your choice of young pigs, \$5.00 each.

BERDAN & McNEIL, STRATHBURN, ONTARIO. 21-1-y-o

Arthur Johnston



SHORT-LEGGED, DEEP-BODIED, THICK-SET YOUNG. ALSO A VERY CHOICE LOT OF YOUNG COWS AND HEIFERS.

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

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

THOS. ALLIN & BROS.

LAKE VIEW FARM, OSHAWA, ONT. Breeders of CLYDESDALES, SHORTHORNS, and SHROPSHIRE. Have 3 young bulls for sale, one 2 years old, and two yearling bulls—bred by imp. Cruickshank bulls. 4-2-y-om

E. BRIEN, RIDGETOWN, ONTARIO.

We offer for sale a three-year-old red bull, sired by "Daisy Chief"—13674—by "Indie Chief," dam "Gipsy Queen 3rd"—20690—by "Toftbill" (imp.)—6456—(59556); and a five-year-old cow with calf at foot; also one or two young heifers. Also choice Berkshire sows yearling heifers. Also choice Berkshire sows and boars about seven months old, and excellent pigs about two months old. 2-2-y-om

Shorthorns, Shropshires, and Berkshires. Six young Bulls from 10 to 14 months old; 25 Shropshire Ewes, one, two and three years old, due to lamb in March; 15 ram and 20 ewe old, due to lamb in March; 15 ram and 20 ewe lambs. Twenty Berkshire Sows, from 5 to 12 months old, several of them due to farrow in March, April, and May. The above choice stock are all registered, and FOR SALE AT GREAT BARGAINS. 15-y-om

W. C. Pettit, Freeman P.O., Burlington Stn., C. T. R.

Shorthorns.

Four Bull Calves of finest Booth breeding. The dams are imp. Lady Ann, daughter and 8-daughter Lady Ann, sired by Mr. Booth's renowned Paul Potter; her daughter by a Warlabby bull, her g. daughter by Booth bull. The sire of those calves is of finest Polwarth and Warlabby blood. Two roans, two red and little white. Price, \$100 each. Also several Heifers. D. ALEXANDER, Brigden, Ont. 5-y-om

GARGILL HERD OF SHORTHORNS.

Have some good show material in Heifer Calves, also some grand Canadian-bred Cows and Heifers for sale. Write for catalogue. H. GARGILL & SON, GARGILL, ONT. 11-y-om

HAWTHORN HERD OF DEEP MILKING SHORTHORNS.

FOR SALE—Several Heifers, got by the Golden Drop bull, Golden Nugget—17548—, by imported General Booth, and from A1 dairy cows. WILLIAM GRAMMER & SON, 13-y-om Lonsdaleboro, Ont.

F. BONNYCASTLE & SONS, CAMPBELLFORD, ONT.

Breeders of Shorthorn Cattle, Cotswold Sheep and Berkshire Pigs. Cows, heifers, and heifer calves for sale. Also a lot of nice young Berkshire pigs at \$5 cash. Registered. 12-2-y-o

A. J. WATSON, CASTLEDERG, ONT.

(ASHTON FRONTVIEW FARM), breeder of choice SCOTCH SHORTHORNS. Young stock of either sex, and choicest breeding, for sale at reasonable prices. Correspondence solicited. Bolton Station, C. P. R. 22-2-y-o

GEO. DOWDY & BRO., CASTLEDERG, ONT.

Breeders of SHORTHORN CATTLE and COTSWOLD SHEEP. A few very choice young rams for sale at low prices. No. 1 breeding and fine quality. Stock guaranteed to be as described. St. Bolton, C. P. R.; Palgrave, G. T. R. 22-2-y-o

"Gem Holstein Herd."

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

HOLSTEINS!

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

MAPLE HILL HOLSTEIN-FRIESIANS.

Can still supply a few choice yearling heifers and heifer calves, but an entirely sold out of heifers in calf. Great individual merit, rich breeding, and reasonable price tell the story. Also a few excellent bull calves of Aargie and Netherland breeding. Correspondence solicited, and visitors welcome. G. W. CLEMONS, St. George, Ont. om

A. HOOVER & SON, EMERY, ONT., BREEDERS OF

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

HOLSTEINS

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



Dana's Ear Labels for sheep, cattle, etc. Stamped with any name or address and consecutive numbers. This is the genuine label, used by all the leading record associations and breeders. Samples free. Agents wanted. C. H. DANA, West Lebanon, N. Hamp. 6-1-om

Ingleside Herefords.

UP-TO-DATE HERD OF CANADA! Bull Calves OF THE RIGHT SORT For Sale.

Address—H. D. Smith, INGLESIDE FARM, Compton, Que. 17-y-om

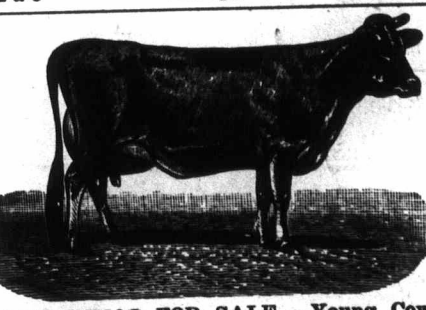
Jersey Stock FOR SALE AT A BARGAIN!

3 cows, fresh milch (unregistered), good milkers, rich in butter. Splendid animals for family or dairy use. Two yearling heifers (registered) from imported stock. One magnificent bull, two years old; dam and sire imported from leading U. S. breeders. Two spring heifer calves. All at bargain prices. Must be sold at once. 11-b-om H. COOKE & CO., ORILLIA, ONT.

JOHN PULFER, BRAMPTON, ONT.

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

JERSEY BULL ready for service, registered A. J. C. C., \$25 if taken at once. Jersey Cow, registered, milk 1-5 cream, due to calve again next Feb.—\$65. Jersey Heifer, registered, 2 years old, soon to calve—\$55. Jersey Heifer, registered, due to calve in December—\$40. G. A. DEADMAN, Druggist, Brussels, Ont. 12-a-o



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

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

D. H. KETCHESON, MENIE, ONTARIO, BREEDER OF CHOICE

A. J. C. C. JERSEYS (St. Lambert and St. Helier strains) and REG. SHROPSHIRE. A couple of good young bulls now for sale; also Shropshire rams. Prices right. Correspondence solicited. 12-2-y-om

FOR SALE!

HALF THE FAMOUS BELVEDERE HERD OF JERSEYS, owing to most of my farm being sold. Not a Culling Out; but purchasers given their choice at Lowest Prices I ever offered. For many years I have taken everywhere

FIRST HERD PRIZE,

and some of these animals, with their descendants, are for sale. There is seldom such an opportunity to get together a superb Dairy Herd, that will also SWEEP THE SHOW RINGS. MRS. E. M. JONES, Box 324, BROCKVILLE, Ont., CAN.

"Dairying for Profit," By Mrs. E. M. Jones. Best book ever written. 50 cents by mail. ROBT. BROWN, Box 107, Brockville, Ont., Can.

WILLOW GROVE HERD OF JERSEYS.

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

JERSEYS FOR SALE

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

GOSSIP.

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

Holstein-Friesian cattle are being imported into Australia from Holland.

Prince Superior, a young Clydesdale stallion at Durham Lawn Farm, Illinois, sold last year by Col. Halloway to Mr. Andrew Montgomery, along with two other sons of Cederic, to go to Scotland, was killed by lightning. He was to have been shipped shortly to the Old Country.

The Hon. John Dryden recently marketed his Shropshire clip for 1896-1897 sheep; total weight, 1,278 lbs., or nearly 10 lbs. per fleece. "In splendid condition," remarked the dealer to a FARMER'S ADVOCATE representative, "and a credit to the grower." A Lincoln breeder sold his wool, 46 fleeces, weighing 746 lbs., or a little over 16 lbs. per fleece. "Who can beat that record," he asks, for Lincoln washed wool!

Mr. A. J. C. Shaw, Thamesville, Ont., recently sold a remarkably fine roan Shorthorn bull calf, specially noted by our representative on his last visit. He is of pure Cruikshank blood, being by Daisy Chief and out of Bothwell Queen. He goes to Mr. G. L. Bolton, near Burke Falls. We are glad to find that Mr. Shaw's young calves are doing well, and are all good calves—reds and roans—the get of Commander, by Conqueror, bred by Hon. John Dryden.

Alex. Hume & Co., Burnbrae, Ont., write:—"Nearly all the farmers in this locality are through seeding and planting roots at this date, June 9th. We have had some fine rains, and to-day a grand one, which will give corn, turnips and all roots a great start. There is a larger acreage of corn sown than ever before, and several are building silos. We think we can boast of as many silos in this section as anywhere else in Canada. Hay is a very light crop and a small acreage, but there is an unusually large area of spring crop. There was a very early growth this spring, and cattle went out on grass at least a week earlier than any season for years. Pasture is still good. Dairymen are simply using the second fall at frequency they have not used in the past at milking time, and on all sides they are boasting of their cows. Our cows, which went out to grass in good condition, have done exceedingly well ever since the New Year, and are still doing so; some of our mature cows reaching the 50 pounds notch at four months after calving, and others rather better—two months calved and four-year-olds, 45 pounds. Our calves and yearlings are growing and doing well on the good pasture. We have four good, strong, vigorous bull calves from two to four months old, of fashionable color and good breeding, from dams that give a most abundant milk mentioned above. They should improve any herd for next year. Any one wanting a bull for next year, now is the time to buy at small cost. We could also spare a heifer calf or two of same strain, as well as a few yearlings. We have a few grade heifer calves to spare (in appearance cannot tell from pure-breds of best quality) of various crosses, and will undoubtedly make heavy milkers. Our spring pigs are doing nicely, growing well. We could fill few orders for spring pigs of good quality, or for yearling sows. The following are some sales made since last writing: A three-year-old cow, Menie Bell, with bull calf at foot; two two-year-old heifers, Nellie and Marjorie, both in calf to Prince of Barcheskie (imp. in dam), to Mr. Boyce, for a party in British Columbia. The yearling bull, Joe Bowers, to Earnest Denmark, Campbellford. We have purchased at no small cost the grand bull calf, White Chief, from Robert Reford, St. Anne de Bellevue; dropped August 18th, 1895, out of White Flossie; a Guernsey, all prominent Ayrshire men know of her successes, some of which were: 1st at Chicago as three-year-old cow; and last year at Toronto, 1st in her class of aged cows, and silver medal for best female any age, an honor acknowledged justly won by all. She was also a close second for the special prize given by Holstein men for most solids of milk, which goes to prove she is a milker of no ordinary merit. We are pleased we succeeded in securing him, as his dam has since been sold to a party in New York for a long price. Our aim is to breed extraordinary milkers of show yard quality."

NOTICES.

Seed time is past and harvest will soon be upon us, when the consumption of binder cord will be enormous. There will be noticed elsewhere in this issue, an advertisement of Central Prison Binder Twine, offered for sale by Canada's great wool dealer, Mr. John Hallam, Toronto. These twines are good value and worthy of patronage.

Mr. Isaac Usher, of Thorold, Ont., reports a gratifying increase in the Queenston cement business this season. Their output, now 300 barrels per day, is to be increased by 100 barrels; the total for 1896 will amount to 50,000 barrels. He has received enquiries with regard to about 100 new cement silos for this season. For the outside walls he is recommending a thickness of eighteen inches at the bottom and twelve at the top. During May he was through the counties of Waterloo, Perth, and Huron, laying out many barn walls, floors, etc. His system of ventilation is being very generally adopted. As their works have been terribly crowded, any orders for cement to be used this summer should be in early. He will gladly go himself, without charge, or send a competent person, to superintend the starting of jobs, being more than ever anxious that persons should begin right and know how to use cement properly, so as to ensure complete satisfaction.

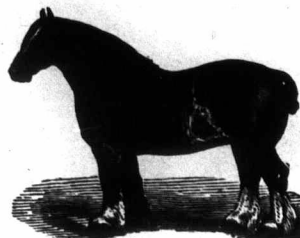
THE GOLD FIELDS OF THE WEST are attracting the attention of the whole world, and the results of placer and quartz mining are fully equal to the finds of nuggets in the early California days.

Colorado, Montana, Idaho, Washington, and British Columbia vie with each other as to the extraordinary inducements offered to prospectors, practical miners, and investors.

By this spring the gold fever will have taken possession of thousands of people, and the Western roads will have all they can do to transport the fortune hunters.

The Chicago, Milwaukee & St. Paul Railway, and its connecting lines, is the best route to all sections of the Far West. For further information, address A. J. Taylor, Canadian Pass. Agent, Toronto, Ont.

THORNCLIFFE STOCK FARM!



Montrose, The Ruler, Carruthan Stamp, Knight Errant and other celebrities. My stock in the above lines were very successful at all the large shows last year. Call and examine our stock before purchasing elsewhere. Terms reasonable.

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

SHROPSHIRE.

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



SHORTHORNS!

CHOICE YOUNG HEIFERS and BULLS

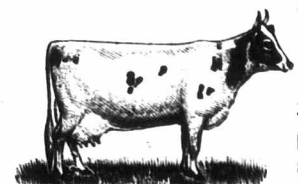
by the celebrated Cruikshank bulls NORTHERN LIGHT

—AND— VICE CONSUL

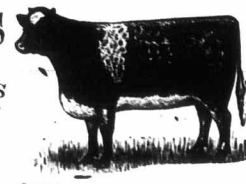


Call and examine our stock before purchasing elsewhere.

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



W. C. EDWARDS AND COMPANY, IMPORTERS AND BREEDERS



Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q.

Pine Grove Stock Farm, ROCKLAND, ONT.

Ayrshires, Jerseys, Shropshires, Berkshires.

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

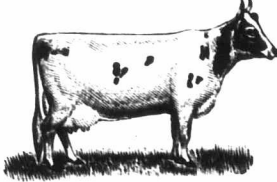
Shropshires and Scotch Shorthorns.

The imported Cruikshank bulls Knight of St. John and Scottish Sportsman are at the head of this herd of Imported and Home-bred Cows and Heifers of the most approved Scotch families. 7-1-y JOS. W. BARNETT, Manager.

JOHN H. DOUGLAS, Warkworth, Ont.,

Importer and Breeder of

HIGH-CLASS AYRSHIRES.



ST. NORWOOD, C. P. R.

My stock is of the most approved type, and of uniform, fashionable color. I am now offering choice imported and home-bred stock of grand individuality, including such cows and heifers as Violet of Park (imp.)—2820—, Alice of Hatton (imp.)—Queen May—2909—, Fairy Queen, Peach Blossom—2816—, and Isabel—2817—, also a few choice calves, and our grand stock bull, Dominion Chief—1214—. I also offer a couple of good yearling heifers (of the milking type), Heather Bloom and Snow Flake, Vol. XII. Prices right. Correspondence solicited. 12-2-f-om

CAMPBELLFORD, G. T. R.

ISALEIGH GRANGE STOCK FARM, DANVILLE, QUEBEC.



A CHOICE assortment of the following pure-bred stock always on hand: Ayrshire and Guernsey Cattle of the choicest breeding and most fashionable type and color. High-class Improved Large Yorkshires of all ages, "Sanders Spencer stock." Shropshires of the finest quality. Our breeding stock has been selected, at great cost, from the choicest herds and flocks of both England and Canada, and have been very successful winners in all leading show rings. Young stock supplied, either individually or in car lots, at the lowest prices. Prompt attention given to all correspondence. 3-y-om

J. N. GREENSHIELDS, Proprietor. T. D. McCALLUM, Manager, Danville, Que.

BARGAINS FOR NEXT 30 DAYS!

Ayrshire bulls and heifer calves, Holstein bulls and heifers at \$12 each, crated and put on board cars, and registered in purchaser's name if taken before two weeks old. Also two Jersey bull calves at \$12 each, put on board cars and registered in purchaser's name in American Jersey Herd Book, and one heifer calf, four months old, at \$40.00, in American Jersey Cattle Club Book. Her mother made 14 lbs. butter in a week. The Jerseys are a fawn color. Parties writing to me will please mention what railroad they live on.

Visitors welcome. Correspondence solicited. ALEXANDER WOOLLEY, Box 148, Springfield, Ont. Putnam Sta., C.P.R.; Aylmer Sta., G.T.R.; Springfield, M.C.R.

MAPLE GROVE Ayrshire Stock Farm.



CARLYLE LESSNESOCK, 2861 IMP.

R. G. STEACY, IMPORTER AND BREEDER. LYN, ONT.

Largest importer in United States and Canada of the most noted milk, butter and Prize Record Ayrshires procurable in Scotland. Head of herd is Carlyle Lessnesock, whose grand-dam was never defeated in a milking contest in England and Scotland, competing against all other dairy herds for years in succession, and awarded more prizes in gold medals, cups, and money than any Ayrshire ever exhibited. With the twenty head imported females of noted individual records, I am in a position to offer none but performers, at reasonable prices. Registered Rough-coated Scotch Collies from imported stock for sale. 16-2-y-o

Mount Vernon Dairy Stock Farm.



FOR SALE:—A fine four-year old Holstein Bull, Artis Aggie Prince, No. 17, C.H.F.H.B., the sire of many prize-winners at Toronto, Montreal, Ottawa, and Gananogue, in 1895. Sire, Prairie Aggie Prince, one of the best bulls ever imported to Canada; \$800.00 was refused for him. Dam, Artis Kassie, gave 49 lbs. 2 ozs. of milk in one day as a two-year-old, and gave over 70 lbs. milk in one day on ordinary feed on the Model Farm, Guelph. Also a lot of fine Tamworth Pigs for sale, ready to breed and of the very best quality. Address—W. C. QUICKFALL, GLENVALE, ONT. 2-2-y-o

LINDENCOURT HOLSTEINS. Herd established 1883. Original stock imported direct from the best dairy lines in Holland. All stock well developed and good size. Just what will suit the practical farmer. Prices moderate. Before purchasing write for particulars. Address—A. GIFFORD, Meaford, Ont. 4-2-f-o

GLEN ROUGE JERSEYS.

W. H. HAWKINS, Markham, Ont., offers for sale a number of fine and purebred Jersey cows and heifers, of the most approved families, of the very best quality. Prices right. 3-y-om

Jersey Sale!

The entire herd of A. J. C. H. R. Lee Farm Jerseys. Forty head of rog. bulls, cows, heifers, and calves; same number of high grade cows and heifers. Excellent chance to start a herd cheap, as they must be sold within the next 90 days. Come and see, or write E. PHELPS BALL, Lee Farm, Rock Island, P. Q. 17-y-o

James Cottingham, RIVERSIDE FARM, Ormstown, Que.

Breeder of Ayrshire cattle. Herd is headed by the prize-winning bull, White Prince of St. Anne's—6408—. Chose bred stock for sale at all times, including some very choice young bulls and heifers. 4-2-y-o

Thos. Drysdale, Allan's Corners P. O., Quebec.

Breeder of high-class Ayrshires, headed by Lord Sterling, winner at Montreal in '85. Extra choice young bulls and heifers for sale. Farm 1 1/2 miles from Bryson's St. G. T. R. 4-2-y-o

AYRSHIRES FOR SALE.

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

Prize-Winning AYRSHIRES FOR SALE.

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand. 20-y-o

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

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

We have a few young Ayrshire bulls left—2 two-year-olds, 4 yearlings, and a fine lot of calves of both sex; also Shropshire sheep and Berkshire pigs; pairs not akin for sale. Visitors met at Queen's Hotel. Give us a call before buying. 20-y-o

Ayrshires!

PURE-BRED, of different ages, and both sex. No inferior animals. Write for particulars.

A. McCallum & Son, Spruce Hill Dairy Farm, DANVILLE, QUE. 22-y-o

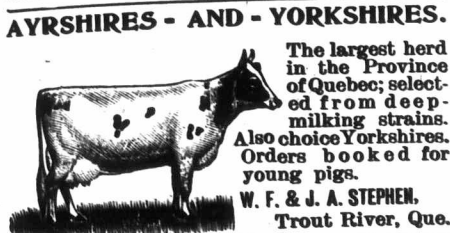
GLENGARY STOCK FARM.

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

ADVERTISE IN THE ADVOCATE



HAVE NOW 3 Young Ayrshire Bulls, ON HAND 1, 2 and 3 years old, respectively; all prize-winners; the 3-year-old having won 1st at leading exhibitions. Write: 19-y-om MESSRS. ROBERTSON & NESS, Howick, Que.



The largest herd in the Province of Quebec; selected from deep milking strains. Also choice Yorkshires. Orders booked for young pigs. W. F. & J. A. STEPHEN, Trout River, Que.

DANIEL DRUMMOND BURNSIDE FARM, PETITE COTE, Montreal, Quebec, BREEDER OF AYRSHIRE CATTLE. 16-2-y-om

W.S. Hawkshaw, Glanworth, Ont. IMPORTED SHROPSHIRE EWES and their lambs for sale; singly or by car lots. Glanworth Station. OXFORD DOWN SHEEP. A FINE LOT OF YOUNG STOCK FOR FALL TRADE. A FEW NICE YEARLING RAMS AND EWES. PRICES REASONABLE. INSPECTION INVITED. 6-2-y-om

HERBERT WRIGHT, Box 47, Guelph, Ontario. SMITH EVANS, Gourcock, Ont. Breeder and importer of registered Oxford-Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-0

Henry Arkell, ARKELL P. O., Ont. Pioneer importer and breeder of registered Oxford-Down sheep. Won many honors at World's Fair. Animals of all ages and sexes for sale reasonable at all times. 9-y-om

COOPER DIP KILLS AND PREVENTS TICKS, LICE AND SCAB. MAKES WOOL GROW. Dipping pamphlet free from COOPER & NEPHEWS, Galveston, Tex. If druggist cannot supply, send \$2.50 for 100-gall. pkt. to WILLIAM EVANS & SONS (Ltd.), Toronto and Montreal. Reduced prices on quantities.

IMP. LARGE WHITE YORKSHIRES FOR SALE I am now prepared to supply young pigs of this noted breed at hard times prices. Orders booked for young pigs due Oct. 1st. Write me for prices and particulars. Mention "Advocate." 18-2-y-0 WM. TEASDALE, Dollar.

R. HONEY, Warkworth, Ont., Northumberland Co., BREEDER OF Reg. Holsteins, Large White Yorkshires, and Cotswold Sheep. Choice young Yorkshires for sale at prices to suit the times. Orders booked for choice Cotswold ram lambs. 12-2-y-0

The MARKHAM HERD OF IMPROVED Large White Yorkshires A choice assortment of young stock now for sale; all sizes and ages; either sex. Pairs and trios not akin. Only first-class stock shipped to order. Prices to suit the times. Correspondence solicited. Shipping G.T.R. and C.P.R. 18-2-y-0 JNO. PIKE & SONS, Locust Hill, Ont.

MANITOWA FARMS FOR SALE TERMS EASY INTEREST SIX PER CENT WRITE FOR LISTS 350 PRINCE OF WELLES ST. TORONTO

The "White" Threshing Engine. Especially improved and built by George White & Sons, LONDON. Examine and compare them carefully with others. No other firm builds them, although several are imitating. But we positively state that no return tube, portable boiler is built like it, consequently cannot give the same results or satisfaction. And no other style of portable boiler built is as suitable.

CENTRAL PRISON... Binder Twine MANILLA, about 650 feet per lb., in lots of 50 lbs. 8c. IMPERIAL, " 550 " " " " 7 1-2c. Or in carloads, delivered to any point in Ontario south and east of Owen Sound: PURE MANILLA, 7 1-2c. IMPERIAL, 7c. In less than carloads (not less than 2,000 pounds), carload price, with car freight deducted from invoice. These twines are made from the best stock obtainable, and the process of manufacture has been so improved during the three years since the factory was established that it can be safely said there is no more profitable twine for the farmer in the market than the Central Prison Brands.

Apply JOHN HALLAM, 85 Front St. E., Toronto, SELLING AGENT, OR TO THE CONTRACTOR AT THE PRISON. 12-c-0

BELL PIANOS AND BELL ORGANS SUPERIOR IN Tone, Quality, Construction and Finish. Full description to be found in our Catalogues. Mailed free on application to THE BELL ORGAN and PIANO CO. (Ltd.) Guelph, Ontario. 5-1-y-om

OVER 75,000 OF OUR INSTRUMENTS NOW IN USE. Specialty of Improved Large Yorkshires

I have now on hand a choice lot of young boars fit for immediate use. Prices very moderate. Orders for spring will receive careful attention. Pigs of the most desirable type and at reasonable prices. 3-y-om J. E. BRETHOUR, Burford, Ont.

FOR good healthy BERKSHIRES and YORKSHIRES two months old, boars ready for service, and sows in pig of good quality, write H. J. DAVIS, Box 290, Woodstock, Ont. Breeder of LARGE ENGLISH BERKSHIRE and IMP. WHITE YORKSHIRE SWINE, SHORT-HORN CATTLE, and SHROPSHIRE SHEEP.

IMPROVED LARGE YORKSHIRES FOR SALE—of the best type and breeding. Young boars fit for service and sows fit to breed. Can furnish young pigs of all sizes and ages, and No. 1 quality. Can supply pairs not akin. 18-2-y-0 E. DOOL, Hartington, Ont.

ENGLISH BERKSHIRES The home of the famous imp. sires Baron Lee 4th and Star One Young litters arriving every month out of matured sows. Highest quality, best breeding. Now is the best time to order spring pigs. Write for prices, or come and see us. J. G. SNELL, Snelgrove P. O., Brampton Station, Ont. 2-y-om

LARGE ENGLISH BERKSHIRES. My herd won 216 prizes, 10 diplomas, 5 medals; also Prince of Wales prize, and sweepstakes over all breeds since 1888 at the leading fairs in the Dominion. Choice stock of all ages for sale. Pairs supplied not akin. GEO. GREEN, Fairview P. O., Ont. Stratford Station and Telegraph Office.

Large English Berkshires for Sale A number of very fine young Berkshire Boars fit for service; young sows fit to breed, and younger ones of all ages, either sex, of choicest breeding. All stock guaranteed to be as represented. Write me for prices, or come and see my stock. W. J. SHIBLEY, 18-2-y-0 HARROWSMITH, ONT.

Siprell & Carroll, CARHOLME P.O., Ont., BREEDERS OF BERKSHIRE SWINE Quality of the Best. Our leading sows are Carholme Queen, Carholme Lass, and Lady Lightfoot. Choice young stock for sale. Correspondence solicited. 12-2-y-0

H. GREGG & SONS, SALFORD, ONTARIO, Breeders of Berkshires and Chester White Swine. We have for sale young stock of either sex, and any age, at prices to suit the times. Correspondence solicited. 8-2-y-0

For Sale—Six Berkshire boar pigs, seven months old, eligible for registration; also two Shorthorn bulls, twelve and fifteen months old, of A 1 milking strains. Prices right. Correspondence solicited. F. A. GARDNER, Britannia, Ont. 22-2-y-0

IMP. CHESTER WHITE and TAMWORTH SWINE Having won the sweepstakes for the best boar and two sows at Toronto Exhibition of 1895, we are booking orders for spring pigs from imp. stock in pairs not akin. Stock for exhibition purposes a specialty. Pedigrees furnished. Reduced rates by express. Drop a card for prices before buying elsewhere. H. GEORGE & SONS, Crampton, Ont., Middlesex County. 7-y-om

CHESTER WHITES AND BERKSHIRES Two one-year-old Berk. boars at \$12 each; three six months old Chester Whites at \$7 each; two litters of Berks. (soon ready to ship) at \$4 each pig; two litters of Chesters (soon ready to ship) at \$4 each pig. This is a special offering in order to reduce stock on hand. Pigs will be crated, put on board cars, and pedigrees furnished free of any extra charge. JAS. H. SEAW, Simcoe, Ont.

OXFORD HERD OF POLAND-CHINAS Our herd made a clean sweep of all the first prizes (\$50) at the late Toronto, Montreal and Ottawa Exhibitions. DARKNESS QUALITY, the unbeaten winner at the World's Fair, heads the herd. Stock for sale. Write for prices. W. H. JONES, 15-y-om Mount Elgin, Ont.

R. WILLIS, JR., - Glenmeyer P. O., BREEDER AND IMPORTER OF CHOICE Poland-China Swine. Young stock of the best quality always on hand. A couple of young sows bred, and also some young boars fit for service to dispose of at right prices. Correspondence solicited. Mention Advocate. 12-2-y-0

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

CANADA: WILKES -277- 19619 (A). Stock hogs of all ages and sexes for sale. Single choice pig, either sex, \$10; pairs not akin, \$18; trio, \$26; fall boars ready for service from \$15 to \$20. One yearling, choice, \$30; 6 young sows bred for August litters at \$15 if taken at once. Honey, pears, apples in season. Send for new illustrated catalogue free. Correspondence solicited and inspection invited. Visitors welcome. Address communication to 17-y-om CAPT. A. W. YOUNG, Tupperville, Ont.

DUROC-JERSEY SWINE We have the best and greatest prize-winning herd in Canada. Write for what you want. We have everything. TAPE BROS., Ridgetown, Ont. 20-y-om

ADVERTISE IN ADVOCATE

GOSSIP.

The fine home of Mr. Douglas is located near Warkworth, Ont. The buildings are situated on a rise of ground, commanding a fine view of country with rich, fertile fields, hill and glen, forming a rustic picture that Canada is particularly noted for. The property consists of upwards of five hundred acres; a large area of fine wooded pastures and several living springs make the farm peculiarly well adapted to stock raising. Mr. Douglas has been breeding Ayrshires for several years, and, as is well known, added some choice stock to his herd a couple of years ago by an importation from the herd of the noted Ayrshire breeders, Andrew Mitchell, Barcheskie, and W. S. Park, Hatton, Bishopton, Scotland. Dominion Chief 1211 stands at the head of the herd. He is a fine stock bull, and a good head for some herd, as Mr. Douglas is now offering him for sale in order to replace him by one that can be used on his offspring; he can be secured at a bargain. Dominion Chief is out of imp. Jess - 1205 - and was sired by Royal Chief - 75 - Among the cows, a very choice one is the three-year-old Violet of Park (imp) - 2820 - typical in conformation and choice in color, while her breeding is of the best; she being by the famous stock bull, Traveller of Drumjoan (141); her dam being Jessie 3rd of Drumroch, by Curate of Drumroch. Violet of Park was bred by Andrew Mitchell, of Barcheskie, Kirkcudbright, Scotland, and is the dam of a fine seven-month-old bull seen in the stables, by a fine bull imported by Mr. Douglas for Messrs. Dundas & Granby, of Springville. Alice of Hatton, of same age as Violet of Park, and imp. at same time, is also a fine heifer, out of Baron V. of Knockdon - 1916 - dam Emily 1th of Hatton - 2901 - Another of the imported cows is Fairy Queen of Dunjop - 2069 - imported by the late Thos. Brown, of Petite Cote, Que. from the herd of Jno. Lindsay, Dunjop, Castle Douglas, Scotland. We saw a beautiful yearling heifer, Queen May - 2815 - out of this cow, sired by Dominion Chief. The above heifer, Peach Blossom - 2816 - and Isabel - 2817 - are yearling heifers of fine quality and great promise, as is also the two-year-old Miss Bonny Doon - 2865 - out of Amy - 1861 - and first winner in her class and sweepstakes cow at Toronto in '93. The above heifers are sired by Dominion Chief, and testify to his grand breeding qualities. This herd has produced Toronto winners, and now contains fine show individuals. Mr. Douglas is making a large offering in our advertising columns, which will afford a fine opportunity to intending purchasers of choice dairy stock.

FREE SAMPLE COPY

A New Elementary Technical Journal Of 24 Pages, with a New Plan of Instruction, in **MECHANICAL AND DRAWING ARCHITECTURAL** For Machinists, Draughtsmen, Carpenters, Steam Engineers, Electrical Workers, Plumbers, Steam Fitters, Surveyors, Miners, High School Students. Address, **HOME STUDY**, Box 500 Scranton, Pa.

Purest and Best.

Windsor Cheese and Butter Salt

Has during the season of 1895 given the best satisfaction on account of Purity, evenness of crystal, and splendid working qualities.

It is now used in all the largest Cheese Factories and Creameries in Canada.

WINDSOR SALT WORKS, WINDSOR, ONT.

GUERNSEYS

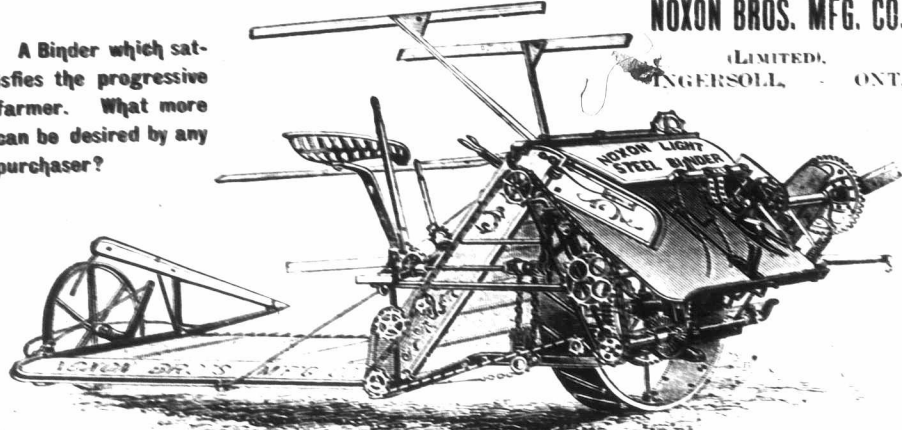
This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine yearling bulls and bull calves for sale at farmers' prices. A few heifers can be spared.

Address: **SYDNEY FISHER**, Alva Farm, Knowlton, P.Q. "Poultry Almanac" tells all about raising chickens. 10 cents. C. C. SHOENAKER, Pub., Freeport, Ill.

NOXON No. 8 STEEL BINDER!

NOXON BROS. MFG. CO. (LIMITED), INGERSOLL, ONT.

A Binder which satisfies the progressive farmer. What more can be desired by any purchaser?



Dr. H. F. Merrill.

No Other Medicine SO THOROUGH AS AYER'S Sarsaparilla

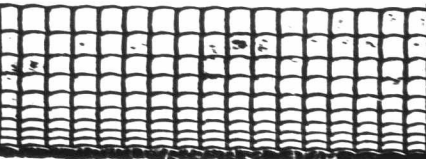
Statement of a Well Known Doctor

"No other blood medicine that I have ever used, and I have tried them all, is so thorough in its action, and effects so many permanent cures as Ayer's Sarsaparilla." - Dr. H. F. MERRILL, Augusta, Me.

Ayer's The Only Sarsaparilla

Admitted at the World's Fair.

Ayer's Pills for liver and bowels.



The Fence that Pays:

Farmers that buy the PAGE are always satisfied. The Page turns all their stock, does not sag, and requires no attention until the posts wear out. Send for free illustrated paper and catalogue giving full particulars.

THE PAGE WIRE FENCE CO. OF ONT., LTD.

WALKERVILLE, ONTARIO.

G. BENNETT & PARDO,

CHARING CROSS, ONT.

Brooders and Importers of Chester Swine and Poultry - P. Cochins and L. Brahmas, and White Wyandottes, W. & B. Leghorns, Silver-Gray Dorkings, and Cornish Indian Game. Eggs, \$1.00 per 13

the remainder of the season. Safe shipment and a fair hatch guaranteed. 10-2 y-om

Preston Poultry Yards

L. and D. Brahmas, B. Langshans, B. and W. Rocks, Blk. and W. Leghorns, and Silver Wyandottes. Eggs, \$1.50 per setting, \$2.50 per two; B. and P. Cochins, W. C. S. and G. Polish and Games, \$2 setting, \$3.50 per two settings. 8-4-om G. D. SMITH, Preston, Ont.

Eggs from prize-winning pens: Black Minorcas, Red Caps, Black Hamburgs, Andalusians, Rose Comb Brown Leghorns, Single Comb White Leghorns, Light Brahmas, and Barred Plymouth Rocks, \$1.00 per setting. Satisfaction guaranteed. 7-4-om W. L. BROWN, London West, Ont.

Pickle Your Eggs

when they are 7c. to 10c. per doz. for your own use or sell them when they are 20c. to 25c. and double your money. I have a recipe to make a pickle that will keep eggs for two years if necessary, which I have used for 15 years. Will send it to any one sending me \$1.00 (registered letter). 8-4-om W. M. BUSH, Walkerton, Ont.



Get the Best!

FREEMAN BONE FERTILIZERS.

Wide-awake farmers and fruit growers make money by using Fertilizer.

It is a complete plant food. It is soluble in water and feeds the plant from start to finish. It will increase the yield of your crops and improve their quality. Ask for and use only Freeman's High Grade Bone Fertilizers.

The W. A. Freeman Co., Limited, HAMILTON, ONTARIO.

(Send for Catalogue.)

3-D-0

USE Queenston Cement

FOR BUILDING... STABLE, SILO, AND OTHER WALLS, CISTERNS, STABLE FLOORS, HOG TROUGHS, ETC.

As the building season has commenced, all parties using our cement, and where its use is not understood, kindly give us about ten days' notice and we will come or send an expert at our own expense. We shall be behind our orders this year; on this account order cement two or three weeks before you want to use it.

SEND FOR OUR NEW PAMPHLET CONTAINING FULL INSTRUCTIONS, FREE.

For prices of Cement and other particulars, apply.

ISAAC USHER & SON, Thorold, Ont.

13-y-0

THE HYSLOP WHEEL
BEST ON EARTH

REGENT WHEELS SECOND ONLY TO HYSLOP

FLEET WHEELS BEST \$75 WHEELIN CANADA

THE SPARTAN WHEEL
\$50. COMPARE IT WITH OTHERS AT \$75

HYSLOP, SON & McBURNEY.
THE WHEELMEN OF CANADA.

FARM ENGINES

UPRIGHT and HORIZONTAL. Stationary, Portable & Semi-Portable. All sizes from 5 to 20 Horse Power.

W.E.W. CO. LTD.

EXCELLED in Simplicity, Effective Working Qualities and Durability. GUARANTEED TO GIVE FULL POWER CLAIMED AND TO BE AS REPRESENTED. Over 2,000 in successful operation. It is a good idea to write us before buying. Pamphlet free. Address: **WATEROUS, BRANTFORD, CANADA**

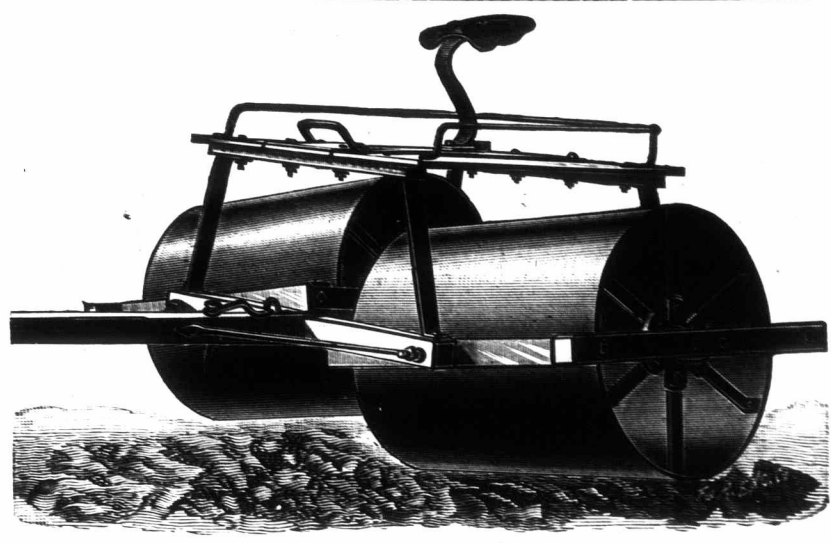
ADVERTISE IN THE FARMER'S ADVOCATE.

GALVANIZED STEEL WIND-MILLS
 For POWER and PUMPING with PATENT ROLLER and BALL BEARINGS.



THE CELEBRATED "Maple Leaf Grinder"
 Ten-inch reversible plates, Relief Springs, Ball bearing Plates, Shake Feed, grinds fine and fast.

OLD SHAPLEY & MUIR CO. LTD.
 BRANTFORD CAN.
 Send for Circulars, and mention this paper.



"The Dale Steel Land Roller is the strongest, heaviest, most durable and most economical roller for farming purposes at present made in the world."

THE ESTATE OF T. T. COLEMAN, SEAFORTH, ONTARIO.

Annual Meeting of American Southdown Breeders.
 The annual meeting of the American Southdown Breeders Association was held in Springfield, Ill., May 27th; Mr. J. H. Pickrell, presiding, in the absence of President John Hobart Warren, of New York.
 The financial and other reports of the Treasurer and Secretary show the Association in good condition, and state that Southdown breeders have reason to expect that this breed will be in great demand because of their superiority for mutton and of their ability to impress their good qualities upon other breeds, thus making the sort of sheep that our mutton markets now require.
 The report of the committee awarding Mr. Geo. McKerrow, Sussex, Wis., the \$50 gold medal [see June 1st FARMER'S ADVOCATE] for making the largest score in exhibition at fairs in 1895 was approved.
 A committee was appointed to formulate the offering of a gold medal for exhibitions in 1896, and for special premiums at the Tennessee Centennial in 1897.
 The selection of two rams from the flock of Mr. Geo. McKerrow, Sussex, Wis., for use in a test between Southdowns and Dorsets as to earliness and quick maturing of lambs for market, to be made by Mr. G. M. Wilber, of Marysville, Ohio, was approved.
 Mr. C. H. Nimson, Crawberry, N. C., presented a valuable paper on the Characteristics of Southdown Sheep.
 The following officers were elected:—
 President, L. S. Rupert, Bloomington, Ill.
 Secretary, John G. Springer, Springfield, Ill.
 Treasurer, D. W. Smith, Springfield, Ill.
 Directors—Geo. McKerrow, Sussex, Wis.; L. M. Crothers, Crothers, Penn.; F. W. Barrett, Wadsworth, N. Y.
 Mr. T. C. Douglas, Galt, Ont., is director representing Canada, and Mr. W. W. Chapman, Fitzalan House, London, England.

THE **Wall Paper King** OF CANADA.
 IF YOU THINK OF PAPERING a Residence, Church, Office, Lodge Room, Public Hall, Hotel or Store
 WRITE A POSTAL TO
C. B. Scantlebury,
 Box 630, Belleville, Ont.
 Mention the ROOMS you think of papering, about the PRICE you want to pay, and where you saw this "ad."
 You will get by return mail large SAMPLE BOOKS of choice WALL PAPER at the LOWEST prices known to the Canadian trade, and our booklet "HOW TO PAPER."
 We pay express charges on all orders and guarantee satisfaction or YOUR MONEY BACK.
 References, Can. and Dom. Express Co's. 7-f-om

BINDER TWINE
 CONSUMERS' CORDAGE COMPANY, LIMITED.
 Head Office, MONTREAL

NEW BRANDS FOR 1896 :
Red Crown and Blue Crown
 THESE TWINES ARE BEING MANUFACTURED WITH SPECIAL CARE, AND WE GUARANTEE THEM EQUAL TO ANY WE HAVE EVER MADE. BINDER WILL RUN ALL DAY WITHOUT ANY STOPPAGE EXCEPT TO CHANGE BALL.
 FARMERS WILL DO WELL TO USE THESE BRANDS FOR 1896.
 FOR SALE EVERYWHERE.
 ENQUIRE FOR PRICES.
 7-j-om

NORTHERN Business College
 IS THE PLACE TO ATTEND if you want either a Business Education or a course in Shorthand. The best in Canada. Full particulars free. Address, C. A. FLEMING, Principal, Owen Sound, Ont.

TORONTO FIRE INSURANCE CO.
 53 KING W. COR. BAY TORONTO
 CUTS FOR ALL ILLUSTRATIVE PURPOSES
 12-y-om

THE EXCELSIOR LIFE INS. CO. Issues the best PROTECTION and INVESTMENT.
 The Company is foremost in features essential to success, and the security is unsurpassed. Agents wanted. E. F. CLARKE, President. 9-y-o

STEEL SHINGLES for BARN ROOFING
 CHEAPER AS WOODEN SHINGLES.
 GUARANTEED FOR 25 YEARS.
 SEND FOR CATALOGUE AND PRICES.
 PEDLAR ROOFING CO. METAL OSHAWA, ONT.

In the Kitchen
 The heat from cooking during summer months with an ordinary cook stove is very fatiguing.
Cooking Can be Done With Comfort
 on a "Splendid Oil Cook Stove"
 at a small cost.
 No odor. Wicks easily replaced. Powerful 8-inch circular burners. Polished brass burners and oil tank. Steel top, tray and frames. Three sizes—1, 2 and 3 burners.
 "SPLENDID" FOR COAL OIL.
 BAKING, BROILING, AND ROASTING CAN BE DONE TO PERFECTION.
The McClary Mfg. Co., London, Toronto, Montreal, Winnipeg, and Vancouver.
 If your local dealer cannot supply, write our nearest house.

GOSSIP.
 A Shorthorn cow belonging to Captain Butters, Summerbank, Dalbeattie, dropped three bull calves on Thursday, all living. Last year the same cow had two heifer calves.— [Farmer and Stock Breeder, Eng.]
 Mr. Stephenson, of Shipton, near Pocklington, has a ewe which during her thirteen year's existence has had three lambs each time for eight years and two lambs each year for the remaining five years. Another remarkable fact is that this valuable ewe has reared the whole of her offspring.
 The English Jersey Cattle Society's butter test took place at Jersey. Nine cows competed. The gold medal went to Mr. R. Williams' Fancy (3 lbs. 3 ozs.); the silver medal to Mr. J. Bree's Mariette (2 lbs. 12 ozs.); the bronze medal to Mr. C. Furber's Canning Fox (2 lbs. 8 ozs.). Nine cows averaged 39 lbs. 11 ozs. milk and 3 lbs. 31 ozs. butter.
 At Sir Gilbert Greenall's recent sale, Abdrigg's, Eng., the following horses were sold at the prices named: Good Luck, Hackney pony mare, foaled 1891, 270 gs.; Expectation, Hackney pony mare, foaled 1891, 360 gs.; Duchess Fireaway, Hackney mare, foaled 1892, 300 gs.; Amusement, Hackney gelding, foaled 1891, 700 gs.; Lady Loft, Hackney mare, foaled 1888, 920 gs.
 Capt. A. W. Young, Tupperville, Ont., has received the following: "Dear Sir,—The directors of the Maidstone & Sandwich East Agricultural Society are highly pleased with the Poland-China boar purchased from you recently, and think it no more than just to express their approval in the farmers' paper the ADVOCATE. Very respectfully yours, JNO. A. McAULIFF, Secretary, Maidstone, Ont., May 24th, 1896."
 The Council of the Royal Agricultural Society (Eng.) have issued their annual report, in the course of which they summarize the position of the Society. There are in the books a total of 11,180 members, against 11,119 at the same period last year. The total assets of the Society have somewhat improved. On December 31st, 1895, they amounted to £3,450 11s. against £3,628 7s. 10d. in 1894. The entries for this year's Leicester show compare favorably in the live stock department with those at Darlington. There are 1,883 entries, compared with 1,703 last year. There will be 594 entries of horses, against 630 at Darlington; 594 cattle, as compared with 548 last year. Sheep have jumped from 385 up to 551; while 141 pigs will be shown, whereas no pigs have been shown at the last two meetings, owing to fever; poultry number 901 entries, butter 141, cheese 153, cider and perry 35, and hives, honey, etc., 185.
DEMAND FOR MULES.
 A French correspondent writes:—"The demand for mules is so great, to meet the wants of Madagascar, of the Italians in Abyssinia, and of the English in Egypt, that the Pyrenees can spare no more. A good mule can readily command 80 francs (€3), which is a higher price than the French Government pays for its horses."

BOOK TABLE.
 The American Hereford Record Association should be congratulated upon the imposing and substantial volumes which they issue. The fifteenth is just to hand from the Secretary, C. R. Thomas, Independence, Mo. The entries, which range from number 60001 to 65000, show the business of Hereford breeding to be in a live condition. The book contains seven magnificent full page illustrations of prize winning animals.
 A copy of the second and revised edition of "Weeds and How to Eradicate Them," by Prof. Thos. Shaw, has been received from St. Paul, Minn., U. S. (Webb Publishing Co.). A new chapter has been added on some of the more troublesome weeds peculiar to the Western prairies. The chapters of the first edition dealt with "The Prevalence of Weeds," "The Evils which Arise from the Presence of Weeds," "The Possibilities of Destroying Weeds," "The Agencies Concerned in the Distribution and Propagation of Noxious Weeds," "Methods and Principles Generally Applicable in the Destruction of Weeds," "Specific Modes of Eradicating Certain Troublesome Weeds." The volume is not an imposing one in its typography or binding, but the matter is concise and instructive, and, as we have indicated, covers an extensive range of practical points.

ADVERTISE IN THE FARMER'S ADVOCATE.

BREEDERS' DIRECTORY.
50 Cards up to six line space inserted under this heading, one issue a month, \$3 per line per annum; every issue, \$5 per line. Payable in advance.

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

D. G. HANMER & SON, Mt. Vernon, Ont., Importers and Breeders of high-class Shropshire Sheep and Berkshire Pigs. 22-y-om

F. S. WETHERALL, Cookshire, Q., breeder of Jersey Cattle, Shropshire Sheep; W.H. Fox, Irish and Scotch Terriers, and Beagles.

H. I. ELLIOTT, Danville, P. Q., breeder of Scotch Shorthorns & Southdown sheep

JAS. TOLTON, Walkerton, Breeder and Importer of Oxford Sheep, also Breeder of Shorthorn Cattle and Bronze Turkeys.

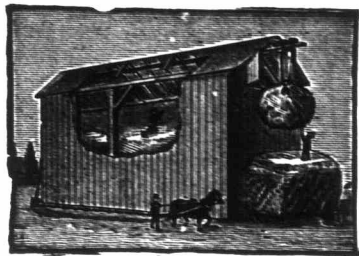
JOHN SANDILANDS, Williamstown, Ont., Breeder of choice Ayrshires. Young stock for sale. 4-2-y

J. P. PHIN, Breeding and Importing SHROPSHIRE SHEEP a specialty. 22
 THE GRANGE, HESPELER, ONT.

T. GUY, Oshawa, Ont., Breeder of Ayrshire Cattle—prize winners at the World's Fair.

W. M. SMITH, M.P., Columbus, Ont., breeder and importer of Clydesdale Horses, Shorthorn Cattle, and Cotswold Sheep. Stock for sale. Terms and prices liberal. 22-y

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
J. W. CAMERON, Ingersoll, Ont.
 (Successor to M. T. BUCHANAN.)

W. & F. P. Currie & Co.
 WHOLESALE GENERAL MERCHANTS,
 100 Grey Nun St., MONTREAL

IMPORTERS of Scotch Glazed Drain Pipes, Chimney Tops, Vent Linings, Flue Covers, Fire Bricks, Fire Clay, Portland Cement, Roman Cement, Canada Cement, Water Lime, Whiting, Plaster of Paris, Borax, China Clay, etc., etc.

MANUFACTURERS OF
Bessemer Steel Sofa, Chair and Bed Springs.
 A LARGE STOCK ALWAYS ON HAND.

The Improved KNITTER
 Family.....
 Will knit 15 pairs of socks a day. Will do all Knitting required in a family, homespun or factory yarn. **SIMPLEST KNITTER on the Market.**
 This is the one to use. A child can operate it. We guarantee every machine to do good work. We can furnish ribbing attachments. Agents wanted. Write for particulars.
 Price, \$8.00.
Dundas Knitting Machine Co.,
 Dundas, Ont.
 17-y-om

WATERLOO HAY LOADER
 Two Styles.

LOADS HAY FROM WINDROW OR SWATH.

A Great Time and Labor Saving Implement
 IT REQUIRES NO EXTRA MEN OR HORSES TO WORK IT. IT IS SIMPLE AND DURABLE. WRITE FOR PRICES.
Waterloo Manufacturing Co'y, Ltd.
 WATERLOO, ONTARIO.

ULRICH'S Illinois Mammoth White ENSILAGE

CORN is what you want for ensilage purposes. It stands more dry weather and will produce more ensilage on poor or good soil than any we know of. Ask your seed dealer there for it, and use no other. It is endorsed by some of the best seedsmen throughout Canada. Don't let them press you into using any other, but insist on having your seed dealer show you our book of testimonials and invoice dated this season. It will pay you. Also ask for our Yellow Dent, which is very choice. Our sales this year have been very heavy.

Tilsburg, Ont., 4-1-96.
 MESSRS. E. R. ULRICH & SON,
 Springfield, Illinois:
 Gentlemen,—
 In reply to your favor of March 27th, beg to say that the **WHITE ENSILAGE CORN** that we planted last spring, from which we grew such heavy crops of Ensilage, was seed we purchased from you, and I have no objection to your making use of the fact in advertising your corn. I inclose a printed circular. I had so many enquiries asking what seed I planted, and how I cultivated my corn and saved it in silos, I had not time to answer so many letters, and so had some printed. Also one on the silo.
 Yours truly,
 (Signed) E. R. ULRICH.

E. R. ULRICH & SON,
 Springfield, Ills. WRITE FOR FREE SAMPLE. WE SEND TO DEALERS ONLY.

No matter how June 23rd turns out,
 The finest **THRESHING OUTFITS** made in Canada are produced by
THE JOHN ABELL ENG. AND MACHINE WORKS CO. (Limited),
 HANDSOME NEW CATALOGUE, 100 PAGES.
 TORONTO, CANADA.

ADVERTISE IN THE FARMER'S ADVOCATE.

FARMERS' BINDER TWINE COMPANY, LIMITED, BRANTFORD.

RED STAR BLUE STAR

THE PEOPLE'S COMPANY. THOUSANDS OF STOCKHOLDERS, ALL FARMERS. A GREAT CO-OPERATIVE CONCERN. APPLY AT ONCE FOR AN AGENCY IN YOUR LOCALITY. BINDER TWINE DIRECT FROM THE JENNY TO THE BINDER. IT IS THE INTEREST OF EACH INTELLIGENT MAN TO BUY FROM THIS COMPANY. YOUR PATRONAGE WILL HOLD US IN EXISTENCE FOR FUTURE COMPETITION.

HON. THOS. BALLANTYNE, President.
 W. S. CAMPELL, Vice-Pres.
 JOSEPH STRATFORD, General Manager.

The Haymaker
 SINGLE RAIL CARRIER.
 TRUE AS STEEL—NOTHING BETTER.

SOLID STEEL RAIL, SINGLE HEAD, GREAT STRENGTH, NEITHER HOLES NOR SET SCREWS, JOINT CLAMPS, STOP AND HANGING HOOKS ALL ON TOP, AND Made of the best annealed Malleable Iron. Guaranteed second to none. Perfectly adjustable. It is made for either

STEEL OR WOOD TRACK.
 Are you going to get a WINDMILL? If so, you want THE BEST. We have them. THE GEM!!!—Solid steel wheel and tower, graphite bearings that require no oiling. Either painted or galvanized. Excels all others. THE CANADIAN AIR-MOTOR!!!—Solid steel wheel and tower. The best Mill for the money in Canada. THE HALLIDAY STANDARD!—The best sectional wooden wheel ever built. Has been a complete success for 30 years. Give us a chance to figure on your outfit. Estimates cheerfully furnished. Catalogues fully describing our Windmills, Horse Hay Tools, Spray and other pumps, etc., etc., sent free upon application.

ONTARIO WIND ENGINE & PUMP CO.
 10-y-om 367 Spadina Ave., TORONTO, ONT.

THE JONES LOCKED WIRE FENCE STOCK PROOF LOCK

Read Its Advantages!
 Our Fence contains all the claims made by other companies, besides having the following exclusive points:—
 Highest award at the World's Fair; more weight; more strength; heaviest stay; greatest supporting qualities; the only diagonal brace (secured in the lock); no remnants; repairing of old fences; equal strain on all wires over grades; requires less capital; can build high or low, close or open; accommodates itself to any condition. The "Missing Link," the Jones Flexible Clamp. Write for Catalogue. Agents wanted in unrepresented districts.

The LOCKED-WIRE FENCE CO. (Ltd.),
 Ingersoll, Ont.

EDMUND WELD,
 Barrister, Solicitor, Notary Public, Etc.

Moneys loaned on real estate, at lowest rates. Investments procured. Collections made. Address, 87 Dundas Street, London, Ont.

BOYS FOR FARM HELP
 The managers of Dr. Barnardo's Homes will be glad to receive applications from farmers or others for the boys whom it is proposed to send out from England in several parties during the coming season. All the young immigrants will have passed through a period of training in the English Homes, and will be carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars, as to the terms and conditions upon which the boys are placed, may be obtained on application to MR. ALFRED B. OWEN, Agent, Dr. Barnardo's Homes, 214 Farley Ave., Toronto. 4-y-o