

**PAGES
MISSING**

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and Home Magazine

"Persevere and Succeed."

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EDITORIAL

HIGH PROTECTION A NATIONAL HANDICAP.

"The Farmer's Advocate" does not believe in absolute free trade as being the most expedient policy for the Dominion of Canada to adopt under existing conditions, although a permanently-established system of world-wide, or even continental, free trade would be a vast boon to all countries concerned. Meanwhile, in view of the policy studiously pursued by our great southern neighbor, a moderate tariff appears to be necessary to foster the development of a self-reliant and reasonably self-contained nation, capable of supplying the greater part of its own needs, and being thereby rendered comparatively independent of the fiscal caprices of the peoples with which we trade. We believe, for instance, in conserving the supply of such raw materials as pulpwood and lumber, and, accordingly, favor export duties on such commodities, to the end that their utilization may be encouraged in our own country, or, failing this, that they may be reserved until such time as Canadian enterprise can make use of them. We do not believe in permitting alien capitalists to skim the cream off Canadian natural resources without contributing a dollar to our public revenues. We believe in a moderate and reasonable tariff impost on manufactured goods for reasons indicated above.

At the same time, we do not endorse the superficial claptrap arguments commonly adduced in favor of a protective policy, nor do we believe in extreme protection of home industries, for the cardinal reason that such a policy tends, in the first place, to divert the energies of capital and labor into channels for which the country is not naturally best adapted, thus involving economic waste; and, in the second place, it affords capitalists in lines that could flourish without protection opportunity to maintain prices at an artificial level, more particularly through the agency of trade combines, which are a natural and mischievous outgrowth of high protection. Trusts and monopolies have their sharpest teeth drawn in countries enjoying low tariffs.

The immediate purpose of this article is to point out that the common mistake of protection organs lies in their assumption that vast manufacturing and other urban industries are the great end and aim of material development. They see in the agricultural and laboring classes merely a broad base on which to build cities and urban industries. The actual condition of the farming and working classes occasions them no concern so long as conditions are not onerous enough to drive these out of the country. Of course, all this is egregiously wrong. While we want manufacturing in Canada, we also want farmers, and, from the standpoint of material progress, from the standpoint of citizenship, from the standpoint of nationhood, a flourishing agricultural population is infinitely more to be desired than any development of cities it is possible to conceive. Inasmuch as Canada is primarily an agricultural country, agricultural exports constituting the basis of our wealth, it follows that agriculture cannot be protected to any great extent, hence the net burdens of a system of fiscal protection to manufacturing interests must fall largely on the farmer, who already, and otherwise, bears more than his full share of taxation. The interests of the Canadian farmer is diametrically opposed to the maintenance of a high tariff wall, and, seeing that the agricultural population is our country's greatest asset, every broad consideration of statesmanship demands that the seductive requests for high-

er import duties, as well as special bounties and privileges, be discriminately weighed and sparingly conceded. Our tariff is already plenty high, and would be better for some further reductions.

CO-OPERATION OF CO-OPERATIVE ASSOCIATIONS.

Co-operative fruit packing and selling has reached a point where a move forward is necessary. This movement began ten or twelve years ago in the formation of co-operative associations at Chatham and St. Catharines, though an organization on somewhat similar lines had existed at Burlington for some years previous. There are thirty-five or forty of these associations in the Province of Ontario to-day; also a number in British Columbia, while in Nova Scotia the movement is gradually getting under way. The members co-operate in spraying, in buying supplies, in packing and marketing their fruit. The general effect has been beneficial both to the grower and to the consumer. The pack of fruit is more uniform in character, and few, if any, cases of fraudulent branding have been traced to these associations. The small grower has benefited by them, and in many ways they have stimulated apple-growing on the average farm, and made this branch of agriculture a more valuable asset.

A further development of the co-operative principle is now declared necessary. Not only must there be co-operation among growers in handling their fruit, but it is believed that the co-operative associations may co-operate one with another. A couple of years ago a central association was formed at Toronto, designed to be representative of the Ontario co-operative organizations. At its annual meeting in June of this year, it was contended that there must be a stronger and more effective banding together of the local associations if the movement is not to receive a setback. Never a friend of co-operative enterprise, the apple-buyer is charged with having made special efforts during the past season to thwart and bring it into disrepute with the trade. This may not be true of all the buyers, but there is no doubt that many of them regard co-operation as a trespass upon their preserves. In addition to this active and sometimes underhand opposition, the associations have to cope with the usual disabilities and handicaps incident to inexperience, and the various frailties of human nature. The need of effective business negotiation in disposing of the product is also manifest. In short, it is held that some concerted action is necessary to assist and strengthen the co-operative associations.

The central organization was formed two years ago to aid the local associations in buying supplies, in selling the fruit, and in keeping them informed regarding market and crop conditions. Excepting the last-named service, nothing tangible has been accomplished, and even regarding crop conditions the work has not been so effectual as it might be, owing to the apathy of many local officers in supplying reports. The larger objects aimed at have not been achieved because the central body has not had power to engage in business transactions, its efforts in this direction having been largely advisory. Nor has the central organization had the full support of the local ones. During its first year, there were thirteen local associations enrolled as members. At the end of the year three dropped out, leaving but ten. Additional enrollments last year brought the total up to twenty-four, or about two-thirds of all in the Province. To hold and increase its membership, something practical must be done by

the representative body. The mere meeting together and discussing co-operation is not sufficient.

At the meeting referred to, incorporation was recommended, and the engaging of a competent man to manage the association, devoting his whole time to the work. Incorporation would enable the central association to buy supplies wholesale and distribute them among the local associations, for which it might also act as selling agent. A capable manager, studying the market, and in touch with the trade, should be of service in placing the output better than a number of small companies acting separately. It need not mean the discontinuance of f. o. b. selling, but the placing of the fruit where and when a suitable market could be found. In fact, it is claimed that such an organization would become a strong factor in the trade. It has also been suggested that inspectors should be employed to grade the fruit and place a registered brand on every barrel of a local pack coming up to a certain standard. There is admittedly need for instruction in spraying and packing. Many of the recent local associations are novitiate at the business, and help of this kind would be appreciated.

In just how far these suggestions may prove practicable, remains to be seen. If the plan of a capably-managed central incorporated body can be worked out to fruition, it should prove a vast benefit to the fruit-growing industry, and its objects would doubtless commend themselves to the practical endorsement of the Provincial Department of Agriculture. There is need, however, for wise business counsel before anything of the kind is undertaken.

REFORESTATION OF FARMS AND PUBLIC LANDS

Between four and five hundred thousand seedlings have been sent out this year from the Provincial Government's tree nursery at Guelph, Ont., says E. J. Zavitz, who has charge of the Forestry Department. The resources of the nursery are barely sufficient to supply the demand, and, with the vastly increased planting which might and should be encouraged from now on, a much greater nursery area will be required. Mr. Zavitz is now giving considerable attention to the public reforestation of waste land in various sections. It may be news to many readers to know that, not only in New England are there abandoned farms, but right in Ontario, the banner agricultural Province of the Dominion, may be found limited areas of worthless blow sand, which has been homesteaded, but which the owners have been glad to dispose of for a song, or to abandon outright. The township of Walsingham, in Norfolk Co., contains more or less such land, while portions of Muskoka, Parry Sound, and some other counties, will never be fit to produce any crop but trees. In view of the alarming and increasing scarcity of commercial lumber, it is of the greatest importance that such districts should be reforested by either municipal or Provincial enterprise, as well as that holders of private lands should take prompt steps to plant the poorer and rougher portions of their farms with trees. Indeed, throughout the great area of agricultural Canada, no farm, even if composed entirely of first-class arable land, should be without a moderate-sized wood-lot. In years to come, the present-day farmers who plant trees will be pointed to as wise men of their day and generation. Let us have fewer half-tilled fields, and more well-planted and judiciously-managed wood-lots. The remaining acres will produce more crops per acre on account of the protection, while the forest will be a splendid source of revenue and a constant pride and joy of its thrifty owner.

PLANT TREES.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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CUSTOMS REGULATIONS RE IMPORTED STOCK.

The new regulations of the Dominion Department of Customs respecting the admission into Canada, duty free, of pure-bred animals for the improvement of stock, which came into effect July 1st, 1968, provides that, in the case of importation of animals of any of the breeds for which Canadian pedigree records exist, certificates of registration in these must be produced in order to secure admission free of duty. No animal imported for the improvement of stock will be admitted free of duty unless the importer is domiciled in Canada or is a British subject, and furnishes a certificate of the recorded pedigree in accordance with requirements of these regulations. In case such certificate is not at hand at the time of the arrival of the animal, the duty must be paid, subject to a refund upon the production of the requisite certificate and proofs in due form, satisfactory to the Collector of Customs, within one year from the time of entry.

In the case of the importation of animals from a foreign country, of a breed for which no record in this country exists, the Accountant of the National Records, at Ottawa, is authorized to issue an "import certificate," provided that, on examination of the certificate of registry, he finds that the animal is duly recorded in an accredited breed record in the country of origin. The import certificate, on presentation to the Collector of Customs, will entitle to entry free of duty.

It will be noticed that, as contended by "The Farmer's Advocate," as a reasonable proposition, the Holstein-Friesian Association is recognized by the Department in the above list. Although not working under the direction of the National Record Board, this association is incorporated under a Dominion charter, and as the validity of its system of registration is unquestioned, no important principle is violated in admitting, duty-free, animals recorded in its herdbooks.

The above regulations are a great improvement

over the loose and antiquated ones hitherto in force, and, while "The Farmer's Advocate" believes they are unnecessarily liberal in providing conditionally for the free entry of breeds for which we have no Canadian records, still the Departments of Agriculture and Customs are to be commended for the advance that has been made.

A WASTE OF PAPER AND STAMPS.

Still they come—questions without full name and address, or with the name of some person who does not take "The Farmer's Advocate" at the address given. There is a large waste-paper basket beside the editor's desk which receives hundreds of such communications in the course of a year. It is a futile attempt at imposition to send inquiries not strictly conforming to our rules, for which see the standing announcement at the head of the second page of reading matter in every issue.

HORSES.

CLAIMING NAMES.

Editor "The Farmer's Advocate":

Having read Mr. Sangster's letter in your issue of June 25th on naming Clydesdales, and the editorial comments on the subject in the same number, I venture, at the risk of being voted presumptuous, to offer some suggestions along that line. If the plan of granting to individual breeders or owners the special privilege or right to use certain words in the naming of their stock in the breed records be adopted, will there not be danger of discord in the ranks of applicants where two or more happen at the same time to ask for the right to use the same name? And in the event of such a contingency, on what principle will a satisfactory decision be arrived at? Personally, I prefer names of one word, or two at most, as being more convenient and economical of time and space, and I would vote for limiting names to two or three words, or to a certain number of letters, and also for accepting only one animal of a breed with the same name after a fixed date. I presume many breeders would find difficulty in selecting names where they have many to record, and I can understand that many a hitch would likely occur from the selection of a name already on record, but I am informed that in the case of records adopting that rule, the customs, where a name is offered which is already on record, that the registrar is authorized to notify the applicant of the fact, and to select a name for his approval, which, if accepted, stands, but if not acceptable the owner has the privilege of offering others. This system may have the appearance of being likely to lead to many delays, but I am told that in actual practice such has not proven to be the case. While my interest in Clydesdale naming is limited, and I am not likely to be seriously inconvenienced by the adoption by the Canadian Society of the request to respect the special rights granted by the Scottish Clydesdale Society for the use of certain names, or even by the adoption of the same system here, I would prefer the abolition of duplicate names after a fixed date in the near future, to avoid possible confusion from the fact of a number of animals of the same name appearing in pedigrees of representatives of the same breed. And I confess I should be disposed, with my present limited knowledge of the working of the "patent-right" system, to doubt the wisdom of its adoption in this country, as I should fear the possibility of friction in the society over the granting of special privileges to one man or firm, as I judge from a remark in your editorial there was in the Scottish Society over the granting of the use of the name Baron to one firm whom I fail to see had any special claim to that name, which has been used in so many pleasing combinations, such as Baron Renfrew, Baron Solway, Baron O'Dee, etc. And I have failed to find that in practice confusion has to any great extent been caused by the use of the word Baron in the naming of Clydesdales, notwithstanding that so much has been made of it in the Secretary's letter. I do not know that the name Baron's Pride has been poached to any complainable extent—indeed, I do not remember seeing it duplicated—nor do I know whether the name of the famous horse was chosen by his present owners or by his breeder. If it was given by the breeder, I think he, if living, had a better claim to a special use of the name than the owners. There could be little, if any, objection to granting the latter the special privilege of the use of the name of their farms in connection with their registrations, if these patent rights, as you are pleased to call them, are to be granted to a few breeders or to many. But I doubt whether any other breeder or firm could have commanded sufficient influence to secure a claim to a name so commonly used as that of Baron, and that is one reason why I fail to see the wisdom of the Canadian Society aping the action of the aristocrats of the "Old Sod," as it has been intimated the directors are disposed to do. No action will more surely sow the seeds of discord in a society than the granting of special privileges to certain influential members, and for this reason, if for no

other, care should be observed in the adoption of rules that may cause friction and dissatisfaction in the ranks. Hoping to hear from others on the subject through your columns, I subscribe myself,
Wentworth Co., Ont. NOTABARON.

PRICKS IN SHOING.

This form of injury to the horse's foot is of fairly common occurrence, and the shoer cannot always be blamed for it. The predisposing causes, writes a noted English veterinarian, are very thin walls, irregularity in the thickness of the wall, rolled-in heels, old nails left in the hoof, coarsely-punched and badly-directed nail holes. The symptoms vary considerably, the animal may show lameness immediately after the accident and stand holding up the injured foot, or show signs of uneasiness by pawing, but, on the contrary, a fortnight or three weeks may elapse before lameness appears, often quite suddenly. In these cases the nail has probably only been driven close to the sensitive laminae, causing pressure, followed by inflammation and suppuration. In bad cases when suppuration is established there is marked lameness, the animal hardly touching the ground with its foot. When the puncture is on the inside wall, the horse tries to go on the outside of his foot, and vice versa.

Treatment.—If an animal is known to be pricked at time of shoeing, and the smith runs some antiseptic into the nail hole—creosote, carbolic, or any other dressing—nine times out of ten no trouble follows. The first thing to do is to remove the shoe and test the foot with the object of locating the injury. In doing this one sometimes finds that if there is a strong wall and sole the animal will not wince when pressed with the pincers, unless a deep grip of the hoof is taken, especially with a deep nail. At other times it is difficult to locate the seat of suppuration, as the whole foot seems to share in the tenderness. The nail holes on either side of the foot and at the toe must be cleaned out, and their depth observed, and any evidence of moisture. The best searchers are these where the handle is as straight as possible and the point fine; double-edged searchers of various widths are extremely useful for running up the side of a wall when following nails for diagnostic purposes. Once the nail is discovered, it should be followed and thoroughly bot-tomed, and any discharges that may have formed liberated. In paring a foot we must look carefully for evidence of what is called a drawn nail. The shoer drives the nail so far and finds that he has jagged the horse, or "beefed" him, as he calls it, and then he withdraws the nail. On examining the holes in the foot one finds probably that none of them are very high, but on paring out we find the mark of a deep-drawn nail, inside the driven nail, or where a nail has been left out altogether, and this is often the cause of the trouble. Hot antiseptic baths and poultices complete all the treatment that is necessary in the great majority of cases, and once the inflammation and accompanying tenderness have passed off, the shoe is put on with an antiseptic dressing and leather sole.

KICKING.

The term "kick" is usually restricted to a blow given by one or both hind legs. A horse is said to "strike out" when he makes a forward blow with one or both fore legs. We regard both these movements as kicks.

A horse can kick in three ways: (1) To the rear with one or both hind legs; (2) to the front with the hind leg; and (3) to the front with one or both fore legs. Unlike horned cattle, a horse is unable, without moving the body, to kick to one side, except to a slight extent, owing to the presence of a ligament (pubiofemoral) which connects the thigh bone to the pelvis, and which greatly restricts the side action of the limb. If a horse, therefore, wants to kick a man who is standing a little away from his side, he will have to turn around to do so. For this reason, if a person wishes to stand in safety by the side of a horse's hind quarters, as, for instance, when examining the hocks, he should get an assistant to stand on the same side, and to draw the head around to it a little, so that the animal will not be able to turn round and kick, if so inclined. If the horse be a vicious kicker, the advisability of getting the fore leg of the side at which one is standing held or tied up, will be self-suggestive to anyone who has had experience with horses. The forward kick with the hind leg (called a "cow kick") has a good deal of range; in fact, a horse can, in this manner, hit a man who is standing at his shoulder.

When striking out in front, the horse will generally do so only with one foot, for the blow can be delivered with greater speed when the other fore foot is on the ground than if both were off it. If he strikes out with both fore feet, he will do so with a quick, short effort, or he will make a greater or less attempt at rearing so as to bring his feet or legs at the top of the offending person or animal, with the view of knocking it down. The governing idea more or less developed, of thus overthrowing his enemy, is evidently to kneel on him and bite him. This mode of attack is seldom seen in its complete form, except in the case of entires, which are more prone to bite and strike out with both fore feet than are mares and

geldings. Mules usually kick out behind with greater freedom than horses, but are not so much inclined to bite or to strike out in front. Mares, from sexual causes, are more inclined to kick with their hind legs than are the male members of their species.

Horses sometimes kick with their hind foot in a good-tempered way—not for the purpose of inflicting pain, but merely to push the object of their attention out of the way, as we may occasionally see a mare do to her foal. Horses often kick and play without any vicious design. I am convinced that many apparently vicious kicks which miss their mark are delivered, not with the desire of sending the blow "home," but to warn the intruder against nearer approach.

When a horse kicks out behind, he will put extra weight on his fore feet, and, as a rule, will lower his head. When he cow-kicks, or strikes out in front, he will raise his head and bring his weight back.

In almost all cases, just before a horse kicks, he will draw back his ears and more or less show the "white of his eyes." If the suspicious object be behind him, he will bring his head slightly round so as to see it, and will prepare for his attack by bending the fetlock and raising off the ground the heel of the hind leg of that side. A horse cannot kick with the hind leg upon which he is resting his weight, for he has to transfer the weight to its fellow before he brings it into play. My readers will observe I have used the word "slightly" with reference to the extent the animal turns his head when he gets read to "lash out," for, if he brings it round a good deal, he will be obliged to put more weight on the hind leg of the side to which he is looking than on its fellow, and would consequently have a difficulty in using it.—[Captain Hayes, in "Points of the Horse."

In Saxony, it is said, no one is permitted to shoe a horse until he has passed a public examination, and so becomes qualified for the proper performance of the operation.

LIVE STOCK.

IMPORTING STOCK DUTY FREE.

Following is the text of the two recent memoranda issued by the Dominion Department of Customs to its Collectors of Customs, respecting the free admission of animals for the improvement of stock, taking effect July 1st, 1908. The first memorandum, issued on June 1st, was amended and supplemented on June 12th. The two, taken in conjunction as published below, constitute the present instructions in the hands of collectors—

Ottawa, 1st June, 1908.

REGULATIONS RESPECTING THE FREE ADMISSION OF ANIMALS FOR THE IMPROVEMENT OF STOCK—IN EFFECT JULY 1st, 1908.

Under Order-in-Council of May 21st, 1908, His Excellency the Governor-General in Council is pleased to order that on and after the 1st day of July, 1908, the regulations established by Order-in-Council of the 8th November, 1887, respecting "Animals for the improvement of stock," shall be and the same are hereby revoked, and the following regulations prescribed in respect of the free entry under the customs tariff of horses, cattle, sheep, goats, asses, swine and dogs, for the improvement of stock:—

REGULATIONS.

1. No animal imported for the improvement of stock shall be admitted free of duty unless the importer is domiciled in Canada or is a British subject, and furnishes a certificate of the record and pedigree in a list of registers designated from time to time by the Minister of Customs, showing that the animal is pure-bred and has been admitted to full registry in a book of record established for that breed.

An affidavit by the owner, agent or importer that such animal is the identical animal described in said certificate of record and pedigree must be presented.

2. In case such certificate is not at hand at the time of the arrival of the animals, the entry for duty may be accepted subject to the refund of the duty upon production of the requisite certificates and proofs in due form satisfactory to the collector, within one year from the time of entry.

3. The form of certificate of record and pedigree to be accepted for the free importation of animals for the improvement of stock, and the customs procedure in connection therewith, shall be subject to the direction of the Minister of Customs.

INSTRUCTIONS.

The original certificate of pedigree shall be marked in each case with the customs entry number and office dating stamp, and be signed by the Collector of Customs, and a copy thereof shall be filed with the entry forms, and a copy thereof shall be returned to the importer before the certificate is returned to the importer.

There shall also be noted on the face of the cus-

toms entry the following description of each horse (or mare) admitted to free entry, viz:—

Name
Age
Color
Height
Marks

JOHN McDOUGALD,
Commissioner of Customs.

Ottawa, 12th June, 1908.

FURTHER REGULATIONS RESPECTING THE FREE ENTRY OF ANIMALS FOR THE IMPROVEMENT OF STOCK—IN EFFECT JULY 1st, 1908.

The Canadian certificates of record and pedigree, with the exception of those for Holstein-Friesian cattle, must bear the seal of the Department of Agriculture.

In the case of horses, cattle, sheep, swine, goats or asses registered as pure-bred, in a register or book of records, not in the published list designated by the Minister of Customs, such register or book of records may be accepted as being designated by the Minister when there is presented to the Collector of Customs a certificate of the record and pedigree with an "import certificate" attached thereto, issued from the office of the Canadian National Records, bearing the seal of the Department of Agriculture and certified by the Accountant of the Canadian National Records.

The said "import certificate" shall be filed by the customs officer, attached to the entry.

List of registers or books of record, in one of which the animals undermentioned must be registered as pure-bred before admission into Canada for improvement of stock free of duty:—



A Pony Nursery.

Class of Animals.	Register or Book of Record of the	Country where the Register is kept or published.
Horses—		
Clydesdale Horse Association of Canada.....	Canada.	Canada.
Canadian Hackney Horse Society	Canada.	Canada.
Canadian Shire Horse Association	Canada.	Canada.
Canadian Percheron Horse-breeders' Association.....	Canada.	Canada.
Canadian Pony Society	Canada.	Canada.
Canadian Thoroughbred Horse Society.....	Canada.	Canada.
Canadian Belgian Draft Horse-breeders' Ass'n.....	Canada.	Canada.
French-Canadian Horse-breeders' Association.....	Canada.	Canada.
Cattle—		
Holstein-Friesian Association of Canada.....	Canada.	Canada.
Dominion Shorthorn Breeders' Association.....	Canada.	Canada.
Canadian Ayrshire Breeders' Association.....	Canada.	Canada.
Canadian Hereford Breeders' Association	Canada.	Canada.
French-Canadian Cattle-breeders' Association.....	Canada.	Canada.
North American Galloway Breeders' Association.....	Canada.	Canada.
Canadian Aberdeen-Angus Association	Canada.	Canada.
Canadian Red Polled Association	Canada.	Canada.
Canadian Jersey Cattle Club	Canada.	Canada.
Canadian Guernsey Breeders' Association.....	Canada.	Canada.
Swine—		
Dominion Swine-breeders' Association	Canada.	Canada.
Sheep—		
Dominion Sheep-breeders' Association	Canada.	Canada.

JOHN McDOUGALD,
Commissioner of Customs.

AN IRISH CALF MEAL.

In the course of some investigations in calf-rearing, the Irish Department of Agriculture has discovered that there are being sold throughout that country calf meals which are altogether unreasonably in price, and inferior in quality. The Department recommends a calf meal composed of two parts by weight of oatmeal, two parts of corn meal, and one part of pure ground flaxseed. The total cost per cwt. of this meal need not exceed 10s. 6d., while, as to composition and results, it will be found vastly superior to meals that are being sold as high as 28s. per cwt. Irish farmers are strongly warned not to be induced to buy such meals.

EDUCATION AND EXPERIMENT.

The Ontario Agricultural College is not a model farm, nor is it run at a profit. There are farms in every neighborhood that are run to make money. The O. A. C. is maintained for the purpose of achieving two objects that a commercial farmer cannot accomplish. First of all, it is a college for the education of boys, men and women, and, as a college, much expense is incurred that would not be necessary were the farm merely managed to make money. For example, representatives of the various breeds and classes of stock have to be kept, which is in many ways an expense and inconvenience. Then, besides affording an education to young men and women, the College does much in the way of investigation and experiment, and a great deal of this work is incompatible with economical management. To attempt to run this farm for profit would be to defeat the objects for which it is maintained, and so long as I have anything to do with it, I will not make the attempt, said Prof. G. E. Day, acting president of the Ontario Agricultural College, to the June excursionists, in the absence of President Creelman abroad.

While this is true, there are many methods and ideas practiced on the College farm which well repay the inspection of practical farmers, while a trip among the stock in company with Prof. Day or his assistant, Mr. Wade, is made the occasion for discursive talks of an instructive character. A Legislative appropriation of \$4,000 was voted this year for the remodelling of the College stables, and a considerable improvement in the arrangement is being made. Meantime, the stock is disposed about the premises by improvised arrangements. A number of pure-bred, grade and cross-bred steers, being brought on for short-course purposes, afforded subjects for discussion on feeders' and butchers' types of cattle. In reply to a question as to what he thought of dehorning, Mr. Wade stated that dehorning is almost necessary for feeding loose, and experiments have indicated that loose steers, while they eat more than those tied, make considerably better gains.

On the College farm, the usual four-course rotation is still maintained, but a fifty-acre field, lying by itself at the north-east end, has been set aside and seeded with alfalfa. Fifteen pounds per acre of good seed were sown, along with a light nurse crop of barley. Except for a couple of blocks of low land, the field should prove quite suitable. A somewhat thicker seeding might have been better, for, while the stand of alfalfa is very good, weeds may interfere with it somewhat in patches. However, there is promise of a very nice meadow, which should furnish material for feeding experiments with alfalfa hay as a substitute for bran and other expensive purchased concentrates.

DIPS APPROVED BY U. S. BUREAU OF ANIMAL INDUSTRY.

Under the new regulations, which took effect June 15th, governing the importation of sheep into the United States from Canada, it is provided that sheep which, upon inspection by an inspector of the United States Bureau of Animal Industry, do not show signs of scabies or other disease, may be imported from a district infected with scab if accompanied by a certificate signed by a Canadian official veterinarian stating that they have been twice carefully dipped under official supervision in one of the dips approved by the United States Secretary for Agriculture, as described in Regulation 83 of B. A. I., Order 143. The dips approved are the lime-sulphur, tobacco-sulphur, cresol and coal-tar creosote dips, which conform to the prescribed conditions. For the information of flockmasters and those interested in the manufacture of commercial dips, we reproduce the Regulation referred to:

Regulation 83 of B. A. I. Order 143, as amended, reads as follows:

Regulation 33.—The dips now approved are:—
(a) The tobacco-and-sulphur dip, made with sufficient extract of tobacco or nicotine solution to give a mixture containing not less than five one-hundredths of 1 per cent. of nicotine and 2 per cent. flowers of sulphur: Provided, That for the first dipping of infected sheep, in lieu of the sulphur herein prescribed, a sufficient additional amount of extract of tobacco or nico-

tine solution shall be used to give a mixture containing not less than seven one-hundredths of 1 per cent. of nicotine.

(b) The lime-and-sulphur dip, made by mixing 8 pounds of unslaked lime and 24 pounds of flowers of sulphur, and boiling with 30 gallons of water for not less than two hours. All sediment should be allowed to subside before the liquid is placed in the dipping vat. This liquid should be diluted sufficiently to make 100 gallons before use.

And, pending further investigation, the following described dips :-

(c) The cresol dip, which consists of a mixture of cresylic acid* with soap. When diluted ready for use this dip should contain one-half of 1 per cent. of cresylic acid.

(d) The coal-tar-cresol dip, which is made by mixing coal-tar cresol or coal-tar oils and cresylic acid separately with resin soap in varying proportions. This dip should contain when diluted ready for use not less than 1 per cent. by weight of coal-tar oils and cresylic acid. In no case should the diluted dip contain more than four-tenths of 1 per cent., nor less than one-tenth of 1 per cent. of cresylic acid; but when the proportion of cresylic acid falls below two-tenths of 1 per cent. the coal-tar oils should be increased sufficiently to bring the total of the tar oils and the cresylic acid in the diluted dip up to 1.2 per cent. by weight.

The cresol dip and the coal-tar cresol dip should always be tested on a small scale with the water and under the conditions to be employed in dipping in order to avoid possible injury to stock. The diluted sample should be allowed to stand for at least an hour. If after this length of time there is a separation of an oily layer the dip should not be used with that kind of water. Especial care in this connection is necessary where hard water is to be used.

In the undiluted coal-tar cresol dips there may be, in cold weather especially, a separation of naphthalene and other constituents of the dip. Care should therefore be taken to see that the concentrated dip is homogeneous in character before using any portion of it.

Manufacturers who desire the Department to approve their dips for official dipping should submit a sample of their product to the Bureau of Animal Industry in Washington, and accompany this with the formula used in preparing the dip.

Before a proprietary substance is approved for use in official dipping the manufacturer must agree as follows :-

(1) To recommend for sheep scab a dilution of the product, so as to conform to the requirements of the Department of Agriculture.

(2) To maintain said product at a uniform composition.

(3) To place on packages of dips which have been examined and found to conform to the requirements of the Department the following statement :-

"A sample of this product has been submitted to the United States Department of Agriculture for examination. We guarantee the contents of this package to be of the same composition as the sample submitted to the Department, and that when diluted according to the directions printed thereon for the treatment of sheep scab, it will give a dipping fluid of the composition required of a dip by the regulations of the Secretary of Agriculture governing sheep scab."

(4) To have on containers or advertising matter no reference to the United States Government or any of its departments, except as provided in the preceding paragraph, unless such reference has been submitted to and approved by the Department of Agriculture, and to have on containers or advertising matter no false or misleading statement.

* By the term cresylic acid as used in these regulations is meant cresols and other phenols derived from

coal tar, none of which boils below 185° C., nor above 250° C.

† There should be inserted here the name of the class of dips to which the product belongs, such as "cresol" or "lime and sulphur," etc.

WHITEWASH IN PIGPENS.

In the course of some recent correspondence on the subject of pigpen construction, a Quebec Province subscriber, J. Lumsden, of Pontiac Co., remarks that he is a great believer in whitewashing the inside of his pigpens, and has it done once or twice a year. He considers that it has handsomely repaid him for the trouble, particularly last year, when some eighteen or twenty farrowing sows averaged better than nine pigs apiece. This year he has not done quite so well, having been unable to give sufficient of his personal time and supervision during the period of farrowing, the average per litter this season being probably about eight. Mr. Lumsden finds that the white-wash, which is wholesome and useful in destroying vermin, adheres better to an undressed than to a planed surface, consequently his hogpens are lined with unplanned lumber.

THE FARM.

HOMEMADE LIGHTNING RODS.

As the usual quota of losses from farm buildings being struck by lightning have already this season been sustained, and inquiries have reached this office for information regarding the construction of the twisted-wire lightning rods recommended by Mr. T. Baty, of Middlesex Co., Ont., and described by him more than once in these columns, many of which he has erected on his own and his neighbors' buildings, proving entirely satisfactory, we herewith furnish further information on the subject. This class of rod has been approved by an Ontario provincial inspector of insurance, and by eminent electricians both in Canada and England. For the construction and placing of the twisted-wire rod Mr. Baty's instructions are in substance as follows:

Use soft galvanized number nine wire, nine strands. A wagon wheel answers very well for twisting. Set the wagon in a convenient place, and raise the wheel as if for greasing. Measure out the needed length of wire for cable, as for an ordinary barn the full length may as well be made at once. Liberal allowance should be made for grounded ends, as a connection with damp earth at a sufficient number of places is of first importance. If a small well auger can be had, and a hole bored to the depth of seven feet, it will be all right. If not, then a hole four or five feet can be dug, and the end of the rod coiled into a flat spiral. Drive a stake, with a hole bored in it, through which the ends of wires can be passed and bent around. The other ends of wires can be hooked, each one around a spoke of the wheel close to the hub. In measuring the wires, care should be taken to have them of equal length, and an allowance made of one foot in 200 for shrink in twisting. Now, having the nine wires stretched out and fastened securely, before beginning to twist, brace well both wagon and stake, for there will be considerable tension. It is well, also, to throw across under the wires some old rails or boards to keep them out of the mud or grass. Turn the wheel until the cable is sufficiently twisted to hold together, and the job is done. The rod may be stapled closely to building, or a cork may be put under at each staple if desired. The old idea of the necessity of insulation has been abandoned, Mr. Baty declares, although Prof. J. B. Reynolds, of the Ontario Agricultural College, considers that it is advisable to place a glass or porce-

lain insulator between the wire and the building at any approaching bend; for example, where the wire re-enters toward the building below the eaves, if it happens to be carried down that way. At other points Prof. Reynolds agrees that insulation is not necessary.

Highest lines and projecting points should be specially guarded, and it is, therefore, well to have rods on all ridge boards. For the plain barn with one ridge and two gable ends, the rod may be run the whole length of the ridge, descending and entering the ground at both ends. In the case of a T-shaped barn, or a shed running out from the main building, in addition to the rod with two grounded ends already mentioned, another with end in the ground at the outer end of shed should be run up the gable end to the ridge, and along the whole length of the ridge and connected with rod on main building, making three earth terminals and all ridges protected. Upright points can be added afterwards. They may be five feet high and not more than twenty feet apart. To make these, lengths of six and a half feet can be cut off and a sharp bend made a foot and a half from one end; this extra length to be opened out and wrapped around the rod where attached. This makes all solid, and forms good electric connection. At the upper ends of point the wires should be opened out a few inches and spread apart in all directions. To hold the points upright, get the blacksmith to make for each an iron tripod. Have the rods run in as direct a course as possible; the fewer sharp turns there are the better.

MANURE AND THE ATMOSPHERE.

A correspondent of "The Farmer's Advocate," signing himself "Enquirer," asks whether manure hauled out, spread upon the land, and left until it is dried out, does not lose considerable fertility in drying. Alluding to the occurrence of nitrogen in snow, he desires to know whether a man who draws out his manure and leaves it to evaporate on the surface of the soil, does not, by so doing, help to enrich neighboring farms at the expense of his own?

If manure is drawn fresh from the stable and spread in a thin layer on the soil, and is so rapidly dried by the wind and sun that no fermentation ensues, then the amount of nitrogen from the manure that passes into the atmosphere is infinitesimal, or, at any rate, negligible. From this it must not be inferred that the practice of so leaving it to dry out on the surface of the soil before plowing under is to be recommended. The best place for manure is in the soil, and it is advisable to get it there while it still has its original moisture, for in such a condition it will, more readily than if dried out, become thoroughly incorporated with the soil—become, in fact, part and parcel of the soil—the medium from which the crop's roots absorb their food. Further, the liberation of the plant-food from the moist manure will proceed more readily in the soil than if previously dried out, for the action of the bacteria which do this useful work will not have been checked. It means, therefore, instead of fragments of manure in the soil, a richer soil, homogeneous throughout. It will be one which naturally gives a more immediate return in increased crop yields than one in which, especially in dry seasons, the manure must have time and additional moisture to regain that condition necessary for further decomposition.

The spreading of actively-fermenting manure on the surface of the land means a certain loss of nitrogen by escape into the air. The amount of this loss will, of course, be dependent on a number of factors, but presumably the state or condition of the manure will be the chief. According to some experiments we made a few years ago, manure taken while very hot from the heap, and allowed to dry by wind and sun, lost at the rate of, approximately, half a pound of nitrogen per ton. The results may be tabulated as follows:

	Nitrogen, lbs. per ton.	Value of nitrogen.
Actively rotting manure, before exposure	9.8	\$1.67
Actively rotting manure, after exposure	9.5	1.58

While it is quite true that the air contains nitrogen compounds, derived from decaying vegetable matter, etc., it is not laden, as our correspondent imagines, with an abundance of such fertilizing material. According to an English authority who has made a study of this matter, about .08 of one part per million appears to be the mean amount of such compounds in the air.

For the past year or more we have determined the nitrogen compounds in every fall of snow or rain, and we find that the combined nitrogen which is contained therein, and which has been washed out of the atmosphere, amounts to from 3.5 to 4.0 pounds per acre, per annum. To this slight extent we may suppose our lands are fertilized from the air through the agency of the rain and snow.

FRANK T. SHUTT, Chemist.
Experimental Farms, Ottawa.



Peace and Plenty.

Pasture scene on the Ontario Agricultural College Farm, at Guelph, showing a few of the cows in the dairy herd, with the beef cattle grazing in the background and to the left.

KERNELS FROM THE O. A. C. EXPERIMENTAL DEPARTMENT.

OATS.

To the June excursionists visiting the Ontario Agricultural College this year Prof. Zavitz, the general of the experimental department, pointed out a series of plots to compare the strength of straw of oats grown on low land. Liberty is one of the stiffest strawed of the ordinary white oats. Tartar King and Storm King, although pretty stiff, when they do lodge go down badly. Siberian and American Banner are better than the average in this respect, and also very productive. In point of yield the Yellow Russian has now given the greatest yield of all varieties tested in the average of the last five years' work, the Banner, Siberian and Irish Victor following close behind. Early Ripe is the earliest oat, but only a fair yielder. Daubney is the best very early oat. In reply to a question, Prof. Zavitz stated that Ligowo is a very good oat, weighs well, and is of good quality.

DEMONSTRATION SEEDING OF ALFALFA.

The crowd was treated to quite an instructive address on alfalfa, which, they were informed, does well on land of the right kind when put in and handled in the right way. Good deep subsoil drainage is of prime importance. Under these conditions alfalfa may be expected to yield 15 to 20 tons of green crop per acre, or four to five tons of hay in three cuttings. The mixing of the third cutting with corn in the silo was suggested. Along the central lane leading back through the plots a demonstration plot of one-tenth acre had been sown, according to directions recommended in Prof. Zavitz's recent bulletin on alfalfa. Good seed, at the rate of 20 pounds per acre, had been sown in spring in front of the tubes of the grain drill, along with a nurse crop (sown through the tubes of course) of a bushel of barley per acre. The catch of alfalfa was very good, while a fair yield of barley was also promised. From this new seeding Prof. Zavitz anticipated about two crops of hay next year and three cuttings the year after.

POTATOES.

Out of 52 varieties of potatoes, the Empire State ranks as one of the best all-round varieties, being a good cropper and a good table potato. Early Fortune is one of the best early potatoes. For planting, use smooth, good-sized tubers, cut in pieces from one to two ounces in weight, depending on the cost of seed at planting time. "How many eyes to a piece," someone asked, in reply to which Prof. Zavitz stated that it didn't so much matter about the number of eyes. In experiments at the College they had found that pieces with two eyes gave a larger yield than potatoes with one eye. Three eyes outyielded two, and four eyes outyielded three, but they failed to obtain a larger yield from five-eye pieces than from those with four eyes. When potatoes were cut and planted on the same day there was an increased yield of 15 bushels per acre over cutting some time ahead. When land plaster was used on the cut potatoes the yield was 17 bushels per acre more than when nothing was used. The advantage of using lime was somewhat less, being in the neighborhood of eight bushels increase as compared with no treatment. Five inches has proven the best average depth at which to plant, though this varies according to season. In one very wet season one inch gave the largest yield, and in one exceptionally dry season seven inches gave the highest yield.

BRIGHT TIN CLIPPINGS AS A SCARECROW.

The best means found for keeping crows away from the corn was to hang pieces of bright tin (clippings obtained from the tinsmiths) up to stakes set about the field. The bright sun glistening on the dangling tin surface, and the slight rattling made by its motion in the wind, answered the purpose, and protected the corn completely.

CORN EXPERIMENTS.

One ton more of total crop per acre has been obtained from planting corn in hills than in drills. Of this ton about one-fifth was ears and four-fifths stalks. For ensilage purposes Prof. Zavitz recommends Whitecap Yellow Dent for Central Ontario. On the College farm Prof. Day is going in for it more and more. For husking, King Philip and Early Genesee Valley are among the best, though Compton's Early and Salzer's North Dakota are good.

LEVEL CULTURE VS. RIDGES FOR ROOTS.

Two-thirds of a ton more has been obtained on the average from roots cultivated on the level than from those grown on ridges. This, the Professor believed, would hold good quite generally on loamy and sandy land, though it might not on clay. Of mangels, the Yellow Leviathan, a mangel of the yellow intermediate class, has gone ahead of every other strain, even of the Mammoth Red sorts, in point of yield, while its quality is also better.

EFFECT OF GREEN MANURING AND CROP RESIDUES.

An interesting rotation experiment was pointed out, the object of which was to test by a succeeding rotation of crops the relative advantages of plowing under a first crop, a second crop, and also a stubble sward of red clover, alsike and timothy, respectively. In comparison with a plot growing no crop whatever. There will be 96 plots involved in this one experiment, which is conducted in manifold.

WINTER WHEAT.

In winter wheat Dawson's Golden Chaff no longer heads the list in yield, having been outclassed by four or five other wheats of the same class. Abundance is now first, then American Banner, then Beardless Rural New Yorker, while fifth or sixth comes the Dawson's Golden Chaff. Of red wheats, Imperial Amber has given the largest returns.

MIXTURES OF SPRING GRAINS.

Among spring grains the best yields obtained in experiments, comparing all sorts of single grains with all sorts of mixtures, have been obtained from a bushel each of oats and barley per acre. The varieties recommended are Daubney oats and Mandscheuri barley. Peas and oats have not given quite as big yields of grain as barley and oats, although two points that deserve to be stated in this connection are that peas leave the land in better condition than barley, and both grain and straw possess a much higher feeding value per pound. These considerations, in our opinion, quite outweigh the slight difference in yield of the two mixtures. For green feed, Prof. Zavitz recommends peas and oats.

CATCH PASTURE.

As an annual pasture or "catch" crop, Prof. Zavitz's favorite mixture still is 1½ bushels oats, 30 pounds Early Amber sugar cane, 7 pounds red clover. Quite a large area of this had been sown and was looking well, the oats having made a good growth; the sugar cane started nicely, and the clover obtained a good catch.

THE FOUR-HORSE AGE.

Editor "The Farmer's Advocate":

At "The Oaks" we use four horses for a number of operations, and when purchasing new machines will get the large four-horse outfits. We now use the four horses on cultivator, harrow, two-furrow plow, and sometimes roll and harrow at one operation, using three sections of harrow, or just a little over the width of roller. With the two-furrow plow four acres a day can easily be overturned when the soil is in good condition—not too hard and dry.

We are at date of writing (June 22nd) breaking an alfalfa sod with four horses and a one-furrow sulky. It takes lots of power for alfalfa sod, a good new point and a heavy man on the plow, then it makes the roots rip and crack; those not cut stick out of the inverted sod like a lot of long rat tails. We intend putting wheat in this field, from which a nice crop of hay has just been harvested, and expect a good crop.

While driving through the country a few days ago I saw a man in a large field working one horse on a harrow. I wondered that he did not get discouraged, or the work monotonous, as I am sure from the size of the field he could not go over it in less than from a day and a half to two days. Surely the man and horse would think the tramp was endless. Had this man a good four-horse outfit, to cover the field would have been a small half day's work, and he would have had a pleasant forenoon's drive (riding, of course). Now, let us find out how many miles this man would walk harrowing an 18-acre field. A six-foot harrow would be about enough for the one horse, while a four-horse team pulls an 18-foot harrow and cart. Supposing the field is 60 rods long, the one horse and man would travel just 24½ miles in harrowing; the four horses would travel 8½ miles. The number of turns for the one-horse outfit would be 132, and for the four-horse 44 times. With reasonable time for resting with both outfits, it figures out an easy one-half day for the four horses and man, and a good hard day and a half for both man and horse of the one-horse rig. If time is of any value, and it is generally considered so, the man who drives a one-horse outfit in this age is losing days and dollars.

This is an age of advancement—the day of doing and achieving more and better work for each man en-

gaged. The time when men could profitably spend their days of labor in walking after a one-horse or two-horse team has passed. ARTHUR L. CURRAH, Oxford Co., Ont.

ORANGE HAWKWEED.

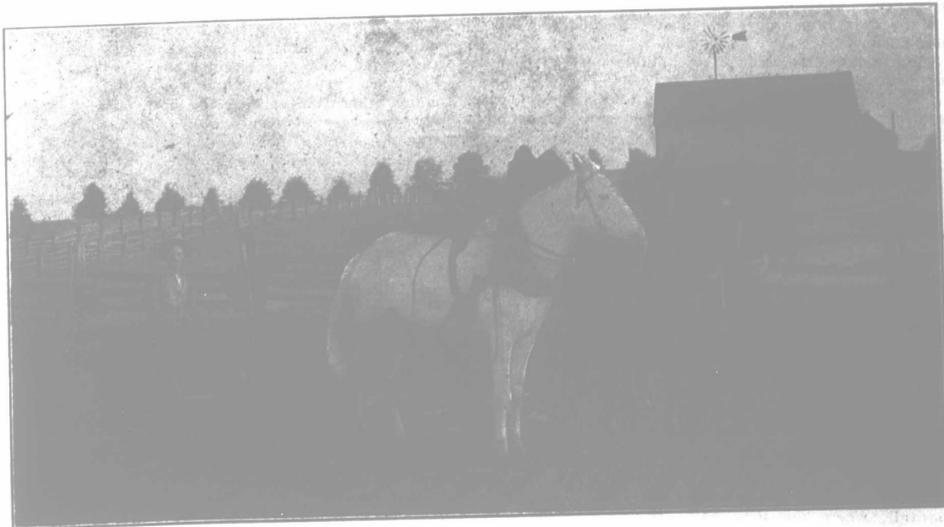
S. D. S., of Compton Co., Que., sends a plant for identification.

This low-growing perennial noxious weed, with simple erect stems one to two feet high, filled (when fresh) with bitter, milky sap, and bearing at the top a corymb of about a dozen handsome flower-heads, characterized by a fiery orange-red color, is the common pasture weed, Orange Hawkweed, or Devil's Paint-brush (*Hieracium aurantiacum*, L.). It is abundant and very troublesome in the upland pastures of the Eastern Townships and in some parts of New Brunswick and Prince Edward Island, being occasionally reported from Ontario and all the Eastern Provinces. It is propagated by seeds and creeping stems. It is a vigorous grower, and matures a large number of small winged seeds, by means of which it overruns land that cannot be plowed, ruining meadows and pastures. Although a vigorous grower, it roots close to the surface, and, in arable land, plowing down and surface cultivation will kill it. Infested meadows should be broken up and put under a short rotation of crops. For pastures, where plowing is impracticable, broadcast dry salt over the patches so as to fall on the leaves of the plants at the rate of 1½ tons per acre (18 pounds per square rod). This will kill all the plants of hawkweed, while usually improving the grass.

ENCOURAGING THE BUMBLEBEES.

There has been for years a popular idea that the amount of clover seed in a locality depends upon the number of old maids in the community. Without wishing to cast any reflection on the spinster class of citizens, the alleged connection they play in clover-seed production is that the favorite pet of the old maid is the cat. Plenty of cats are supposed to mean scarcity of mice, and scarcity of mice spells plenty of bumblebees, which are conceded to be instrumental in the fertilization of the red clover plant. It is a commonly accepted idea that plenty of bumblebees means a good crop of clover seed, as they are the only bees which seem to have long enough tongues to extract the nectar from the clover flower; consequently, they are the only ones that transfer the necessary pollen from one blossom to another. Every farmer knows that if he has any wool lying around where it can be found by bumblebees there he is most likely to find a nest. Refuse wool, or even good wool this year—considering the price—might be placed in a piece of hollow rail, or a box could be made in any shape, like a rail or log, with an opening sufficient to allow of the free access of bees in and out, and wired to the wire or rail fence, as the case might be, around the clover field, and at some distance from the ground. Old rags would take the place of refuse wool if it weren't available. It might be argued that field mice could climb the fence and find the nests if they were fond of robbing the nests, but, as a matter of fact, they are seldom seen off the ground, where they burrow in the long grass. It is questionable, too, whether field mice are so fond of honey or brood that they would go out of their way to look for bees' nests. Possibly the idea of field mice being adverse to bumblebee propagation arises from the fact that frequently bumblebee nests are found in mouse nests or runs. There is no question, however, about the boys destroying them, and they should be better educated.

Whatever the truth may be about field mice being enemies to bumblebees, the writer believes, from our



A Four-horse Harrowing Outfit, in Oxford Co., Ont.

(Photo by Carter & Isaac.)

present knowledge of clover-seed production, it pays to cultivate the acquaintance of the bumblebees. In the absence of the old fallow ground on new lands, the hollow rails and the stone piles, etc., the plan I have suggested is a feasible one, I believe. I may say, however, that the bumblebee theory of fertilization has, in my mind, lost its old-time force this year, so far as my observation has gone.

Everyone is complaining so far of the apparent absence of the bumblebees this season. I have seen or heard very few, and yet in examining some red clover fields recently I have found abundance of seed in the first crop where the heads have turned a little brown. I have noticed the presence of some midge, yet it looks as though there would be plenty of seed in harvesting the first crop of clover for the purpose of seed production this season. It would be well for farmers, in districts where the clover crop has not yet been harvested, to examine into this question, as there is likely to be abundance of hay in most parts, and some of the first crop of red clover might make them more money if kept for seed. The weeding out of noxious weeds should not be neglected, though, on any condition, if kept for seed.

T. G. RAYNOR.

HORSE MUZZLE.

Editor "The Farmer's Advocate":

I noticed last year in one of your issues an inquiry for a design of a horse muzzle, to be used on horse in scuffling corn when it is tall, and when reaping grain. I send description of one we have used for years, and which we find very suitable.

Procure two strips of galvanized sheet iron at any hardware or tin shop, 4 inches wide and 2 ft. 8 in. long; cross these in the middle and fasten with rivet; turn back the ends $1\frac{1}{2}$ inches. Take a piece of leather $1\frac{1}{2}$ in. wide and 2 ft. 8 in. long (a piece of old driving line will do); join the ends, and secure by a couple of rivets. Now bend up the ends of the strips, and slip up the leather band into the turned-down edges; then put a rivet through each end to hold them in place. A couple of pieces of stout cord to tie the muzzle to the buckles on side of bridle will complete the outfit. It is light, cool, and in no way annoying to the horse. The bottom of the muzzle should hang an inch or more below horse's lips.

FRED FOYSTON.

Simcoe Co., Ont.

THE DAIRY.

DAIRY NOTES.

Keeping a record of his cows makes a better dairyman of any farmer.

If a cow is to be kept clean the stall where she stands must not be too wide.

A good cow should hold out well. She should give a good flow ten months out of the twelve.

Don't breed the cows to any sire that happens to be available. Remember the bull is half the herd.

The calf is a baby. Too many farmers forget this and treat the calf as they do the older members of the herd.

Dairying is a science that is being more thoroughly studied to-day than ever before. It has in it a great deal more than most people dream.

Dairying brings in constant income. The man who sells crops of any kind has to wait until he can market his product once a year. The dairyman has an income nearly or quite fifty-two weeks in the year.

The care that the heifer gets the first few times she is milked determines in a large measure whether she is going to enjoy the milking operation. The kicking cow is not born—she is made that way by the owner or milker.

As soon as the calf will eat dry ground feed begin to feed a small quantity, and increase it as the calf grows in the power to consume and digest it. At this point one must use his judgment, and no rule can be given.

The dairy steer does not make as good beef as the beef steer.

Keep down the dust in the stable during the milking operation.

It is more profitable to have four cows of great producing power than to have eight cows of ordinary producing power.—[Exchange.]

A NOVEL DEVICE.

In many byres, especially those improperly designed, more filth is probably conveyed to the body of the cow by her tail than by all other agencies, and from there it is difficult to prevent it from getting into the milk. The Hollanders, in addition to the deep manure channels, have adopted another precaution in order to get rid of this source of contamination which deserves to be referred to, writes John Speir, in the 1908 volume of the Transactions of the Highland and Agricultural Society of Scotland. In all byres a wire, such as a fencing wire, runs along under the ceiling and above the cows' tails, yet sufficiently high for the people to walk under it. On this wire are a number of rings, $\frac{1}{4}$ inch in diameter or so, corresponding to the number of cows in that part of the byre. After the cows are tied up in the stalls, a short leather strap is put on the tail, where the long hair begins to grow. This strap is loosely connected by a string with the ring on the wire. As long as the cow is standing she has liberty to switch her tail all over her body, but when she lies down the string holds it up out of the gutter,

and prevents her from dropping it into her own dung or urine. The arrangement works well, and with some modifications might with advantage be adopted in this country (Scotland).

DAIRYING AS A BUSINESS.

Dairying is a cash business. The cow pays for her board every day if she is the right kind, and in this connection the wise dairyman is particular to note whether the cows do pay for their board or not, as he is not anxious to run a charitable institution. Milk, butter and cheese are always cash products, and the dairyman is not obliged to wait six months or longer for returns from his efforts; consequently, he runs no bills of any kind. He sells for cash and buys for cash, and gets the benefits of all discounts. He always has money, and many dairymen pay their hired men every Saturday night, the same as manufacturers do.

Dairying is not a good business, however, for the man who likes to be away from home part of the time, and who entrusts the management of his business in part to others. Dairying by proxy seldom proves satisfactory or remunerative, and men with many irons in the fire had better cut out dairying. They will do far better in some other line of live-stock farming that does not require the constant watchfulness and personal supervision demanded by the cow and her produce. Then, too, the by-product from the dairy has more value than that from other industries of the farm, and especially when butter is the only commodity sold, and the skim milk and buttermilk are fed on the farm. There is no feeding value or fertility in butter worth considering, it is all in the skim milk, and this, when rightly used, brings good results in many ways. There is no business of the farm that pays as well as dairying when right methods are in vogue in every detail of the business, and when the proprietor is wide awake and anxious to improve and take advantage of every condition that promises improvement in cows, feed and feeding, care of animals and marketing the products.



Half a Row at a Time—Slow Work.

If a dairyman is to know what each cow is producing, he must either churn the cream separately or test it, and the test is far the easier and much more accurate, and what farmer can afford to keep cows and not know what each one is producing? If he does not know their value for the dairy, from what shall he raise calves? Shall he guess at it? Then the poorest cow will, perhaps, have an equal chance to live and eat up the profit made by a good cow, and also perpetuate her kind. The great trouble with dairying is, as with many other things connected with farming, we are too apt to guess at results. We do not figure carefully enough. I know I do not in many instances, although in some things we try to arrive at practical conclusions. The average man is likely to think there is too much bother connected with estimating the cost of feed for each cow for him to consider the question seriously. He will say you cannot do it. I do not pretend to say that the farmer can estimate the cost of feed within a cent or two, but he can get it close enough so that he knows whether his cows are making him a profit or not, and whether one cow is better than another or not, and it is not so very much bother either. Suppose a man is feeding clover hay to his cows. If he feeds them carefully for several days he knows just about how much clover hay each cow will eat in a day. He feeds just about the same amount after he learns how much the cow needs, and he knows that one cow needs considerable more than another. Now, when this has been determined, weigh what each cow eats in one day and multiply this by the number of days that you feed clover hay. That will give, within a close approximation, the amount of clover hay the cow eats. If you feed cornstalks or timothy, make the estimate in the same way, and the same with corn silage. The man who feeds the cows day after day knows just about how much each cow eats from day to day. Then if

he will weigh it for one day he will know practically the cost per cow. It is the same way with the grain ration. It is not necessary to weigh the grain every feed, when you feed as nearly the same amount as possible every time. Weigh it once, and then multiply by the number of times you feed. If you change the ration, then you must make the estimate again. In this way, with very little trouble, and it can be done in the winter time largely, when one is not pressed with other work, he can get an idea of the cost of keeping each cow. Then if he has weighed the milk and tested it for quality, he has data whereby he can distinguish between the poor cows and the good; between those which have brought him in a profit and those which have made a loss. I believe the most practical way to do this is to co-operate and organize a cow-testing association in the neighborhood.

Central New York.

J. P. F.

A MODERN DAIRY COW.

Much has been said and written in regard to feeding and caring for the dairy cow, and how important it is that she get the very best of care. Perhaps this would be more impressed upon the general mind if we were to consider what an enormous producer she is, and the actual value of her production. We would then see that if progress be desired we must treat the cow well and give her every chance to do her best.

To take the selling value of her produce is not fair to the cow, because things do not always sell for the real value. We see a good example of this in the case of wheat bran. A few years ago millers, in order to get rid of it, burnt some of it in the furnace, and in other cases, where water-power was used, turned the wheat bran into the streams and let it float away. That was because the feeding value of bran was not known and appreciated. This is changed now, and bran is no longer a drug on the market at any time of the year, but sells for its full value, and sometimes, I think, for a little more. The same way with milk. Although prices have been steadily rising for milk and the products of milk, still the prices are not as high as the actual food value of the products should command.

The scientists tell us that a quart of milk has as high a food value as a pound of beefsteak. If a quart of milk would sell for as much as a pound of beefsteak, then most any cow would be able to show a good production, but she has to work under the discouragement of having her produce sell for a great deal less than it is worth, and we all know that if a man is poorly paid he usually does poor work, and also a good many do poor work when they are well paid, but a cow would not be so mean, and if the consumers would only pay us for milk according to its actual food value as compared with beef, the cows would surely feel greatly encouraged, and certainly the cow owner would be in clover, because the cow is the most economical producer of food of any animal known.

Let us compare the production of the cow with the beef animal. Take, for example, some of the high-record cows. One cow has produced in a year over twenty-seven thousand pounds of milk, or, in round numbers, 2,700 gallons, or 10,800 quarts. Just think, 10,800 quarts of milk, equal in food value to that many pounds of steak! It would be an exceedingly fine beef animal that would produce 10,800 lbs. beef in one year, or, indeed, in a lifetime. It is when we come down to figure it out we see what a grand producer the dairy cow is. Taking an ordinary cow giving 7,000 pounds a year, this would be equal in food value to 2,800 lbs. beef. Granting that the dairy cow is a great producer of food, although we have no means of knowing just how much energy she would have to devote to this production as compared with other animals, yet we can be sure that where so much is produced she must draw on her vital energy to a considerable extent. We, therefore, see how necessary it is if we want a large production to keep her in the highest degree of efficiency as regards vitality and healthfulness.

Not by extra feeding alone at the time the cow is producing so heavily can we make up to her for what she is producing. She produces quite as much from the care and feed she has had at other times, and all that has gone even from birth or even before to breed into her and feed into her vitality, energy, power. Such great work does not come through milking, but there are certain laws governing it, which, although we cannot understand them all, are there all the same, and we can but do our part in assisting the cow to do her best, by giving her the very best care and the most suitable feed to enable her to reach a high standard of production.

Taking a view of a modern dairy cow's great production from its actual food value, we will see how necessary it is to attain this end by breeding cows with as much vitality and energy as possible, and to

further develop energy and vitality throughout her young life, so that when she comes to maturity she will have the power to produce as well as the inclination.

We will see further how absolutely necessary it is to feed her plentifully, but still at the same time not too much, because there is a limit to the capacity of her stomach, and nothing is so unwise or more completely defeats the desired end than to feed the cow too much, because the stomach if overloaded throws the whole system out of order, and she is practically like a person that is bilious and sick; her blood does not circulate as well, and her whole system is out of tune. Since, then, there is such a decided limit to the capacity of the cow to consume and digest feed in order that she may not unduly tax the digestive organs, but cause them to do the whole amount of work, we should feed her on food that is appetizing, palatable and easily digested. To give, in fact, a maximum amount of nourishment with a minimum amount of work for the stomach and system.

There are many foods very suitable to a cow, and it is not our purpose at this time to specialize any one of them, but to show what a great producer the cow is, and how necessary it is that she receive good care at all times, and every day of the year, if we desire the best results, because, if through lack of feed, owing to short pasture or any other cause, the cow does not get enough nourishment and has to draw upon her own system, as she will do, then, of course, she depletes her system and her strength, and is not so well fitted for work afterwards, and it may take a great deal of time and feed to regain this lost strength. In fact, feeding and caring for a cow as well as we can, she must still, if a heavy producer, be drawing on her system of the energy and vitality stored up while she has been dry. If she has not been given good care when dry, so as to freshen in the pink of condition, full of energy and vitality, she will not be likely to do big work, but if she has been in that shape and is doing good work she will still be drawing on her own system, and we will then see how necessary it is if we want her to do good work another year to give her a rest before starting the next year, to recuperate her system, which means that we should have a cow perfectly dry for two months, and during those two months she should be well fed, not, perhaps, on such a high ration as in the heaviest production, but still a great deal better than most cows are fed. For no feed do we get better pay than for the feed given to a good dairy cow when she is dry, because that feed shows through the whole following period of lactation. There is no sense in milking a cow the year round when we can get more milk by milking her ten months of the year, and no cow could produce very heavily unless she is well cared for and has a period of rest and recuperation.

GEO. RICE.

POULTRY.

THE O. A. C. POULTRY DEPARTMENT.

Remodelling is the order of the day in the poultry department at the O. A. C. The old houses are being rearranged to hold fifty per cent. more birds, by tearing out the partitions that have heretofore divided each apartment into dining-room and bedroom—or, in other words, scratching shed and roosting compartment. Cement floors and walks are being laid throughout, and curtain fronts put in.

COLONY HOUSES—ALFALFA PASTURE—STANDARD AND UTILITY STRAINS.

"And what is the latest word about the colony-house system of handling poultry?" Prof. W. R. Graham was asked. "It's the only way to raise chickens if you want them good. Come out to the field with me and I'll show you some chickens and also some alfalfa." There they were all provided with colony houses, spread out so as to afford as much range as possible on new ground. There were chicks of three distinct lines of breeding that made quite an interesting study in comparison. There were some from Prof. Gowell's famous trap-nested 200-egg-per-annum strain. Precocious youngsters they were, but away off in color, showing a sublime contempt for the American Standard of Perfection. Another strain there was, consisting of trap-nested stock bred at the O. A. College, not so large, but much better in color. Again, there were strains of Barred Rocks, bred for exhibition purposes, showing beautiful coloring and shape, but not making any particular pretension to egg-producing ancestry. The moral of it is that two or more excellences are difficult to combine in high degree in one and the same individual. While egg production and standard fancy requirements are not diametrically opposite tendencies, yet if one is sought assiduously the other is liable to be sacrificed wholly or in part.

Then there was the alfalfa, sown this spring on a piece of gently-sloping ground behind the shelter of an evergreen wind-break. About thirty-five pounds of seed per acre was sown along with a nurse crop of grain. The poultry ate the oats, and threatened for a time to keep the alfalfa down, but it got away from them, and now shows a beautiful thick mat of green. Alfalfa makes grand chicken pasture.

WHITE DIARRHEA.

What about white diarrhea? This Chinese puzzle is still being conjured with, without any adequate conclusions yet as to its cause or means of prevention.

Zenoleum, when used in the incubator by poultrymen according to directions, seems to have given beneficial results in about three-quarters of the cases, but in the other quarter no benefit seems to have accrued.

GARDEN & ORCHARD.

BLACK-KNOT.

Kindly give cause and remedy for black-knot on plum and cherry trees.

W. T. N.

Ans.—The black-knot which occurs on both plum and cherry trees is caused by a fungous disease known to botanists as *Plowrightia morbosa*. This is spread from one tree to another by spores which are carried by the wind. When a spore finds lodgment upon a branch, and begins to develop, it produces minute threads, which enter the bark and spread through live wood, forming a network of fibres known as the mycelium of the fungus. This causes a swelling of the bark and wood, which forms the knot. During the early part of the summer the swelling appears as a yellowish-brown mass upon the branch, which later develops a velvety outer coat, caused by the production of summer spores. During the latter part of the season the knot changes to a dark, black color, and numerous winter spores are developed in small sack-like cavities, which rupture during the winter, and the spores are carried by the wind in spring. In this way, there is danger of the fungus being carried by both summer and winter spores. The grubs which are often found in the inside of the knot are the larvæ of various kinds of insects, which deposit their eggs in the swelling, and find there a place for the development of the larvæ. They are not the cause of the knot, but merely make use of it as a place for rearing their young.

The only remedy for the knot is to cut it out whenever it appears, removing the knot several inches below where it appears on the branch, so as to remove all of the mycelium of the fungus, which, if any is left, will develop a new knot on the end of the stub. Probably you may have noticed that certain varieties of plums and cherries are much more subject to the knot than others. Usually it is those kinds of slower growth, or those which are weakened by a heavy crop production, which are most subject to the knot. Thorough spraying with the Bordeaux mixture will help to prevent the development of spores which fall upon the trees, but wherever the knot appears, the only remedy is to cut it out and burn it.

H. L. HUTT.

O. A. C.

THE STALK BORER.

A young plant of corn was brought to "The Farmer's Advocate" a few days ago; it was one of a number found to be attacked by a worm which had eaten the ends of the leaves, and was concealed in the heart of the plant. On examination, the culprit proved to be a caterpillar of the common stalk-borer (*Gortyna nitela*). It is called "common," not so much for its abundance, but because it attacks a large number of plants, both wild and cultivated. Among these may be mentioned potato, tomato, corn, spinach, dahlia, aster, lily, spiræa, ragweed, cocklebur, milkweed, etc. The presence of the insect is usually made known by the withering of the leaves of the plant above where it is feeding in the interior of the stem, and also by round holes in the stem of potato, tomato, etc., and in the leaves of corn. The young caterpillars are hatched in June, and

feed on the interior of the plant, becoming full-grown in August, and changing then to the chrysalis state. They are purplish-brown in color, with a continuous white line down the middle of the back, and other white lines interrupted on the middle segments of the body; the head and following segment are broadly marked with white. The interruption of the lines in the middle is characteristic of this caterpillar. The moth, which comes out in September, is dull gray in color, the inner two-thirds of the fore wings being much darker than the remainder, and separated by a conspicuous pale line crossing the wing parallel to the outer margin.

As the caterpillar is an internal feeder, it is not easy to apply a remedy. In the case of potato and tomato plants, it may be killed by inserting the blade of a sharp penknife in the opening of the burrow and slitting the stem upwards till the worm is reached; but, with corn, the only plan seems to be to cut it out of the plants that are seen to be affected, or, if not very numerous, to hoe them out and feed them to the stock. In any case, all the remains of the plant should be destroyed in the fall, and not left to serve as winter quarters for this and other noxious insects till the spring.

C. J. S. BETHUNE.

O. A. College, Guelph.

PLUM TREES SPLITTING

Plum trees split from the ground up to first branches. The opening penetrates through bark into wood. Trees have borne fruit four or five years, and are well cultivated. Can anything be done, or will it kill trees in time?

J. S. M.

P. E. Island.

Ans.—The probable cause of the plum trees splitting is that the trees made strong growth during the season and grew rather late in the autumn, so that when frost came the expansion of the large amount of sap caused the splitting of the trees. A sudden lowering of temperature will cause trees to crack when they are gorged with sap. In the present instance, it is probable that the trees will heal over. If the trees make very strong growth every year, we should suggest stopping cultivation earlier in the season, so that the wood will be better ripened, and there will be relatively less amount of sap.

W. T. MACOUN, Horticulturist.

Central Experimental Farm.

The Ontario Department of Agriculture has recently come into possession of Part 2 of an illustrated work on fruits, published in England over 200 years ago. The title page is missing, but a frontispiece is entitled as follows: "Flora, Flowers, Fruits, Beastes, Birds and Flies exactly drawne, with their true colors lively described. Printed and sold by Peter Stent at the White Horse in Guilt Spur Street, nere Newgate." A pencil entry gives the author as John Rea, and the date 1665 or 1676. Under the list of many sorts of the best apples to be planted at large in orchards is given the following: "Figg Apple is without Core or Kernel, and without Blossoms, the Fruit cometh out of the sides of the branch, and as big as a Pippin."

WATCH BETTER THAN EXPECTED.

I received the premium watch in due time, and am highly pleased with it, as it is so much better than I had expected.

A. J. REYNOLDS.

York Co., Ont.



A Country Mill, Queen's Co., P. E. I.

THE FARM BULLETIN.

MORE REVELATIONS OF THE MILK SCALES.

Eden Bank, B. C., association for May had the record for 241 cows of an average production of 917 lbs. milk; 3.7 test; 34.1 lbs. fat. In each of the 20 herds some individual cows gave over 1,000 lbs. milk, while the three best single yields were 1,630 lbs., testing 3.2; 1,750 lbs., testing 3.5, and 1,780 lbs. milk in the 30 days. The best herd average was from a lot of 20 cows, yielding 1,284 lbs. milk; 3.4 test; 44 lbs. fat. Such animals must be a pleasure to handle, a source of pride and satisfaction, as well as of good cash profit.

A good Ontario record for the same period is at the Central Smith association, where a herd of 20 cows averaged 1,096 lbs. milk; 3.2 test; 35 lbs. fat. The best cow in that herd gave 1,465 lbs. milk, testing 4.0, and the lowest yield in the same herd was 400 lbs., testing 3.2.

A contrast to the above is at St. Antoine, Que., for the same period, where 60 cows averaged only 654 lbs. milk; 3.3 test; 21.9 lbs. fat. The 60 cows gave a total yield of 39,244 lbs. milk; 1,317 lbs. fat. If they had milked as well as the cows at Eden Bank, B. C., they would have given an additional weight of actually sixteen thousand pounds of milk and over seven hundred pounds of butter-fat during the one month!

Are there not other places where there are still some poor cows left? The poor cows are most quickly detected by systematic weighing and testing.

Ottawa.

C. F. W.

THE EXPERIMENTAL FARM AT LACOMBE, ALBERTA.

Most of our readers are aware that the Dominion Department of Agriculture has, within the last two or three years, added to its system of five experimental farms, two branch stations in the sunny Province of Alberta, one at Lethbridge, in the southern part of the Province, in the midst of the irrigation district, and another at Lacombe, on the Calgary-Edmonton Railway, intended to serve what is now popularly known as Northern Alberta, but which rather constitutes the central portion of the Province; for it is only a matter of a few years until another station will be called for in what is really the northern part, up in the Peace River Valley or beyond. The Lethbridge farm is in charge of W. H. Fairfield, while the Superintendent at Lacombe is G. H. Hutton, B. S. A., an Ontario farmer, and who graduated some years ago from the Ontario Agricultural College.

The farm is well situated three-quarters of a mile south-west of Lacombe. It consists of one hundred and sixty acres of land, of which practically every acre is fit for grain production. The soil is a medium clay loam, running to sandy loam, rich, fertile and easily worked. The Department of Agriculture secured possession of the property in the winter of 1907, and work began in April of the same year. During last summer, buildings were put up, the land laid out for future use as an experimental farm, and some general crop such as oats and hay produced. The buildings consist of a residence for the Superintendent, a commodious frame house; a cottage for the farm hands, a horse barn 40 feet by 70 feet, and an implement shed. The manager's house is situated some distance back from the old Calgary-to-Edmonton trail, the land rising gradually from the front to the buildings. A lawn and flower garden of several acres is being arranged directly in front of the house, while the area between the lawn and the trail, a field of fifteen or twenty acres, is being laid off for experimental work in grasses.

The experimental work with the cereal grains is, of course, the most important yet under way at Lacombe. A large area is devoted to this branch. The work, in part, consists of variety tests and the determination of the most suitable cultural methods for producing the ordinary grains. Experiments, for example, are under way to ascertain when packing can be done to best advantage, what dates of seeding give best results in yield and quality of product, and so on. All the ordinary field grains, winter wheat and rye, spring wheat, oats, barley, peas, potatoes and corn, are being grown in plots of one-sixtieth of an acre each. In addition, some larger areas of the leading varieties of wheat, oats and barley are being grown for distribution purposes.

A good deal of attention will likely be given for the present to the growing of alfalfa and clover. One acre was sown to alfalfa last spring after land had been thoroughly inoculated with soil brought from the Lethbridge farm, where alfalfa has been growing for some time, and the appearance of the alfalfa plot this spring would be a revelation to those who have the impression that this great fodder plant cannot be grown in these latitudes. The crop is growing and vigorous. Two cuttings will be made this season,

which ought to give a total of at least four tons from the acre. A few acres also were seeded down to red clover last spring. This is scarcely showing as much vigor and bottom as the alfalfa, having been winter-killed to some extent, but it will give a fair yield by cutting time. It is intended, when the alfalfa gets more thoroughly established, to supply farmers with soil from this field for the inoculation of their own lands with the alfalfa bacteria before seeding.

Considerable work is being undertaken in tree-growing, both fruit and forest trees. A nursery has been arranged, in which several thousand trees of species adapted to the location have been set out, Manitoba maples, poplars, spruce, jack pine, etc. The orchard that is being laid out is quite large, large at least for this part of the country. Several hundred trees of the standard varieties have been planted this year in regular orchard arrangement.

No feeding experiments have been undertaken as yet, but this line of work is clearly called for. The results of feeding tests at Brandon, Man., last winter, and the interest which has been aroused in the results all through the West, indicate the need for much further experiment and demonstration, and the inauguration of such tests at Lacombe would be welcomed by the stockmen of Alberta.

DEATH OF HON. THOMAS BALLANTYNE.

In the death of the Hon. Thomas Ballantyne, of Stratford, Ontario, which took place on June 29th, at the ripe age of 79 years, Canada has lost one of the most stalwart friends of her agricultural and stock-raising industries. Born in the Town of Peebles, Scotland, in August, 1829, he was manager of a co-operative store at Innerleithen, at the age of 21 years. In 1852 he came to Canada with his father and mother,



The late Hon. Thomas Ballantyne.

following two older brothers who had taken up land in the Township of Downie, in Perth County, where Thomas taught school for several years. In 1856 he married Mary, daughter of Robert Ballantyne, of Downie, and a fine family of seven sons and one daughter were born to them, all of whom survive them, Mrs. Ballantyne having died in 1902. After his marriage Mr. Ballantyne commenced farming on a property adjoining the farm now owned by Hon. Nelson Monteith, Minister of Agriculture for Ontario. He quickly saw the opportunities for dairying in this Province, and, starting a cheese factory at Black Creek, he soon began dealing in cheese and shipping for export to British commission houses. Meeting with success in this enterprise, he made it his main object thereafter to improve the quality of the dairy products of the Province, and to develop the system of co-operative dairying, which has added so greatly to the prosperity and wealth of the farmers of wide sections of the Province, very much of which is due to his good judgment, indomitable perseverance and personal liberality in expenditure of time, means and influence in aiding an industry in which his faith was unshaken. Largely through his influence and efforts, he saw the cheese factories of Canada increase from a few to about a thousand, most of which are managed by farmers themselves. In 1867 he attended the first dairy convention in the Province, and was elected a director, and was subsequently nine times elected President of the Association, being also its first

Honorary President. Mr. Ballantyne was for many years a breeder of pure-bred stock, first establishing a fine herd of Scotch Shorthorns, and later a superior herd of Ayrshires.

His public work began as Clerk of the Township of Downie, of which he was later elected Reeve. He was first elected to the Ontario Legislature in 1878, for the riding of South Perth, and sat continuously till 1895 for the same constituency. In 1891 he was elected Speaker of the House, and was the first to preside over the Legislature in the new Parliament Buildings in Queen's Park, Toronto. "As Speaker," remarks Col. Clark, Clerk of the Assembly, in his "Sixty Years in Upper Canada," "partisan feeling never entered into his decisions, which were always arrived at with caution." An excellent conversationalist, speaking as aptly in a public assembly as when at his fireside, it is declared he possessed an excellent repertory of political and general information.

ENGLISH VS. CANADIAN FARM-LABOR CONDITIONS.

Editor "The Farmer's Advocate":

I have been in this country about sixteen months, and I find it is a common idea amongst Canadians that Englishmen are not used to hard work, or the rough-and-ready life you get on a farm. I was born on a farm, having never worked at anything but farming, and I would like to say, through your valuable paper, that I prefer working in Canada rather than in England. It is all very well for a Canadian to say that an English farmer employs two men and a boy on a 150-acre farm. If he were there, taking the place of one of these men, he wouldn't think it any too many. He must not forget that an English farmer doesn't do any work, or, at least, the majority of them, and that all the grain is sowed in rows about eight inches apart, and that has to be hoed up, every row. They also have all hedge fences, and they have to be clipped every year, and there are ditches up the side of nearly every fence, and they have to be cleaned out every year, and that makes a great deal of work which we don't get much of in this country. Now, in the parts of England which are well populated—and that's nearly all of it—the farmers never board the men, as they always board and sleep at home, and as many of these men have to go from two to four miles to work, they have to carry their food with them. They have to get to work at 6 a. m., and they get half an hour at 9 a. m. to get a lunch, and then they get an hour at noon for the dinner, which they have had with them since they left home at five o'clock in the morning. They then work till half-past five or six p. m., and have to walk back to their homes before they get their supper. To get a hot dinner, or to be in a house to get it is an unknown thing to many of them, and after they have got through these little trials, and handled at least twice the crop that we get in this country, they have the pleasure of drawing about \$3.50 per week, with the privilege of paying for their board, bed and washing out of that; or, if married, keep up a home, and support a wife and family. I would advise all those who think we don't work in the Old Country to take a trip over and be convinced. They'll find no snap when they get there. What does a farm laborer get in Canada? If he is a good, honest man, he is sure of a good situation, plenty of good food, and good bed and good wages, and not too much work; because a Canadian farmer helps do the work, therefore he knows how much a man can do, and how much he can expect from you. I tell you it's a pleasure to work on a farm here after working on a farm in England. I think most people who know the conditions of farm life will agree with me that the English who have come from farms are well acquainted with the rough-and-tumble of a farm. I would not say as much for them from the cities, for every person knows that it is otherwise. I thank you for the space in your valuable paper, which is taken by almost every farmer in this district.

EXPERIENCED ENGLISHMAN.

Ontario Co., Ont.

FAIR DATES FOR 1908.

July 11th to 17th.—Winnipeg Industrial Exhibition.
July 13th to 17th.—Brandon.
July 21st to 24th.—Highland Society Show, at Aberdeen.
July 21st to 24th.—Regina.
August 29th to Sept. 11th.—Canadian National, Toronto.
August 29th to Sept. 5th.—Sherbrooke, Que.
Sept. 2nd to 10th.—Nova Scotia Provincial, Halifax.
Sept. 11th to 19th.—Western Fair, London.
Sept. 18th to 26th.—Ottawa Central.
Sept. 22nd and 23rd.—St. Thomas Horse Show, St. Thomas, Ont.
Sept. 29th to Oct. 3rd.—New Westminster, B. C.
Nov. 28th to Dec. 10th.—International Live-stock Exposition, Chicago.

THE ONTARIO NATURAL - SCIENCE BULLETIN.

The fourth annual issue of the Ontario Natural Science Bulletin, the journal of the Wellington Field Naturalists' Club, comes to us brimful of interest for the student of biology, containing between its bright red covers 132 pages of matter by eminent authorities. A special feature this year is a full and systematic article by Dr. C. S. Sargent on the *Crataegus* (a genus of plants comprising the thorns and haws) in Ontario. It is interesting to note that, according to Dr. Sargent, Southern Ontario is one of the richest *Crataegus* regions in the world. Mr. John Dearness, Vice-Principal of the Normal School, London, contributes an article on Fungi as Food—Some Ontario Species. This embraces the class of plants commonly designated mushrooms, or what is equally correct, basidiomycetes, the popular differentiation between these being inaccurate, unscientific and erroneous. The index also includes the following names: W. E. Saunders, J. H. Fauli, A. B. Klugh, Theo. Holm, and W. Herriqt. The letterpress reflects credit upon the printers, The London Printing and Lithographing Company, of London, Ont., who are especially well equipped for executing technical work of this nature with accuracy and dispatch.

The Wellington Field Naturalists' Club is a most praiseworthy organization, founded in Guelph, Ont., in March, 1900, its object being to further biological research in the Province. During these eight years much valuable work has been accomplished by the members, both as individuals in the field and as a society in the fortnightly meetings held throughout the winter months, while the publication of the scientific data obtained, as well as many articles from recognized authorities in natural history outside the bounds of the club, constitute no small part of the good done. One line of work which has always been given due prominence is that of collecting in the less-known orders of plants and compiling complete and annotated lists of the species known to occur in any locality, thereby securing information as to their occurrence and geographical range. The same has been done with birds, mammals and other animals.

The editor of the bulletin, in his foreword, refers with pleasure to such kindred organizations as the Ottawa Naturalists' Club, the Queen's University Naturalists' Club, the Canadian Institute, the Dufferin County Natural History Association, and others, and would like to see such clubs organized in every town in Ontario, especially the High School towns. The editor's address is T. D. Jarvis, B.S.A., O. A. C., Guelph, and communications or inquiries looking to the organization of such clubs would undoubtedly receive prompt and courteous attention.

CHANGE IN MANAGEMENT OF MARITIME WINTER FAIR.

At an important meeting of the Maritime Stock-breeders' Association, held in Amherst, N. S., early last month, radical action was taken, involving a complete change in the status and management of the Maritime Winter Fair. This fair was originally organized and virtually managed by the Live-stock Branch of the Dominion Department of Agriculture, acting through its Maritime representative, Mr. E. B. Elderkin, who was also President of the Maritime Stock-breeders' Association, and until this year manager of the Maritime Winter Fair, receiving salary and expenses for this work from the Live-stock Branch at Ottawa. In addition a grant of \$1,000 was paid from Ottawa towards the Winter Fair, as well as \$200 per year toward the holding of an annual auction sale of pure-bred stock, conducted by the above association. Incidentally, it may be noted that owing to a lack of interest in this sale it was considered advisable by the Executive Committee of the Association to discontinue it, though this has nothing directly to do with the Winter Fair itself, except that Mr. Elderkin had charge of both. In addition to the grants from the Dominion Department, the Provincial Governments subscribed to the Maritime Fair annually as follows: Nova Scotia, \$1,000; New Brunswick, \$800; Prince Edward Island, \$350.

It has for some time been considered advisable, from the standpoint of the Federal Department and also of the Maritime Stock-breeders' Association, that the fair should be managed by the association itself. To this end a committee of the association had met for the Hon. Mr. Fisher some time ago, and arranged for the change of policy that was resorted to on June 9th. At this latter meeting Mr. J. B. Spencer, Acting Live-stock Commissioner, was present, and took an active part in the meeting. He suggested that the Maritime Stock-breeders' Association should carry on work in the interests of live stock apart from the Maritime Winter Fair, in accordance with the plan of similar organizations in other Provinces, where their fairs are simply incidents in their work. The association decided to do so, and intends holding educational meetings in each of the Provinces from time to time, with a view to creating interest in its work and increasing its membership. A number of amendments to the constitution were proposed, including one providing for the affiliation of Nova Scotia, New Brunswick and P. E. Island Agricultural Societies with the Stock-breeders' Association. These amendments will be passed upon at the next annual meeting. The business of the organization was thoroughly straightened out, and the statement of finances showed a deficit of about \$1,500 to date. This deficit is met by a special grant of \$200 from the Nova Scotia Department of Agriculture, and \$1,300 from the Department of Agriculture, and \$1,300 from the Maritime Stock-breeders' Association is to be entirely responsible for the fair. They will pay their own manager and direct

him in his work. To enable them to do this, the Federal Department has increased its annual grant to \$2,400, the Nova Scotia Department raises its annual allowance to \$1,200, Prince Edward Island hers to \$400, while the New Brunswick grant remains at \$800. Mr. F. L. Fuller, Superintendent of Agricultural Societies for Nova Scotia, was made Secretary-Treasurer of the Association and Manager of the Maritime Winter Fair, and will conduct the business of the association, except in fair time, from Truro, N. S. The appointing of an auditor was left with the Board of Directors. The new Board of Directors elected is as follows: For New Brunswick—Col. H. Montgomery Campbell, Apohaqui; Bliss M. Fawcett, Sackville; M. H. Parlee, Apohaqui, and Geo. E. Fisher, Charlottetown. For Prince Edward Island—Rev. A. E. Burke, Alberton; Hon. F. L. Hazard, Charlottetown; Jas. Roper, Charlottetown, and John Annear, Lower Montague. For Nova Scotia—W. W. Black, Amherst; C. A. Archibald, Truro; R. S. Starr, Port Williams, and S. A. Logan, Truro. The representatives to the fair boards were elected as follows: For New Brunswick—Col. H. Montgomery Campbell and Walter McMonagle, Sussex. For Prince Edward Island—Thos. P. Cass, Cornwall, and John Roper, Charlottetown.

At a subsequent meeting of the Board the President and Provincial Vice-Presidents were re-elected:—President, E. B. Elderkin, Amherst, N.S.; Vice-Pres. for New Brunswick, Col. H. Montgomery Campbell, Apohaqui; Vice-Pres. for Prince Edward Island, Hon. F. L. Hazard, Charlottetown; Vice-Pres. for Nova Scotia, C. A. Archibald, Truro. The date of the Maritime Winter Fair for 1908 was fixed at Nov. 30th, being advanced somewhat from previous years, to make it convenient for P. E. Islanders to attend.

FRUIT-CROP PROSPECTS.

Weather Conditions.—The weather conditions throughout the Dominion for the past month have been generally favorable for fruit. The first three weeks were exceptionally dry in the fruit districts of Ontario, but occasional showers after the 20th have prevented serious injury, except that the samples of strawberries in some cases are not so large as usual. Light frosts on the 15th did only a very slight damage. Nova Scotia and Prince Edward Island have had exceptionally favorable weather. In British Columbia, though the weather was cool and wet till the early part of June, conditions were not seriously affected. During the latter part of the month the temperature has been higher, with occasional showers.

Apples.—Prospects are not so good this month as last. The "set" of fruit was not as good as was expected, and the dry weather has probably increased the June "drop." A fair estimate of the present conditions would be an average or slightly above the average crop of early and fall apples, with winter apples somewhat below a medium crop. The districts producing the larger quantity of fruit in Ontario, such as the counties of Hastings, Durham and Northumberland, have rather a light crop of winter apples.

Speaking generally for the whole apple belt, Spies, Baldwins and Kings will be light or very light; Russets a medium crop; Ben Davis nearly a full crop; Greenings a medium crop; the Fameuse above the average almost everywhere, and at least an average crop of fairly clean, good-sized fruit in the Ottawa and St. Lawrence Valleys.

In Nova Scotia the prospects for the apple crop as a whole are particularly good, this being a bearing year for the Gravenstein. There are no unfavorable conditions in British Columbia, the prospects showing a medium crop.

Pears and Plums.—The prospects for pears and plums are only medium. Bartletts and Kieffers have the best showing.

Peaches.—Early varieties will be fairly abundant, somewhat above the average; late varieties a medium crop. In the early varieties, Alexander, Early Rivers and Triumph are reported bearing full crops. Of the latter varieties, St. John will be only a medium crop, the Early Crawford light, Smocks and Elbertas show for something over a medium crop. The Elbertas are bearing heavily where they were sprayed for curl leaf; those not sprayed have in many cases a very light crop.

Tomatoes.—The prospects for tomatoes are excellent. Should there be plenty of moisture during July, there seems nothing in the way of a full crop this year.

Cherries.—Sweet cherries somewhat scarce; sour cherries more plentiful.

Grapes.—Grapes look well and promise a full crop. Small Fruits.—With a moderate amount of rain small fruits will likely give a large crop. The conditions are so favorable over all the fruit-producing sections that the aggregate of the crop will likely be very large.

Insects.—Insects are not more prevalent than at this time last year, and fungous diseases are not specially in evidence. Up to the present time most injury has been done by the cigar-case borer, the bud moth, canker worm, green-fruit worm and oyster-shell bark-lice.

Foreign Crop Conditions.—The United States will have only an average crop, but very generally distributed over the apple-growing districts. The prospects for stock suitable for marketing during the winter months would indicate about an average crop or somewhat less.

The prospects for apples in Great Britain, and for

the fruit crop generally, are particularly good, and there are no serious adverse conditions reported from the Continent.

A. McNEILL,
Chief, Fruit Division, Ottawa.

NOVA SCOTIA'S TIMBER RESOURCES.

At a recent meeting of the Lumbermen's Association of Nova Scotia, at Liverpool, N.S., President F. C. Whitman estimated the forest lands of the Province at 5,808,350 acres, of which 1,469,750 acres are Crown lands. Nova Scotia is most fortunately situated as regards forest wealth, not only in respect to trans-oceanic shipping facilities, but in the humidity of her climate, which enables the lumberman to take a crop in a generation and find another one growing. With the alleged probability of a continental timber famine in twenty years, the Peninsular Province should consider herself blessed indeed. Mr. Whitman highly commended the forest-ranger system in force, which has been effective in preventing forest fires, the total yearly cost being only about \$6,000, or 90 cents per square mile. He recommended a Provincial forest survey, or stock-taking of timber resources, with a view to the adoption of a wise policy for the future.

Lieut.-Governor Fraser said that of all things grown on earth, the most important are food, animals, and then lumber. The latter is more necessary than minerals. We should have stability of title and should preserve and conserve the forests. The man who will carelessly or negligently set a fire is practically a criminal, adding: "If we preserve our forests we have in Nova Scotia sources of continuous wealth for many generations. Continuity of operations in anything is the better way. It tends to the building of character as well as business."

DEATH OF F. C. PETTIT.

In the death of Mr. F. C. Pettit, of Burgessville, Ontario, which took place on June 4th, Oxford County has lost one of its most prominent stock-breeders. First in partnership with his father, the late J. G. Pettit, in breeding Shorthorn cattle for about twenty years, they were very successful as exhibitors at local fairs, and were always noted for their honest and upright dealing, as well as advanced methods of farming. A few years ago, when the sale of Shorthorn cattle was at a low ebb, they decided to change breeds, substituting Holstein-Friesian cattle as their choice, as they were in a dairy county. About this time the father died. Subsequently the partnership was known as F. C. Pettit & Son, which continued for the last five years. In this breed they have been very successful, and prominently known to readers of "The Farmer's Advocate," shipping cattle from one end of the Province to the other. Mr. Pettit was born and died on the same farm, having spent sixty years out of sixty-five on the farm. The farm has been continually in the Pettit family since 1839, and has now passed to the third generation, the only son of the late F. C. Pettit, F. E. Pettit, who intends to continue farming and stock-raising the same as before.

TORONTO'S HORSE PARADE.

The annual Dominion Day open air horse parade and show was held in Queen's Park, Toronto, on July 1st, and was the most successful event of the kind in the Queen City since the inception of these shows, over 800 horses being paraded and judged for prizes. The entries were 24 ahead of any previous year, and the horses an improvement over the display of former years, which has always been of a high order of merit. A moderate estimate of the value of the horses on exhibition was put by the judges at an average of \$300 each, or a total of a quarter of a million dollars.

Of the 800 horses in the procession there was not an inferior one. From the heavy teams attached to ponderous drays, down to the sleek ponies ridden by young and ambitious equestrians, there was not a faulty animal in the whole lot. Each driver, as usual, received a dollar, whilst the medals distributed to the prizewinners cost over \$1,000, to say nothing of the \$400 distributed in other prizes. The total cost of the show was \$2,500.

IRRIGATION EXPERIENCE REQUESTED.

Editor "The Farmer's Advocate":

Could you give me the address of some farmer, or farmers, who have irrigation working satisfactorily on their farm or farms? I am thinking of putting in a plant, and before doing so would like to see how it works for the "other fellow," and how much profit there is in it. Would water from a deep well be just as good as water taken from a river or lake?

Kent Co., Ont. DOUGLAS MAYNARD.

[Note.—"The Farmer's Advocate" will be pleased to publish any reliable experience with irrigation under Canadian or foreign farm conditions. Full details of installation and operation, together with impartial estimate of capital cost and operating expenses, advantages and profit, are invited.—Editor.]

A Nova Scotia correspondent reports that many orchardists in the Annapolis Valley region have been having a terrible fight with the canker worm, adding, however, that in their own thirty-acre orchard they have no caterpillars at all, having sprayed it faithfully with Paris green.

A Money Magnet

One advantage to you of a Savings Account at The Bank of Toronto is that it draws to itself many odd sums of money that can easily be spared, and your balance will therefore be a growing one.

Another advantage is that these sums become money-producers for you through the interest earned.

And your money in this Bank will be safe.

BANK OF TORONTO
INCORPORATED 1855.
ASSETS - - \$37,000,000

MARKETS.

TORONTO.

LIVE STOCK.

The receipts of live-stock last week at the City and Union Stock-yards were large, 282 carloads all told, composed of 4,684 cattle, 3,947 hogs, 2,317 sheep and lambs, 650 calves and 124 horses. The quality of fat cattle, considering the large run, was better than was anticipated, although there was a large number of cattle that ought to have been left on pasture for a month or six weeks longer. Trade was good all week for finished cattle at unchanged quotations, but unfinished grassers sold at 25c. to 60c. per cwt. lower prices than for the previous week.

At West Toronto, on July 6th, receipts of cattle were 1,721; trade dull; prices 50c. to 80c. per cwt. lower. Export steers, \$5.50 to \$5.80; export bulls, \$4.25 to \$5; picked butchers', \$5.25 to \$5.50; good, \$4.80 to \$5.10; medium, \$4.30 to \$4.60; common, \$3.50 to \$4; cows, \$2.50 to \$4; milkers, \$30 to \$50; calves, 3c. to 5c. per lb.; lambs, 7½c. to 8½c. per lb. Hogs—Selects, \$6.75, fed and watered; \$6.50 f.o.b. cars country points.

Exporters.—Export steers sold last week at \$6 to \$6.60 per cwt., with two extra choice loads at \$6.75; export bulls sold at \$4.50 to \$5.25, and five extra fine bulls were reported at \$5.75 per cwt.

Butchers'.—Prime stall-fed butchers' picked lots sold at \$5.75 to \$6; loads of good butchers' partly stall-fed and finished on grass, \$5.25 to \$5.60; medium grassers, \$4.75 to \$5.15; common, \$4.50 to \$4.75; cows, \$2.50 to \$4; with a few very choice finished cows at \$4.15 to \$4.40, but the butchers' cow class suffered the most of any other class, declining from 25c. to 60c. per cwt.

Stockers and Feeders.—Trade in stockers and feeders was dull, few of good quality being on sale. Stockers, 500 to 700 lbs. each, sold from \$2.75 to \$3.25; feeders, 800 to 1,000 lbs., at \$3.25 to \$4 per cwt.

Milkers and Springers.—Business in this department was slow and inclined to be dull, excepting for a few of the very choicest quality cows. For several weeks the drift of the market has been towards a lower level, and it now takes a very choice cow to bring \$50. The choicest are quotable at \$60, but not many have sold over \$50, and the bulk of the business has been done at \$35 to \$45 each, with common light cows selling at \$20 to \$30, and some as low as \$15.

Veal Calves.—A large run of the best veal calves offered this season was on sale last week, but prices remained easy at \$3.50 to \$5.50 per cwt. Consumers of meat are turning to lamb, since it is getting within the reach of people who are not millionaires.

Horses.—J. Herbert Smith, manager of the Union Horse Exchange, West Toronto, reports having sold 80 horses last week, and reports trade as follows: Heavy drafters slow of sale and prices a little bit lower, at \$175 to \$220; wagon horses in good demand at \$140 to \$185; drivers sold all the way from \$175 to \$285; serviceably sound sold at \$40 to \$90 each.

Sheep and Lambs.—Receipts of both sheep and lambs were much larger last week, and prices were a little easier. Export ewes, \$4 to \$4.25 per cwt.; rams, \$3 to \$3.50 per cwt.; yearling lambs, \$6 to \$6.75 per cwt.

Hogs.—Receipts during the week were liberal. Selects sold at \$6.40 per cwt., fed and watered at the market; and \$6.15 f. o. b. cars at country points.

BREADSTUFFS.

Wheat.—No. 2 white winter, red, or mixed, sold at 78c. to 79c.; Manitoba No. 1 northern, \$1.06; No. 2 northern, \$1.03; No. 3 northern, \$1, at Georgian Bay ports.

Barley.—No. 2, 53c. to 55c.
Corn.—No. 3 yellow, 78c. to 79c.
Peas.—No. 2, nominal, at 92c.
Rye.—None offered and nominal, at 88c.

Buckwheat.—No. 2, 65c. to 68c.
Oats.—No. 2, 45c., on track at Toronto.

Flour.—Ontario 90 per cent. patents sold at \$3.15; Manitoba special brands, \$6; seconds, \$5.40; strong bakers, \$5.30.
Bran.—Car lots on track at Toronto are quoted at \$18.
Shorts.—Car lots on track at Toronto, \$20.

COUNTRY PRODUCE.

Butter.—Receipts large; prices firm, as follows: Creamery pound rolls, 23c. to 24c.; separator dairy, 20c. to 21c.; store lots, 18c. to 19c.

Eggs.—Market firm, at 18c. to 19c.
Cheese.—Market firm, at 12½c. to 12½c. for large, and 13c. for twins.
Beans.—Market firm. Prices \$2 to \$2.10; hand picked, \$2.10 to \$2.15.

Honey.—Market steady; extracted, 11c. to 13c.; combs, \$2.50 to \$3 per dozen for No. 1 white.

Potatoes.—Market firmer. Car lots on track at Toronto, \$1 to \$1.10.

Poultry.—Receipts light. Spring ducks, alive, 20c. per lb.; spring chickens, 20c. per lb., alive. Dressed spring chickens and ducks, 25c. per lb.

Hay.—Baled hay in car lots on track at Toronto, dull, at \$10 to \$11.

Straw.—Baled straw in car lots at Toronto, slow sale, at \$7 to \$8.

TORONTO FRUIT MARKET.

Receipts of United States fruit were large, and at the same time Canadian fruit supplies have been increasing daily. Cherries, 75c. to \$1 per basket; cherries, eating, \$1.25 per basket; gooseberries, \$1 to \$1.25; strawberries, 5c. to 8c. per quart basket in case lots.

VEGETABLES.

New potatoes per bbl., \$4 to \$4.50; cucumbers, hamper, \$1.75; beans, hamper, \$1.75; tomatoes, 90c. to \$1 per crate; cabbage, per crate, \$1.75; water-melons, each, 30c.; cantaloupes, \$5 per crate; onions, basket, 40c.

TORONTO BACON MARKET.

Prices were firmer in sympathy with the live hog market. Breakfast bacon, 14c. to 15c.; backs, 16c. to 18c.; long clear, 10½c. to 11c.; hams, 13½c. to 14c.; rolls, 10½c. to 11c.

HIDES AND SKINS.

The E. T. Carter Co., 85 East Front street, wholesale dealers in wool and hides, were last week paying the following prices: Inspected hides, No. 1 cows and steers, 7½c.; inspected hides, No. 2 cows and steers, 6½c.; country hides, trimmed and cured, 5½c. to 6c.; calf skins, city, 11c.; calf skins, country, 10c.; horse hides, No. 1, \$2.50; horse hair, per lb., 26c.; tallow, per lb., 4½c. to 5½c.; sheep skins, 80c. to 90c.; wool, unwashed, 7c. to 8c.; wool, washed, 13c. to 14c.

BUFFALO.

Cattle.—Prime steers, \$7.25 to \$7.85.
Veals.—\$5 to \$7.

Hogs.—Heavy and mixed, \$6.80 to \$6.85; Yorkers, \$6.75 to \$6.85; pigs, \$4.75 to \$6.20.

Sheep and Lambs.—Ewes, \$3.60 to \$3.75.

MONTREAL.

Live Stock.—Shipments of cattle from the port of Montreal for the week ending June 27, were 2,392 cattle, against 2,435 the previous week, those of sheep being 157, against 472. The demand for ocean freight space from both Canadian and American shippers shows an improvement, and rates have advanced 2s. 6d. to 5s. all round. Liverpool space has been engaged for July at 32s. 6d. to 35s., some being booked at 2s. 6d. higher for August. London has been let for July at 25s., and sometimes 27s. 6d., Glasgow being 32s. 6d. for first half July, and 35s. for last half. Manchester is taken for July at 30s.

Owing to the hot weather, and lighter demand, prices of cattle in the local market were about ½c. lower last week. Really choice export steers were scarce and sold at 6½c. to 6½c., good being 6c. to 6½c. Good butcher stock sold at 4½c. to 5c., lean cows at 3½c. to 4½c. and common at 3c. to 3½c. Sheep have declined in price, offerings showing considerable increase and stock being inferior. Some selected export stock was sold at 4c. to 4½c., culls being 3½c. Yearling lambs were in good demand for local consumption, and sales were made at 4½c. to 5c. a lb. The supply of spring lambs is hardly equal to the demand, and prices held steady at \$3.50 to \$5 each. Calves, \$8 to \$10 for best, and \$2 to \$5 for common. The hog market showed increased strength and prices were 1-5c. to ½c. a lb. higher than the week before, demand being good. Selected lots were sold at 6½c. to 7c. per lb.

Horses.—Slack demand and few receipts. Heavy draft, 1,500 to 1,700 lbs., \$250 to \$300 each; light draft, 1,400 to 1,500 lbs., \$225 to \$275; good blocks, 1,300 to 1,400 lbs., \$200 to \$225; express, \$150 to \$225; common plugs, \$50 to \$75, and choice saddle and carriage animals, \$300 to \$350 each.

Dressed Hogs.—Fresh killed, abattoir-dressed stock was quoted at 9½c. a lb. The market for provisions of all kinds was steady. Hams and bacon continue in good demand. Hams weighing 25 lbs. and upwards sell at 12½c. a lb., those weighing 18 to 25 lbs. being 13c.; 12 to 18 lbs., 13c.; 8 to 12 lbs., 13½c. Pure lard, 12c. to 12½c.; compound, 9½c. to 10c.

Potatoes.—Dealers paying about 90c. per 90 lbs., carloads on track, for best Green Mountains; selling in smaller lots, same position, at an advance of about 5c., and bagged and delivered in store, at \$1 to \$1.10.

Butter.—Shipments of butter are holding fairly large, being over 8,000 packages for the week ending 27th June. In this market it has lately been hard to get more than 23c. to 23½c. for finest creamery, though some quoted 23½c. Prices shade easier on Monday, finest 23c. to 23½c.

Cheese.—Shipments of cheese during the week ending 27th June showed a considerable increase over those for the previous week and for the corresponding week of last year, being over 95,000 boxes. Demand from the other side appears to be rather keen, and the market here has been on the upgrade. Prices here last week were 12c. for Easterns and 12½c. for Westerns. Quebec cheese brought 11½c. at the boat last week. On the country boards last Saturday prices declined, and a sympathetic movement occurred here on Monday, Quebecs going at 11½c. to 11½c.; Ontarios, 11½c. to 11½c.

Eggs.—Firmer; straight-gathered, 18c. to 18½c.; selects, 22c.

Grain.—Little activity in the local market last week, and prices, as a general thing, held about steady. Manitoba feed wheat was selling at 71c. to 72c. for No. 1, carloads, ex-store, and at 67c. to 67½c. for No. 2; while No. 2 American mixed corn was 77½c. per bushel. Oats were in slow demand, at 48½c. to 49½c. for No. 2 white, 47c. to 47½c. for No. 3; 46c. to 46½c. for No. 4; rejected being 45c. to 45½c., and Manitoba rejected, 43c. to 47c.

Flour.—The larger mills anticipate a firm market, and were still quoting \$6.10 per bbl. for Manitoba spring-wheat pat-

ents; seconds being \$5.50. Ontario winter wheat patents, \$5; straight rollers, \$4.40 to \$4.50.

Millfeed.—The market for bran was easier, while that for shorts held steady. Some quote Manitoba bran as low as \$21 per ton, in bags; others repeating \$22 to \$23. Shorts held at \$25. Ontario bran, \$19.50 to \$20, and shorts, \$24.50 to \$25.

Hay.—No. 1 timothy, \$11.50 to \$12, carloads, on track; No. 2 being \$9 to \$10; clover, mixed, at \$8 to \$8.50, and clover, at \$7.50.

Wool.—Nothing new in the wool market; offered and demand not active. Dealers quote Canada pulled, unbrushed, at 17c., f.o.b., country points; brushed being 19c. to 21c.; Canadian fleece, washed, is 15c. to 18c. per lb., and in the grease, 12c.

Hides.—The market shows no change, being still dull. The outlook, however, was rather more hopeful, leather having advanced slightly. No. 1 hides, 5c.; No. 2, 6c.; No. 3, 7c.; No. 2 calfskins, 11c.; No. 1, 13c.; lambskins, 10c. each; sheepskins, 75c. to 80c. each.

CHEESE BOARD PRICES.

Brockville, Ont., 11½c. bid; no sales. Belleville, Ont., 11½c. to 11 9-16c. Stirling, Ont., 11½c. to 11 9-16c. Winchester, Ont., 11½c. Alexandria, Ont., 11 9-16c. Vankleek Hill, Ont., 11½c. Listowel, Ont., 11½c. bid, no sales; on curb one factory sold at 11½c. Napanee, Ont., 11½c. Victoriaville, Que., 11½c. Russell, Ont., 11½c. Ottawa, Ont., 11 9-16c. to 11½c. Picton, Ont., 11½c. Madoc, Ont., 11 7-16c. Perth, Ont., 11½c. Cornwall, Ont., 11½c. Kemptonville, Ont., 11 9-16c. bid; no sales. London, Ont., 11 7-16c. to 11½c. St. Hyacinthe, Que., butter, 22½c.; cheese, 11 7-16c. Canton, N.Y., butter, 22½c.; cheese, 10½c.

CHICAGO.

Cattle.—Steers, \$6.60 to \$8.25; cows, \$3.60 to \$5.75; heifers, \$4.90 to \$6.00; bulls, \$3 to \$5.30; calves, \$5.40 to \$6.25; stockers and feeders, \$3.75 to \$5.15.

Hogs.—Choice heavy, shipping, \$6.65 to \$6.70; butchers', \$6 to \$6.70; light, mixed, \$6.25 to \$6.40; choice, light, \$6.40 to \$6.60; packing, \$5.25 to \$6.40; pigs, \$4.50 to \$5.75.

Sheep and Lambs.—Sheep, \$3.75 to \$4.40; lambs, \$4 to \$7; yearlings, \$4.75 to \$5.70.

BRITISH CATTLE MARKET.

London.—London cables: Cattle, 13c. to 14½c. per lb., dressed weight; refrigerator beef, 10½c. to 10½c. per lb.

TRADE TOPIC.

ALMA LADIES' COLLEGE.—The Commencement Exercises in connection with Alma Ladies' College, St. Thomas, Ont., were concluded on June 22nd, when prizes, diplomas and certificates were distributed. Rev. Principal Warner, D.D., presided, and Miss Cordelia Duncan read the Valedictory. Commencement-week exercises included undergraduate music and elocution recitals, graduate music and elocution recitals, post-graduate pianoforte, vocal and elocution recitals by Misses White, McGregor and Norsworthy; domestic-science luncheon, fine-art opening reception and exhibit, class-night programme, field-day games, reunion reception to Alma Daughters, graduates, teachers and students tendered by Principal and Mrs. Warner; baccalaureate sermon preached by Rev. W. J. Ford, LL.B., ex-president of the London Conference; annual meeting of General Executive of Alma Daughters, followed by banquet at Stevensons'. The founder of the Society, Miss Sisk, Toronto, and Presidents of Toronto, London and St. Thomas branches, and many others were present.

The College has had a successful year, the enrollment being 165. The closing exercises called together crowded audiences, and already there has been an unusually large enrollment of new students for the fall term, opening Sept. 9th. The London Conference League hold a Missionary Normal School in the College July 9th to 16th, inclusive.



**Life, Literature
and Education.**

[Contributions on all subjects of popular interest are always welcome in this Department.]

"Two men have labored fruitlessly, and exerted themselves to no purpose. One is the man who has gained wealth, without enjoying it; the other is he who has acquired knowledge, but has failed to practice it."—[Sa'di.]

THE COUNTRY ROAD.

From the busy fields of farmer-folk,
It starts on its winding way,
Goes over the hill, and across the brook,
Where the minnows love to play;
Then past the mill with its water-wheel,
And the pond that shows the sky;
And up to the bridge by the village store,
And the church, with its spire so high.

You would never think that the country road,
From the hill to the store, could be
So long to a boy with an errand to do
And another boy to see.
You can never dream how short it is,
From the farm to the old mill pond,
Nor how very much farther it always is
To the schoolhouse just beyond.

Oh, the country road! at the farther end
It runs up hill and down,
Away from the woods and the rippling brook,
To the toiling, rushing town.
But, best of all, when you're tired and sick
Of the noisy haunts of men,
If you follow it back, it will lead you home
To the woods and fields again.
—[St. Nicholas.]

PEOPLE, BOOKS AND DOINGS.

Lord Roberts, the Commander-in-Chief of the British Army, has sent a telegram announcing his intention of coming to Quebec to attend the Tercentenary celebration.

The Chinese Anti-opium League, of British Columbia, has sent a petition to Ottawa asking the Government to prohibit the manufacture, sale, or importation of opium into Canada.

A delegation of prominent Japanese will start in August on a tour through Canada, the United States and Europe, to inspect the Houses of Parliament in those countries, in order to secure ideas and suggestions for the new House of Parliament to be built at Tokio, Japan.

A collection of Burns' manuscripts, among which was the well-known poem, containing the lines,

"A chiel's amang you taking notes,
And faith, he'll prent it,"

went for only £170 at a sale in Sotheby's salesrooms, London, Eng. At the same sale, the manuscript of Mrs. Thrale's famous journal of Dr. Johnson sold for £2,050.—[Saturday Night.]

A SOLILOQUY.

Do I stop as often as I should to think what I am doing with my mind? As I am a Christian, I believe that it is the only part of me that can live. It is surely the great talent that has been given me for now and all time. Moreover, it is almost completely in my own power—what am I doing with it?

Possibly I am not a great sinner. I am honest, but that is no great boast; everyone should be honest. I am industrious. I provide well for my family. I have no vicious ways. Neither are these tremendously to my credit; a man must be a beast, rather than a man, if he is not industrious, if he is not kind to his family and a good provider, if he has vicious ways. Still, the question stands, "What am I doing with my mind?"

Am I, for instance, stuffing it, literally stuffing it, with lands or houses, or a big bank account, or fine furniture, or fine gowns, or social position? If so, will I be satisfied when the great tragedy, the great weeding time comes. . . . I lie on my last bed—nearer and nearer the thick black veil which hides the Infinite comes. When it touches all that can endure of the Ego that was, I must go through. Tear the poor brain apart, cast out from it the things that cannot go! Throw them out—the lands, the houses, the bank bills! Then go on, miserable, shrivelled remnant, all that is left of me—creep through the veil to face the great Unknown!

Our religion teaches me that a well-developed mind is not an absolute essential to entrance upon a future, blissful state; yet it is not unreasonable to suppose that, since my mind is the most precious thing that has been given me, the only thing that can endure, it should not be wholly filled with things that do not, in the long run, count. May I consider this well. Then, my own fault be it, if this precious possession be made a mere repository of brick and stone and mortar, clouds of earth, fine raiment, and jealous ambition, rather than a temple filled with lofty aspiration, high-thinking, "gentleness, meekness, goodness and truth."
COUREUR-DE-BOIS.

OUR MISTAKES.

We are at times inclined to curse our mistakes; but it is our sad propensity to do a great many foolish things. Among the most foolish, is not grumbling and grovelling about among the results of a slip one of the worst? Should we not rather rise, like Antæus, with new vigor from each experience? No man or woman voluntarily makes a mistake, and no man or woman worthy the name will sit about crying over spilled milk. The truly noble will rather clench his fists, set his teeth, and go forth determined to ride down the misfortune which he has brought upon himself; and, in so doing will he gather strength and confidence, aye, and power, which is a very different thing from mere strength—which might not otherwise have come to him. Muscle is not the only thing which grows with use.

Again, do we ever realize the tenacity with which the things we learn by our mistakes cling to us? We may learn a thousand things by

right-doing, and forget them; let us learn one by a bitter experience, and we will not again trip into that pitfall. Verily there is compensation in all things.

Of all mistakes, perhaps the most worrying are those which put between us and our friends. We blunder, are misunderstood, pride steps in, and the mischief is done. But should such a condition of affairs ever be permitted to stand? It is not, after all, so very hard to say, "I was mistaken; forgive me?"—not nearly so hard as to go through a lifetime of difference. Lapses should be guarded against with all one's might, but should one occur, it is well to remember that, after all, a mistake is only a mistake. If yours, seek reparation; if another's, remember to deal as you would be dealt by.

"Be not too rigidly censorious,
A string may jar in the best master's hand,
And the most skillful archer miss his aim;—
I would not quarrel with a slight mistake."

**SOME NOTES FROM MY OLD LOG,
IN SOUTH AFRICA.**

A DUTCH COURTSHIP AND WEDDING.

"I wish you could have seen a Dutch wedding whilst you were in Pretoria," was once remarked to us. As we did not, I must tell what was told us of the manners and customs there anent: "First catch your hare," applies as aptly to the preliminary step in matrimony as it does to its ditto in cookery. But after what a dull, prosaic, dead-alive fashion does a young Boer maiden enter the toils! Dumbieddikes might have been a Dutch changeling, or Sir Walter Scott might have visited South Africa in his dreams, otherwise, how could he have pictured such a suitor? Fancy its being possible for it to be a matter of uncertainty, amidst a bevy of sisters, until the very handkerchief is thrown to one of them, which is the object of the swain's adoration! Yet such is the case usually, and it is harrowing to think of the pangs which might thus be caused to six or more maiden hearts, if each should have laid the flattering unction to her soul that she, and she alone, was the lodestar of love-sick "Pieter's" dreams. Not being a Mormon, "Pieter" (it saves an initial, and Pieter will serve our purpose as well as any other name) must choose one; and, in spite of taciturnity, who knows but that the cunning fellow has long made up his mind which sister he shall ask to become his vrow? His caution and pride alike deter him from making the venture at all until he and his family have some assurance that she and her family are pretty safe to come to terms. Pieter is very young, but that is no obstacle to his success. Pieter is bashful; and if he were not, it is ordeal enough to render him so when the actual moment has arrived for him to make his proposals in due form and in person; for, I need not say that, if getting a wife depended upon Pieter's writing a love letter, he would undoubtedly end his days a bachelor. Arrived at the house of his father-in-law-to-be, if fortune favors him, he "off-saddles" by in-

vitiation (you have no manners if you do so, be you who you may, uninvited), and enters the "fore" or general room. He is got up regardless of expense, as far as his own clothes and his animal's accoutrements are concerned, and somewhat sheepishly he goes through the usual round of hand-shaking. Does he, or does he not, contrive to convey by that dumb magic, which can make even a hand-clasp eloquent, the whole tale of his hopes to the maiden he desires to win presently? Deponent sayeth not, and the chances are that Pieter feels too many eyes upon him to risk even the little bit of comfort that tender finger-questioning might procure. Then pity our poor Pieter as he sits patiently until bedtime comes, often not uttering a syllable, and then only to reply to questions apart as the poles from the object of his visit. But, supper and prayers over, he knows it must be now or never with him. If he is invited to remain, he is sure of the consent of the father and the mother; and here let me venture this little remark: woman's rights have never been agitated for or against in South Africa, that I know of; but this is probably because women have so full a share permitted them. No Dutch husband dreams of deciding anything in matters of business, or which can in the remotest degree affect the welfare of his family, without consulting his wife; and he thus realizes the truth of another good old adage, "Two heads are better than one." Pieter, asked to remain, then takes the first step permitted him. He has managed to find out which of the doors leading out of the living-room (in a large Boer house there may be four or five) leads to that which she occupies. There he stands, or sits, if he is wise and there is anything to sit upon, until she passes in. "Now for it, Pieter; pluck up your courage; faint heart never won fair lady," neither will you, without a bolder front than you have been able to wear for these last few weary hours."

A whisper, and kind of a struggle, which is no struggle at all, and a "no" which is so like a "yes" that it will do just as well, and our Pieter has won the day; no, not the day, for it is night, and the question which he has asked, and which, after all, is equal to the question of questions, is whether she will "sit up" and keep company with him! If she has consented to do this, she has virtually consented to "sit up" with him as long as they both shall live. There is a primitive simplicity about this which robs it of all guile, and, lest it shock the sensitive nerves of any tenderly-nurtured, duly-chaperoned young lady in this our land, where "such things would not be tolerated," let me assure her that our young folks have less chance of whispering their sweet nothings unheard, than any nineteen out of twenty engaged couples here, where more outward fences bristle around to guard them from the faintest appearance of even a harmless indiscretion. Pieter is human; so, given the opportunity, he would probably like to kiss Gretchen, and Gretchen would probably like him to kiss her, too; why shouldn't she? But think of the giggles of the five disappointed sisters, from the "ha, ha!" in sardonic tones of the one

who really for a while did think Pieter had peeped out of the corners of his eyes at her more frequently than he ought to have done consistently with his not choosing her after all, to the downright, not-to-be-choked-down, bubbling-over laugh of the youngest of all, to whom the whole thing is simply a good joke, out of which she at least will take her share of fun. The high, raftered roof is a rare conveyer of sound; therefore, oh! Pieter, and oh! Gretchen, muffle your kisses, or kiss not at all.

Pieter's trials are not ended yet, for here, as in more civilized lands, the bridegroom has the worst of it on his wedding day. Why should this be, I wonder? Their wedding day has come, and there is much to be done before they subside into the private, humdrum, every-day life which lies before them, back in the old home—her home, for Pieter's wife takes him, not he her, to the old roof-tree, which might be made of India rubber, so unlimited are its powers of expansion. They will not start housekeeping for themselves; not they! Their flocks and their herds, the produce of the small number of young ewes, heifers, etc., branded with the special mark of each in their babyhood, are now joint property, and it is only when their riches increase with these that at last they may, as comparatively middle-aged folks, with olive branches many, move off into a homestead of their own.

SOMETHING ABOUT THE WEDDING DAY.

We will fancy the "Dorp," or town, where the ceremony is to be performed by their Dutch minister, or Predikant, to be Pretoria. According to the distance they live from the capital, have they taken from one to eight or ten nights on the road, their "royal" road to matrimony.

Arrived in the Plaas, or square, in which their church is its most prominent, but by no means most beautiful object, the wedding party outspan, sending their oxen to graze outside the town, tended by a Kaffir herdsman, while they prepare for the great event which has brought them so far. The bride arrays herself, as a bride is bound to do, veil, orange blossoms, and all; but, beyond these, I doubt if she makes any more purchases by way of trousseau. Pieter, poor soul, hires his wedding garments, and a pain and a weariness of the flesh are they to him. He is only thankful to know that as long as Gretchen lives he need never, no, never, suffer such discomfort more. Should she die, which, of course, she hopes she will not, why then, you know—. A Dutch widower considers three or four months a long and tedious time of mourning. What better compliment can he pay the dear helpmeet whom he has really loved and faithfully cherished after his stolid way for years than to replace her as soon as possible? Look at our Pieter, then; he would not know himself in the glass, did he possess one, and it is on the cards that he may not. An unmitigated "topper," stovepipe, or whatever the real name of that unsightly head-covering, of which our civilized nations have never got the better, crowns him. His unaccustomed feet are stuffed into stiff, shiny-leather boots, instead of his dear old, easy-going "veldt schoons," of home manufacture; his hands into gloves, and the rest of his body is enveloped in a swallow-tail, black cloth coat, white waistcoat, and trousers of a size so accommodating that if they be hired by a lean man of ordinary height, he must put up with their bagginess and take a reef in them somewhere to shorten them, so that a bigger man than he may wear them too if so disposed. The ceremony over, Pieter and Gretchen have to exhibit themselves to an admiring world in their new characters as man and wife. Arm-in-arm they parade through the principal streets of the town, the husband taking the wife's arm, which may or may not be sym-

bolic of the order of precedence which shall be their rule hereafter.

A few hours of further sacrifice to the Dutch Mrs. Grundy and our wedding party, again assuming the homely attire they will now doubly appreciate, inspan their oxen, and he homewards, where, let us hope, they will end their days, story-book fashion, "happily ever afterwards."

H. A. B.

The Quiet Hour.

Dear Hope,—You need not be discouraged, for your letters are very encouraging to those who read. I always look for "Quiet Hour" first thing when I see "The Farmer's Advocate," and enjoy them very much. I trust you will continue on in your good work, and may God bless you.

E. A. T.

Wyman, Que.

Thamesford, 8th June, 1903.

Dear Hope,—I felt led to-day to sit down and write a short article for your department in "The Farmer's Advocate." I appreciate your work very much, and trust that you may be blessed in your own soul. I am sure that many will rise up and call you blessed. I sympathize very much with you, and trust that you will not be discouraged, but that you will press on. Discouragement is of the devil, but courage is of God. See how often God told Joshua to be of a good courage. We are told that the word courage is from "cor," the heart. So if we keep our hearts right we will be all right. "The Farmer's Advocate" is a great power for good, and the "Quiet Hour" department is not the least important. If the enclosed article meets with your approval, I would like to write another on "Why I am a believer in Jesus Christ as the Son of God." May the Lord abundantly bless you, is the prayer of,

Yours very faithfully,

DAVID LAWRENCE.

WHY DO I BELIEVE IN A GOD THE ALMIGHTY MAKER OF THE UNIVERSE?

Nearly everyone knows that there are some people who profess to believe that the world and all that is on it grew or evolved from nothing.

We are told in the Bible that we should be ready always to give an answer to every man that asketh us a reason of the hope that is in us, with meekness and fear. Now, then, let us look at the reasons why I should believe in God as

the Almighty Maker of the Universe. Supposing we were to go into the harvest field and look carefully at a self-binder at work. See how perfectly it does its work; how every part is there for a special purpose; why, it is a perfect marvel of ingenuity! What would you say if a clever, educated man were to come along and say that that machine evolved; that it simply grew out of nothing? Would you not tell him that the self-binder was the invention of clever mechanics, who spent a great amount of time and thought in bringing it to its present state of perfection?

Now, just so, I examine this beautiful world we live in and see how wonderfully it is made, and how, for, so far as we know, nearly 6,000 years it has revolved in space, making the diurnal and annual revolutions with the greatest accuracy without ever failing. What is its motive power? It moves through space without ever colliding with any of the other very many stars and planets, and is never behind time. Is this not really wonderful? Why, then, there must be some great power to run it. Is not this power derived from the Great Maker? I think so. Then look at the world, how wonderfully it is made and fitted up for man's comfort and convenience. There are salt, coal, oil, stones, water, etc., etc., in the earth for man's use. Then look at all the animals and trees and plants growing for man's use and convenience. Do you think these grew out of nothing? No, my friend, they were all made and planned by an all-wise beneficent Creator for man's use and benefit. Is it not a shame that there should be some men so ungrateful as to try to deny the very existence of our kind Heavenly Father?

Then look at our bodies, how wonderfully they are made; how the brain is made to think and the hand to act. The ear, how about its minute mechanism? Did it grow out of nothing? I firmly believe that our bodies are the most wonderful product of the work of the Great Creator, and show His great wisdom and power. The self-binder was the product of a great many minds, each improving upon the ideas of his predecessor, but God made man at first without any experimenting, and how marvellous our bodies are! I think everyone should read Dr. Mary Wood Allen's book on the "Marvels of our Bodily Dwelling." Well and truly did the Psalmist say, "I am fearfully and wonderfully made."

Farmers, of all classes, should be firm believers in the Great God, who made all things, as we see His handiwork in nature all around us; in the beautiful flowers and shrubs and trees. There is a prodigality of beauty in the flowers that is found nowhere else in nature.

No wonder that when God finished the creation He said that it was all very good.

Electricity is a wonderful force which God has created, and see how many thousands of years before man got to understand how to hitch it up, as it were, for his own use, and I believe that there may be a very great deal that man has yet to learn of the Great Creator's power and love, and of what He has provided for man's comfort and convenience. And should not our souls and all that is within us be stirred up to bless and magnify the Lord for all His goodness and love toward us. We must not forget that when God made man he was free from sin, and God gave him a free will to choose between good and evil, and he voluntarily chose the evil; and then God showed His great love toward man by providing a Saviour and opening up a way of escape from sin and its power.

DAVID LAWRENCE.

I thank both our correspondents for their kind words of encouragement, and gladly give space for the able words in defence of our faith. In these days, when the old-fashioned faith seems childish to many eager young spirits, it is well to remind them occasionally that if belief is sometimes difficult, unbelief is infinitely more difficult. This little world of ours is crammed with marvels, repeated over and over again in wonderful sameness, and yet with endless variety. How any sane person can believe that the miracles we see in every garden, in every field of grain or vegetables, every farmyard or forest—not to speak of the crowning marvel of the human body—came into existence accidentally, must be credulous indeed. If each of these miracles occurred only once it would be incredible enough, but when it is repeated over and over again—the same miracle and yet never quite the same (as it is said that no tree has two leaves alike, although they are all of the same pattern)—the mystery is infinitely greater.

And yet I don't believe souls often find God through argument—though arguments are useful to strengthen Faith's assurance. The heart of man is hungry for God's love, though often the man himself has no idea of the meaning of his restlessness; and mathematical proof that there certainly is a loving and holy God does not satisfy that hunger. Some of our readers may possibly be trembling on the edge of the dark road of doubt, longing for a gleam of light, feeling that they would give anything to have the untroubled faith of childhood back again. We are all religious at heart. A man may laugh to scorn the idea of a future life, but God knows how to teach him better. Let him stand by the coffin of

(Continued on page 1142.)



"The Road Through the Woods."

JULY

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

EATON'S GREAT

AUGUST

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

MIDSUMMER SALE

TWO MONTHS PACKED FULL OF DOLLAR-SAVING CHANCES.

August Furniture and Midsummer Sales Combined in One Midsummer Sale Catalogue.

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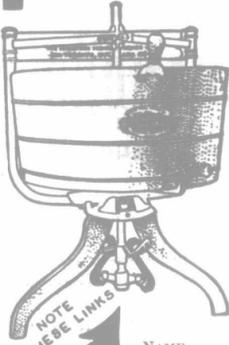
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nor constant wear
will swerve the



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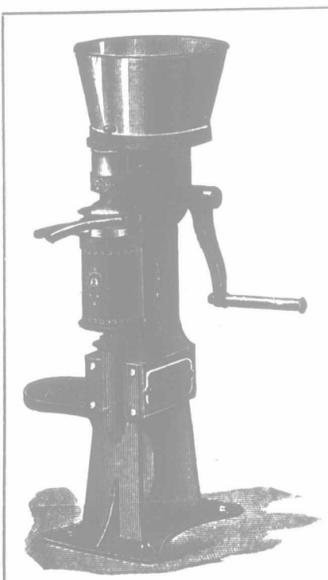
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The points of difference are:

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- The bowl has a double support, which keeps it in balance.
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- The MAGNET brake circles the bowl, and stops it in eight seconds.
- We will gladly show you our machine at your dairy.

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WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER

an only and dearly-loved child, or a wife, who may be dearer still. Will he laugh at the hope held out to him then?

Those who have not found God themselves may sometimes imagine that no one else can really be sure that He is near; so I hasten to make that point clear. Though our faith may sometimes waver and grow dim, until, like our Master on the Cross, we feel God-forsaken, these are only occasional dark hours, when it is hard to believe that the Sun of Righteousness is shining behind the clouds which hide Him from our sight. But in the glad everyday of life we walk in the glorious confidence of daylight, even when we are not consciously thinking of our Sun. He is our Light, and we know it well; know it so well that we would not exchange that light for any earthly glitter. God most certainly does fulfil the promise: "If any man will do His will, he shall know of the doctrine, whether it be of God." You see the offer is not restricted to a few favored individuals; it says "any man." It is not the poor offer of an uncertain hope, for it says he shall "know." The condition is an attitude of simple obedience, which is as easy—and as difficult—for an ignorant man as for a man of science. Have you set yourself, with the full power of your will, to do the things and think the thoughts that you know are right and true? Then walk straight ahead, and in God's good time you "shall know." The surest cure for doubt is active service, combined with clean hands and a pure heart. Obey God, and the darkness of doubt will surely fade away; live for Him and you will learn to love Him. HOPE.

The Young People's Department.

[All letters for Young People's Department must be addressed to Cousin Dorothy, 52 Victor Ave., Toronto.]

THE EVERYDAY BEAUTIES.

I can't help thinking that country people don't often see how perfectly lovely the country is. I may be mistaken, because people don't always say what they think, and, of course, it would be very tiresome if everybody went about exclaiming "How lovely it is!" all day long. Still, I think I must tell you how the country looks to me, now that I have come to look at it for a few weeks. I am not going to say I wish I lived in the country, because, being a city person, I have to stick up for my own home, and will be very indignant if you dare to say I have not got the best of it.

I took the train the other evening at Riverdale Station—some of you know where that is, and will know in which direction I went. At any rate, I waited some little time for the train, and saw some crowded cars coming up from the races, with men hanging all over them, and I thought, "Don't you all wish you were going to get out of the dust and crowd for a week or two?" There is a row of houses just opposite the station, which is generally remarkable for its dirtiness, and the dirtiness of the children who play on the doorsteps; but the whole thing had just been painted, and nearly all the curtains were clean, so that it was really quite pleasant to look at. But I'm afraid it will be as dirty as ever when I get back. I was sorry to see how grimy a beautiful advertisement board had become since the last time I saw it. I forget what it advertises, but it is a pretty country scene, with a cow taking a drink out of a bucket in the middle of a nice green field, and a comfortable cottage at one side, and just below the hill, a church spire, a lake, and a fine red sunset. It always helps you to think of what you are going to see in the country, so I couldn't help being sorry it was losing the freshness of its paint. But I soon saw the real thing: Apple orchards in blossom in the midst of deep clover fields, as green as—well, as green as grass, clean-washed with rain; farmhouses at the end of long, green lanes, with lilacs nestling against the fences, little creeks rushing through ravines, where all the greens were different—dark cedars, and light maples and lighter beeches, pretty

young calves kicking up their heels everywhere. Dear me, I can't begin to tell you how lovely it all looked to me! And when I got off the train, and smelt the apple blossoms, and heard the robins and orioles singing their last songs before bedtime, I felt like having a little sing myself, but I spared the other people who had to walk on the same road, and waited to tell you about it. So, here I am in a sunny place, a glass of fresh buttermilk beside me, with a good view of a very blue sky, and two great fir trees against it, apple trees in front of them, a little calf lying down in the shade, and a little summer yellow-bird picking insects off a spruce bush all covered with new green shoots. Of course, I know I shall not like the country so well on a wet day; but it is the wet days that make everything so green, besides making the fine days seem sunnier by contrast. What a pity it is that girls have to spend so much time in the house! But, still, there is time when you are out peeling the potatoes, or darning the stockings under a shady tree, to look up and wonder how the sky can be so blue, and be glad you haven't to do your daily work in a hot factory, with a buzzing machine to listen to instead of the pleasant country sounds. It is much easier to work when you feel happy, as you can see by the way the birds keep on singing as they fly about so busily. I don't know whether the poet Burns was a good plowman, but I expect he really enjoyed getting up early on a bright spring morning and going out into the fields. He saw all kinds of lovely things that thousands of boys never see as they trudge along with their eyes on the furrow, wishing the day's work were over. Everyday beauties are generally the last ones we ever notice!

C. D.

THE FORGET-ME-NOT.

It's said that ages long ago, when God had formed the earth and heaven, He called the flowers one by one, until to all sweet names He'd given; To one, pure Lily, other Rose, another Violet, or Daisy fair, As each bright flower before Him passed, to wear anew its Father's care. But, oh! one day, a tiny flower, with pale blue eyes and little tear, Came back to Him, and said, "Dear Lord, I've forgotten quite my name, I fear." Then, looking down upon the flower, which trembling stood with bended head, Without reproof or look unkind, "Forget-Me-not," He gently said.

—E. Ridley.

Refrain your tongue from backbiting; for there is no word so secret that shall go for naught, and the mouth that belieth, slayeth the soul.—Wisdom 1:2.

IN HER OWN COUNTRY.

"The Zulu belle like a prophet is," Said punning Tim O'Conner; "For in her native land, you see, She never has much on 'er."

THE DANGER OF PROCRASTINATION.

Jack never did anything on time. He had put off doing his sums when he was a boy, till now he could scarcely calculate the price of a dozen bags of potatoes. He put off getting up in the morning till his bacon grew cold on the plate. He put off hoeing the weeds till his vegetables were lost in their luxuriant growth.

"Jack will put off getting a girl till he loses his good looks," said his mother, but she was wrong.

For, in the same village lived a fair maid named Kate, who had acquired this same habit of putting off. On Sunday morning, when the congregation bent for the first prayer, Kate's dark head was generally to be found bent over a button which she had not sewn on the day before, and which now demanded immediate attention. Thus she and Jack often met upon the road, and took their places in the choir at one and the same time. This young lady's Monday washing might be always seen upon the lines on Tuesday, and on baking days she might always be met running to the corner for the baking powder she had put off ordering till her cake was half



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TORONTO, ONT.

An Academic Department of McMaster University for Girls. High School and Junior School. Residence and Day Students. High Grade School. Fees for year: Residence, \$232.00 to \$262.00; Day, \$34.00 to \$72.00.

Send for Calendar.
College Re-opens September 9th.

E. A. Hardy, B.A., Principal. 13
Miss Charlotte Thrall, Vice-Principal.
A. S. Vogt, Mus. Doc., Musical Director.

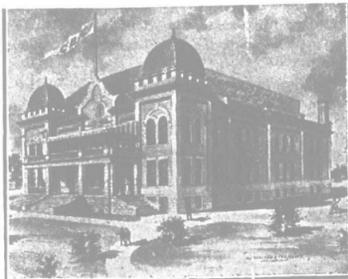
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SUPERFLUOUS HAIR

Moles, Warts, Etc. permanently eradicated by our method of Electrolysis. Satisfaction assured. Come during the summer for treatment. Pimples, blackheads, blotches, eczema and all skin and scalp troubles cured. Booklet "F" and consultation free.

HISCOTT
DERMATOLOGICAL INSTITUTE,
61 College Street, Toronto.

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The New Home of

THE CANADA BUSINESS COLLEGE,
Chatham, Ont.

CANADA'S GREATEST SCHOOL OF BUSINESS. 500 STUDENTS in attendance during year.

IT STANDS IN A CLASS BY ITSELF.
FALL TERM OPENS SEPTEMBER 1ST.

\$100.00 in board alone by attending at CHATHAM, as compared with any of the large cities, besides getting your training in CANADA'S GREATEST BUSINESS SCHOOL.

Railways bring our long-distance students and take them home again for half fare, while we make a further allowance up to \$8 on travelling expenses.

IT PAYS TO GO TO THE BEST.
400 STUDENTS PLACED LAST YEAR.

Our splendid general catalogue tells all about this great school and its grand work at Chatham.

If you cannot come to Chatham, we can teach you SHORTHAND, BOOKKEEPING and PENMANSHIP at your home.

Mail-course catalogue tells all about the Home Courses.

Write for the one you want, addressing:

D. McLachlan & Co., Chatham, Ont.

WORTH ITS WEIGHT IN GOLD



TO YOUR BOY OR GIRL GET ONE.

It has been largely instrumental in building up this splendid school, and is now in 50-page book form, arranged for Home Study.

Send 30 cents for a copy, addressing as above, and mentioning this paper.

SUBSCRIBE FOR "THE FARMER'S ADVOCATE AND HOME MAGAZINE."

mixed. If there was a party, she was always late, and the Young People's Society never expected to see her for half an hour after the opening of the meeting.

But, though Jack and Kate were thus thrown with great frequency into one another's society, and she was at least as pretty as most girls, and he at least as handsome as the general run of the sex more remarkable for usefulness than beauty, they had never come to any understanding. In fact, Jack had put it off.

But, one Sunday morning, when he met her hurrying, flushed and breathless, towards the church, a fellow feeling made him wondrous kind, and he felt an irresistible longing to clasp her to his heart there and then. This, it may be perceived, was neither the time nor the place, so he compromised by whispering, "Dear Kate, meet me by the bridge tomorrow night at seven." And she consented, with one of those looks that speak more eloquently than words.

At seven the next evening, Jack began, hastily, to hunt for his collar buttons, and warm water for a shave, and at five minutes to eight he reached the bridge. But, alas! sweet Kate was not there. It was a moment of bitter remorse. The terrible words, "Too late!" would, from that moment, be written in his soul forever. He entertained thoughts of casting himself from the bridge, but put it off.

And, at eight, Kate came running down the road, flushed as usual, and threw herself into his arms. Unfortunately for the lesson Jack might have learned, she was exactly one hour late! But so far she has put off naming the day.

C. D.

POWER LOT

A Story of "Down East."

BY SARAH McLEAN GREENE.

(Rights of publication secured by The Wm. World Co., Limited, London, Ont.)

CHAPTER XI.—Continued.

"If I'd kept my head, I was getting on all right with—Mary," he moaned, slowly. "She did not want me to love her, but I was getting clean in her eyes, and I might, in time—oh, God! But listen"—he ground his teeth at the fir trees—"for I swear it by the Almighty, living or dying, hope or no hope, I'll never touch that stuff again; not if they get on their knees to me; not if I die wanting it—and so I swear."

He clenched his fists and jaws with the reviving obstinacy of some ancestor whose own will had been his law, who, having chosen some path, casting all vain desire aside, would die, but would not yield his purpose.

He saw Bate, over in the field, though not at work. He was sitting on the fence, thoughtfully turning his regard from the crows near at hand to the flocks of sea gulls in the distance. The fact that he was not at work, and something in his general aspect, sent home to Rob the thought that it was Sunday. In the tumultuous experiences of the past twelve hours he had forgotten. Cuby, who semi-occasionally dressed beyond all the rural brightness of the River girls, and sat fearlessly on one of the back seats of the Baptist church—Cuby had forgotten, too. As for Gar', he frequently sneaked off with his team, when business was good, to make a haul of wood on Sunday.

The first thought that came to Rob was that he was glad he had forgotten, and had made his escape from the River. Drearly, punctiliously, he took off his boots at the door. "I'll tell her myself," he groaned, and entered, hat in hand, and with eyes that had lost the fire of immortal hope. But the news had already flown from the River to Power Lot that Rob had lain drunk all night at Gar' Tee-ho's and, in the midst of the orgy, had been married to Cuby.

The general exhilaration incident to

so full a flow of liquid delight among the revelers at the River caused these reports to vary in particulars. That Rob had drunk freely and had married Cuby, none disputed. Captain Belcher, having been informed by the fastidious master of the-cruiser which had anchored overnight alongshore, that he had made himself criminally liable by his adventure as a welder of wedlock bonds, took a fancy to credit the statement, and now disowned the deed as proudly and blusteringly as he had, in fact, committed it, referring the act to its proper perpetrator, the Justice of the Peace; he, jealous of his office, and knowing his own frailties, though somewhat wondering, consented that he was indeed the man.

Wherefore, for Captain Belcher had a stout influence, the Justice of the Peace version was at present prevailing, and in most instances honestly believed, and it was this that had come to Mary's ears.

She was sitting in the room which had been her mother's. The bed had been removed, and the place very neatly transformed into a sitting-room, and Mary, her morning work done, was there reading.

Rob knocked. Mary came to the door and opened it. She did not invite him to sit down; she awaited what he had to say.

"I guess you know?" he murmured. His look was the most desolate she had ever seen in all her life; his lips were shrivelled and cracked.

"Yes, I know," she answered.

"They put the hellish drink before me," he went on; "the girl herself offered it—"

"Oh, don't go on," said Mary, wearily, "there is no one to blame but yourself."

Rob gasped.

"We cannot fence you round with a special environment and with perfect conditions," she said. "The world is full of pitfalls and temptations; if you cannot avoid and resist them, what is the use? I do not see any help for it."

"So you think there is no help for me now?"

(Continued on page 1145.)

Current Events.

As a result of floods in southern China, thousands of people are homeless and starving.

Two hundred miners were killed by an explosion in a mine at Yusovo, Russia, on July 2.

The Canadian Northern Railway extension from Parry Sound to Sudbury was opened on July 3.

Several deaths have occurred in New York City recently, as a result of the extreme heat.

According to recent statistics, 62 persons were killed by automobiles in Massachusetts during the last twelve months.

Eighty were killed and many wounded in a recent battle between the troops of the Shah and those of the revolutionists, at Tabriz, Persia.

The greatest fleet ever assembled in the world was to be seen last week in the North Sea, where the annual mobilization for naval manoeuvres of all the British warships available for immediate action took place. The fleet consisted of 301 ships, manned by 68,000 officers and men.

"Why is it," asked the curious guest, "that the poor men usually give larger tips than the rich men?" "Well, suh," said the waiter, "de po' man don' want nobody to fin' out he's po, an' de rich man don't want nobody to fin' out he's rich, suh."

Alma Ladies College

Has superior advantages in Music, Fine Art, Elocution and Physical Culture, Domestic Science, Business College Courses, Literary and Scientific Courses, also Public School Classes for young girls. Cheerful, wholesome, homelike. For Catalogue, address:

"The Registrar," ALMA COLLEGE,
St. Thomas, Ont.

WOODSTOCK COLLEGE

Woodstock, Ont.

A residential school for boys and young men, offers educational facilities not excelled anywhere.

Four courses: Matriculation, Teachers', English Scientific, Commercial.

A thorough scholastic training, teaches the boy "to do" by "knowing."

A fully-equipped manual training teaches the young man "to know" by "doing."

A new gymnasium under medical supervision ensures healthy physical conditions.

The distinctly christian and moral life of the school safeguards from immoral and hurtful influences.

College reopens Wednesday, Sept. 2. Write for calendar.

A. T. MACNEILL, B.A., PRINCIPAL

Fees for year: Residents, \$290; day, \$40—no extras.

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 20 cents.

FARM FOR SALE.—100 acres, north half of lot 6, concession 8, Westminster, 7 miles from London. On the premises are a large brick house and kitchen, 8 barns, and other outbuildings; 2 orchards, and all kinds small fruit; about 7 acres maple bush. This farm is well tile drained (soil clay loam), and never-failing well, and is well fenced. This is one of the best farms in the township, and will bear inspection. For further particulars apply Wm. B. Carrothers, 151 Drexley Ave., London.

FOR SALE.—Up-to-date poultry plant, comprising over three acres of land, lawns and excellent brick dwelling house of ten rooms. Poultry houses exceptionally good. Delightful situation, near Agricultural College. Good shipping facilities. Apply: R. M. Hobson, Guelph, Ont.

SASKATOON, SASK. is the city-heart of Western Canada, where all the railways meet. See your map. The railways come after our wheat. Come and help to grow more. We know nothing of crop failure. Neither the farmer nor the crop ever fail here. Your crop, like your success, comes certain as night following day. For all information write The Commissioner, Board of Trade, Saskatoon, Sask., Western Canada.

WANTED.—Persons to grow mushrooms for us at home. Waste space in cellar, garden or farm can be made to yield fifteen to twenty-five dollars per week. Send stamp for illustrated booklet and full particulars. Montreal Supply Co., Montreal.

JERSEY BULL WANTED!

Will buy yearling A-J.C.C. or will exchange or sell 4-year-old Brampton Horace 70564.

THOMAS O'BRIAN, BRUNSWICK, ONTARIO.

TRADE TOPIC.

The Canada Business College at Chatham, Ont., has made an enviable reputation for itself, and in its splendid new building will be in a position to do better work than ever. Young men or women contemplating a business course should look up the advertisement of this institution in this paper, and send for the catalogue, which explains more fully their terms and plans.

The youth who was smoking a cigarette near the monkey's cage took another one from his pocket. "Would it do any harm," he asked, "if I should offer him one of these?" "Not a bit," responded the attendant. "He wouldn't touch it. A monkey isn't half as big a fool as it looks."

FLUE-CLEANING
—a dirty, heart-breaking job.

AND

FLUE-CLEANING
—a clean, record-breaking job.

THE FLUE DOORS

Situated "singly" over feed door
—on some furnaces.

Situated "doubly," same distance from
each other, same distance from feed
door—on "Sunshine" Furnace.

"SUNSHINE" ADVANTAGE:
Operator can easily clean every
bit of soot out of radiator.

THE OPERATION

Fire put out, smoke-pipe pulled
down—on some furnaces.

Fire stays in, smoke-pipe stays up — on
"Sunshine" Furnace.

"SUNSHINE" ADVANTAGE: Furnace can
be cleaned out any time in season without trouble,
dirt, or "fear of chilling the house."



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**THE UNION STOCK-YARDS
Horse Exchange**

WEST TORONTO, CANADA.

Auction sales of Horses, Carriages and Harness
every Monday and Wednesday.
Private sales every day.
Come and see this new Horse Exchange. It will in-
terest you. Also the quarter-mile track for showing
and exercising.

HERBERT SMITH, MANAGER.
(Late Grand's Repository.)

Imported Clydesdales

I have still on hand 1 stallion, black, rising 4, by Car-
thusian, a Toronto winner; 1 rising 3 yrs., by Baron's
Pride; 1 rising 2 yrs., by Danure Castle; 4 fillies, a Toronto
first and second prizewinner among them. Every one of
these is an extra good animal, and
the price and terms are right.

T. D. Elliott, Bolton, Ont.

QUESTIONS AND ANSWERS.
Miscellaneous.

BLADDER CAMPION.

Please find enclosed sample of a bad
weed. Like to know the name of it
and how to kill it. "SUB."
Huron Co., Ont.

Find enclosed a part of a weed I
found in my oat field; it was a large
bunch and a great number of seed-pods
on it. I would like to get its name,
and also if it is likely to be hard to
get rid of. Haying is just commencing
here, and is a very fair crop, fall wheat
filling well, but uneven. Spring grain
is looking fine, also corn; mangolds not
a very good catch. Yours truly,
Bruce Co., Ont. T. A. C.

Could you give the name of enclosed
weed, and the best plan to get rid of
it? Would also like some explanation
of its nature, as it is a new weed in
this part of the country. R. J. W.
Grey Co., Ont.

Please find enclosed a plant I found in
the oats. What is it, and is it a bad
one? SUBSCRIBER.

Grey Co., Ont.
Ans.—The weed is bladder campion
(*Silene inflata*), also known as cow bell,
or white bottle. It is a bad perennial
weed, with running rootstocks which
send up many barren shoots and de-
cumbent branched flowering stems. The
whole plant is pale green, and in the
common form perfectly smooth. The

stems are one foot to 18 inches high,
forming large tufts. The flowers are
white, nearly an inch across, drooping,
the petals being deeply divided. The
calyx is much inflated, pale green, veined
with light purple, five-toothed at the
contracted apex. The plant flowers
from May to July, seeds ripening in
July. It propagates by seeds and run-
ning rootstocks, and occurs by road-
sides, on railway banks and in hay-
fields all through the Eastern Provinces.
The seeds are often found in clover and
timothy seed. It is deep-rooted and
difficult to eradicate. Deep plowing and
a short rotation of crops are recom-
mended. Frequent cultivation with a
broad-shared cultivator will be found
useful in holding it in check. Meanwhile,
if the plants are not too numerous, dig
out all that are found in the oat field.

At the dispersion sale on June 24th
of the Gedney Farm herd of Jersey cat-
tle at White Plains, N. Y., the 48 head
sold realized a total of \$10,980, making
an average of \$226.87 each. Many old
cows and young calves were included in
the number. The 8-year-old bull, Ox-
ford Lad, by Champion Flying Fox,
topped the sale at \$3,300, being pur-
chased by T. S. Cooper & Sons, Coopers-
burg, Pa. The highest price for a fe-
male was \$525, for the 5-year-old Ox-
ford Lass, a daughter of Oxford Lad.
Three others sold at \$400 to \$435, and
a yearling bull for \$425. There were
25 buyers, hailing from several States.

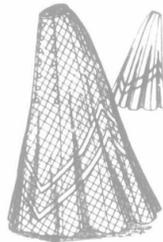
**"THE FARMER'S ADVOCATE"
FASHIONS.**



6042 House Gown or
Wrapper, 34 to 44 bust.



6041 One Piece Dress
Waist, 32 to 40 bust.



6032 Nine Gored
Skirt, 22 to 32 waist.



6028 Girl's Dress,
8 to 14 years.

The above patterns will be sent to any
subscriber at the very low price of ten
cents per pattern. Be careful to give
Correct Number and Size of Patterns
Wanted. When the Pattern is Bust
Measure, you need only mark 32, 34, 36,
or whatever it may be. When Waist
Measure, 22, 24, 26, or whatever it may
be. When Misses' or Child's pattern,
write only the figure representing the
age. Allow from one to two weeks in
which to fill order, and where two num-
bers appear, as for waist and skirt, en-
close ten cents for each number. If only
one number appears, ten cents will be
sufficient.

Address: "Fashion Department," "The
Farmer's Advocate," London, Ont.

The Ingle Nook.

Dear Chatterers,—Will someone please
send a recipe for pickling walnuts, also
tell when is the right time to gather
them.

A READER OF "THE ADVOCATE,"
York Co., Ont.

The walnuts should be picked after
they are perfectly formed, but while they
are still soft enough to pierce with a
needle. Shell 50 walnuts, scald them,
and rub off the outside skin. Put in a
strong brine for six days, changing the
water every other day, drain, wipe and
pierce with a large needle. Take ½ oz. each
of ground pepper and ginger, ¼ oz. each
of ground cloves, mace and nutmeg, one
tablespoonful whole mustard seed, then
put the nuts in jars, sprinkling the dry
spice between each layer. Boil vinegar
5 minutes and fill the jars full to over-
flowing with the hot vinegar and seal
securely.

Would you kindly inform us how to
drive away ants from places where
eatables are kept. W. G. S.

To Destroy Ants:—If possible find the
hole whence they get into the house,
and pour boiling water down it, and
wash all places where they abound with
a fairly strong solution of carbolic acid,
tobacco-water, quassia chips or bitter
aloes. Another way is to place small
sponges in their haunts wet, and dipped
into sugar or honey; take these out at
intervals and wash in boiling water. If
it can be done safely, put some quick-
lime at the mouth of the nest and wash
it in with boiling water. It is very
difficult to eradicate these little pests,
and they must be fought persistently,
being particularly careful about the
tidiness and cleanliness of pantries and
kitchen. Ants dislike any strong smell,
hence the efficacy of carbolic acid, etc.
It is said that by drawing a circle of
chalk round a dish containing food,
black ants may be kept from it.

Canning Green Peas.

Kindly inform me the best way of can-
ning green peas for winter use.

Wellington Co., Ont. READER.

Thoroughly sterilize the sealers as fol-
lows: Wash thoroughly, then put in a
kettle of cold water and let come to a
boil, and boil several minutes. The tops
and rims should be put in the water, as
well as the sealers. Have the peas,
which should be very young and tender,
boiling in another kettle. Fill up the
jars, adjust new rings, which must have
been dipped in boiling water; put on the
lids loosely, place again in the boiling
water and boil three hours. Enough salt
to flavor may be added. A wash boiler
with a wooden rack, or with plenty of
newspapers placed about the sealers, will
be found very convenient when canning
fruit or vegetables. When the cooking
is completed, fill to overflowing from one
of the sealers kept for the purpose, screw
down the tops firmly, and when cool
store away in a cool dark place.

GOSSIP.

At the last auction sale of the spring
season, at Carthage, Mo., June 26th,
the 60 head of Shorthorns offered by
Case and Newell made an average of
\$148.80. The 6-year-old cow, Golden
Drop 8th, brought \$500, and the cow
Mt. Vernon Aconite, the same age,
brought \$400, while the 2-year-old bull,
Golden President, sold for \$515, and the
8-year-old Master of the Grove for
\$500.

SHORTHORN STEERS AT \$8.25.

On June 22nd, a shipment of 30 red
Shorthorn cattle were sold on the Chi-
cago Stock-yards market at \$8.25 per
cwt. When these were put in last fall
at a cost of \$35 each, their average
weight was around 1,000 lbs., and at
the end of 8 months the stock-yards
weight was 1,567 lbs., and the selling
price was \$124.27 each. The net
profit on the 30 head of cattle was
\$731.82. They were fed during the 8
months 1,000 bushels of 50-cent corn,
1,000 bushels at 55 cents, 1,000 bushels
at 65 cents, and 1,000 lbs. oil meal,
costing \$28. The cattle cost, when put
in, \$1,050, and the selling price was
\$3,728.32.

HORSE OWNERS! USE

COMBAULT'S CAUSTIC BALSAM.
A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for circulars. Special advice free.
THE LAWRENCE-WILLIAMS CO., Toronto, Can.

BICKMORE'S GALL CURE
The standard reliable remedy for Galls, Scrotchies, Cracks, Wire Cuts and all similar sores on animals. Sold by dealers everywhere. Money refunded if it fails. Sample and Bickmore's new horse book mailed for 10 cents. Write today.
WINGATE CHEMICAL CO., LTD., Canadian Distributors, 545 NOTRE DAME ST., W. MONTREAL, CANADA

You Can't Cut Out A ROG SPAVIN or THOROUGHPIN, but ABSORBINE
will clean them off, and you work the horse same time. Does not blister or remove the hair. Will tell you more if you write. \$2.00 per bottle, delivered. Book 40 free.
ABSORBINE, JR., for mankinds, 1.00 bottle. Cures Varicose Veins, Varicocoele, Hydrocoele, Ruptured Muscles or Ligaments, Enlarged Glands, Allays Pain. Genuine mfd. only by
W-F-JOHN, P.O.-F., 73 Monmouth St., Springfield, Mass
Canadian Agents: LYLE & CO., Montreal.

Blair's Pills
Great English Remedy for Gout & Rheumatism
Safe, Sure, Effective.
All Druggists, 40c and \$1.00
LYMAN, BROS & CO. MONTREAL.

3 HACKNEY MARES FOR SALE
O. Sorby, Guelph, Ont.

BRIDGE SUPPLIES!
Steel Girders, Beams and Joists. Any dimensions required. Expanded Metal, Large Piping, Elbows and Tees, especially prepared for side-guards and posts, and all at reduced prices.
ROYAL CRAFTON, Bridge Contractor, Mount Charles, Ont.

CANADIAN PACIFIC
LOWEST RATES
TO THE
NORTHWEST
by any route, are those on C. P. R. Home-seekers' Excursions, which are now run via new Muskoka line. Hours saved on old schedule. 60-day return tickets to all Northwest points, at rates ranging from
Winnipeg return, \$32.00
to Edmonton return, 42.50
LEAVING DATES:
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POWER LOT

(Continued from page 1143.)

"What do you think? In such a case as this, Robert Hilton, I believe I would think for myself, and right strongly."
"I could buy her off, if I had the money—that is rightfully mine."
"I do not understand you."
"I said that I could buy Cuby off."
"I wish," said Mary—for she thought that Rob was more deeply implicated than he actually was, and so she had no mercy—"I wish that Virginia would come in with her ox-whip." Tears of rage and disgust filled her eyes.
"Miss Stingaree, I have never wronged Cuby." Rob faced her with stern dignity and royal faith at last. "They got me drunk. I swear to you, I remember nothing of the marriage ceremony. I slept, drunk, all night on the floor."
"You had promised to marry her."
"I—I thought she took it in fun. I meant it in fun—that is, of course, not seriously. How could I marry, on nothing, off here?"
"Evidently she took it seriously; and—you promised her, and—you have married her. A promise and its fulfillment. I see no way but to make the best of it."
Rob looked away out of the window; his haggard face and quivering, parched lips were pitiful to see.
"Sit down," said Mary, as she returned to her seat by the table, resting her head on her arm; her own face was sorrowful.
Rob sat down, weakly, as though no health or strength remained in him.
"Well, I'm done for," he said. "It's all over, and I'm done for; and I've lost your respect now, forever."
"No, oh no," she answered quietly; "you have never yet—won it—very fully." She, whose tone was usually electric with meaning and decision, spoke now so compassionately, so fearful of wounding him, he cried from the very depths.
"You could never respect me, now."
"That means," she sighed, "you haven't the courage to get up after a fall, to win out, to climb up, to gain your own self-respect first of all. I wondered if you would have the courage. I knew—you had—considerable courage; I wondered if you would have—such courage."
Rob sat a while, silent, his head in his hands, and his ruminations seeming to bring him no exaltation.
"The road looks devilish steep," he said at last, grinding his teeth, and looking up with only remorse and bitterness on his face.
Mary did not answer.
"I can't live with her," he continued angrily. "I don't love her, really—and she doesn't honestly and truly care for me. She—I have always seen it—she bridges and blushes with all her soul when Captain Jim Turbine comes in sight. But she thinks, she and her father, that I may have money some time. Cuby thinks I may be able to take her to gay cities and all that sort of thing, some time. Anyway, I can't go down there, down to the River, to live—I can't do it."
"Do they ask it?"
"N-no; Gar' said better live up here till I'd earned enough to buy a home. It's a great inspiration, isn't it, to work for—to work as I've got to work?"
He lifted his dry, haggard eyes, stolid with despair, to Mary.
It seemed to him that her manner toward him had never been so considerate, so almost confidential, as now—now that he had lost her. Her voice ran on at last, so kindly:
"The steepest hills are sometimes climbed, not through 'inspiration,' but only with pain, persistence and pain. It doesn't make any difference, does it, so long as we get to the top? There might be a view up there that would almost make one forget the pain. I do not know—

but it might be. I believe I would trust to it. I believe with all my soul it would prove true."

In such a tone, a mother, free of all passion save the heavenly, might speak to a crushed and bleeding child. It was tragic, to Rob; but, still it was sweet; any tenderness from her was unutterably sweet. And if, like a child, he might have put his head down on her breast, just that once, just for one moment, and felt her hand on his forehead, he believed that he could go forward, marry Cuby, raise his family, hoe potatoes, to the last earthly sunset, and then knock with square shoulders at the gates of heaven as a faithful husbandman and householder.
That memory was not to be his. Her dark eyes pitied his weakness, but her tried heart turned from him with a weary sigh.
He went to his own room, sank on the bed, and slept with the heavy reaction of one, who, from a vista of majestic battles and bays of victory, suddenly turns to find that he has nothing to live for.
He did not hear the call to dinner. "At it ag'in, up in his room, I s'pose," said Bate to Mary; "brought a bottle home with him, prob'ly."
Mary did not know, but her heart gave a bound of relief in spite of herself, when Rob came down in the early evening scrupulously dressed for "Sunday," penitent and resigned, his eyes slightly dazed at the new, hard future which faced him with the stupendous mushroom growth of a single night.
"Goin' down to take yer wife to meetin'?" Bate inquired, in a tone of unusual jocularity.
"Yes," said Rob, and it would have been hard to pick a fight with him.
In his heart of hearts he was going down to the Baptist meeting-house to hear Mary sing. It was the monthly evening "song service," and Mary affiliated herself with the River so far as to go down to sing with and for them on these occasions, just as in old times. "Special request" for solos poured in upon her at these times, and she complied, meekly, religiously. It was about the only time one ever saw her meek. When she shone, and her voice thrilled you and sent light into the souls of the spiritually dim of vision, then it was that she was meek; and it was worth going to see and hear.
Rob went in to the meeting in the face of the gaping villagers, with Cuby showily hanging onto his arm. Verily, Rob's heart was safe broken.
"Say, what was yer maiden name afore ye got married, Daisy?" he heard an envious youth taunt him from among the group which besieged the door. Rob's polished, clean-shaven face did not change, any more than if he had not heard the insult; it did not touch him. Nothing mattered much. It mattered to Cuby. She sprang deftly aside and dealt that wicked one a ringing box on the ear with the palm of her pretty hand.
"Mind your own business," she admonished him, with finality. Cuby was immensely admired and respected among the River boys, and he of the aggressive speech melted on the instant into abashed retreat.
Mary sat with the "choir" on the rude platform, and sang with them, entirely patient of the nasal or strident voices which accompanied hers. Rob thought her voice, as compared with others, like a white-winged boat sailing a clear, straight path through a choppy sea. He waited until the drastic office of the general hubbub should cease, and he should hear her voice alone.
"Miss Stingaree is 'specially requested,' to know if she will sing 'Peace, be still,'" announced officially the salubrious tones of Captain Belcher.
Miss Stingaree sang, and the Galilean storm, perturbing in some way or other every poor human soul there present, fell ashushed and wondering at her voice:
(Continued on next page.)

PILES

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"Peace, be still; peace, be still."

Rob listened with downcast head. He could not look at her—he dared not, so full was his heart.

"Come een, Meester Hilton," said Gar', more respectfully at the door whither Rob had escorted Cuby; "come een, have leetle 'musement, eh? Sure, that ees tam good way," and he winked suggestively of a recruited jug.

"No," said Rob, "I must be up yonder, ready for my work in the morning." He turned suddenly to Cuby. "I will work for our home with all my might, little girl," he said.

Cuby nodded assent, but she was distinctly weary of Rob. His easy smiles, his ready laughter, with its complement of glittering white teeth, the accustomed swagger of his gait—all these amiable qualities seemed to have left him, as if some mysterious wand of hate had touched and changed him in an hour into the form of withering old.

"You act funnee," she adjured him. "You act lak' you was walkin' 'round in you' sleep, lak' you was in your baid asleep." She tried the effect of her own merry laugh.

Rob smiled wanly; but it seemed to him, as he climbed the hill, that her words were not inapt. To his own soul, he seemed to be, walking in his sleep.

CHAPTER XII.**The Fight With Beasts.**

The slow Leevya Potter had sailed off at last with her cargo of wood. In the faithful processes of time she returned, like the proverbial bad penny, to her native shore—the signal for a gala night among the rum-loving of the River.

Both Cuby and her father counted upon this as a means of rallying Rob once more. The vain girl, ignorant and impetuous as she was innocent, instead of congratulating herself on his sustained habit of temperance and condoning his moods of sorrowful dignity, was alert with suspicion; and for very pride's sake, in the face of her small world, would rather have him fallen and her own.

The "Hill" was all too plainly the haven where he would be. He worked doggedly and unflatteringly; his calls at the River grew fewer and more brief. Then, after the slow sliding in of the Leevya, Bate approached Rob in that ingratiating style which boded only ill to its victim.

"I was down to the River this mornin'," he said. "Cuby sent up word she wanted to see ye particular."

Rob went at once. On entering Gar' Tee-bo's door he fell at once upon the purpose of his summons, and a singular group, seated in intense devotion around a table on which stood a profusion of bottles, some with labels which he recognized as of distinction of quality and well approved in his revels of old. Bate, he observed with some surprise, had arrived before him, and was already seated at the table.

"Take a cheer," cried a convivial voice. "Come on, Bobby, an' have a little o' the hummin' bird. S-s-sh. Ain't this the purtiest mess o' booze ye ever did see? A man can't allus be a parson. 'All work an' no play makes Jack—'"

Rob surveyed the scene and turned white, not with the struggle of self-denial, but with the very demon of anger. He turned on his heel, slammed the door behind him, and walked away.

Cuby called to him, Gar' shouted after him with an oath, but he tramped on sturdily, and the outline of his shoulders was forbidding. He had become physically a problem which the denizens of the River had no disposition to tackle, and his insolent, broad back was allowed to disappear into the dusk, unmolested.

"Heen no good. Heen fool," said Gar', maliciously.

"Ma'y Sting'ree has made of herself a witch to him, she has him bewitch''," averred Cuby, in a high

passion of mortification and disappointment.

"Look here, Cuby," said Bate, once an acknowledged suitor for her hand who had been despised for the sake of the fair-haired Rob, "look here, Ma'y ain't no witch. The' is witches that I know of, but it ain't her."

He winked at her as he met her eye, with an assumption of the old-time license to render her her due of admiration.

Rob marched on up the hill; and he had now no bewildered sense of walking in his sleep. His spirit was afire, his soul was resolute. Once he paused in exultation, and shook his fist in the direction of the low orgies at the River.

"You did not trap me this time, no. You laid some honey for the bear—and the bear did not care a d—n for it, did he? You baited your past old hooks—and the fish swum past 'em without a nibble. You've met your man, now, you devils, and we'll have it out. You'll find what I'm made of. You'll find whether I've forgotten, or can ever forget the blood—the good blood—the high blood—that runs in my veins—you; why, my grandfather, my father, would have looked at you as all of a mess with the dirt under their feet."

Rob's nostrils quivered, his head towered high; he scarcely felt the tedium of the ascent as he turned again to climb. He stood on the summit, looking seaward. The moon had risen, and the holy splendor of the world beat in awesomely upon his consciousness.

"Say, it's wonderful, just living, up here," he breathed to himself; "it's—it's—interesting. Just living and looking 'round is interesting enough, up here, by Jove."

The night was by far too glorious to ignore, and the Stingaree house was dark; Mary, calling on some of the neighbors, probably. Rob, high of heart, feared nothing. The sense was upon him that he could march anywhere, even over the brink of a precipice, scathless.

"There must be a superb view over at 'Spook House' to-night," he murmured. "I'll go over there and take a peek at it."

Through ditch and brush and along the edge of ledges he made his way, for he was unfamiliar with the trail known to the natives, along which only once Cuby had directed his steps when, absorbed in her pretty merriment, he had gone with her to hear the "knockin's" at Spook House.

There had dwelt at one time at Power Lot and the River a purely English element, so far inspired by religious and aesthetic sense as to rear a little church on the commanding pinnacle toward which Rob was now advancing. That little band of worshippers—expatriate in this strange land—had long since ceased to assemble at any earthly summons, though the bell in the old steeple called weirdly for them on certain nights when the wind was high. And there were some who said they did assemble, all in wedding-white, amid the aisles of the crazy old church now called "Spook House"—where no other congregation had gathered for many a long year. Only the lovelorn, for lack of any more cheerful or definite entertainment, were accustomed to wander thither through the sentimental shades of evening to listen to the "knockings" made by the supernatural visitors within.

Meanwhile, whatever single item of the wild and tragic had been lacking to the landscape of Power Lot was supplied by this old hulk of an edifice, standing towerlike, wind-beaten and desolate, on its forlorn height, a thrilling reminder of transcendental reverie to all the country round.

Rob had forgotten about the knockings. The night drew him, and the moonlight, and the awful isolation and grandeur of the site. It was farther than he had imagined, but he walked on stoutly, creeping up at the rear of the church, and intending to

(Continued on next page.)

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make straightway for the front for the sublimity of the sea view.

But he heard the low murmur of voices, and before the traditions concerning Spook House could pierce his sense with any terror, he distinctly recognized Mary Stingaree's voice. Amaze and curiosity held him still. Standing on a bank of underbrush, he could look through the yawning windows to those that were also a paneless, yawning gulf on the other side. There, outside the church, leaning against the rotten window-sill, stood Mary and myself—Jim Turbine. Our faces were turned from him, our view was to the sea. A sudden mad jealousy seized Rob, to whom I had been an object quite outside the pale of any serious friendship with a woman like Mary Stingaree.

"Well," I said to Mary, unaware of my smouldering audience at the rear of the church, "if you wish, I'll go down to the River and see what I can do to get Rob and Bate away from Tee-bo's."

"They both went down there," she answered. "Virginia told me. She gets all the gossip, voluntarily rendered through Mrs. Treet."

"At the house I hardly felt inclined to bother with 'em," I said; "but when you look off here, things that did not seem of so much consequence get up and sing inside a man as though they demanded to be heard before other things. That is all the way I can put it. I reckon you understand."

"My 'brother' Jim! I knew that you would go. Did I take an unfair advantage," she added, half smiling, "in bringing you here, on the way, to look off over sea and land? Shall you go down the footpath of the ledges, Jim? I'll go back home alone, and I shall think of you—with more gratitude—than I can ever speak—every step of the way."

"You can easily manage to get Robert away, I think," she continued rapidly; "you can easily persuade him! but Bate, in spite of his degradation, is a man in determination, you know."

"Rob threw Tee-bo's jug of rum of into the riverbed, so I've heard."

"Yes, but he was in a pet. There's no 'hold-fast' to him. In another mood, a little hardship or disappointment, and he would drink again like a fish."

She sighed and turned her face northward, where the evening bells shone. Rob saw the beautiful profile. I looked, too, wistfully.

"Mary," I said, "I've offered myself to you many times, I know, and I am not worthy of you. I do not blame you. But if you could ever look to me a bit, I'd give my life to make you happy."

"You honor me, I know that," she replied graciously, and with an intensity meant to compensate me for the loss of all, "but—forgive me—that can never be."

She rested her hand on my arm, and I upheld her. But I reckoned, though she saw far, there were some steep places in the world that poor Rob and I, even, might have a better knowledge of than she.

"Is there anyone else, Mary?" I said. "I am such an old friend, you might tell me if there is anyone else?"

She seemed to regard the question as too meaningless to require an answer; her look seaward was not that of a girl remembering a lover; it was only thoughtful, as though her soul went gravely off that way.

"I believe poor 'Daisy' loves you with all his heart," I said.

She came back from her abstraction, and laughed.

"He is a charming boy, when he is

himself, but he is not a man at all, Jim. Whatever put such a thought into your head? Rob! why, he does not seem to me to be a man at all."

Someone slunk away in the shadows. I went my way down the ledges, and Mary went her way along the trail, home. Neither of us saw Rob. Like a stag, vitally shot, proud to die alone, he turned aside where no one would overtake him, and sat down weakly upon a stone behind a clump of bushes.

Moments elapsed before he lifted his head again to the solemn, sentient scene spread wide before him. For his making or his marring, he was alone in the universe, now. Every prop had fallen away from him. The last friend of all—and the dearest he had ever known—had scorned him. He saw again her sweet profile, he heard her slighting words.

"He—he is not a man at all."

And earth and air repeated the words about him, not jeeringly, but with an immeasurable sorrow. Rob fell so low that he fell back on elemental reason. Why had Mary seemed so far from him, and the hope of winning her always as suspensive and vague as yonder infinitely-distant star? He could not "hold fast," he was vain of purpose, weak of will—he was "not a man at all."

The latchkey years came back to him, the nights of carousal, the sodden days, his paralyzing illness, the suicidal, drivelling idiocy of it all. And even when health had been restored through sheer force of circumstances and necessity, his riotous will, at the first sight of the tempter, had plunged him unhesitating into the well of his former dissipations. He had made idle love to a girl whom now he longed to cast from him; he had gone whining to Mary Stingaree with his selfish regrets. He was "not a man at all."

Rob fell so very low that even resentment, which once would have swept in upon him as a flood, had now no place in his soul. All his newly-acquired vigor had oozed from his blood, all courage from his heart. He dreaded to rise. How long he sat there he neither knew nor cared. It was a long vigil. Mary went sadly to her room, leaving the house door open for the return of the wanderers. I went down to the River and found Bate at the evil brew, but not Rob.

Rob sat crushed and hopeless, alone on the mountain-side; unbearably alone when, at last, he staggered to his feet. It was too much. The soul cannot live alone, and Rob, of sheer necessity, cried out.

"O God," moaned the poor lad, "are You anywhere?"

He had a simple fancy that only the old Bible, bending itself to those dilemmas of the soul commonly known as "religion," besides being the traditional refuge of the sick at heart, could tell him that. He crept up to his room noiselessly, and with one hand weakly supporting himself by the table, he opened the ancient volume. "If, after the manner of men"—there it was, again—his text, evidently; God threw it at him persistently. "If, after the manner of men, I have fought with beasts at Ephesus."

Beasts? Beasts of intemperance, perhaps; of reckless riotousness, of selfish passion; of weak, purposeless will? And fighting them for what? Ah, nothing left now for him in all the world of delight and beauty, but just, as a poor skeleton in moral rags, to try to stand up and "be a man."

Not one bit gloriously, but after the manner of the abject, goaded to his feet in the ring. Not with love and honor and acclaim; but quite forsaken, a beaten soul naked to the scorn of all, even so, unflatteringly now to the death, to stand up and "fight with beasts at Ephesus."

Rob clenched his fists once more, and lifted to heaven the rekindling fire in his woe-begone eyes. There was still a fight left.

(To be continued.)

Boog Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the bluish came.

Fleming's Spavin Cure (Liquid) is a special remedy for soft and semi-solid bluish—Boog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be limited. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of bluish, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

FLEMING BROS., Chemists,
75 Church Street, Toronto, Ontario



OVER GOES THE BUCKET

Pretty big drain on the profits. Better prevent this upsetting by removing the flies. Give yourself a little more ease at the milking hour. Use

Dr. Williams' Fly and Insect Destroyer.

Positively kills all pests, such as lice and vermin. Spray cattle and horses, flies will keep off. Animals will not display the fretfulness peculiar to summer. Is ABSOLUTELY HARMLESS, except to bugs and pests—it's death to them. EASILY APPLIED. Guaranteed. Money refunded to dissatisfied customers. BUY A CAN OF DR. WILLIAMS' FLY AND INSECT DESTROYER. The usual summer pests will be completely overwhelmed. If your dealer hasn't the preparation, send \$1 for 1/2-gal. can and printed matter.

THE F. WILLIAMS CO., Morrisburg, Ont. Madrid, N. Y.

AGENTS WANTED.

SHORTHORNS

One imported bull, Good Morning (imp.) = 55018=, five years old. Choice heifers, sired by Lord Lieutenant, imp. Some from imported dams, and all safe in calf to Good Morning, imp. Two extra good young roan bulls, one from imported dam. Come and see them.

M. C. B. SCOTT BROS., Highgate, Ont. P. M. R.

Maple Grove SHORTHORNS.

6 bulls and 9 heifers for sale. Bred from imp. and home-bred stock. A number of young cows safe in calf. Present stock bull, Starry Morning, C.D. WAGAR, Enterprise, Ont. Sta. & P.O.

Athelstane Shorthorns!

Three choice bulls and a few heifers; low-down, thick-fleshed sort, of noted families, and mostly sired by Star Prince = 53900=.

Prices very reasonable. Wm. WALDIE, Box 224, Stratford, Ont.

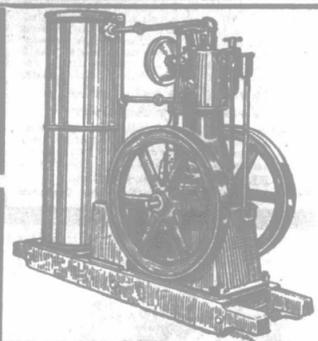
Shorthorns and Leicesters!

In Shorthorns, a few females, different ages of good milking family. Half dozen shewing Leicester ewes.

John Lishman, Nagersville, Ontario.

DON'T STOP to ask your neighbors. Lift the load yourself with **THE BURR SELF-LOCKING TACKLE BLOCK.**

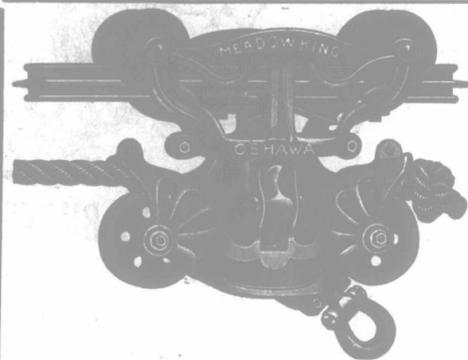
Can be used in any position and lock securely. The heavier the load, the tighter it locks. Never destroys the rope in locking. For butchering, stretching wire fences, lifting wagon-boxes, sick or injured animals, etc., it is indispensable to farmers. Saves labor of two or three men. 600 to 5000 pounds capacity. Ask dealers or write **LEWIS BROS., Ltd., Montreal, Can.**



THE "CHAMPION" Gas and Gasoline Engine

The only gasoline engine that is sold on trial and guaranteed satisfaction or no sale. The price is low. Write for particulars.

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Make Hay While the Sun Shines

MOST COMPLETE LINE OF HAY TOOLS IN CANADA.

STRONG SIMPLE SATISFACTORY

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Farmers and Cattlemen Read This

When you cannot sell your export cattle at satisfactory prices at home, and wish to ship them to the Old Country markets, write or wire for steamer space, market and shipping information to **Donald Munro, Live-stock Forwarding Agent and Commission Salesman, 43 St. Sacrament St., Montreal.**

Load your cattle carefully, and bill them to me. I provide the necessary feed, insurance, etc., pay freight and all other expenses from shipping point, and give liberal cash advances on all consignments. Cattle are loaded on steamer under my personal supervision, and placed in charge of capable attendants for the ocean voyage. I represent the most reliable salesmen at all the different British markets.

BUSINESS ESTABLISHED 1890. REFERENCES: THE MOLSONS BANK, MONTREAL.

1854 Maple Lodge Stock Farm 1908

One handsome roan **SHORTHORN BULL** for sale, and several choice heifers.

LEICESTERS of the best kinds, bred from champion prizewinners. Several in good show fit.

A. W. Smith, Maple Lodge, Ont. Lucan Crossing Station, G. T. Ry.

Valley Home Shorthorns AND BERKSHIRES.

For sale: Young bulls from eight to twelve months old. Young cows and heifers safe in calf, and young yearling heifers not bred yet. Also young Berkshire pairs supplied not akin.

S. J. PEARSON, SON & CO., MEADOWVALE, ONT. Stations: Meadowvale, G. P. R., and Brampton, G. T. R.

Shorthorns! BELMAR PARC.

John Douglas, Manager. **Peter White, Pembroke, Ont.**

Calves for sale by our grand quartette of breeding and show bulls:

Monarch Archer, imp. Proud OR, imp. Marigold Sailer. Monarch Kithane.

Females. Imported and from imported stock in calf to these bulls.

An unsurpassed lot of yearling heifers.

SPRING VALLEY SHORTHORNS

We still have three choice young bulls that will be sold very reasonable, as we do not care to run them over; also a choice lot of cows and heifers, bred to the champion, Clipper Chief, imp. **KYLE BROS., AYR, ONTARIO.**

SCOTCH SHORTHORNS!

Bull and heifer calves for sale. The best of breeding, color and individual merit. Sired by the Cruickshank Brawith Bud bull, Golden Cross (imp.). Come and see our herd.

R. H. REID & SONS, PINE RIVER, ONT. Clover Lea Stock Farm.

5 Imported Shorthorn Bulls 10 HOME-BRED

Herd headed by the grand champion, Prime Favorite, imp. You cannot afford to buy without seeing these bulls. We will appreciate a visit. Females of all ages and most popular lines of breeding. Bell telephone on each farm. **Burlington Jct. Stn., G. T. R. W. G. Pettit & Sons, Freeman, Ont.**

A. Edward Meyer, Guelph, Ont.

P. O. BOX 378

Breeds **Scotch Shorthorns** exclusively.

Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 55049 = (90065) 295765 A. H. B.; Glos-ter King = 68703 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

Advocate Advertisers Reap Results.

MAPLE GROVE SHORTHORNS

Scotch and dairy bred; up-to-date in type; prize-winners at the local shows. A number of 1 and 2 year old heifers, 1 year old bull, and one 5 mos- old—the last will make a show bull. Flora bred— will be sold easy. **L. B. POWELL, Wallenstein Ont., P.O. and Stn., O.P.R.**

FOR SALE: 4 Shorthorn Bulls fit for service. Dairy type. Some of them from imp. cows, and all got by Broadhooks Prince (imp.) 55008. Prices the lowest. Also cows or heifers. 60 head to select from. **DAVID MILNE, ETHEL, ONT.**

QUESTIONS AND ANSWERS. Miscellaneous.

LADY'S SLIPPER.

I send a wild flower and ask for cul- tural directions, with a view to trans- planting it. **A. M.**

Ans.—The specimen is *Cypripedium* spectabile, the showy lady's slipper. It belongs to the Orchid family and pro- duces the handsomest flower of that inter- esting order native to this country.

Transplant it to a mixture of rich, peaty loam and sand; give it abundance of water and drainage. It thrives best in springy situations. Try to repro- duce the conditions of soil, moisture and sunshine in which you find it growing wild. **J. D.**

BINDWEED—GRAPE GALL.

I send a weed for identification and a specimen of a disease on grapevine. Can you describe and give means of getting rid of these? **C. A.**

Ans.—The weed is the hedge bindweed. While not so difficult to eradicate as its relation, the field bindweed, the only effective means of exterminating it is by constant hoeing and removing its slender perennial roots. The roundish, smooth and reddish excrescences on the young stems and petioles of the grape are pro- duced by the larvæ of a small, reddish fly with black head and gray wings. On cutting open one of the protuberances you will find one or several cavities, each containing a small, yellowish larva. The substance of the gall is juicy and has a not unpleasant acid taste. The gall is known as the grape tomato-gall. Hand-picking is the prescribed remedy, but many of the larvæ are destroyed by parasites. **J. D.**

TOAD FLAX—MEADOW SALSIFY —OAK APPLE.

Weeds Nos. 1 and 2 are just making their appearance in our fields. What are their names and nature. What is the cause of the growth of specimen No. 3? **J. L. H.**

Ans.—Weed No. 1, with short linear leaves and yellow, spurred flowers, is toad flax. It is a perennial which spreads by root and seed. No. 2, the tall, narrow-leaved plant with bearded seeds, is the meadow salsify or yellow goat's-beard (*Tragopogon pratensis*), a biennial relative of the garden salsify. The first is a weed of the old pasture- field and roadside; neither of them will become troublesome on a farm where proper crop rotation is pursued. No. 3 is a smooth, globular gall produced by one of the more than 100 species of *Cynips* whose larvæ live in the tissues of the oak. This particular one is known as the oak apple. Cut one open and find the larva in a curious fibre-sup- ported nodule in the center of the gall. **J. D.**

THOUSAND-HEADED KALE.

Please give information on growing thousand-headed kale as pasture. Will it taint the milk in dairy cows, or is it not similar to rape? Can you tell me whether it is a weed that is hard to get rid of after growing, or will it not continue in the soil in after years? How much should I sow broadcast per acre, and is it time yet to sow now any time? I was told it is better green feed than rape. I have been a reader of your valuable paper for some time. I think it can't be beat as a first-class farm paper. **YOUNG FARMER.**

Ans.—On the experimental plots at the Ontario Agricultural College, Guelph, thousand-headed kale has given during the past eight years an average yield of 22.6 tons per acre, as against 21 tons yielded by rape. Prof. Zavitz considers that it should make excellent feed for beef cattle, sheep and hogs, but is not suitable for milch cows, as, like rape, it taints the milk. He has not found, nor would he anticipate any particular trouble in ridding the land of kale. As to sowing, drills 28 or 30 inches apart are preferred to broadcasting. Drill at the rate of 1½ to 2 pounds of good seed per acre. Broadcasting would require four or five pounds. It may be sown in June or early in July. If feed is wanted for dairy cows, a mixture of Early Amber sugar cane and Hungarian grass could probably give better results.

PERCENTAGE OF FAT IN BUT- TER.

State the exact amount of butter-fat in one pound of butter. **READER.**

Ans.—The fat content of butter varies considerably, ranging from 80 per cent. or less in some samples, up to as much as 90 per cent. A fair average would probably be about 84 per cent., though of late years there is a tendency to in- corporate a somewhat larger percentage of water than formerly, which propor- tionately reduces the fat content.

INDIGESTION.

Have a mare which had several bad attacks of acute indigestion. By vet- erinary treatment she has always re- covered. Is there any treatment she could have to prevent her from taking this. She is a big eater and drinks a lot of water. **J. N.**

Ans.—Have her teeth examined by a veterinarian, and, if necessary, treated, to secure proper mastication of her food. Feed comparatively small quantities of hay or cut grass. Feed crushed oats, or some bran with whole oats. Give water little and often, and always be- fore feeding. Feed a dessert spoonful of the following night and morning for a week; Equal parts sulphate of iron, gen- tian, ginger, nux vomica, and bicarbonate of soda. When affected give 1 oz. fluid ex- tract of Belladonna and 1½ oz. nitrous ether in half pint cold water.

Veterinary.

AZOTURIA—CATARRH.

1. Aged mare, after two days' rest, was driven, and after going about half mile seemed to lose power of her legs and fell. Got up and acted as though she would fall again. How should she be treated? **E. B.**

2. Give treatment for catarrh in sheep. **E. B.**
Ans.—1. She had azoturia, which often occurs when horses are driven, after a few days' idleness. She should have been taken to the nearest stable and given a purgative of 8 drams aloes and 2 drams ginger and given 2 ozs. album- ine in a pint of cold water as a drench every 4 hours until better. If down and unable to rise, she should be well bedded and kept comfortable, and the urine drawn off with a catheter every 8 hours until able to rise.
2. Steam heads well with steam from boiling water three times daily and give 10 grains sulphate of copper three times daily. **V.**

GOSSIP.

A woman followed by three-quarters of a dozen children of varying sizes, climbed into a London street car last week. "Are these all yours, or is it a picnic?" asked the conductor. They're all mine, and it's no picnic," answered the little mother.

A young Holstein bull, bred in extra good producing lines, a son of the Great Pontiac Korndyke, said to have more high-testing daughters in the Advanced Registry than any other bull living, dam by a son of De Kol 2nd's Paul De Kol, is offered for sale by E. H. Dollar, Heu- velton, N. Y., near Prescott, Ont., in his advertisement in this paper.

An old friend of the family had dropped in to see a young lawyer whose father was still paying his office rent.

"So you are now practicing law," the old friend said, genially.

"No, sir," said the candid youth. "I appear to be, but I am really practicing economy."—Youth's Companion.

The prize list of Central Canada Ex- hibition at Ottawa, to be held this year Sept. 18th to 26th, has been issued, and makes a good showing of liberal cash prizes, besides some 45 gold medals and large numbers of silver cups and medals. The Ottawa Exhibition is well managed and is one of the most interesting and enjoyable institutions of its kind in the Dominion. Entries close Sept. 16th. For copy of prize list write Secretary E. McMahon, Ottawa.

QUESTIONS AND ANSWERS.
Miscellaneous.

WEAK FETLOCKS.

I have a foal two weeks old, smart and strong, except front fetlock joints, he walks over on them. Had veterinary remove false tendons from his knees. His fetlock joints are a little crooked. Will he be likely to get strong on them?

M. R.

Ans.—See answer to similar question, page 1080, June 25th issue.

LUMP ON KNEE.

Colt seven weeks old has lump as large as a hen's egg on the outside of its knee. It has been there since colt was one week old. Colt has always been smart and has had good appetite. Will it go away itself, or should it be blistered?

SUBSCRIBER.

Ans.—The enlargement will probably disappear as the colt grows older. If not, it may require blistering, which is best done in winter.

INDIGESTION IN CALF.

Calf five weeks old has had a cough about three weeks; runs some at nose; lies down most of time; had cough before castration. Should calf that age chew its cud? This one does not. Its eyes run matter; the lids are sore looking.

SUBSCRIBER.

Ans.—The symptoms indicate indigestion. Purge with six ounces Epsom salts, and feed lightly for a few days. Give half dram each of gentian and nuxvomica twice daily for a week. Feed luke-warm milk and whole oats, what calf will eat up clean. Keep in clean, airy, well-bedded shed or stall, with screened windows, to prevent torture from flies. Calves do not ruminate at that age, though if in health they crave bulky food at an early age in order to ruminate.

SALE OF STALLION.

A owns 4/5 shares in syndicate stallion; each share is worth \$100. There are seven others that have each \$100 in said stallion.

1. Can those parties, exclusive of A, advertise and sell said stallion without A's consent?

2. Kindly say if there is a stallion registered in the Canadian Clydesdale Studbook, name The Great McGregor No. 2789?

AN OLD SUBSCRIBER.

Ontario.
Ans.—1. Probably not, but as it depends largely upon the terms of the agreement entered into between the parties, we cannot answer definitely. It is, indeed, very likely that such agreement makes full provision for sale of the animal eventually, and the manner in which it is to be brought about.

2. No. There is Gregor Macgregor [2897]. No. [2789] is Baron Lang (imp.).

CANADIAN AND ENGLISH WHEATS.

Wheat flour and the comparison between Canadian and English wheats have been the subject of a very careful research by Professor T. B. Wood, in the Cambridge Laboratories, just published. It is well known that loaves baked out of the same weights of different flours have very different characters. The finest Canadian wheat gives bread that rises so well as to give nearly double the volume of the bread got from English flour. The superiority is dependent on two factors. First, the Canadian flour has what is termed a very high diastatic capacity; that is to say, the starch in it is changed very rapidly into sugar on the application of moisture, and so when yeast is added there is a rapid evolution of gas, and the bread rises. But the "rising" power is no less dependent on the quantities of acid and salt naturally present. It is these which give to the gluten its cohesive properties, so that it is able to stretch under the influence of the gas. Poorer flours allow the gas to stream through them, almost as if they were water. They are hoping at Cambridge to evolve a type of wheat which will combine all the necessary qualities.—Standard of Empire.

SAVE THE TIME OF A MAN A HORSE AND A PLOW

You can Figure it out for Yourself NOW

What's the worth of one horse's day's work? How much do you pay your hired man? Why not save many a day's work for both? Turning soil with a

"Crown" Gang Plow

will do it, besides saving the use of a single plow. Three horses, one man and a "Crown" will do a bigger day's work, and easier, than two men, four horses and two ordinary plows. Get a "Crown," save money, and do your work quicker. The "Crown" is easily adjusted to any depth; three levers work smoothly, all conveniently located. Wheels have dust-proof boxes with roller bearings. Our local agent near you will show you the "Crown," and gladly answer any question. Send now for our special plow-book and catalog "P". They're both free.

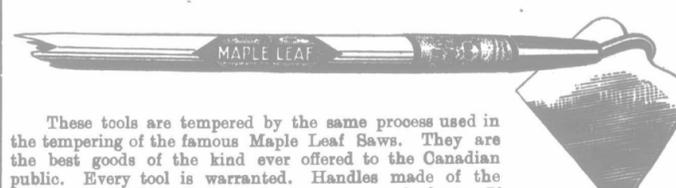
The FROST & WOOD CO., Ltd.,
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Easily Handled

Equipped with sod or stubble bottoms and straight or rolling coulters.



The Maple Leaf Gold Sheaf Harvest Tools.



These tools are tempered by the same process used in the tempering of the famous Maple Leaf Saws. They are the best goods of the kind ever offered to the Canadian public. Every tool is warranted. Handles made of the best second-growth white ash. It pays to use the best. If your merchant has not got them, send to the

Maple Leaf Harvest Tool Co., Ltd., Tillsonburg, Ont.
who are the manufacturers. None genuine that do not have the Gold Sheaf on the label.

J. C. DIETRICH, President. F. D. PALMER, Treasurer.
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The Stock-Owners' Medicine Chest.

What You Have Been Wanting for Years!

THIS CHEST CONTAINS: PRICE:

1 Colic Draught.
6 Cough Powders.
6 Diuretic Powders.
1 Wound Lotion.
6 Diarrhoea Draughts.
12 Condition Powders.

\$3

Full instructions and veterinary advice enclosed. For \$3 you get drugs that would cost you \$10 in the ordinary way.

Send for our medicine chest at once—you may have a sick horse to-morrow, and by sending \$3 now you may save \$300 in a week.

Agents wanted everywhere.

The Stock-Owners' Veterinary Dispensary,
282 Jarvis Street, Toronto.

SHORTHORN BULLS For Sale.

At the dispersion of the "Thistle Ha" herd in Jan., 1908, I purchased a few of the best breeding cows. From these cows I now have 6 extra good young bulls for sale. For pedigrees and other particulars apply to

JOHN MILLER,
Brougham, Ont. Claremont St., C. P. R.

The Salem Stock Farm

SHORTHORNS
A SPECIALTY. WRITE FOR ANY INFORMATION.

J. A. Watt, Elora, Ont.
G. T. R. AND C. P. R.

We are offering a very superior lot of **SHORTHORN Home-bred Bulls**

of the best breeding and quality at attractive prices for the buyer. To see them is all that is necessary. Try to do so if you are in the market. It will pay you.

JNO. CLANCY, Manager. **H. CARGILL & SON, Cargill, Ont.**

SCOTCH SHORTHORNS I have for sale a number of good heifers of such families as Nonpareil, Duchess of Gloster, Claret, Jilt, Bracelet, Gwynne, Lovely, and Ury. Mostly from imp. sire and dam, and safe in calf to imp. Redstart, or imp. Lord Roseberry.

J. F. Mitchell, Burlington, Ont., P. O. & Telegraph
Farm 1/2 mile from Burlington Junction Station.

TWO RED BULLS 12 Months Old.

A Clipper and a Martha. Priced low for quick sale. One of them out of an extra milker. Females of all ages for sale. Inspection solicited. Always have on hand some good Lincoln sheep for sale. Long-distance phone.

J. T. Gibson, Denfield, Ont.

Scotch Shorthorn Bulls

We are offering at hard-times prices five bulls, from six to fourteen months old, from the best of imported Scotch Shorthorns. It will pay to see these bulls before buying.

Long-distance phone, 516. **GIBBS WOODFIELD STOCK FARM, St. Catharines, Ont.**

Pleasant Valley Shorthorns

Herd headed by Imp. Bon. Lomond =45160= (80468) and consisting of females of the leading Scotch families. High-class young stock a specialty. Correspondence solicited. Inspection invited.

GEO. AMOS & SON, Moffat, Ont., Stn. & P. O.
Farm is 11 miles east of Guelph on C.P.R., half mile from station.

Queenston Heights Shorthorns

Young bulls from imported and home-bred Scotch cows, and got by such noted bulls as Derby (imp.), Spiey Broadhocks (imp.) and Whitehall Ramsden. Priced for quick sale.

HUDSON USHER, Queenston, Ont.
Farm three miles north of Niagara Falls.

Hawthorn Herd OF DEEP MILKING SHORTHORNS

For sale: 2 young bulls and 10 heifers, sired by Aberdeen Hero (imp.) =28840=, Some bred to the Lavender bull, Lavender Lorne =68706=.

Wm. Grainger & Son, London, Ont.

SUNNYSIDE STOCK FARM

Bulls in service: Queenston Archer =48908=, Trout Creek Stamp =67680=. A number of first-class young bulls, red and roan, and a few cows and heifers, for sale. Prices right.

JAMES GIBBS, Brookdale, Ont.

GEDARDALE SHORTHORNS

Owing to scarcity of feed, am offering at specially low figures for quick sale: 17 heifers, one to three years old, 4 young bulls from six months to one year old, 16 cows, in calf or with calf at foot. Both beef and deep-milking strains.

T. S. Sparrow, M.F., Markdale, Ont.

Maple Home Shorthorns!

Our present offering is several very choice and richly bred one and two year old heifers, and three yearling bulls. A way above the average. Pure Scotch and Scotch topped.

A. D. SCHMIDT & SONS
Elmira, Ont.

Greenock Shorthorns Imp. Protector heads herd. For sale: 1-yr.-old bull, out of imp. Tidy Lass; 9 mths. one, out of imp. Choice Lustre; 8 mths. one. All reds. Also cows and heifers at reasonable prices.

P. M. and M. C. Bys, JOHN McFARLANE, Dutton, Ont.

WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER.

Lump Jaw

The first remedy to cure Lump Jaw was

Fleming's Lump Jaw Cure

and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vets. Pocket Veterinary Adviser.

Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

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75 Church Street, Toronto, Ontario



Electric Insect Exterminator

The only practical dry powder sprayer—no water required. With this sprayer, one pound of Paris Green will cover an acre of potato plants. Our patented device regulates the quantity of powder and prevents waste. Machine works up, down and sideways, so every part of the plant is reached and every bug killed. Children can keep vegetables and flowers free of insects, without trouble, when you have the Electric Insect Exterminator.

Illustrated catalogue of Sprayers, Seeders, Planters, Drills, Wagons, etc., sent free on application. The Eureka Planter Co., Limited, Woodstock, Ont.

FAIRVIEW offers you another son of the great **FONTIAC KORNDYKE**, who has more highest testing daughters in Advanced Registry than any other living bull. We have four of his daughters that have seven days' records that average over 23 pounds each, and over 4% fat. This young bull was born Nov. 2, 1907, is two-thirds white, and a beauty. His dam is sired by a son of De Kol and Pauline De Kol, the sire of Aeggie Cornucopia Pauline. You cannot find better breeding than this. First check for \$150 takes him. **E. H. DOLLAR, Heuvelton, St. Law. Co., N. Y., near Prescott, Ont.**

LOOK HERE

Have on hand bull calves from choice dams, and sired by son of greatest cow in Canada, **BOUTIQUE Q. PIETERIE DE KOL**; 643 lbs. 7 days; 56 lbs. 1 day. His sire's dam and granddam have records averaging over 23 lbs. butter week. Also choice bulls fit for service. Prices right. **FRED ASBOTT, Fairview Stock Farm, Harrisville, Ont.**

Lakeview Holsteins!

Herd headed by Count Hengerveld Fayne De Kol. His dam, Grace Fayne and, 96.30 lbs. butter in 7 days, is dam of world's champion 4-year-old butter cow. Sire Count Hengerveld De Kol, 70 A.R.O. daughters, including world's champion milk cow. For sale: 1 service bull; 10 bull calves, by 20-lb. butter cows. 75 head to select from. **W. D. BRECKON, Mgr., BRONTE, ONT.**

WOODBINE STOCK FARM

Offers a few fine young Holstein bulls and bull calves, sired by Sir Mechtildide Posch. Sire's dam holds world's largest two-day public test record, dam Ianthe Jewel Mechtildide, 27.65 lbs. butter in 7 days; average test, 4.46 per cent fat; out of dams with superior breeding and quality. Shipping stations—Paris, G.T.R.; Ayr, C.P.R.

A. KENNEDY, Ayr, Ont.

Maple Glen Holsteins

For sale: Service bull, brother to Guelph dairy test champion, 1907; three bull calves, one from 224-lb. cow, one from 17.80 lb. 4-yr.-old, a Top Notcher from 19.48-lb. 2-yr.-old. Come and inspect herd.

G. A. Gilroy, Glen Buell, Ont.

Lyndale Holsteins!

Bull calves out of cows with records of from 18 to 20 lbs., also 3 heifers coming 2, and a number of young cows in Record of Merit, bred to a grandson of Pieterie Hengerveld's.

Count De Kol, BROWN BROS., LYN, ONT.

HILTON STOCK FARM—Holsteins, Cotswolds and Tamworths—Present offering: Some young cows; a nice lot of young pigs; few boars six months old, and sows in pig. **R. O. MORROW & SON, Hilton, Ont. Brighton Tel. and Stn.**

MAPLE GROVE offers a richly-bred bull calf, 6 weeks old; sired by an Aeggie, Cornucopia Pauline, A.R.O., 34.31 lbs. butter; his dam is sired by a son of Beryl Wayne, A.R.O., 27.14 lbs. butter. For particulars write: **H. BOLLERT, Cassel, Ont.**

Advocate Advertisers Reap Results.

QUESTIONS AND ANSWERS. Veterinary.

OPACITY OF THE CORNEA.

Horse had his eye injured last winter and it remained sore a long time, but it got well. A vein remained running across the eye and the eye has a milky appearance at lower corner. The sight is all right. **G. W. S.**

Ans.—This milky appearance is the result of a deposit of lymph between the layers of the cornea, which took place during the inflammatory stage, and did not become absorbed. This is hard and tedious to remove. Take 10 grains nitrate of silver and add to it 2 ounces distilled water and put a few drops into his eye twice daily. **V.**

REMOVING HARNESS AT NOON—KNEESPRUNG.

1. My practice when working colts has been to remove the harness and bathe shoulders with cold water at noon and also as soon as work ceases at night. An experienced horseman tells me that I make a mistake, that I should not remove the collar until the animal cools off, as its pressure prevents congestion of the arteries and lessens the tendency to scalding or blistering.

2. In a recent issue I noticed the statement that blistering for kneesprung does no good. Does this apply to a specific case, or generally? I have been using a strong liniment without result on a kneesprung colt. **P. E. R.**

Ans.—1. Your system is correct and usually followed by good results. Your "Experienced Horseman's" ideas will not hold good in either theory or practice. A little consideration tells us that when a horse is standing there is no pressure exerted by the collar, except that upon the top of the neck, which will be in proportion to the weight of the collar, hence the shoulders being free from pressure cannot be influenced as he states. Again, there are no arteries in the skin, simply very small vessels called capillaries, connecting the very small arteries with the equally small veins. The removal of the collar and bathing the shoulders with cold water removes all sweat, dirt, etc., and allows the parts to become cool and the circulation does not suffer. In fact the cold causes contraction of bloodvessels and stimulates circulation. We know that cold water or ice relieves congestion and is regularly used in both medical and veterinary practice for that purpose. It is good practice to remove the harness from all horses in hot weather if they are going to rest even for a few minutes.

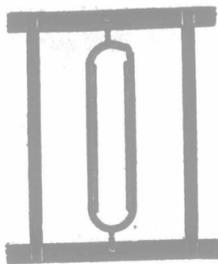
2. Theoretically the blistering of the extensor muscles and tendons should give good results in kneesprung, but in practice we fail to observe the results. In most cases it is the flexor or back tendons that are blistered, and if this has any result at all it increases the trouble. Kneesprung is due to too strong or too short flexor (back) tendons, or too long or too weak extensor (front) tendons. The flexor being stronger than the extensor, keeps the limb in a partially flexed position. Blistering stimulates muscular contraction, but has slight effect upon tendons. Hence it should be the extensor muscles (the front muscles above the knee) that should be blistered. The slight contracting action of blisters upon tendons explains the absence of noticeable evil effects when the flexors are blistered for kneesprung. **V.**

Miscellaneous.

COWS CHEWING BONES.

Why do cows chew bones? Is there anything to give them? **C. H. S.**

Ans.—The chewing of bones, wood, etc., is a habit supposed to be induced by a lack of phosphates in the food. An application of bone meal or Thomas' phosphate powder to the pasture has been known to check the craving. Meantime give all the salt they will take, and give the cows one ounce phosphate of lime in a pint of cold water as a drench, once daily, or in a little bran or chop. A small closed handful of sifted wood ashes in meal once or twice a week is believed to have a beneficial effect.



The Ideal Steel Stanchion

MADE OF ANGLE STEEL—WOOD LINED.

The Strongest, Most Convenient and Cleanest Cattle Tie Made.

The necessity of using modern stanchions in a cow stable is recognized by every up-to-date cattleman.

With its great strength and durability, its ease of operation, and the comfort it affords the cattle, "The Ideal Steel Stanchion" stands without a rival. Can be easily installed in any byre.

Write now for prices.

The Mississippi Iron Works, Almonte, Ontario.

Maple Hill Holstein-Friesians

Special offering: Two bull calves eleven months old; well bred; in fine condition; now fit for service.

G. W. Clemons, St. George, Ont.

The Maples Holstein Herd

RECORD OF MERIT COWS.

Headed by Lord Wayne Mechtildide Calamity, also in the Record of Merit. Nothing for sale but choice bull calves.

WALBURN RIVERS, FOLDEN'S, ONT.

HOLSTEINS

We must sell at least 25 cows and heifers at once in order to make room for the increase of our large herd. This is a chance of a lifetime to buy good cattle at bargain prices. The best way: arrange to come and look the herd over. If you cannot, we will do our best for you by correspondence. Also a few young bulls. 100 head to select from. Imported **Pontiac Korndyke**, son of Hengerveld De Kol, world's greatest sire, head of herd. All leading breeds represented. **H. E. GEORGE, Orampton, Ont. Putnam station, near Ingersoll.**

To Head Your Herd

Why not buy **Korndyke Lily De Kol**. Born January, 1904. Sire **Korndyke Queen's Butter Boy**. Dam **Miss Lily**. This is a handsome young bull, and has proved himself a getter of good stock. Write for particulars. We also have a few cows and calves for sale.

E. & F. Mallory, Frankford, Ont.

Centre and Hillview Holsteins!

195 head to select from. 35 in the **R. O. M. Stock** bulls; **Bonheur Statesman**, high official backing, and is closely related to **Colantha 4th's Johanna**; **Brookbank Butter Boy**. All nearest dams over 90 lbs. From these sires, out of **R. O. M.** dams, are several young bulls and a few heifers. Prices right. **P. D. EDE, Oxford Centre, Ont. Woodstock Station.**

Only Bull Calves

FOR SALE, HOLSTEIN and AYRSHIRE, Of the best performing strains. **GEO. RICE, Annandale Stock Farm, Tillsonburg, Ont.**

RIDGEDALE FARM HOLSTEINS—For sale: 4 bull calves from one to ten months old; 2 heifer calves. All bred from choice dams. Also a pair of choice cows supposed to be in calf. **R. W. WALKER, Utica P. O., Ont. Port Perry (G.T.R.) and Myrtle (C.P.R.) stations, Ontario Co.**

Glenwood Stock Farm—Holsteins and Yorkshires. Holsteins all sold out. Have a few young Yorkshire sows, about 3 months old, for sale cheap. True to type and first-class. Bred from imported stock. **THOS. B. CARLAW & SON, Warkworth P. O., Ont. Campbellford Stn.**



Stoneycroft Ayrshires

Choice young bulls and heifers of the very best breeding, combining show and dairy quality.

Large Improved Yorkshire Pigs from imported sires and dams, now ready to ship.

STONECROFT STOCK FARM, Ste. Anne de Bellevue, Que.

STONEHOUSE AYRSHIRES



On hand for sale: A number of imp. cows and heifers, winners of high honors in Scotland & Canada. 4 young bulls bred from champions and winners themselves. Extra choice offering.

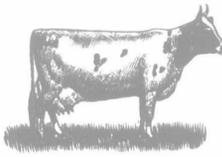
HECTOR GORDON, Howick P. O. & Sta., Quebec.

Howglen Ayrshires!

For sale: 75 pure-bred registered Ayrshires, all ages; prizewinners; many imported. Apply to **ALLAN P. BLUE, EUSTIS, QUEBEC.**

AYRSHIRES!

Bull and heifer calves from producing dams. Right good ones. **W. DYMONT, Hickory Hill Stock Farm, Clappison, Ont. Dundas station and telegraph.**



SPRINGHILL AYRSHIRES!

A better lot of young cows and heifers we never had. They have only to be seen to be appreciated. "Deep milkers," "Good testers." Just the kind for foundation stock. Bull calves from best cows. Will leave for Scotland shortly to import. Order a choice yearling or bull calf or a female or two. They will be out of quarantine in time for spring service. Write for prices.

ROBERT HUNTER & SONS, Long-distance 'Phone, MAXVILLE, ONT.

Wardend Ayrshires



Present offering: 1 two-year-old, 2 yearling bulls, and choice lot of spring calves from good milkers. **F. W. TAYLOR, Wellman's Corners, Ont. Hoard's Sta., G. T. R. Telephone in house.**

AYRSHIRES.—Oldest-established herd in Ontario.

Average B. F. test for the whole herd, 4.2; milk yield, 40 to 60 lbs. a day. For sale: females of all ages, and several yearling bulls; all by imp. sire, and some out of dams. **James Benning, Williamstown P. O., Ont. Lancaster station.**

Burnside's Champion Ayrshires



My 1907 importation of 75 head being about all disposed of, I am preparing to import again. Mr. And. Mitchell, the world's most extensive dealer and breeder of Ayrshires, is at present securing for me the best young bulls from the best herds in Scotland. Send in your order now for a choice bull and a female or two. Bulls will be out of quarantine in time for spring service. Correspondence solicited. Long-distance 'phone in house.

R. R. NESS, Howick, Que.

SPRING BROOK AYRSHIRES are noted for being large producers of milk testing well up in butter-fat. A few bull calves of 1908 for sale; also the stock bull, **Crown Prince of Lennessock—1908—(imported)**, for delivery July 1st. Write for prices. **W. F. Stephen, Muntingdon, Que.**

KELSO S. F. AYRSHIRES My winnings at Ottawa this year were: Aged cow in milk, 1st and ch.; dry cow, 1st; Canadian bred cow, 4th; Canadian-bred 3-year-old, 3rd. For sale, anything in herd, both sexes. Extra choice stuff. **D. A. McFARLANE, Kelso, Que. Atholstane Sta., G. T. R.**

QUESTIONS AND ANSWERS. Miscellaneous.

BEAUTIFYING THE COUNTRY.

As I wish to see our country improved and the homes and surroundings of the farmers more beautiful and attractive, I got up the petition (below), and in a few days got about two hundred and fifty names of the ratepayers of the township on the petition—at least ninety per cent. of all I happened to meet. I then presented it to the council, and they did not act in the matter, as they thought they could not give the grant legally, so I wish to ask if the council cannot grant it legally, and if not, how can they make it legal? I think if we could get each township to take a step in this direction it would greatly improve our country, and encourage our boys to feel that the farm is an attractive place, as well as our girls.

Ontario. A. R. E.

To the Reeve and Council of the Township of _____

We the undersigned ratepayers in the Township of _____ do humbly petition your honorable body to set aside the sum of ten dollars (\$10.00) for each school section in said township, as a prize or prizes to be competed for, and paid out to the winner or winners, during the season of 1908, for improving and beautifying the roadside, farm fronts and home surroundings.

And your petitioners, as in duty bound, will ever pray.

Ans.—We do not see that they can. But for what they may do we would refer you to the Consolidated Municipal Act, 1903, sec. 574, sub-secs. 1, 2 and 3; sec. 576, sub-sec. 1, and sec. 686, sub-sec. 3; also Revised Statutes of Ontario, chap. 243.

FALSE FLAX—RAGWEED—KITCHEN CISTERN—WATER TANK ABOVE GROUND.

1. Enclosed find two weeds. The first came up in large quantity in newly-seeded meadow. The other spreads rapidly from seed. What means should be adopted for their eradication?

2. I intend building a cistern. Does it give equally as good satisfaction built outside of kitchen as under? Would you build it round, line it with brick and plaster it with cement on brick, or how?

3. In building a water tank of cement, would it be necessary to sink it in the ground, or would the frost affect it if built on top of ground?

Am highly pleased with "The Farmer's Advocate." Do not see how I could do without it now.

Ans.—1. No. 1, known as false flax (Camelina sativa), an annual belonging to the mustard family, can be recognized by its numerous small top-shaped pods borne on a lengthening stem, surmounted by a number of pale yellow small flowers. Its seed is too frequently an impurity in grass seed. Hand pulling is the most effective means of controlling it. No. 2, with the finely dissected leaves, and later in the season its branching spikes of greenish-yellow staminate flowers, is ragweed, another annual. Pulling and hoe-cropping are remedies for both these weeds.

2. Yes, the cistern will be better placed outside the kitchen. Brick, plastered with cement, makes a good cistern, or it may be built of solid cement (see "The Farmer's Advocate," of March 19, 1908, containing article on "Cement Concrete in Building; its Nature and Uses").

3. As to whether the cement water tank need be sunk or not will depend upon its size and the rate of flow of water through it; also upon the temperature of the water entering the tank. An ordinary tank supplied from an underground well, for the watering of farm stock and house use, will be all right if built above ground and banked up two-thirds its height with earth. It should be kept covered with boards, and in winter some straw may be thrown over it during cold snaps, if danger of frost is anticipated.

HIS EXCUSE.

The Rich Father—Why don't you go to work? If you only knew how much happiness work would bring you you'd start in at once.

His Son—Dad I'm living a life of self-denial. I'm denying myself all happiness.

I CAN FURNISH JUST NOW A LARGE NUMBER OF EXTRA GOOD Shropshire & Cotswold Rams

A large number of extra good Shropshire and Cotswold ewes, twelve months old. And a few very high-class Shorthorn bulls and heifers. Any of which will be sold at moderate prices. ROBERT MILLER, STOUFFVILLE, ONT.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.

Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, Buena Vista Farm, Harriston, Ont.

SHROPSHIRE FLOCK FOR SALE.

Flock of 15 registered Shropshire sheep, with crop of lambs at side, bred by R. Gibson, Jno. Campbell, and J. G. Clark. Also a Percheron stallion rising three years old. GEO. A. GARRUTHERS, Delaware, Ont.

SOUTHDOWNS AND COLLIES!

Imported winning collie at stud, HOLYROOD PROFESSOR.

Breeding ewes, imported and home-bred; 15 shearing rams; 20 shearing ewes. Ewe and ram lambs by the same sire as the grand champion wether, over all breeds, at Chicago International, 1907. ROBT. McEWEN, BYRON, ONT. Long-distance telephone. Ry. Station, London, Ontario.

WOOL

E. T. CARTER & CO., TORONTO

HIDES

FAIRVIEW SHROPSHIRE

We are now ready to book orders for Show rams and ram lambs. Show ewes and ewe lambs. Also field sheep of each sex. Our flock is in fine shape and we are sure they will suit customers. Come to see them, or write for quotations. J. & D. J. Campbell, Fairview Farm, Woodville, Ont.

Chester White Swine

AND SHROPSHIRE SHEEP. Write for prices. W. E. WRIGHT, GLANWORTH, ONT.



Maple Leaf Berkshires.

Large English breed. Castle sows, and Polgate Doctor sows, bred to British Duke (imp.) Also young boars and sows for sale, 10 and 12 weeks old.

Joshua Lawrence, Oxford Centre, Ont. Woodstock Station.

Duroc-Jerseys

Boars fit for service. Sows ready to breed. Several sows in pig, also younger ones. Imported Canadian Boy 1907 head on herd. W. G. CAMPBELL & SONS, Harrish, Ont.

Elmfield Yorkshires

50 pigs, 4 to 10 weeks old; pairs not akin. Bred from imp. and Canadian-bred sows. Also young sows due to farrow in June and July. Young stock never better. G. B. MUMA, Ayr, U. P. R.; Paris, G. T. R. Ayr, Ont.

MONKLAND YORKSHIRES

are the easily fed, quick maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now. JAMES WILSON & SONS, FERGUS, ONTARIO.

Newcastle Tamworths and Shorthorns

For sale: 90 spring pigs, both sexes; boars fit for service; sows ready to breed and sows bred to Imp. Cholderton Golden Secret descendants of Colwill's Choice and Newcastle Warrior, both Toronto champions. Also several Shorthorns; females of high class. Prices right, quality considered. A. A. Colwill, Newcastle, Ont.

Glenburn Herd of Yorkshires

Winner of gold medal three years in succession. 5 young boars from 6 to 8 months; also 75 young sows, from 6 to 12 weeks old. David Barr, Jr., Box 3, Renfrew, Ont.

YORKSHIRES

Of the Choicest Type of Breeding! Our herd stands second to none in Canada to-day. We invite inspection. Any stock shipped can be returned at our expense if not satisfactory on receipt. Prices not the lowest, but for value received we guarantee them as good as the best. Good stock on hand now. J. W. BOYLE, P. O. Box 563, Woodstock, Ont.

Yorkshires

A choice lot of boars and sows just farrowed and weaned. Boars ready for service, and sows ready to breed and bred. Bred from imp. and prizewinning stock. GEO. M. SMITH, Haysville, Ont.

Meadowbrook Yorkshires.

Young stock of both sexes. A number of sows old enough to breed, all sired by Imp. Dalmay Topman. Everything guaranteed as represented. J. H. SMITH, Hagersville, Ont., P. O. & Station.

LARGE ENGLISH YORKSHIRES.

—We have a limited number of choice young pigs for sale, bred from our choicest sows, and got by the imported boar, Dalmay Joe 1877 and Broomhouse Beau 14514. Pigs from the latter won all the first prizes at the Ottawa Fat Stock Show last March for the best dressed carcasses, and sweepstakes over all breeds or grades. We guarantee satisfaction in all mail orders. JOSEPH FEATHERSTON & SON, STREETSVILLE, ONT.

SUNNYMOUNT BERKSHIRES

Boars fit for service, sows safely in pig, young sows 4 months old, young sows and boars 3 months old, imported in dam. JOHN McLEOD, Milton, Ont., P. O. and Sta., C. P. R. & G. T. R.

Willowdale Berkshires

are unsurpassed for quality and breeding. Young stock, all ages, for sale reasonable. Satisfaction guaranteed. Long-distance telephone in residence. J. J. WILSON, importer and Breeder, Milton, Ont., P. O. & Sta., G. T. R. and C. P. R.



CURES

Dysentery, Diarrhoea, Cramps, Colic, Pains in the Stomach, Cholera, Cholera Morbus, Cholera Infantum, Sea Sickness, Summer Complaint, and all Fluxes of the Bowels.

It has been on the market for 43 years. Its effects are marvelous. It acts like a charm. Relief is almost instantaneous. Ask your druggist for it. Take no other. Substitutes are Dangerous.

The genuine is manufactured by THE T. MILBURN, Co., LIMITED, Toronto, Ont. Price 35 cents.

COUPLE OF DOSES CURED.

Mrs. W. J. Wilson, Tessier, Sask., tells of her experience in the following words:—"I wish to tell you of the good I have found in Dr. Fowler's Extract of Wild Strawberry. Last summer my little girl, aged two years, was taken ill with Summer Complaint, and as my mother always kept Dr. Fowler's in the house when I was a child, I seemed to follow her example as I always have it also. I at once gave it to my baby as directed and she was at once relieved, and after a couple of doses were taken was completely cured."

Brampton Jerseys!

Select your stock bull or family cow from Canada's most famous and largest Jersey herd.

B. H. BULL & SON, BRAMPTON, CANADA.

W. Willis & Sons, Pine Ridge Farm, Newmarket, Ont.

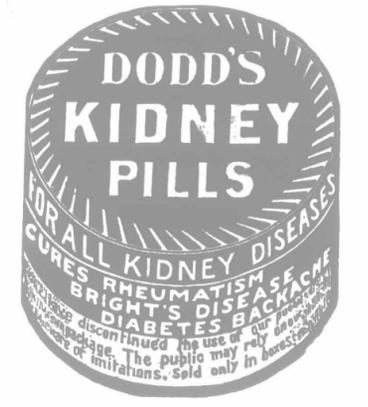
Breeders of registered high-class JERSEY CATTLE. Stock for sale of both sexes, and reg. Cotswold sheep. Correspondence solicited.

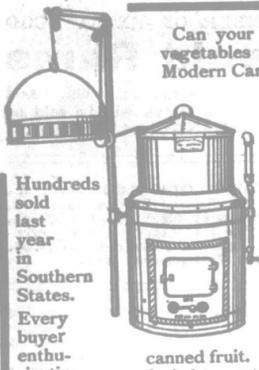
Jerseys 2 Extra Choice Young Bulls For Sale, 8 and 9 months old, grandsons of the great Financial King, out of large, heavy-milking dams. Inquiries solicited. ARTHUR H. TUFTS, Box 111, Tweed, Ont.

GOOD FRIENDS.

A member of the School Board of Cleveland, Ohio, was once addressing a class in the poorer quarter of the city when he touched upon the beauties of friendship.

"Friendship, boys and girls," said he, "is a thing to be cultivated and practiced by all of us. Read and ponder the stories of the great friendships of sacred and profane history. Take them for your models—David, Jonathan, Damon and Pythias and Scylla and Charybdis."





Can your fruit and vegetables with the Modern Canner when fresh and ripe. Your grocer will gladly give you same price as he pays for his canned fruit. He saves freight—gets a superior article. By this method there are

Hundreds sold last year in Southern States. Every buyer enthusiastic.

Larger Profits For Fruit Growers

Are you getting these bigger profits? If not, write for our free CATALOGUE and learn how.

THE MODERN CANNER CO.
Canadian Branch, St. Jacob's, Ont.

FOR EXCHANGE!

A beautiful 500-acre farm in British Columbia for farm in Ontario. Land is in North Thompson River Valley, 23 miles from Kamloops City, in fruit-growing district, 2 miles river frontage, beautifully situated; 100 acres cultivated; rich soil; good spring water; some valuable timber; 2-storey house; frame barn and other buildings. Or will sell part cash, balance easy terms. Apply:

THE UNION TRUST CO.,
174 Bay St., Toronto, Agents.
1080

Church Bells
Memorial Bells a Specialty.
Baltimore Bell Foundry Co., Baltimore, Md., U.S.A.

The Roof Tried by Time

A COMPOSITION ROOFING that improves with age is just the sort of roof the wise farmer wants. There is one roofing which has earned this exclusive distinction. When CAREY'S ROOFING has seen service out in wind and weather for a dozen years or more it assumes the appearance of slate—and it wears like slate.

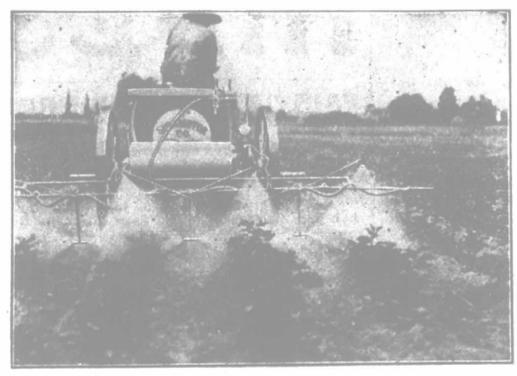
CAREY'S ROOFING

for a quarter of a century has made good. It is really better than slate, which, easily broken by frost or walking over, is for steep roofs exclusively. More durable than slate, CAREY'S ROOFING can be laid on flat, as well as steep, surfaces and over leaky shingle, metal or inferior composition roofs without expense of their removal. It is the most economical roofing. Once laid it will last as long as the building stands. Adapted for all farm buildings, it is a roof that never blows off. As a siding for barns or stables, it possesses unequalled merit.

CAREY'S ROOFING is made of our own special Asphalt Cement, with the best woolen felt as a base and East India burlap imbedded in the upper surface of the cement—all compressed into flexible sheets. Our Patent Lap completely covers and protects nail heads.

Write for prices, nearest distributing point, FREE SAMPLES and descriptive booklet.

The Philip Carey Manufacturing Co., Toronto, Montreal.



THIS shows the H.P. Spramotor arranged for spraying potatoes, three nozzles to a row and four rows, two spraying from the sides and one from the top, adjustable as to height and width up to 40 in. rows. Nozzles absolutely will not clog. 12-gallon air tank. Automatic and hand controlled. 100 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 20 minutes. Has agitator cleanout pressure relief into tank and nozzle protector all under control of the driver from seat. For 1 or 2 horses. Fitted for orchard, vineyards and grain crops. Can be operated by hand. This advertisement will not appear again in this paper. If interested, write now.

SPRAMOTOR CO., 1270 King St., London

WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER.

A CURE WITHOUT DRUGS WEAR MY BELT UNTIL CURED AND PAY ME WHEN THE WORK IS DONE

I have the grandest invention of the age for weak, rundown, wornout men; the surest and easiest cure for all nervous and chronic diseases. Its wonderful power is directed to the seat of the nervous system, through which its vitalized strength penetrates into all parts of the body, carrying new life to every function which has been weakened by disease or dissipation, restoring energy to the brain and power to the system. No weak man will ever regret a fair trial of this invigorator.

Why will you be weak? Why do you go on from day to day when you know you are losing your nerve force—your manhood—when you see a cure within your grasp? Do not delay a matter which is the key to your future happiness. What ever your condition to-day, you will not improve as you grow older. Age calls for greater vital force, and the older you get the more pronounced will be your weakness.

I want you—if that means you—to come to me, and if I say that I can cure you I don't ask you to pay me until I DO SO, if you give me reasonable security for the Belt while you use it. That is fair, surely. You take no chances, as I know what I can do, and I'll run the risk.

All men cannot be MILLIONAIRES, but thousands of them could be much better off FINANCIALLY, SOCIALLY, and in every other respect if they would guard their HEALTH. With VIGOROUS HEALTH—a body full of ELECTRIC ENERGY—a man can make OPPORTUNITIES if he don't find them, but, lacking in the COURAGE and SELF-ASSURANCE that is born of MANLY VIGOR, he is but a derelict—a vessel without mast or rudder—cast hither and thither by every storm of life that besets his pathway. GIVE ME A MAN that has exhausted his VITALITY—suffering from PAINS AND ACHES—MENTAL DEPRESSION—SLEEPLESSNESS—NERVOUS DEBILITY—without HOPE—AMBITION—COURAGE gone—drifting with the tide—and I can transform him into a STRONG MAN—a man of push—a man that will make his way in spite of all obstacles—if he has anything left to build upon, and he will follow my advice and use the DR. McLAUGHLIN ELECTRIC BELT as I direct. Save your tobacco money for a few weeks—cut out a few of your health-destroying, soul-destroying habits—procure one of these appliances—USE ELECTRICITY, and use it in the right way to invigorate your body, and you will look upon the day you gave your case to me as the TURNING POINT of your life.

MR. WALTER F. SHEPPARD, Allandale, Ont., says my Belt did him more good than all the medicine he ever took. He sleeps and eats better; has better circulation and feels like a different man.

MR. FRANK ROGERS, Denbigh, Ont., says he can now get a good night's sleep, something he had been unable to do for two years. My Belt also cured him of Rheumatism and General Debility.

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QUESTIONS AND ANSWERS.
Miscellaneous.

TWISTING WIRE FOR LIGHTNING RODS.

Seeing you recommend No. 9 galvanized wire twisted for lightning rods, please tell me the best way to twist the wire, and the best way to put them up.
J. W. F.

Ans.—See article in this issue headed Homemade Lightning Rods.

CUTWORMS DESTROY TOMATO PLANTS.

Am trying to raise tomatoes on a large scale, but on setting out the plants I lose about half of them; they are cut off at the top of the ground by a gray worm about half an inch long. Can generally find the worm after the plant is cut off. They must work at night, as can see no worms above the ground during the day.
H. S. P.

Ans.—It is evident that the tomato plants have been destroyed by one or another of the three hundred species of cutworms. These insects work at night, hiding in the soil by day. It is probable that before this reaches the eye of the reader the brood that caused the mischief will have entered the pupa state, and unless some other species appears, further transplantation may be done without loss. The best thing to do is to poison the cutworms, by sprinkling around the plants or about the field a poisoned bran mash, made of one pound of Paris green to one hundred pounds of dampened bran, or one ounce of green to six pounds of bran. Put the bran in a large pan or vessel, dampen slightly with water containing a little sugar or salt; stir and mix thoroughly until the bran seems to be almost dry to the touch. Then sift over it the requisite amount of Paris green, and stir thoroughly. Be careful to have the right proportion of the poison. If too strong the insects may not eat it; if too weak it may fail of its effect.

PARTURITION IRREGULARITIES.

In the spring of 1907 I bred four Clydesdale mares all to one horse; these mares worked hard all winter on the roads. Two had colts near their time, and everything all right. About two weeks after we quit teaming mare No. 3 slipped her colt six weeks before time. She had not been out of the stable for four days at the time. Her mate carried her colt three weeks past time; had white wax and leaked milk for two weeks before she foaled. She had a fine-looking colt, able to get up and walk about, but lifeless; did not care to suck; by milking in its mouth it would suck a little; lived a couple of days and died; bowels all right, and I could see no reason for its death. Will mare No. 3 likely abort again? Will mare No. 4 likely act the same another year? Would it make any difference if I should breed her to a Canadian-bred horse, or a Percheron or French-Canadian horse? Could there be anything amiss in the way they were fed? When working hard they had five quarts oats three times a day, one turnip or small sugar mangel at night, and salt every day. Mares are six years old and healthy. These mares are a valuable team, and I would like them to breed if possible. They weigh in fair condition 3,300 lbs., and were good enough to win three first prizes at two fairs last fall. W. D. R.

Ans.—It is impossible to say definitely just what was the cause of the trouble, though it is possible the work had something to do with it, though, as a rule, mares in foal are no worse but rather better for moderate work, if carefully handled. Why it should have affected the latter two and not the pair that foaled first must, in the absence of more satisfactory explanation, be attributed to chance or coincidences. There is no evidence to indicate contagious abortion, and there would appear to be no sufficient reason why the mares should not be bred again. The breeding of the horse will have no influence one way or another on the probabilities of successful parturition, consequently we would by all means endeavor to breed them to a purebred Clydesdale. The feed, while rather heavy, was not too heavy for mares of their weight engaged in hard work. It will be well to exercise especial care with them next winter.