

FARMER'S ADVOCATE

AND HOME JOURNAL

THE ONLY WEEKLY AGRICULTURAL PAPER IN WESTERN CANADA

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1878

JUNE 5, 1907

WINNIPEG MANITOBA

VOL. XLII, NO. 767

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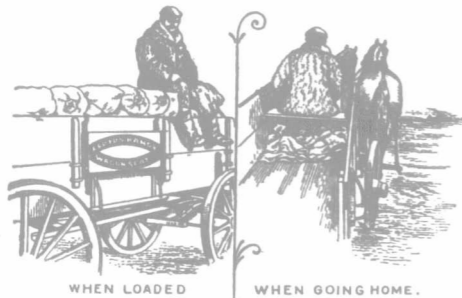
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ANY even numbered section of Dominion Lands in Manitoba, Saskatchewan and Alberta, excepting 8 and 26, not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one-quarter section of 160 acres, more or less.

Entry must be made personally at the local land office for the district in which the land is situated.

The homesteader is required to perform the conditions connected therewith under one of the following plans:

- (1) At least six months' residence upon and cultivation of the land in each year for three years.
- (2) If the father (or mother if the father is deceased) of the homesteader resides upon a farm in the vicinity of the land entered for, the requirements as to residence may be satisfied by such person residing with the father or mother.
- (3) If the settler has his permanent residence upon farming land owned by him in the vicinity of his homestead, the requirements as to residence may be satisfied by residence upon the said land.

Six months' notice in writing should be given to the Commissioner of Dominion Lands at Ottawa of intention to apply for patent.

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Calgary, Alberta

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Farmer's Advocate and Home Journal

The Only Weekly Farm Journal in Western Canada.

PUBLISHED EVERY WEDNESDAY BY THE FARMER'S ADVOCATE OF WINNIPEG, LIMITED.
GENERAL OFFICES—

14 and 16 Princess Street, Winnipeg, Man.

Branches at London, Ont. and Calgary, Alta.

BRITISH AGENCY—W. W. CHAPMAN, Mowbray House, Norfolk Street, W. C., London, Eng.

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WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned if accompanied by postage.

ANONYMOUS communications will receive no attention. LETTERS intended for publication should be written on one side of the paper only. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.

Address all communications to FARMER'S ADVOCATE OF WINNIPEG, LIMITED, WINNIPEG, MAN.

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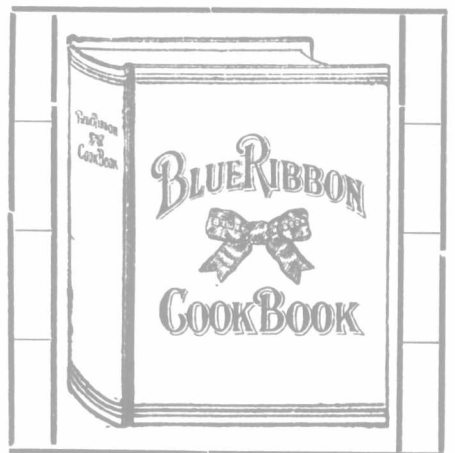
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Ship your WHEAT, OATS, BARLEY, FLAX to us and obtain highest prices

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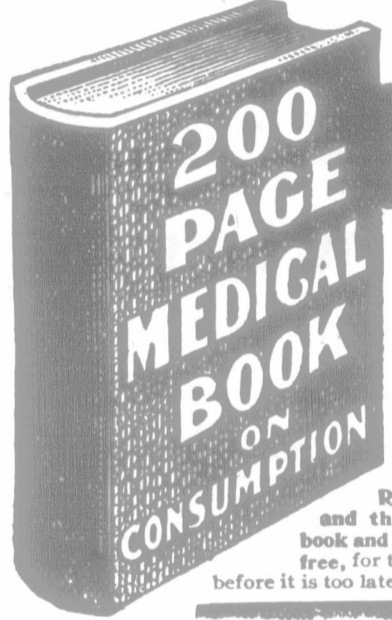
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Fig. 39

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Any Diameter, Any Depth, for
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**Made to
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That's the cheap separator. Pay your money and take your chance. It's a thousand to one you lose.

De Laval Separators

Are built on Honor, and back of their sterling worth stands an organization, which is the purchaser's guarantee of the continued usefulness of his machine.

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Be up-to-date. If you have no TELEPHONE LINE in your locality, build one, it's not a difficult proposition. Get about ten men together with a small amount of capital, organize a TELEPHONE company and build a line.

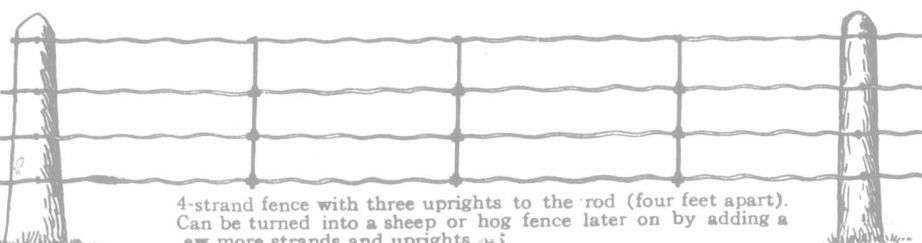
Write for our Bulletin No. 2 to-day. It tells all about organizing TELEPHONE companies and constructing the lines.

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Winnipeg. Montreal.

"Anchor" Field Erected and "Majestic" Woven Wire Fences



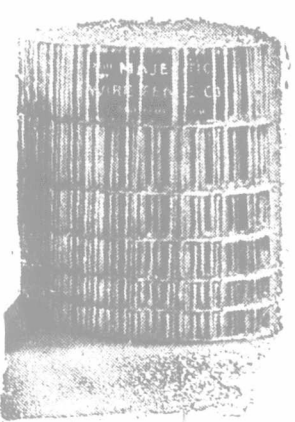
4-strand fence with three uprights to the rod (four feet apart). Can be turned into a sheep or hog fence later on by adding a few more strands and uprights.

Our "Majestic" is a specially designed Hog and General Purpose Fence.

When writing for prices state for what kind of stock required.

Manufacturers of Farm and Lawn Fencing Gates, Coiled Spring Wire, Staples, Wrought Iron Fences, Gates, etc.

We do not sell everything from the proverbial Needle to the Anchor, but fences to turn everything from a Buffalo to a little Pig.



MANITOBA ANCHOR FENCE Co.
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90 PRINCESS ST. WINNIPEG

The Empire Proves Its Claims



The cream separator of Quality—Quality in work and quality in construction—is the

Improved Frictionless Empire Cream Separator

In construction it is admittedly the simplest in principle. Its bowl is the lightest and turns the most easily. It is free of all complicated parts and is most easily washed. Its improved bearings make it as nearly absolutely frictionless as it is possible for a machine to be.

It is so well built and made of such good materials that it outlasts three or four ordinary separators, and very seldom needs repairs.

It gets all the cream and of the highest quality. In convenience, in economy and in satisfaction, it is emphatically the Separator of Quality.

We Prove These Things. We don't ask you to take mere "claims." We give you proof. Send today for our new catalogue. It is well worth your while to find out about the Empire.

Ontario Wind Engine and Pump Company, Ltd.,
Winnipeg, Manitoba,
Canada.



ROBSON
THE OREAM OF THE

KOOTENAY

Messrs. McDermid & McHardy, Nelson, B. C.

Dear Sirs:—

I bought a lot from you 1st Jan., 1907, not seeing it until I moved on it 27th March. I wish to state the quality of soil, and the location of the property far surpasses my greatest expectations. I have lived on the prairie for twenty years, in southeastern Saskatchewan. I travelled over a considerable portion of B. C. before locating here. People on the prairie imagine living in the Rockies means obtaining a very short glimpse of the sun during the daytime. In fact, according to their ideas, the length of time it takes the sun to traverse the space from behind one mountain until it hides itself in obscurity behind the next, is all the sunshine we are entitled to. I was agreeably surprised myself to find we have just as bright sunny days here at Robson as we had on the Prairie.

People in the East, who are intending moving to some other part of the country, where they can enjoy a more favorable climate, and surroundings, would save themselves a great deal of expense and travel, if they would come to Robson. After they had thoroughly examined the property and the location, they would undoubtedly conclude, "They could not possibly wish a better place to live."

I find all prices for produce, and the general description of the property exactly as stated in advertising matter, and not in the least exaggerated.

Yours sincerely
(Signed) H. Hedley.

Let Us Select a Robson Lot for You.
Illustrated Booklet Free on application.

McDermid & McHardy, NELSON, B. C.
MENTION THIS PAPER

**ECONOMY
LIBERALITY
RELIABILITY**

are the three main inducements offered by the Great-West Life Assurance Company to those needing Life Insurance.

ECONOMY - in the way of low premiums.

LIBERALITY - in the Conditions of the Policies.

RELIABILITY - as to ultimate profit returns. No estimate of profit made by the Company has ever failed of realization - and most estimates have been exceeded.

All forms of Policy are issued on terms that cannot fail to appeal to those who appreciate a business-like Contract. Rates on request. State age next birthday.

THE GREAT-WEST LIFE ASSURANCE CO.

Head Office - WINNIPEG

Ask for the leaflet "Our Savings," a short, plain statement of the advantages of Life Insurance.

Farmer's Advocate

and Home Journal

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

June 5, 1907.

WINNIPEG, MANITOBA.

Vol. XLII. No. 767

EDITORIAL

"A man charged at Bow Street Police Court recently with being drunk asked the magistrate to excuse him as he had got very excited over the visit of the Colonial Premiers. A small fine was imposed." Now who said the English have no sense of humor?

* * *

The declaration of Winston Churchill that "the Government had not only banged the door against Imperial taxation of food, but had locked, barred and bolted it, and would not give a farthing preference on a single peppercorn," is worthy of preservation, and effectually puts a crimp in the politicians who are not Free-Fooders.

* * *

"To spend \$10,400 advertising Toronto would be about as ridiculous a way as money could well be wasted. The worst of having an industrial commissioner is that he is certain to think he should do something of that nature."—*Globe*.

Well, that depends whether your publicity commissioner skips with the boodle or not.

* * *

The main reason for the poor railway service given the West is the fact that the heads of the railways are too busy running street car and electric light companies and an occasional bank, fire or life insurance company to give value in service to the shareholders of the railway companies and the public.

* * *

The P. O. Department and Hon. Mr. Lemieux are to be congratulated on the decision to stay by the new regulations regarding the charges on U. S. publications. Lots of the publications from our cousins across the border we value; lots more Canada is better without, but in the running of governmental machinery we are under no obligation, neither is it desirable to overlook the advice in that immortal quotation that "*business is business*."

* * *

Sir William Mulock gave utterance to words, that fall far too frequently from many of our successful men. The tenor of his remarks was that more was to be gained by conciliation than by compulsion, and to quote his words:

"Having been in touch with working men I have found them as responsive to argument and as conscientious as any other class of the community. It is a mistake to say that they are not amenable to reason and sense of right."

* * *

Occasionally Canadian papers criticize their public men, but do not quite come up to the following from a Scottish contemporary: "The Secretary for Scotland did not shine on Thursday afternoon. Mr. Sinclair is not credited with the possession of an undue amount of intelligence, but he possesses sufficient to enable him to gaze severely on a difficult question and pass on without answering it."

* * *

Canon Murray before the Winnipeg Canadian Club of Winnipeg summed up the needs of the province very neatly in the following phrases. He said "the need of the province was one great teaching university. They could not have the breadth of research and have every branch on its proper footing and in due relation unless they had it conducted by men who lived and moved and had their being in one great organization. He likened the continued division of teaching between the colleges and the university not, as some people had, to an ass, crouching beneath two burdens, but to a mule—for such a hybrid organization would have neither pride of ancestry nor hope of posterity."

The Canadian Club of Winnipeg has evinced its sturdy patriotism by protesting against the over use of the Stars and Stripes in Winnipeg theatres. Our neighbours to the south are most estimable people, but we do not believe it essential in order to retain their friendship that we must put the Union Jack second to the Stars and Stripes. Owing to the large ingress of settlers from the south, there has been a growth of sickly sentimentality which prompted a lot of foreign flag flying. This is, and will always be, a British country with the Union Jack for its main piece of bunting. The theatre managers express the wish to oblige the Canadian Club and the growing feeling against so much alien flag waving, a feeling bound to be strengthened by the large ingress of settlers from the British Isles.

Some Troubles of the New Settler.

Almost invariably the bulk of the troubles of the homesteader, especially of the man lacking experience, are entirely preventable. In the first place after debarking with his horses and wagon, he often loads too heavily with lumber and other articles for his new domicile, technically a shack, for which after all, though an error in judgment, he may be forgiven. Further, many of the homesteaders are attempting to team too big loads, and that on wagons with narrow, two inch tires. When one considers the average roads to the homesteads, varied at intervals by slough, sand or alkali bog-hole, it will be seen that a 2½ inch tyre is the minimum and in fact a three inch tyre would be much better. Arrived at the homestead, building has to be done, and if early on the ground a little more time may be allowed for fixing up than otherwise, but when the distance from supplies is considered, the first thing after building a shack is to get at the breaking early each morning. Here again the man with a team of horses or three oxen will find it better to use a twelve-inch walking breaker plow than one going over more ground each round. A lot of the breaking we have noticed this spring is being poorly done, the plows being frequently too large for the amount of horse or ox power used, and in many cases, the plowshare does not cut clean under, and instead of the furrow slice lying flat, it is set up and half rolled or falls back in the spot from which it is half cut. As a result rotting of the sod will be much delayed if it occurs at all, and the crop the next season will be a disappointment. People get anxious to turn over the sod, but it will be found economy to do a little less, and do it well and husband one's power in the form of oxen or horses. Further, the new settler will find it advantageous to break thinly the first land plowed, with a view to backsetting and then later in the season to break deeply, the latter to be well disced either in the fall or early spring. By so doing, the backsetting will be in shape to let him seed some wheat early the next spring. Later on the disced land can be sown to oats. The first season or two many will depend on the wild hay to be found around sloughs, and providing it can be secured in sufficiently large quantities well and good, but if not it will be found far better to sow oats and cut with binder, when on the green side, when the grain is just in the first milk. Such feed is convenient to handle and nutritious for horses or cattle. With the new-comer from the Old Country the advice may be given, to *hustle*. Used to longer seasons than are the rule in Western Canada, he often does not appreciate the imperative necessity for going at his work early in the day and season. The tyro anxious to get work done is apt to drive his animals too hard and as a result plays them out. If an animal is blowing hard (panting) it is evident that the work is too arduous and that it is either being over-done, or is not in health.

Get Fire-Guards Plowed Before Fires Come.

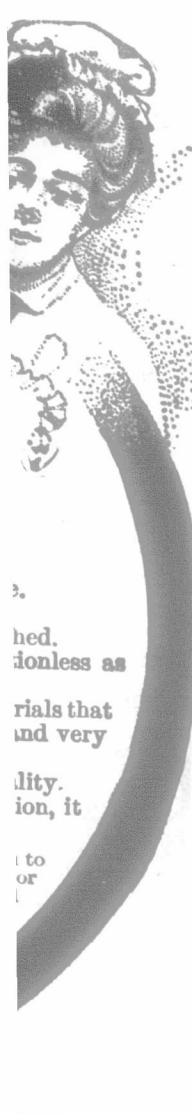
In his hurry to get things into shape in the way of breaking and backsetting, house and stables up, the new settler (and many of the older ones) are apt to leave the plowing of the fire-guards until they are reminded by the windy weather, smoky atmosphere and dried up appearance of the grass of the prairie, that the time for the yearly holocaust is near at hand. If these warnings are neglected, the settler or his family, his ox or his ass or anything that is his, may fall a prey to the devouring wind-aided flames. Others again do start to plow fire-guards, and turn over four or five furrows and think they have paid their prairie fire insurance premium. They expect from the minimum of precaution the maximum of protection. Now the time to plow the fire-guard is when the land is easiest to plow, when the plows are in shape to do so thorough work and make a good fire-guard. It seems to us that a little thought on the part of the settler previous to plowing the guard, would enable him to kill as it were two birds with one stone; namely, by plowing the fire-guard all around the farmstead and plowing enough, not four rounds, but twenty-four or more, to have a piece of ground available for tree-planting a year or two hence. If we are permitted to suggest, we would advise twenty-four rounds, the inner one not closer than two hundred feet to any of the buildings, and then have as it were an outer fire-guard, same width, fifty feet from the outer furrow of the inner guard. Five minutes work by a prairie fire will lick up and destroy five years of man's work and probably take even a heavier toll in the form of human life; so when sky is overcast, the smoke oppressive and the sound of the enemy with its crackling flames and vomit of fire is heard, be prepared, and if so one can rest easy, troubled only by neighborly solicitude for those, who, like the foolish virgins—*were not ready!*

A Pointer for Township Councillors and Pathmasters.

In some districts where good trails obtain and where there is little scope for the statute laborer owing to good drainage along the King's Highway, some feel it incumbent upon them to keep their teams at work and men busy, so set them to plow the road allowance. The result is generally that a passably good road is spoiled or made very rough, a condition ameliorated by time and traffic. The worst result of the plowing of the road allowance is that the upturned earth becomes a suitable nidus for weed growth, and one finds as he traverses the country that farmers have almost at their doors a great weed nursery. Unfortunately the man so pestered is not consulted in the majority of cases or we opine he would not on consideration have agreed to the uprooting and turning over of the sod, which after all was a carpet unpatterned by noxious weeds. It seems, therefore, to us, that councils should exercise their authority in such an important matter, that the road should not be allowed to be ruthlessly torn and disfigured to give employment at statute labor, and that in all cases when the road allowance is so plowed, it should be left with a rounded crown on which the top two or three inches of soil, is in fine tilth, as for a grain crop, and that the whole expanse from ditch to ditch or side to side should be sown to some grass mixture, such for example as blue-grass, timothy, rye-grass, alsike and white dutch clovers. If this were done weeds would be less likely to make the public roads an eyesore and a menace to the farms they border.

The Institute and the Farmer.

The Department of Agriculture in the different provinces each year prepares for a series of farmers' institute meetings in June and this year, we understand, will not be an exception. These meetings are not arranged for the purpose of giving certain persons an opportunity to lecture



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people, but their primary object is to get farmers to meet together to divide their troubles and experiences, and such a habit when practiced, greatly benefits all concerned. The visiting speaker is employed by the Government to give the people a service, and if he goes away leaving the impression that he has not helped them nor earned his money, then one of two things is wrong, and possibly both—the people have not known how to get value out of the man or the man has not known how to give good service, and there is not much choice in allotting the blame. Some institutes are failures for both reasons and some for one of them, but the object should be to get together and try to get more knowledge upon subjects of everyday interest and concern. Every community has its outstanding successes in farming and such men like to know why certain things they do turn out to their advantage. In the same district will be men who are not so generally successful and these should know why certain things they do do not give better results. A mixture of ideas should raise the average of intelligence put into farm work and the more common sense used in farming the better will be the farming.

Farmers' institutes are not meant, as many suppose, to exploit new systems and practices upon the people. They are not schools in which to preach experiments, and when a man is found advocating radical measures and sweeping 'reforms' in a district, his suggestions should be taken with considerable caution. The improvement that comes to a neighborhood in its farming practices comes by gradual evolution, by slowly finding out how ordinary methods can be improved upon and by making full use of whatever suggestions can be adapted to individual conditions.

HORSE

A breeder of horses on the range says that the Hackney is a desirable horse to use and that he gets rid of the cow hocks and ewe necks, besides giving good colors, quality and temperament.

* * *

Before selecting a stallion from those that have been in the neighborhood a year or more, it will be well to enquire if any of the get are affected with ruptures or stifle-out. Some stallions have an unfortunate tendency to throw foals with these weaknesses, so that it is well to make a quiet investigation before deciding which horse to use.

A Tip to Farmers when Purchasing Horses.

Western farmers need to exercise great care when purchasing work horses in order to ensure value for the money they pay. Especially is it the case in buying from horse dealers, and we would advise as follows: Do not purchase work horses brought from the towns and cities or ranches of the United States. Why? Because of the danger of bringing glanders into one's stables. The use of mallein has enabled some stables in the U. S. to detect latent glanders, which when done the diseased horses are shipped to the larger markets, St. Paul, Chicago, et al. and then sold to dealers, often Canadian buyers. The horses do not show evidences of the disease, although liable to develop it at any time, and more liable to spread it in a healthy bunch of horses, but the purchaser by wholesale is given the story that some person has died, and that the horses are being sold to close out an estate. The transfer is made and Canada gets another seeding with glanders. The unfortunate retail purchaser, generally a farmer, is luckily for the country found by the Health of Animals inspector and the diseased ones are shot, but while compensation is paid, the purchaser has been put to a lot of trouble, risk of disease, and expense unwittingly by buying these pariahs from a neighboring country. Moral—Let the imported workers from the South severely alone. We know this advice savors of Protection, but being against disease, it is sensible protection.

Wants Suffolks for B.C.

A writer in the *Enderby Progress* (B. C.) urges the importation of a few Suffolk mares and a stallion or two of the breed, with a view to forming the nucleus of a breeding stud to supply the Okanagan with horses to grade up the common stock. His reasons are that the Suffolk is strong in the points in which our horses show the greatest falling off. They are short in the back, well ribbed up, deep and wide in the chest, active and very hardy; the legs are clean, flat in the bone and free from long hair. Stallions of this breed could be obtained not exceeding 1600 pounds in weight.

There is a large stud at Steveston, B. C., from which exhibits are sent annually to the new Westminster Show.

Defects in Action.

Stumbling.—The tendency to stumble is a very serious defect, and it may truly be said that a stumbling horse has practically no value, except for slow work, as it is not only disagreeable but unsafe to either drive or ride him. My experience has taught me that a purebred horse very seldom stumbles. A stumbling Thoroughbred is almost unknown; so, also, is the defect rare in Hackneys, or other breeds of carriage or coach horses, or in the Standardbred of good quality. The fault is more often noticed in horses of mixed breeding. I am, of course, referring principally to the lighter class of horses, as in the heavier classes, even where the fault exists, it is not of such importance, as the animals are not driven fast, and, being hitched to heavy vehicles, there is little danger to the driver, even though the horse may injure his own knees. Violent crosses in horse-breeding are likely to produce stumblers; for instance, the produce of a heavy, rough mare by a Thoroughbred. To some, this saying that a Thoroughbred can produce a stumbler may sound like "rank heresy," but observation tells us that it is a fact. The Thoroughbred is congenitally a low actor, and if bred to a mare of such cold blood that even his prepotency is unable to overcome, there is a great probability of producing an offspring that inherits neither a fair degree of the size and strength of the dam, nor the quality and activity of the sire; is fitted only for light work, and having to a large degree the sluggishness of the dam and the low action of both parents, is a stumbler, not valuable for other purposes. Crossing cold-blooded mares with sires of other light breeds frequently produces animals of the same characteristics.

Stumbling may be said to be due to three causes; viz., weak knees, low action, or sluggishness. Horses with weak knees, either from congenital conformation or hard work, are, unless of exceptionally active disposition, prone to stumble. Horses of quite low fore action are prone to trip or stumble over slight obstacles; hence are unsafe except on level ground. Horses that are lazy, sluggish, and inclined to loaf, are also usually inclined to stumble. From whatever cause, the fault is very hard to correct, and, we may say, cannot be corrected, but may be avoided by constant care on the part of the driver, by keeping the horse well in hand and overcoming sluggishness, where it exists, by compelling the animal to "drive to attention" at all times. This, to the average horseman, makes driving or riding a labor rather than a pleasure. The use of a tight check-rein removes to some extent the tendency to stumble, but many stumblers will stumble even under those conditions. Stumbling usually occurs when the horse is moving at an ordinary road gait, and if he is taken well in hand and driven smartly, he will go safe; but no horse can stand constant driving at such a gait. In some cases, shoeing heavily, with rolling-toe action, will prevent stumbling, but in most cases shoeing of this kind, while it causes high action while going fast, does not when going slow, but may even have a tendency to make the action more sluggish. On this principle, light shoes should correct the fault, and in some cases do. As in most defects in action, what will have a tendency to prevent stumbling in one horse may increase the fault in others; hence each animal must be treated according to his individuality.

Interfering.—By interfering we generally understand the striking of one hind fetlock with the shoe of the opposite foot. This fault is probably more often met with than any other defect in horses with good conformation. Horses which stand wide at the hocks and plant the feet closely together usually interfere, striking with the forward part of the shoe; while those that stand with the toes well turned outwards and the feet

close together will strike with the back part of the shoe. Interfering is often noticed in young horses when first shod, and disappears when they become accustomed to the shoes and road work. Shoeing with light shoes that conform well to the shape of the foot will often check the fault, but the practice too often adopted of shoeing with a shoe thicker on the inside than on the outside, in order to change the position of the fetlock-joint outwards when the foot is planted, cannot be too strongly condemned. It places the foot and limb in an unnatural position, and predisposes to lameness from sprain of ligaments or tendons. Shoeing with the outside of the shoe a little longer than the hoof, with a low calk on it (but not raised higher than the outside), has a tendency to check that peculiar twisting outwards of the foot and hock so often noticed, and which favors interfering, and is unsightly. When a young horse interferes, he should be carefully shod, and an interfering boot worn until he has become well accustomed to the shoes; and if he continues to interfere, notwithstanding careful shoeing, the wearing of boots should be continued, as, if he continues to strike, even though he does not cut, the constant striking causes a chronic enlargement of the joint, which makes striking still more constant, and will probably materially interfere with his usefulness.

Forging.—By forging is understood the striking of the shoe of the fore foot with that of the hind one. This fault, while possibly not interfering to any marked extent with the horse's usefulness, is very irritating to the driver or rider, and very objectionable. While it is occasionally noticed in horses of all conformations, it is more commonly seen in those with very short backs. It is usually noticed at the ordinary road gait, and seldom heard when the horse is either walking or trotting at a smart pace. In most cases it can be corrected by shoeing rather heavily, and with rolling-motion shoes in front to make him pick up more quickly and go a little higher; and shoeing the hind feet with shoes slightly shorter than the hoof, and without toe-clips. In other cases, a very light shoe in front gives better satisfaction. As with most defects, each horse must be treated according to his peculiarities of action.

WHIP.

Quality in Horses.

At a meeting of the Veterinary Association in New York City recently, the following paper by Dr. Wm. Dougherty was read, which we reproduce from the *Am. Vet. Rev.*, as in a measure it bears on some former articles appearing in this journal on the same question: "The essayist, Dr. Grensied has named all the points that go to make up a good horse—soundness, conformation, symmetry, breeding, etc., and says that quality is 'indefinable' and 'unexplainable.' Quality is found in all breeds of horses and all animals. With Thoroughbreds, for instance, there may be two own brothers or an own brother and sister, raised together, of the same size and conformation, one a first-class race-horse; the other is no account as a race-horse, everything being equal, feed, condition, etc. Now, the difference between these two horses is 'quality.' Look at the great numbers of yearlings that are bought every year, because they had a brother or sister who had quality. Take one, for instance who is a fine specimen; he is written about by all the turf correspondents, and talked about by the experts. He is purchased for a large sum, and sent to the trainer; he admires him; his gait is good; he works along all right for weeks; the trainer commences to put an edge on him for a race. He gives him half a mile at full speed; he pulls up tired. When he has cooled out he is turned in his stall, when he lies down—tired out. The next day he has no ambition for work. In a few days he is given another trial, but he doesn't do as well—he 'goes back.' The trainer is asked what the matter is, and he answers that 'he trained off.' He is rested up and tried again with the same result. He has several trials, and is finally sold. He has no 'quality.'

"As the essayist truly says, one may find quality in all breeds, sizes, and conformations, with many anatomical defects. And one may find handsome, well-bred, sound, well-proportioned horses with no 'quality.' He asks the question, 'What causes the greater density of bone in some individuals than in others?' I would answer, 'Breeding.' The bones of well-bred animals are always more solid and denser; the fibres are finer and more compact.

"Quality may be defined as a well-balanced nervous system. The race-horse with nervous force and power, if sound and properly proportioned, is the kind that is found but once a year, or once in ten years. The greater the nervous power, the greater the horse. The old expression, 'a Sunday horse,' means one that will work on Sunday, and not get rested until the next Sunday. He is a horse with no 'quality.'

"A too high degree of quality often ruins a horse. He is too nervous, and contracts many bad habits, such as 'weaving,' 'stall-walking,' 'dreaming,' etc.

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You will have a race horse in the morning with his mane all in knots and worked together, completely exhausted. The colored boys will tell you 'the fairies have been riding him.' Such horses are almost worthless for racing purposes.

"Quality," or a horse with a well-balanced nerve power, will always heal wounds better than the lymphatic animal, such as cuts, chapped heels, grabs, or other injuries of the legs or body. A Thoroughbred's pulse beats forty to forty-two times per minute; a low-bred horse thirty-six to thirty-four times. Therefore, there is a better supply of pure, fresh arterial blood four to eight times more per minute in the Thoroughbred than in the low-bred horse. An example: Take a horse that has been 'nerved,' let him receive a cut, grab, or chapped heel, and see how difficult it is to heal them up; it will take several weeks. And let me say here that should you have such a case heal it by cicatrization with the nitrate of silver.

"Quality" is shown in the prize fighter who has the punch to put the other fellow out. How often will you see the small man knock out the large fellow who looks the perfect athlete.

"You will often see a small horse who strides eighteen feet beat the large one who strides twenty feet. The smaller horse has to gain one stride in every twenty; but if the nervous force were equal in both horses the larger one would win out easily. It is the well-balanced nervous power that makes one animal superior to another.

"If I had to decide in a few minutes as to the 'quality' of a horse, without the opportunity to give him a proper trial, I would put a file on his teeth. I never saw a horse of low quality with hard teeth. When you find a horse with teeth as hard as the file you will have a horse with 'quality.'

"The essayist speaks of hot-blooded and cold-blooded horses. The thermometer shows no difference in the temperature of different breeds. I presume he would call a Thoroughbred a hot-blooded horse, and the common horse the cold-blooded one. They both show the same temperature in a normal condition, and in disease they are about equal. But at work, at very high weather temperatures, there is a vast difference. The Thoroughbred will stand more heat and will go a greater distance without raising the body temperature as high as the low-bred horse. A horse in good condition, trained for a race, will not raise the temperature going a certain distance as high as he would if he were not in so good condition. I have been among horses for fifty-one years, and I have never seen but two Thoroughbred horses overcome by the heat. It occurred in June, 1874, at Jerome Park. There were two horses that had been winners at the meeting. The trainer had won a barrel of money on them, and so when the races were over he went to New York and stayed there for a week. The horses were not exercised all this time. The morning he came up it had rained and the sun came out very hot. He worked the horses two miles and repeat, with the result that both horses were overcome and fell. I happened there and put a bag of cracked ice on their heads, with other refrigerant treatment, both animals making rapid recoveries, without any ill effects. While this is digressing from the point at issue, I am interested in this phase of the subject, because some years ago I made some observations with the thermometer in training horses. I reason that the Thoroughbred, owing to his thin skin, and the fact that his veins stand out more prominently, has his blood cooled more than the coarse-bred horse, whose blood does not come to the surface as does that of the Thoroughbred.

"You will find that in a well-bred horse, or a horse of 'quality,' the nerves are larger than in a horse with no 'quality.' This I have observed many times."

STOCK

(Contributions invited. Discussions welcomed.)

Pigs Dying that are Not Too Fat.

EDITOR FARMER'S ADVOCATE:

Since answering my enquiry regarding loss of pigs I see there are a number of replies concerning the losing of spring pigs. They all appear to have the same story, "Too fat," or "Not enough exercise." I know most of the sows in my neighborhood were *not* too fat, and since I last wrote I have met farmers from within the radius of thirty miles and they all have the same complaint. I could count at least thirty litters that have been lost and in some cases they have lost the sows too.

In regard to exercise, it is a difficult matter to exercise sows in winter where there are from two to four feet of snow, and I think as regards feeding we are not all greenhorns at the game. We generally feed about two thirds oats and one third barley and not much of that to breeding

sows. I still think myself that it was want of grit and exercise on account of the snow, pigs not being able to travel round and get fresh earth or anything in that line. Since writing I have had four sows farrow in May, first litters for each, and have thirty-two as good and strong pigs as I ever saw, and the sows were wintered with the others I lost the pigs from. They were all young sows, but well grown and over a year old, so I don't think it can be put to *immature stock*.

From all accounts, in this part more than 75 per cent of the spring pigs have been lost. Sows are generally bred to farrow early enough in the spring to catch again for a fall litter, but anyone who has them coming at this time is doing O. K.

ONE OF THE CROWD.

(Having visited some of the pig breeders whose experiences have been detailed in this journal, and having discussed the matter with many of them, we are of the opinion that *lack of exercise* was the main cause of the great mortality. We find further that the successful raisers of pigs this spring have had their brood sows rustling around outside all winter. The heavy losses in breeding stock and their offspring are not confined to pigs, for many horsebreeders report losses of foals and mares this spring. Here again we believe lack of exercise had a great deal to do with the matter. To turn brood mares out in a yard in winter is not sufficient to ensure enough exercise. They would be better drawing straw.—Ed.)

That Big Steer.

On this page we publish an illustration of a steer which attracted considerable attention in the district where he was raised and among the people who saw him at the butcher's. We call attention to this steer here, not because he is the type of cattle a breeder should aim to produce, but rather because he is of a type that is fast losing its claim upon the breeder. Everything about this steer bespeaks a late maturing type. He is big, high off the ground and gets his weight from the size of his frame and length of body rather than from thickness of flesh and depth and thickness of body. Experience has taught cattle breeders that the nearer they can get cattle to the ground, the smaller the proportion of bone and the quicker they can get them to maturity the more profit there is in raising them. True an 1860 lb. steer brings a lot of money, but the ideal steer is one that will weigh from fourteen cwt. to sixteen cwt. as a long two-year-old. The meat a steer makes during the first two years of his life is the cheapest beef that is produced and the addition the steer in the illustration made during the past year we venture to say was the most expensive to produce. In effecting improvement in cattle stock the use of purebred bulls of model conformation, bred

from low, thick, meaty cows, is the greatest assistance a man can secure. Breeding of that type saves grass, grain and hours, weeks, months and often years of time in producing a ton of beef.

The Sheepman's Opportunity.

Although sheep are about the best live stock a farmer can handle from the standpoints of docility, economical use of feed, healthiness, returns given for the money invested, and as aids to weed suppression, the fact remains that their numbers are not increasing on the farms of Western Canada. A Chicago market report contains the following words among others:

"Canada's lamb crop will be light, winter having hung on persistently over there. The result of this will be little Canadian mutton on the Buffalo market next fall. Canada is not participating in the sheep development on this side of the line and in Toronto not enough live mutton is available to supply local demand. I was given an order for a load of sheep by a Toronto butcher and I believe it is the first instance of mutton being bought in Chicago for shipment to a Canadian point. Ontario is an ideal sheep country, but they are not getting our prices for wool, 16 cents being bid for the kind that sells in Michigan at 25 @ 30 cents. I can not account for it except that buyers are stealing it. If Ontario had access to our markets it could get rich growing wool and mutton."

Several men have done something in sheep raising on the prairie, some with purebred flocks, others with grade stuff run entirely as a commercial proposition. Every one of these men has a good word to say for the industry, which is a clean one and in this country sure to pay a profit, with its two annual dividends, lambs and wool. The expense of starting a flock is not large. A bunch of range ewes, with some Merino blood and a ram of the mutton breeds, a good corral and open sheds and one can make a start. As to the most suitable purebred to use, Gamley and Thos. Jasper swear by Leicesters, Alex Wood and Jno. McQueen by Oxfords, Jno. Turner by Shropshires, and others by Lincolns. Any are good enough, provided the rams used are good specimens of the breed. People will eat mutton, for which the prices paid are steadily good and have been for the last five years in the West.

Performance, Not Promise, Counts.

The requirements for admission to the record of performance in Ayrshires is quite rigid, as will be seen.

Bulls.—Admitted after having four daughters in the Record of Performance, each from a different dam.

Cows.—Admitted after fulfilling the following requirements of production and breeding as supervised by the Live Stock Branch of the Department of Agriculture.



Photo by Teagart, Lumsden, Sask.

FOUR-YEAR-OLD STEER. WEIGHT 1860 LBS

Bred by J. A. McKay of Tragarva, Sask., and sold to Jas. Wilkie, Lumsden, for local trade.

All cows admitted must equal or exceed both the records specified below:

	LBS. MILK	LBS. BUTTER FAT
Two-year-old class	5,500	198
Three-year-old class	6,500	234
Four-year-old class	7,500	270
Mature class	8,500	306

The per cent. of butter fat shall be determined by Babcock test.

If test be commenced the day the animal is two years old, or previous to that day, she must produce within 365 consecutive days from that date, 5,500 pounds of milk. For each day the animal is over two years old at the beginning of her year's test, the amount of milk she will be required to produce in the year will be determined by adding 2.75 lbs. for every such day to the 5,500 lbs. required when in the two-year-old class. This ratio is applicable until the animal is five years old, when the required amount will have reached 8,500 lbs., which will be the minimum amount of milk required of all cows five years old or over.

If test be commenced the day the animal is two years old, or previous to that day, she must produce within 365 consecutive days from that date, 198 lbs. of butter fat. For each day the animal is over two years old at the beginning of her year's test, the amount of butter fat she will be required to produce in one year will be determined by adding 0.1 (one tenth) of a pound for each such day to the 198 lbs. required when in the two-year-old class. This ratio is applicable until the animal is five years old, when the required amount will have reached 306 lbs., which will be the minimum amount of butter fat required of all cows five years old and over.

Every cow accepted for registration of production must drop a calf within fifteen months after the commencement of the test. In the four-year-old class and the mature class, no cow will be accepted for registration of production if the beginning of her previous lactation period were more than fifteen months before the commencement of test.

Pretty Good Prices for Produce.

The prices given below were agreed upon at the annual convention of the Canadian Society of Equity as the minimum prices at which the farmers of Alberta should sell their products on the local markets.

Wheat, No. 1 Northern, per bushel.....	\$.75
Wheat, No. 1, Alberta Red, per bushel.....	.75
Oats, milling, per bushel.....	.30
Barley, malting, per bushel.....	.45
Hogs, alive, per pound.....	.06
Hogs, dressed, per pound.....	.08
Beef, alive, per pound.....	.04
Beef, dressed, per pound.....	.06
Hay, best upland, per ton.....	12.00
Butter, fresh, per pound.....	.30
Turkeys, dry picked, not drawn, per pound.....	.17
Eggs, fresh, per dozen.....	.35

The figures above were published May 15th, and it will be found interesting for our readers to compare the prices suggested with the real market prices.

Tuberculous Cattle Dangerous.

Since the pronouncement a short time ago of the special commission of investigation of the British Board of Agriculture, which practically backed up the contention of many scientists that tuberculous cattle are dangerous to the health of human beings, there have been published the results of some investigation work carried on by the U. S. Department of Agriculture, the conclusions from which we publish below. The great lessons of the investigation results are: First, the necessity for absolute cleanliness, in milking, especially by the milker; and second, the need for the proper use of the tuberculin test. It will be seen readily that the contamination of milk is generally from the outside, by foreign matter, a conclusion which has been proved time and again.

1. Tubercle bacilli are disseminated with the feces (manure) of tuberculous cattle. This is shown to be the case by microscopic examination, by inoculation tests with guinea pigs, and by ingestion experiments with hogs.

2. Feces are the most dangerous factor in the dissemination of tubercle bacilli by cattle affected with tuberculosis. In this respect feces must be regarded as having a place with cattle similar to that commonly accorded to sputa with tuberculous persons.

3. It is not alone the feces of visibly affected cattle which disseminate tubercle bacilli in a way that is dangerous to man and animals, but also the feces of cattle so slightly affected that the diagnosis of tuberculosis with them depends entirely on the application of the tuberculin test.

4. Tubercle bacilli that are swallowed by cattle are to a great extent passed entirely through the digestive tract and out with the feces without loss of infectiousness. As cattle do not expectorate, the infectious matter that is coughed up from their lungs is swallowed, passed through their bodies, and scattered with their feces.

5. Bacilli may reach the environment of tuberculous cattle from their mouths, but this is evidently of rare occurrence compared with the dissemination

through feces, especially when the cattle are not visibly tuberculous.

6. The nasal discharge of tuberculous cattle was found to be free from infectious material.

7. Urine is probably free from tubercle bacilli when the genitourinary organs are not affected and no infectious material has been introduced into it after it has been passed. The practical significance of this conclusion lies in its bearing on the question whether tubercle bacilli are ever thrown out by tuberculous subjects through unaffected excretory organs with otherwise normal excretions.

(Continued on page 869.)

The Future for Shorthorn Breeders.

It is generally accepted that for the Middle West, the dual-purpose type of Shorthorn is the one most suitable to the condition of the average farmer. *Farmer and Stockbreeder* comments instructively on the breed, in part as follows:

"To-day the beef type of Shorthorn still commands the almighty dollar in more abundance than the milking type; and while the prices do not appear quite comparable with the remarkable figures realised in the autumn of last year or in the earlier part of 1906, yet it is abundantly evident that the home demand is strong enough jointly with the comparatively, few orders from South America still unfulfilled, to keep the market prices at a high level. The breeder has been so busily engaged producing to sell that he has held his hand in strengthening his herd from outside sources. Everywhere one hears the same tale—Where can well-bred, stylish bulls be procured for stud purposes? One thing is certain: the supply is much smaller than the demand. Many herds possess very good light-colored bulls, but sound-colored reds of scale, character and breeding are very hard to procure. The color difficulty was never more acute than now. It may have been the fashion at one time to decry the little red Cruickshank bull, but there can be no doubt that the red Shorthorn has been at the top of the tree in the revival that has been witnessed within the past twenty years in Shorthorn breeding. More than that, it has exercised unexampled influence on the type and character of the modern Shorthorn.

"What is the position of the breeder to-day? It may be taken as an accepted fact that every pedigree Shorthorn breeder is nowadays looking keenly after the bull trade. With some it may not be the all-powerful and dominant influence, but that does not prevent them realizing that young bulls of the right stamp and bred the right way command more money than many gallons of milk. But the difficulty lies in endeavoring to combine two types in one herd. There are deep milking Shorthorn herds, but where deep milking propensities have been encouraged to the extent of producing many four-figure gallon cows the difficulty of producing bulls that fetch high prices is intensified. There are other herds again in which the distinctly fleshy type prevails. Milking qualities are encouraged, but not to the detriment of flesh. Here bull breeding thrives. There are no milk churns to be dispatched with punctilious regularity, therefore the cows are not driven to produce the last ounce. It is an axiom amongst most dairymen that cows in full profit cannot lay on flesh and produce a heavy yield of milk at the same time. Therefore, the milk, in whatever quantity it may be yielded, is manufactured at home—cheese, butter, or perhaps a cream trade being encouraged. It is on herds such as these, where the sympathies of the owners are divided, that the prosperity of the Shorthorn mainly depends. Its resources are commanded both from beef and from milking sources. They produce bulls that sell well, and can turn an honest penny from the milk which is not wholly consumed by nursing the calves.

"Most breeders are convinced that *nothing is more calculated to reduce the milking properties of a cow than putting a single calf to suckle her. It is necessary that the vessel be properly stripped if a cow is to increase in milking capacity.* Therefore, when milking capacity is apparent, two if not three calves can be reared on one cow with advantage to the calves and the cow. The breeder whose one aim in life is to produce a beef Shorthorn irrespective of milk is, as a rule, not so particular. He very frequently finds difficulty in getting sufficient from the dam to nurse the calf well, and probably this indifference in milking capacity explains why it is that nurse cows are sometimes secured for this purpose. The greater the supply of milk, some seem to think, the more bloomy the calf, which is true enough within certain limits, but the calf should not be allowed access at all times, as it has the tendency to decrease the supply of milk in the dam, and at the same time exercises no traceable and corresponding benefit to the calf. If the milking qualities of a cow are worth encouraging, it is just as well to follow the well-ordered plan of suckling at stated periods.

"One question which has troubled breeders of late years has been the regulation of type in their herds. Most Shorthorn breeders have been running strongly on the Scotch Shorthorn cross. But that has its limitations in the ordinary herd, and where to secure another outcross on Bates lines has taxed the consideration of not a few. There is difficulty in acquiring bulls, for good Bates bulls are hard to find. Consequently many breeders have recourse to cows and heifers of

Bates blood, while sticking to the Aberdeenshire type of sire. This partially accounts for the increased attention given to milking type, which is recognized partly as a corrective to the extensive use of the beef type. It is for this reason as much as any other that we believe the prosperity of the two types to be inseparable. The one is an admirable corrective to the other. The foreigner is chiefly instrumental in creating high prices. The Scotch type, or first cross on Bates, is his particular fancy, and through it the milking Shorthorn secures a considerable portion of its demand. The home trade in milk is extremely important, but to breed bulls of a milking type is equivalent to courting the patronage of the least remunerative market."

It is the same in Western Canada. Good bulls are hard to secure, yet occasionally one hears of a good sire going to the shambles at five or six, when he should have been kept as long again for breeding purposes. Properly fed and exercised a bull should not lack in potency or fecundity at the age of ten years.

FARM

(Comments upon farming operations invited.)

One gopher destroyed now will mean fewer to destroy later on. These little rodents are great multipliers, so get after them early. If the season happens to be dry, crop near bare prairie will suffer heavily from their depredations.

* * *

An experimenter with considerable knowledge of alfalfa and other useful forage plants put the following pertinent query to us—"Where do the seedsmen get all the Turkestan alfalfa seed that they offer for sale?"

Some Valuable Information on Forage Crops.

After the bulk of seeding is done, especially of the cereals, the question of forage crops begins to loom up, for next to providing for himself, the merciful and wise farmer will seek to provide for his live stock. At the Agricultural Experiment Station of the University of Minnesota some investigations have been carried on which are very interesting and it is expected will be profitable. The work done was in the Division of Agricultural Chemistry and Soils, the object being to assist in providing forage crops of a higher nutritive value than those available. As Professor Snyder remarks, "The quality of forage in live stock feeding is of great importance, because by the use of more concentrated nitrogenous forage, rations can be prepared requiring smaller amounts of grains or milled products. This results in a material financial saving in the feeding of stock." With this idea in view experiments were carried on, from the results of which the following summary has been obtained. Our readers should also take note to the conclusions re rape which bear out the statements of Agriculturist Grisdale made at the Manitoba Live Stock meeting some years ago. In the investigation of forage crops of high, medium and low protein content, it was found that crops, like corn fodder, timothy hay, rape, pasture grass and hay crops from mixed grasses, were materially influenced in composition by the use of farm manures. The maximum protein content was secured from soils where the fertility had been maintained by the use of manures and crop rotations. Less fibre and from 25 to 30 per cent. more protein were secured from forage grown upon soils where the supply of plant food had been kept up, than from that grown on similar and adjoining soils where the fertility had been allowed to decline. This emphasizes the importance of maintaining the fertility of the soil as a factor in producing forage, not only for the largest yield per acre, but also of the highest feeding value.

The leguminous crops, as clover, alfalfa, and peas, do not appear to be so susceptible to the influence of fertilizers in increasing the protein content as crops like timothy, corn fodder and rape. The use of larger amounts of leguminous crops and other forage rich in protein requires less supplementary feeding with grain and mill products.

An examination of a number of samples of clover, alfalfa, pea, bean, rape, and millet seeds of known purity and uniform ripeness showed in the case of each sample two distinct types of seed; one of high and one of low protein content. The two types were capable of being selected on the basis of physical properties. The high protein seeds were darker in color and more numerous (harder in the shell) in character than the low protein seeds. It is believed that a selection on the basis of physical properties of high and low protein types may result in the production of crops of the maximum protein content. This has been accomplished

Analyses of eighteen samples of the more common weeds showed that many of them assimilate from the soil large amounts of nitrogen. When weeds are harvested with grain crops the amount of nitrogen removed by the weeds is larger than that contained in the grain. The protein content of some of the weeds is greater than that of some forage crops, but the bitter principles and other objectionable compounds present render the weeds unsuitable for general forage purposes. Sheep, however, are capable of utilizing the nutrients in many weeds.

The dry matter of nearly mature rape contains about the same amount of protein as clover. Much care should be exercised in the feeding of rape to prevent hoven or bloat.

Rye fodder, prairie hay, and millet have about the same general composition and feeding value as timothy hay produced under similar conditions and cut at the same stage of growth.

Pasture grass and hay crops from mixed grass seeds and some clover contain more nutrients, particularly when grown on well cultivated and manured land, than timothy, red top or blue grass alone.

It is believed that a selection of the high protein type seeds of clover, alfalfa, peas, and beans combined with suitable cultural methods, would result in an increase of proteids in the crop. A close relationship was observed between the physical properties and the chemical composition of seeds, rendering it possible to select seeds of high and low protein content on the basis of physical properties. Manures judiciously employed are capable of increasing the nutritive value as well as the yield of forage crops, as timothy hay, corn fodder and millet.

Sorry He Sowed Brome Grass.

EDITOR FARMER'S ADVOCATE:

I have only tried brome grass and that I sowed down with oats and had a good crop last year, but if I had known as much before I sowed it as I do now I should not have sowed it at all. It is the worst weed we have in this part of the country. The next I seed will be timothy and clover, and I think it will be all right to seed down a summer-fallow without manure.

Oxbow, Sask.

HUGH HAMMELL.

Likes the Bare Fallow.

EDITOR FARMER'S ADVOCATE:

Re the questions you ask I should say that bare fallowing is preferable to seeding and grass for resting the land. As to which grasses are best I could not give any decided opinion on that question, as I do not grow any grass except timothy, my method being to fallow, then take a crop of wheat; next year I sow down timothy with barley, taking two crops of timothy and then plow it up. I may say that on no account would I sow brome grass, as it cannot be cured, and I would as soon have couch grass growing as brome.

As to how a catch should be handled, the way I do is to cut as soon as the first bloom is off, then coil so that it cures properly and then take direct into the barn.

WM. HASSEFIELD.

In the Sub-Arid Country.

A short time ago we had the pleasure of a drive in the Lethbridge country, where coal outcrops on hillsides and where fall wheat and alfalfa flourish. Not far from Lethbridge in the Alberta chinook belt is the Southern Alberta sub-station of the Dominion experimental farms system, under the charge of Agriculturist Fairfield. M. S. (the northern sub-station being located at Lacombe under charge of G. H. Hutton, B.S.A.) The Lethbridge sub-station will demonstrate two methods of working land in the sub-arid regions of Southern Alberta, by irrigation and dry land farming. Moisture for the crops is the great desideratum in the calculations of farmers, for that belt of land lying between Manitoba's western boundary, south of the C. P. R. main line, and east of the foot-hills of the Rockies. The work, therefore, to be done by Mr. Fairfield will be watched attentively by the many who are swarming into that country from all points of the compass. The initial step is the subjugation of the more or less barren prairie, (we say barren advisedly, because it is estimated to take twenty-five acres or more of the natural herbage to support one steer) so that Nature's virgin bosom may be made to flow with milk and honey. To do so the plow must do its ruthless work, and the best and most common methods must engage our attention. First, should it be break and backset or break and disc? Generally speaking the best method is the former, albeit somewhat slower. Great care is needed to break thinly and to lay the furrow slice level, or rotting of the sod will be retarded and the backsetting imperfectly done; useful help will be given by the subsoil packer run over the breaking. If the discing method

is to be followed, breaking should be done more deeply. In the sub-arid belt it has been found best to summer-fallow every second or every third year. This spring the winter wheat is in tip-top condition, but moisture must be stored up to give it a proper start when sown in August or early September. Alfalfa is the crop which it is hoped will be largely grown. The plant is in good shape this spring, but whether much of the blue-flowered legume will be sown this spring is a question. It takes a lot of seed, and the seed is costly, \$400 a ton. From irrigated land three tons per acre have been secured at two cuttings, seed being sown at the rate of 20 pounds per acre, without a nurse crop (or as some term it, a murder crop). The catch being grazed lightly in the fall. With the dry land, two big problems are looming up. What is to be the forage crop for dry land farming? and what methods are to be followed or what means employed to replace humus in the soil to stop drift-

Seeding Operations.

For the last two months the extent and conditions of wheat seeding have been matters of conjecture and even now a large part of the public are forming estimates, erroneous and otherwise, upon these subjects. The lateness of the season has been the chief point of discussion, for the simple reason that we have had other seasons that have been earlier. This is without a doubt a late season, but it is just as backward proportionately in many other parts of America as it is in the spring wheat belt.

The lateness of the season has according to all our information only very slightly affected the area sown. True, there is not apparently a large increase over last year, but that is partly due to the fact that the heavy crop last year involved so much work that preparations for the 1907 crop were delayed. Time to prepare the land this spring was also rather limited, owing to the continuous prevalence of heavy frosts. On the whole the bulk of the wheat seeding was about two weeks later than in average seasons and about up to the area of 1906. Coarse grains have been a little more extensively sown than previously and the crop has been sown rapidly, the land being in exceptionally fine tilth, and if the prospects now for rapid and steady growth materialize, harvest should be but very little later than usual and this is only what might be expected after a late spring.

From all over the older settled districts reports of increased seeding to red clover are coming, the lands that have been broken out of scrub and valley lands being most generally seeded with the clovers, and from the experiences gained in our clover competition one and two years ago these should produce a crop with very little care.

Several reports are also to hand of clover fields seeded last spring, and so far all indicate that the crops stood the winter well and promise to make good growth. Seeding to grass is also much more general than in the past, as also is the practice of sowing a mixed grain crop for fodder for horses, cattle and hogs.

Taken altogether the seeding season, although short, has been favorable for getting work done and there is every evidence that the time was more than ordinarily well employed.

Why not a System of Waterworks on the Farm?

One of the objections one hears advanced to farm life is the lack of conveniences around the home. Few people balk at hard work provided that they are able to get a modicum of comfort during their resting periods. The problems of lighting and heating farm houses are as easily worked out as in the towns and villages of the country, and it is now possible, especially if the house is located on a rise of land, to install at a comparatively reasonable cost a set of waterworks, with all the appliances, bath and lavatory fixtures that go with a city system. Comfort, cleanliness and happiness can be had better on the farm than elsewhere, if only a little effort is made. Just recently we were shown plans designed by a manufacturing firm to meet the needs of the farmers and such looked to us to be just the thing needed.

Evils of the Soil Crust.

It is simply a truism to repeat that upon most of our farms a supply of moisture is more essential to plant growth than additional fertility.

The moisture supply serves so many purposes that to understand its full value to a crop one must devote long study to botany, physics, chemistry and other related sciences. Each year sees a greater evidence of the estimation in which a supply of moisture is held by farmers and a more earnest and systematic effort is made each season to conserve the moisture of the cropped land and of summer-fallows. The summer-fallow however, is often the most neglected land about the farm as far as keeping its moisture is concerned, for the reason that it is supposed to acquire all that is necessary, even when it is neglected. But moisture alone is not all that is gained by a well-kept summer-fallow. The moisture with air helps to liberate plant food and keeps the subsoil in good condition to bring up water from lower depths and to allow the root of plants to feed.

To provide air and moisture in the soil, the great essential is to preserve, under all possible conditions, a loose mulch of surface soil. This acts as a blanket to protect moisture below from the evaporating influences of sun, wind and air above. Investigations by the department of physics of the Ontario Agricultural College show that in the dry growing season of 1905 grain crops used two and a quarter times as much moisture as fell on them during their period of germination and growth. In the wet season of 1906 they required one and a half times as much as was supplied in the rain that fell. This extra moisture must have come from the subsoil, where it has been stored up chiefly in the dormant season.

We can thus perceive the great importance of conserving moisture carefully. Much can be done in this direction by thorough pulverization of the soil to plow depth, thus increasing the water-holding capacity of the lower soil; but far more important it is to have the surface layer of two or three inches dry and loose—the drier and looser it is, the more effectually will it conserve the moisture below. Even a slight crust will impair its efficiency, tending to draw the soil moisture to the surface, where it is quickly evaporated. A harrowed or scuffed surface will preserve moisture very much better than a rolled one, or than one over which a crust has formed. To save soil moisture, therefore, never let a crust form when it can be avoided. If crust does form break it up at the earliest possible moment. Every day's delay means serious loss of moisture, which, if the season should turn out to be dry, may be a very serious matter, and is regrettable in any case. By keeping the surface soil loose, we prevent the baking of clays, and thus insure a free range of root growth. Baking is caused by the sudden drying out of a moist, adhesive soil. It starts at the surface as a crust, and thickens as the soil dries out. The soil mulch prevents the rapid drying out; hence keeps the lower soil moist and mellow. Even in a prolonged period of drouth, this under soil will remain friable, and in case the dry weather lasted long enough that the lower soil actually did dry out, it would still be much less hard than if it had quickly dried out by thickening of a crust above. If the value of the soil mulch were better understood, there would be more general use of the harrows to run over clay spots in the spring, instead of waiting till the whole field was ready, and then trying by roller, harrows and disk, to break up the dry, caked furrows.

A soil mulch also provides for the aeration of the soil, which is just as indispensable as the ventilation of a stable, for the processes by which plant food is liberated will not take place without air in the soil, and there must be continued change of air too. The conditions under which aeration or soil ventilation is accomplished most readily are a moderately mellow soil beneath and a loose dry mulch above. A hard, caked or soggy, wet surface does not conduce to the free soil ventilation, and is very undesirable on every count. Nor will the cracks that form in a dried-up field help much to ventilate the soil, for, though they may let the air down, they do not distribute it through the soil body.

Finally, the cultivation which aims to prevent crust from forming, or destroy it promptly if it does, will also kill germinating weed seeds, with no particular pains or effort at all. A weeder used in this way will do more to keep down weeds than a broad-share cultivator can accomplish in destroying them.

In fact, about nine-tenths of the gospel of soil cultivation may be summed up in the simple injunction, "Don't let the crust form."

What Tools Shall I Buy?

"One of the questions naturally asked by the Western farmer who is buying farm implements is, which tools are best suited to my conditions? This question cannot be satisfactorily answered by previous experience in eastern states. Our conditions call for a different line of tools in most cases. Ordinarily we must plow deep. Frequently our soils are very dry and difficult to handle and, for these conditions, special plows are required. We also require special tools for farming the plowed soil, for planting the seed and for maintaining the much advocated 'soil mulch.'

"The object of a plow is not only to pulverize the soil, but to cover weeds or manure in such a manner as to make them decay rapidly and produce available plant food. In a mouldboard plow this pulverization varies according to the shape of the mouldboard, the amount of moisture and the depth of plowing. The steep, short mouldboard, pulverizes more and is capable of plowing deeper than any other form. This type should be used almost entirely as a stubble plow. For completely turning the soil, without pulverizing it, we have the low, long and not abrupt mouldboard found in use as a prairie breaker. Deep plowing pulverizes more than shallow plowing and the work done is more than in proportion to the depth.

For plowing where all conditions are favorable, the mouldboard plow does best work. The disc plow, however, is adapted to plowing in dry soil and will give satisfactory results where it would be impossible to work with the mouldboard type. As a general rule, the large disc is of lighter draft than the smaller one. They have a tendency to pulverize the soil less, however, and do not penetrate so deeply. The 24-inch disc is considered as about the proper size for thorough pulverization.

"The disk plow should be required to cut a narrow furrow, which will prevent the corrugated appearance of the furrow bottom. This furrow bottom will be almost flat when not cutting over 8 inches is width with a 24-inch disk. Under the same conditions, the disc plow is of less draft than the mouldboard plow, but there is not so much difference as is often claimed by the manufacturer.

DISC HARROWS.

"The disk harrow may be considered as the most important tillage tool for the arid West. There is no other tool that will conserve more moisture by using it on stubble after harvest, before plowing time, than this. It is also of great value to thoroughly pulverize a soil in the spring after fall plowing.

"It is adapted to use under various conditions. It thoroughly pulverizes a cloddy plowed field. It may be used as a cultivator for summer-fallowing. On ground where small grains are to follow such crops as corn or potatoes the use of this tool will often make plowing unnecessary. As to the mechanical construction, a 14-inch disk will pulverize the soil more than a larger one. This size of disk penetrates the soil deeper than the larger one, owing to the fact that it has less bearing-up surface.

"For hardness and ease of operation, each gang of the disc should be controlled by an individual leader. Weight pans should also be found on each gang. All bearings should be well protected from dust and so constructed as to be easily oiled. Each disc should be provided with a satisfactory foot lever cleaner. The 20-inch disk will be of less draft than the 14-inch, but will not do so satisfactory work. For ordinary farm purposes the full blade disc does better work than the cutaway disc or the spading disc. It is more easily sharpened and also pulverizes the soil more satisfactorily.

THE SUB-SURFACE PACKER.

"For the preparation of a proper seed bed immediately after plowing there is perhaps no other tool that will do the work so satisfactorily as the sub-surface packer. In turning over the furrow slice in plowing, weeds, trash, manure and clods are placed in the bottom of the furrow. This loose under-layer may have direct connection with the surface between the furrow edges, as some of the trash will be but partly turned under. This condition allows air to circulate freely, thus drying out the furrow slice very quickly. The ordinary method of harrowing or rolling does not pack this ground sufficiently to prevent it from drying out. While the surface is packed and levelled with these tools the loose condition at the bottom is scarcely affected. According to the Campbell system this is directly opposite to what it should be. The under surface should be fined and packed, while the upper surface should be loose.

"By the use of the sub-surface packer upon this newly plowed ground, clods are pulverized, the weeds forming a layer below are compacted, and instead of acting as a layer through which air circulates to dry out the soil, it is held in the best possible condition for rapid decomposition, and in a short time furnishes valuable plant food.

SMOOTHING HARROW.

"The common peg-tooth or wooden harrow is of absolute necessity on a very hard soil. This should contain level adjustment for each section. Each tooth should be well secured. The harrow should be long enough for hitching on four or five sections when desirable. Usually the smoothing harrow

the only tool necessary to follow the disc harrow for finishing the seed bed. For summer-fallowing this tool will cover a large area and often does all the work necessary to keep down weeds and loosen the upper surface. When properly used, it is an excellent cultivator, for small grains and corn especially.

CULTIVATORS.

"Cultivators may be divided into three general classes with respect to dirt moving devices: (1) Shovel cultivators, (2) disc cultivators, and (3) blade or gopher cultivators. The shovel cultivator is commonly used in the corn growing sections. It is adapted to deep cultivation. The disc cultivator is fairly well adapted to use in the corn growing sections also, but up to the present time has not come into general use. The blade or gopher cultivator is well adapted to surface cultivation, and for this reason is suitable to this section of the country. For general use, these cultivators should be equipped with shovel attachments for deep cultivation also. The gopher cultivator keeps the upper surface in a finely pulverized condition, thus preserving the soil moisture.

"The two-row corn cultivator is very rapidly coming into use. It gives very satisfactory results where the rows are of uniform distance apart. The four-row beet cultivator is still more complex than the two-row corn cultivator. Unless the rows are exactly of uniform distance apart it is impossible to do satisfactory work. Where four rows are planted at once, very good results are obtained by following the same rows with the cultivator.

ROLLERS.

"Where the disc harrow and the sub-surface packer are used after plowing there is very little use for a roller. Corrugated rollers and bar rollers are frequently used for clod crushing; they are much better for this purpose than the smooth-faced roller. The smooth-faced roller frequently pushes hard clods down into the loose earth without crushing them. It leaves the surface smooth and thus makes it necessary to follow with a common smoothing harrow, to prevent unnecessary loss of soil moisture. The firming of the soil draws the deeper water to the surface, the surface temperature becomes higher in the sunshine, and the wind velocity near the smooth surface is greater, each of which favors the rapid loss of water. The roller cannot be recommended for general use.

GRAIN DRILLS.

"In grain drills there is perhaps no better form of furrow opener made than the single disc. This, as a rule, gives better satisfaction than the shoe, the hoe, or the double disc, for the arid regions. It cuts through all trash, makes a deeper furrow than any of the other types and is forced into the ground with less pressure. We believe that the press wheel attachment should be used in this section, especially where we depend upon the scanty supply of rainfall to bring up the weeds. The construction of a press drill of this kind should be such that the weight may be thrown on the runners, or on the press wheels, or divided between the two, as may be desired. The drill should also be evenly balanced to prevent necking.

In answer to the question as to the width between the discs—seven or eight inches, Prof. Bainer of the Colorado Agricultural College, from whose paper, read before the Dry Farming Congress, the excerpts are taken, stated that he believed eight inches was close enough. In the discussion that followed the general opinion seemed to be that the press drill is the best for use on Western unirrigated soils.

Too Easily Satisfied.

We are generally told that the farmer is a chronic grumbler, and yet the contradiction is given each year to the assertion, by the yields of wheat reported *via voce* by farmers. Occasionally we find some farmers more or less dissatisfied with the yield, but rather than study out the causes or adopt new methods, they abandon the farm to others, sometimes at a big figure, and go on to the bald prairie to repeat their experiences of the previous one or two decades. Farmers themselves are quick to assert that as a class they are not making money, and it would therefore appear that such being the case, and *we believe it is*, it is up to them to change their methods. The business man wants a return from his business, both for his time and capital invested, and the farmer has just as much right to expect and plan to get the same thing. Not long ago a wholesale man, speaking of his business, said his turnover for the year had been \$200,000, of which he would get five per cent net, but he thought it should yield him ten per cent, with which he could not disagree when the price he was paying in the matter of taking years off his life and the long hours of work and worry, was considered.

Saying generally the average farmer cannot afford to grow wheat one year with another, if the yield drops below a yearly average of twenty bushels, and yet despite all crop failings, the Manitoba farmers' average yield for the past

decade is away below that figure. More and better tillage, the keeping of more live stock, the application of manure, the growing of grasses and clovers and forage crops, contain the solution of the problem; the agriculture of older lands has persisted and thriven because of those things and we must follow their example.

The Best Yielding Forage Crop.

In the West, the popular varieties of corn are the *flints*, due largely to the opinion that such are much earlier, yet many of the dent varieties are sufficiently early and are said to be much heavier yielders. The yield depends largely on the quality of the seed and the cultivation given during the growing period.

The first requisite to a good crop of mature corn is strong, vigorous seed. Seed corn weak in vitality will grow under favorable conditions and produce a fair crop, but if the weather should turn cold and wet immediately after planting, there is a great chance of loss, as it will not remain alive long, and in prolonged unfavorable weather will rot, while seed strong in vitality will remain in the ground a long time without injury, and when favorable weather does come, will come on at a rate that makes up for lost time. Under similar and favorable conditions, there is ten days' to two weeks' difference in the maturing of corn of vigorous seed and that of poor vitality.

Every farmer should grow his own seed corn, if possible. If this is not practicable, he should get it as near home as possible. By growing one's own seed great advantage can be gained, not only in that the plant will become more adapted to the locality, but since, as nothing responds more quickly to a little care, the crop can be greatly improved through judicious selection and pruning. By selecting and planting the early matured ears, the type can be made much earlier; and by proper detasselling of those stalks which have inferior cobs or none at all, the percentage of nubbins and of barren stalks can be greatly reduced in a few years. It is not generally recognized that the present yield of grain could be increased from thirty to fifty per cent. per acre if every stalk bore a well-developed cob. This, however, is a matter of fact, which a few moments' close observation will show. Actual count has proven that a very large proportion of the stalks as now grown bear no ears.

Corn bears a very important place in the rotation of crops. The thorough cultivation required to grow it puts the soil in a fine condition, ridding it of most weeds and grasses. Clover is the ideal crop to precede corn, and should not be plowed too early in the spring, but allowed to grow quite a top before being plowed under. Clover seed may also be sown in corn just before it is cultivated the last time. The best stands can be obtained in this way, and a good covering for the soil be had. Any well broken and backed sod makes a good site for corn planting. In fact, if broken deeply, manured and disced, good results may be had.

To be successful in the cultivation of corn, the soil should be made as mellow as possible, and the seed planted as soon as the land has been thoroughly prepared. Cultivation should begin four or five days after the corn has been planted, by harrowing with a set of light harrows or weeder; this may be repeated when the plant has four to six leaves. After this, it should be cultivated once a week with a small toothed implement, and the land kept as level as possible until the plants get so large as to break when touched by horses or implement.

The best results are obtained from hill culture and being rowed both ways. Planted thus the crop can be more cheaply grown, as it need never be touched with a hand hoe if cultivated at the right times. Labor is too scarce to employ hand-hoeing when one man with a brisk-walking team can do more execution in an hour than he can in a day with a hoe.

A great mistake is made by planting too deeply and thickly. An old rule, that any seed should not be planted more than two and one-half times its own depth, applies admirably to corn, and three grains is enough in a hill; one bushel of seed will plant six to eight acres. Some varieties of corn, such as Compton's Early, Longfellow, and some other small-growing kinds, may be planted three and a half feet apart each way.

The ordinary seed drill may also be used, by stopping up all the holes, but three on the seventeen disc or shoe drill. The drill should be set to drop seed every six or eight inches in the row if fodder is wanted; a little further apart for grain.

Should Calm Some Fears.

Occasionally some sections of the press of Canada and Great Britain have a spasm of fear or nightmare that Canada is being weaned away from the Motherland and that the process is being aided by the great inrush of settlers from alien lands, and especially from the great Republic to the south. Such fears are groundless, as may be seen from the immigration statistics here given. No fear need ever be felt either in Canada or Great Britain, so long as Britishers (Canadian, English, Irish and Scotch) are themselves true to British principles and the doctrines the Union Jack stands for. *Rottenness is most dangerous when it starts at the core.*

Here are the comparative figures for the past seven fiscal years:

Year.	Immigration to Canada 1900-07.			Total.
	British.	Continental.	U. S. A.	
1900-1	11,810	19,352	17,987	49,149
1901-2	17,259	23,732	26,388	67,379
1902-3	41,792	37,099	49,473	128,364
1903-4	50,374	34,728	45,229	130,331
1904-5	65,359	37,364	43,543	146,266
1905-6	86,796	44,349	57,919	189,064
*1906-7	55,791	34,217	34,659	124,657

Totals . 329,171 230,841 275,198 835,220
*Nine months, July 1st to March 31st.

Nearly 600,000 of the immigrants coming to Canada during the seven years out of the total of 835,220 have come from Great Britain or the United States and are of the class of immigrants best fitted for conditions of life in this country. Compared with the cosmopolitan population flowing into the States from all the countries of Europe during the same period, Canada has every reason for self-gratification.

A further analysis of the British immigration to Canada during the same period is also of interest as showing the relative contributions of England, Scotland and Ireland. The figures are as follows:

Year.	British Immigration to Canada, 1906-07.			Total.
	English and Welsh.	Scotch.	Irish.	
1900-01	9,401	1,476	933	11,810
1901-2	13,095	2,853	1,311	17,259
1902-3	32,510	7,046	2,236	41,792
1903-04	36,694	10,552	3,128	50,374
1904-05	49,617	11,744	3,998	65,359
1905-06	65,932	15,846	5,018	86,796
*1906-07	41,658	10,729	3,404	55,791

Totals . 248,997 60,246 20,027 329,171
*Nine months, July 1 to March 31.

It will be seen that the English immigrants have outnumbered the Scotch by four to one, and the Irish by twelve to one. During the past few weeks, however, the proportion of Scotch immigrants has been rapidly increasing.

Some Canadians feel offended by a flamboyant article in the *Saturday Evening Post*, wherein Alberta is termed the "Yankee" province, entirely a misnomer, only a little abuse of poetic license.

The decade since 1896 has shown year by year a steadily increasing influx from all quarters of the globe, the totals arrival for the fiscal year 1905-06 showing an increase of over 500 per cent., as compared with the arrivals for 1896-97. The immigration of the second decade of the regime of the present Government is starting in with a rush which bids fair to keep the geometrical progression rate of increase established during the past few years.

The estimate for the present year is 300,000, a considerably larger addition to the Dominion's population in one year than came in during the whole decade from 1886 to 1896. For the first four months of the present year the arrivals have totalled a little over 80,000. For the first four months of 1906 the arrivals totalled 56,369. The increase is about forty-three per cent. All reports from immigration officials, steamship booking agents, representatives of the Salvation Army and other immigration agencies indicate that this rate of increase will be easily kept up until the end of the year. Probably it will be increased, if the steamship companies can handle the waiting crowds. For the month of April alone the rate of increase was about seventy per cent.

But although considerable stress is put upon

mere increase in numbers, the Immigration Department rightly puts even more stress on the quality of Canada's new citizens and their fitness to become useful members of the growing nation. Canada wants plenty of building material in this process of rearing the national edifice. But Canada also wants that building material to be of the best quality. And one of the most encouraging features of the immigration situation at present is that the largest proportion of increase is in immigration from Anglo-Saxon stock.

APIARY

Easy to Control the Bees.

EDITOR FARMER'S ADVOCATE:

One of the reasons most frequently given by farmers for giving up keeping bees after having had them for a few seasons, is that they swarm just at the wrong time, usually when a farmer is hustling to get a field of hay drawn in before rain comes on it. At such a time it is very annoying to have to spend perhaps an hour or more following a swarm around the premises until it clusters (generally in the top of a tall tree, especially if the farmer is in a particular rush), and getting it down and hiving it in the way that is usually practiced by those who keep a few bees on the side. If these people would only have all arrangements made for the swarming before it commences, have the bees in good modern, movable frame hives, and the wings of the queen bees clipped, they would find the handling of bees and swarms transformed from little short of slavery into pleasure and profit. Swarming, when a person has no control over the bees, is a mighty unprofitable business, and the time spent in watching for the hiving swarms is enough to make an ordinary person wish the bees were in Halifax, or some other distant town. With everything in readiness beforehand, and with queens clipped so that they cannot follow the swarms in the air, the hiving of swarms is just fun, and takes very little time. When a swarm issues from a hive, the queen tries to follow them, and, having a wing clipped is unable to fly, but will be found crawling or hopping along on the ground. A small, wire-cloth cage, made by rolling a small piece of wire cloth, four or five inches square, in a roll perhaps an inch or more in diameter, and closing the ends with two pieces of wood, one of which is fastened tightly in and the other left so it can be taken out, should be kept handy. Take the loose piece of wood out of the cage, thereby leaving one end open. Set the open end over the queen on the ground, and she will immediately run up into it. The plug is then replaced, and the cage, with the queen inside, is laid in a safe place (not in the hot sun). Now, while the swarm is still in the air, lift away the hive from which it came, and place a hive made ready beforehand in its place. Set the old hive on a new stand some distance away from the one from which it was taken, so that the returning swarm will not find it. The swarm in the air, finding itself without a queen, will in a few minutes commence to return to where they came from, and will run into the hive placed to receive them. When they are nicely running in, release the queen close to the entrance of the hive, and she will go in with them—and there you are. No climbing trees, sawing off branches, wasting time, getting bees down your neck, or anything. Of course, this method requires that the bees be watched for swarming, but even the watching can be eliminated if the owner of the bees will take a few minutes once a week in the evening, or any time, during the swarming season, and examine his bees for signs of swarming; and when the signs are found, either make an artificial swarm by the "shaking" process, or by taking away most of the combs of brood and substituting empty ones. This latter way, however, will not prove successful except in the early stages of the "swarming fever."

So, instead of letting your bees run you this summer, and perhaps make you sick of the whole business, take a hand in the running operation yourself. You will find the bees just as easy to manage as the pigs or the fowls, when you get to know them as well, and they will pay you quite as much, or more, for the time bestowed on them.

E. G. H.

POULTRY

Tuberculosis in a Flock.

Would you please tell me what I can do for my hens? They keep on dying all the time. Have lost all the young hens since last summer. They are sick for more than a month. Their crown gets white; they get so poor and weak they can hardly stand. I examined one this morning and saw the liver was all in blisters, three times as big as it should be. There were some white chnucs in it and the liver was frothy. The heart was smaller than it should be.

Alta. S. S.

Ans.—This is what is commonly known as "going light" and is really tuberculosis. It is generally caused by close confinement, not enough good, fresh air and nearly always can be traced to inbreeding, which is very harmful when practiced on a flock, as there are always one or two lacking in vigor. We would advise killing off all birds showing any signs of sickness and taking out all windows in the fowl house, covering with cotton instead. See that your fowl are free from lice and keep everything used around the poultry very clean. We would also advise the isolation of the young chickens from the general flock and if you can manage it kill off all your old birds in the fall and make a fresh start. Always buy a fresh male. Don't try to inbreed on a large flock.

H. E. WABY.

A Few More "Don'ts" for the Poultryman.

Don't be afraid to take out that window and put in cotton if the poultry building smells stuffy.

Don't forget to let the brooder lamp out in the day time when the chicks begin to feather well.

Don't forget to feel under the hover every morning to see if there are any dead chickens. If one should happen to die and be left in, it will do a great deal of harm.

Don't forget that grit is just as necessary to young chicks as it is to laying hens.

Don't stop feeding your hens when the moulting season is near, as that is the time they need it most. You can't get a good flow of milk during spring and summer from a cow if you let her run to the straw pile all winter. The same rule applies to the hen at moulting time.

Don't neglect dusting the brooding hen with insect powder. You cannot raise young turkeys with lice around, and your young chicks, although they may live, would be better without them.

Don't forget that if you can let the hen out when the sun is shining she will soon find enough of what the chicks needs to fill their crops up. We like to see a chick go to roost with crops almost bursting.

H. E. WABY.

Care of the Flock by the Busy Man.

EDITOR FARMER'S ADVOCATE:

Most every one who raises poultry, whether a large flock or a small flock, has more or less other work to attend to and everyone welcomes labor-saving devices. Most people would raise more poultry if they could do it easier and "get things going right," to use a popular expression. We find one of the best plans to raise young chickens is to isolate them entirely from the main flock. By so doing we are not bothered with the older fowl getting any little tit-bits which might be thrown to the little chicks. We believe largely in the colony house plan. A colony house can be built at very little cost and any handy man can put one up in a day. One year we had six of them all built out of two large packing cases put together and covered over with tar paper. You can either pull your colony house or hives up so that they are not far from the house at say twenty to forty feet apart or put them closer and stretch a wire fence of one inch poultry netting around them, so that it can be taken down easily and rolled up in the fall. This is the way we like best and then nothing bothers our chicks. If a cat gets in the cat gets fits; if a dog gets in it doesn't take long to teach him to stay on the other side of the fence. So far this year we have only lost one chick in this kind of fence. A colony house, 6 x 8 ft. floor space, will accommodate about seventy-five chicks till fall; then you

can use the house in a great many other ways. We find them very useful for a good many things. (We used one to store coal in last winter outside.) Have a window in the south side which you can throw open on fine days.

Now the reason for writing this article is to show as easy a method as possible of raising young chickens, and we have found the self-feeder beats all other ways. We can raise nearly twice as many chicks this way and find they are if anything larger in the fall and better matured. We are using self-feeders this year on week-old chicks and from that age we keep them constantly before them and I must say I never saw larger-boned, healthier chicks. In fact, most people who see them can scarcely believe them so young. To start with we take a small, low box and cut holes in the side one and a half inches apart, each hole being one and a half inches wide and about two inches long. Put on a lid and put the feed in, shorts and oat chop ground fine. For mash food sift out hulls, beef scrap for animal food, all kinds of grain crushed coarse. We usually have two feeders in each colony house, one for the mash and beef scraps with a partition between the two, the other for grain after the chicks get older, say six or seven weeks when we use a larger box. Try making one or two; you will be surprised how quickly you can make them. For the older chicks we don't cut holes; just take a piece off the lid, put in the feed and stand it up on its side. Try and get narrow boxes so that a good sized bird can reach across them. Throw all the table scraps in the fence after meal times with a feed of cooked potatoes once in a while and if you don't raise good large, healthy chicks there is something wrong with your breeding stock.

H. E. WABY.

Horticulture and Forestry

Horseradish Culture.

O. E. M., writing from Alberta, asks how to grow horseradish, the methods of cultivation, preparing for the table and if it is necessary to secure a license to prepare and market it.

Horseradish grows so easily that very few words are sufficient to assist anyone to produce a crop. It does best in soils that are rather moist, but not wet, as that would produce soft roots, while dry soil produces woody roots.

In most gardens horseradish grows in some distant corner with other crops, from year to year some of the roots being taken up for using and the rest left to propagate. It is such a hardy plant it may require digging out once in a while to prevent it becoming troublesome. Where grown for commercial purposes its cultivation is more thorough and all the roots are taken up in the fall or spring. For such purposes new roots are set out each spring in rows about 2 feet apart and the cuttings about 12 to 18 inches apart in the row. The ground is then cultivated or a crop of some kind taken off the land that season and the next left to the horseradish exclusively. The cuttings may be off roots about 6 inches in length and from the size of a pencil to that of a man's finger. These "sets" may be secured from a nurseryman or from a growing patch. Cut the upper end square and the lower end slanting to distinguish them and set with the upper end nearest the surface of the ground about 6 inches to a foot deep. The cuttings may be kept in moist sand over winter.

Horseradish is made ready for the table by grating or grinding the roots into a shredded pulp and immersing in vinegar; then kept sealed from the air until ready for use.

Any person may put the product on the market without a licence, but if he can put it up in attractive packages with a registered trade mark and advertise his brand it will tend to increase his business.

Persistence in Tree Planting will Pay Well.

The effect of tree plantations on the homestead are so many and varied that any suggestions towards serving such desirable additions to Western prairie farms will be welcomed by our readers. The advantages have been enumerated time and again, but it will not be amiss to again draw the attention of farmers to the treeless plains of Manitoba, Saskatchewan and Alberta

to them. It is commonly stated and believed that unless you can show people the financial or material benefit to accrue they will scoff at the idea of improvement judged from the aesthetic or ethical point of view. In the first place, trees should be planted by the farmer with a view to ensuring a supply of fuel easily obtained, a proposition quite feasible according to the experiments and statements of men qualified to make such assertions. Then there is the shelter effect, to house, farm buildings and live stock, the aid given to the growing of fruit successfully and gardening, and then the adornment resulting from groves of trees sheltering many species of birds useful to agriculture. Assistant Superintendent of Forestry N. M. Ross, in his report to the Minister of the Interior, gives a lot of valuable information which we have collected for our readers' benefit:

"When the co-operative scheme was first put in force it was looked upon with considerable disfavor by the Western nurserymen, as they maintained it would affect their business unfavorably. In some instances considerable opposition was manifested. The greatly increased demand for nursery stock of late years has, however, conclusively shown that if anything the present system is of great benefit to the nurserymen, and as time goes on it will undoubtedly be found that it would almost have been almost impossible to undertake any work which could prove so beneficial to the nursery trade. The distribution from our nurseries is limited at present to four or five varieties; namely, native maple, ash, elm, Dakota cottonwood and willow. These are sent out only as small seedlings and according to agreement must be set out in block form or as shelter for gardens and buildings. It will be seen that in reality this encroaches but slightly on the regular nursery trade, which chiefly supplies stock for ornamental planting, such as shrubs or large trees for avenue planting, fruit trees and bushes and perennial plants. It has now been fully demonstrated that without shelter it is not possible to grow many kinds of fruit and ornamental shrubs and that the value of the ordinary vegetable crops and hardy fruits such as currants and raspberries, is increased at least fifty per cent. when protected by suitable shelter belts. As every settler is extremely anxious to grow fruit and vegetables and to beautify his surroundings, it will be readily seen that wherever a plantation has been set out under our co-operative system the owner is practically certain to purchase nursery stock for planting on his sheltered grounds.

"It is also very easily seen that in a few years the Forestry Branch will not be able to supply even a small proportion of the demand for forest seedlings which is bound to increase very rapidly. With present facilities our annual stock for distribution cannot exceed four million seedlings, which number is insignificant when we consider the immense territory over which they are distributed. There would be a very good market for seedlings of hardy native trees for shelter purposes, provided nurserymen grew them on a sufficiently extensive scale to permit of their being sold at a price which the ordinary farmer can afford. One-year-old maple and two-year-old ash seedlings can be grown at a very good profit if sold at from \$3 to \$4 per thousand. There seems

to be a very great demand for evergreen trees, but up to the present there is only one nursery in the West where this class of stock has been grown from seed. The native tamarac is another conifer which gives evidence of being particularly adapted to prairie planting. The raising of hardy coniferous seedlings is a work which Western nurserymen would find extremely profitable, as the demand for this class of stock is practically unlimited.

"Since the spring of 1901 over 7,000,000 seedlings have been distributed throughout Manitoba, Saskatchewan and Alberta. The reports sent in by the various inspectors in regard to the different plantations inspected by them are very encouraging. In one or two instances trees have been neglected, but such cases are the exception. The great majority of plantations are in excellent condition, and reports show that at least 85 per cent of all seedlings sent out are now living. The inspectors all report a greatly increased interest in tree planting both in towns and country districts.

HOME GROWN TREE SEED AND TREES ARE THE BEST.

"In 1905 owing to the impossibility of collecting elm seed, several pounds were purchased in the eastern United States. This seed came up fairly well after sowing but the seedlings were completely killed out during the winter. This shows almost conclusively that seedlings of elm grown from seed matured in the East are not hardy enough for this country. About half an acre of seedlings from native seed came through without injury.

"In the spring of 1906, the elms in the Qu'Appelle valley bore a good crop of seed, and we were able to collect sufficient to sow 3½ acres. As this is one of our best trees for prairie planting it is unfortunate that so much difficulty is experienced in collecting the seeds in certain seasons.

"Of all the trees growing on the nursery the native larch, tamarac, gives the greatest promise as a hardy, rapid-growing variety for general prairie planting. Our experience would show that it is an exceptionally easy tree to transplant and appears to be suitable to a great variety of soils. The seedlings planted here were obtained from the swamp in the Spruce Woods Reserve. They were planted in nursery rows for two years and then set out on backsetting, absolutely without protection or shelter of any kind. The growth the first summer was about a foot. The second summer the average growth was 18 inches, many of the trees making as much as 3 feet. Of the number set out in 1890 and 1906 (approximately 6,000), we have not lost a single one from winter killing and not 1 per cent. died after transplanting. This is a much better percentage than we find in any of the native broad leaf trees. We have not yet been able to obtain seed of the native larch, but hope to be able to make arrangements for the collection of some during the coming summer.

"It would seem that when first planted a certain amount of shelter is necessary for the Scotch pine, that is, sufficient to collect snow and keep the young plants well covered. Apparently they are not injured in the winter, but as soon as the snow goes, leaving them exposed to the winds and the effects of thawing and freezing in the spring, the needles become brown and sunburned. In some cases the plants may appear absolutely dead and most of the needles drop off, but a very large number recover and send out fresh shoots as soon as growth starts. In the plantation mentioned above, when



Photo by W. Waby, Okotoks, Alta.

THE PLANTER.

filling the blanks this spring, some rows were not disturbed at all. If a plant appeared to be dead, another was set immediately beside it. We find that a great majority of those then supposed to be dead are now growing vigorously.

"This year several thousand four-year transplanted spruce and Scotch pine raised from seed in our own nurseries were available for planting. An acre of permanent belt set 3 feet apart each way, was put out on the north belt. Three acres of Scotch pine planted alone, with trees three feet by three feet apart, was set out on east belt, and another acre with two rows of pine and one of spruce, to the northeast of the house. Altogether five acres of permanent evergreen plantation, or a total of about 25,000 young plants, were put in. The trees at present appear to be in splendid condition, nearly all having sent out vigorous shoots.

(Continued on page 876)

The Fodder Crops.

There is an amount of judicious planting that can be done in June and the winter just past demonstrated the need of it. Horses, cattle, hogs and poultry and all suffered from the want of more fodder and a greater variety of it. Good chaff, hay and sheaves make first-class feeding material, but roots for winter and spring and corn fodder and mixed grain crops for fall and early winter, are worth all the trouble of growing for cattle and hog foods.

Mangles are usually sown in May, but this year the tenth of June should not be considered too late, and from that time on corn, turnips, rape, and mixed grains for fodder might be sown.

The climate of the Kootenay is ideal and the pleasures of life are numerous. Your home is beside a beautiful mountain, lake or river. Instead of marketing with a horse you use a launch and besides an evening boating trip is a pleasure indeed. Fishing is splendid sport, the waters abound in trout and a 20 pound prize is not uncommon. The people of the Kootenay are naturally elated over their success in fruit raising and future results will no doubt be still more gratifying. The chief cities and towns in the Kootenay fruit districts are Nelson, Kaslo, Trail, and Creston.

DAIRY

Lost or stray—one or more travelling dairies.

* * *

It is safer to estimate the value of a dairy cow by the pounds of milk she produces rather than by the number of ribs shown.

* * *

The West Highlander and its crosses demonstrated its ability to stand hard weather on the range, better than any other breeds, except possibly the Galloway.

* * *

Cattle judging will gradually become easier when people begin to realize that there are three main classes of cattle; viz., special purpose, dual-purpose and no-purpose.

Portage Fair Rejuvenated.

The Portage la Prairie Agricultural Society has been reorganized and incorporated as the Portage-Industrial Exhibition Association. A. L. Hamilton is the president, A. W. Humber manager and Wm. Fulton sec-treas. The annual fair will be held July 9th, 10th, and 11th at the beautiful grounds on the Island.

Likes Beardless Barley.

EDITOR FARMER'S ADVOCATE:

I saw a letter in your paper warning people against beardless barley. Now I got a sample of it several years ago from the experimental farm and am well satisfied with it. It yields a little better than the other and is two weeks earlier. It will not shell if cut at the right time and not left standing till dead ripe. The straw is not so leafy and is finer than the bearded barley.

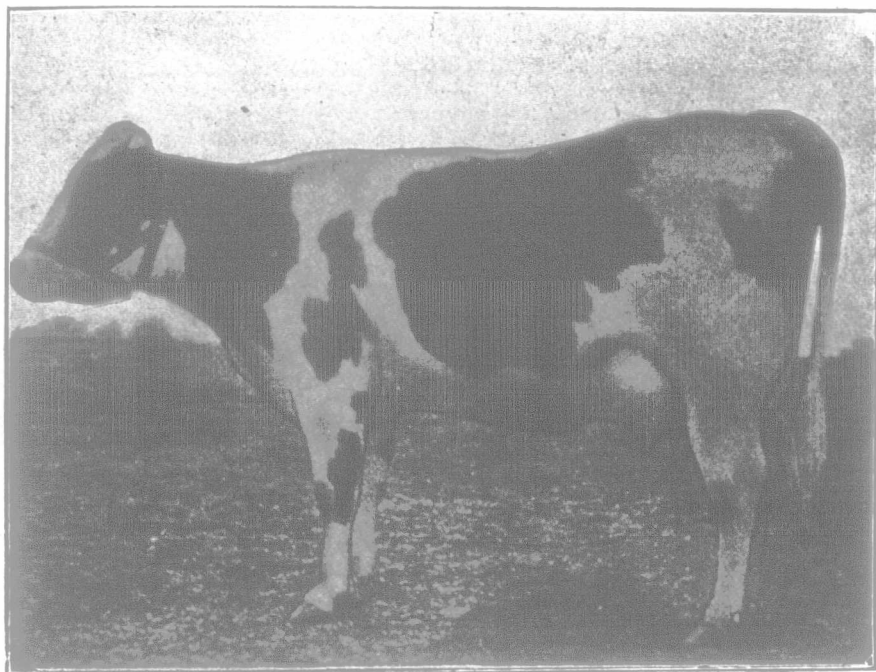
Clearwater, Man.

A. McEWEN.

[Our correspondent is probably comparing beardless barley with the old fashioned common sort. It is seldom we hear of beardless being superior to Mandscheuri and some other of the selected varieties.—Ed.]

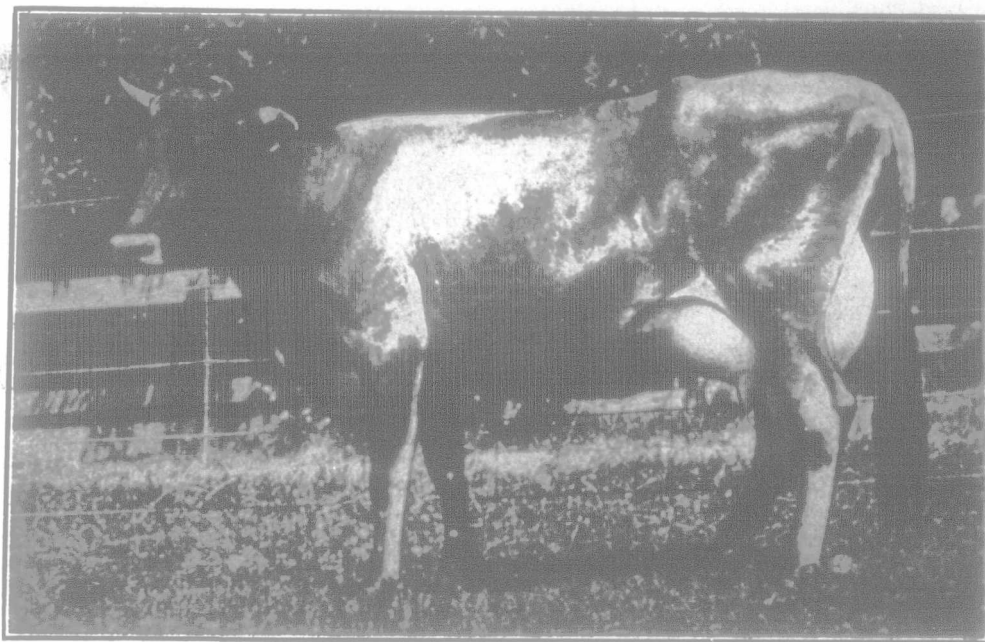
An Agricultural College Shuts its Doors.

The Downton College of Agriculture near Salisbury, England, has closed. It was opened in 1880 and run as a private institution ever since under the charge of Professor Wrightson.



COLANTHA 4TH'S JOHANNA.

Holstein cow; eight years old; holds the world's record for any breed for a 7, a 30, and a 60 days' official test.



PEER'S SURPRISE 144248.

A record-breaking Jersey. Authenticated one year's test, 14,452 lbs. milk, 643.61 lbs. fat, equivalent to 769 lbs. 10 ozs. butter. Owned by W. S. Ladd estate, Portland, Oregon. Test made under supervision of Oregon Experiment Station.

The extension of the dairy industry, the impetus given to hog raising by the strong market and the necessity of cultivating to keep down weeds, should all operate to increase the acreage sown to feeding crops.

Fruit Growing in the Kootenays.

The big western province of British Columbia which has so long been known to the world as the mining and fishing province, has lately brought forth a new industry which bids fair to outrival the others. The industry referred to is that of fruit growing and although it is as yet in its infancy will be the occupation of ninety per cent. of the new settlers coming into British Columbia.

One of the chief fruit valleys in the province is the Kootenay. The way to the Kootenay is via the Crow's Nest Pass and the scenery along this route is magnificent. Arriving at the Kootenay, landing you take passage on a C. P. R. Steamer for a trip up the Kootenay Lake to Nelson and now, probably before you are aware of it, you are in the midst of the great Kootenay fruit belt.

Along this lake and near-by lakes and rivers you will find soil, of a reddish hue, which is so well adapted to fruit raising. Almost every kind of fruit is grown, from gooseberries to the luscious peach. About seventy trees are planted to an acre; as these when mature produce from \$10 to \$35 worth of fruit each, the value of a fruit orchard can be readily seen. After buying a fruit farm it isn't necessary to wait several years until your trees are mature enough to give you an income. In the meantime you can get busy with your small fruits such as strawberries. A good crop of strawberries will net you around \$500 per acre and in some instances as much as \$1200 per acre has been realized.

If spraying needed an advocate, last winter furnished it. On one ranch in the Medicine Hat country, out of 675 mangy cattle only fifty survived the winter; the parasite did more than the cold weather, for it stripped the beasts of their coats and drank their blood also.

Records a Basis For Weeding Out Cows.

Whether the cows are common, grade, or purebred, vigorous selection must still be practiced. In order to select intelligently, it is necessary that accurate records be kept of the cow's performance. It is not enough to know what the herd averages, but we must be able to pick out the poor cows that are bringing the average of the herd down. A man may think he knows his best cow without bothering with the milk-scales and the Babcock test, but the experience of those who have tried it both ways goes to say that he does not always know; frequently the cow that he thinks the best turns out the poorest.

A man may say that he does not have time to keep records. Experience at this station shows that it takes about twelve seconds to record a cow's milk, and the extra pains that a milker will take when keeping a record will more than make up for the time. The keeping of accurate records is at the foundation of profitable dairying. Without it we can do little towards improving and raising the standard of our dairy herd. We need to know the amount of feed that each cow consumes, and then, by the knowledge of her milk, with the per cent. of butter-fat, we can increase or decrease her feed in accordance with the element of profit. The sooner we apply the milk-scales and Babcock test and weed out the unprofitable cows the sooner we will be able to place the herd on a more profitable basis.—Kansas Bulletin.

Still stays by the Babcock Test.

Proj. H. H. Dean in the O. A. C. report for 1906, reaches the following conclusions as to the respective merits of the Babcock and Gerber tests for butter-fat:

"With these twenty-one cows' samples, in which the percentage of fat varied from 3.0 to 5.0 per cent., there was in no case a difference of over 0.2 per cent. fat between the reading as given by the Gerber compared with the Babcock. In most cases the difference was not over 0.1 per cent. These differences are within the 'limits of error' and are no greater than would be found in comparing duplicates with the Babcock test. So far as results comparable with the Babcock are concerned, we should say the Gerber is quite satisfactory. However, the labor of testing is considerably more with the Gerber as compared with the Babcock. The chemicals are also more expensive. After making several comparative tests with the two methods, we are not prepared to recommend the Gerber in preference to the Babcock, although the former is used in Europe in preference to any other short test for determining the fat in milk."

Don't Use too Much Butter Color.

We are just running into the grass season and the quantity of butter color used should be gradually lessened. As soon as the cows are on full grass the coloring matter should be cut out entirely. This should be the case during June and July and sometimes in August.

While that is the case the question of color in farm dairy butter is a comparatively minor one, provided it is not ignored altogether. Of far more importance are the two other qualities, flavor and texture.

How the Fancy Cheeses are Made.

Although some may object to considering Gorgonzola, Roquefort and Stilton as belonging to the same group, they have one essential character in common. The changes of the curd in ripening and the special flavor for which these cheese are sought are attributable in the three varieties to the same species of mould. This mould has been designated in a previous paper as the "Roquefort Pehicillium."

Gorgonzola is made out of cows' milk in Lombardy and ripened in special buildings in cool valleys of the Alps, principally near Lecco. Roquefort is made from sheep's milk in the Department of Aveyron and to some extent beyond this area in southern France. It is ripened in cellars and caves in the sides of a single cliff in the village of Roquefort. Stilton is a cows' milk cheese, made for the most part in the Midland counties of England. Roquefort and Gorgonzola are brought to America in very large quantities. Stilton is found also in the leading markets of our large cities, especially in the East. These three varieties are sold in America at prices varying from 40 to 60 cents a pound. Roquefort commanded the same price in the markets of Europe, where the writer has seen it in nearly every city and town visited. It is clearly a superior article and may be taken as the standard cheese of this whole group.

Externally the cheeses of this group do not show any evidence of the nature of their ripening agents. They are comparatively hard cheeses, readily handled without close-fitting boxes in wicker baskets or crates. For the most part they are specially cleaned or covered before exporting, so that their superficial appearance gives no clue to the story of their production. Internally these cheeses differ much, but have one sharply marked character in common—every opening, every air space, natural or artificial, is lined with green mould. The cut section is thus said to be marbled with green. The odor, and taste are attributable to the growth of this mould. It gives to the fully ripe cheese a piquancy which is much sought for. If eaten only partially ripened there is a bitter taste which is not attractive. This disappears, however, with the continued action of the mould.

The problem before the student of cheese ripening is largely a biological one. A certain stage of digestion of the curd brings with it the flavor sought. It is necessary, therefore, so to adapt the processes of making and ripening as to present culture conditions which will permit the necessary development of the right mould in a uniform manner without the entire decomposition of the cheese.

(Continued on page 870)

Two Methods of Skimming.

There are two forces known to man that can be used for the profitable skimming of milk. One is gravity—the old-time crock, pan or can setting system in use ever since man learned how to milk. Gravity is the force that pulls every object downward—the force that gives all things weight. When milk is set in pans, crocks or cans, the force of gravity pulls down on every particle of skim milk or cream the crock, pan or can contains. But this force of gravity pulls harder on the skim-milk particles than on the butter-fat particles, so that we say skim milk is heavier than cream, bulk for bulk. In consequence of this difference in weight, or pull of gravity, the skim milk settles down and the cream is squeezed up. But not all the cream is squeezed to the top. Some of it fails to rise. There is a reason for this.

When the milk is set away in pans, crocks or cans it begins at once to grow stale. One of the constituent parts of the milk is the casein or cheese part. The instant milk begins to grow stale, this casein or cheese part begins to coagulate or thicken. It first forms sort of invisible net or web all through the milk, and this web grows gradually thicker and thicker until it forms the solid curd or clabber of sour milk. This web cannot easily be detected until it has become very thick, but it is there, even though we do not see it. As this web forms it entangles and holds fast many of the butter-fat globules. The force that skims the milk must be strong enough to pull the entangled fat globules out of this cheesy net, or a considerable portion of the butter-fat will be left in the skimmed milk and be lost. Because it is weak and slow, gravity must be allowed, say, twenty-four hours, to skim a batch of milk. And all that time the milk and cream are standing round taking up odors from the air, growing stale or sour, and the fat-entangling casein web is getting in its work to your loss. The result is bad in every way. The loss of cream sometimes amounts to from one-quarter to one-third, and possibly more in very warm weather; the other portion is left in the skimmed milk and goes to make six-cent pork or veal instead of twenty-five to thirty-five cent butter. The cream that is secured will be off flavor, the butter will show the effect, and stale or sour skimmed milk is not the best sort for your young stock, even though such milk be warmed before feeding. In this way gravity causes the dairyman a great falling off in quantity and quality of butter, and in the value of the skimmed milk. This figures up a heavy cash loss in a year.

Gravity entails needless work upon dairymen. There are all the pans, crocks or cans to be filled and set away twice daily; later, they must all be brought

out, skimmed, and emptied and washed; also, the cold skimmed milk must be warmed before feeding if the farmer desires to avoid bad results in his calves. All this takes time and strength—both of which should count as part of the expense of operating the dairy.

But how about the other and newer skimming force—centrifugal force? How does it work? How strong is it? What does it accomplish that gravity fails to do? You have often watched mud flying off a running wheel; you have doubtless frequently whirled a pail of milk or water about your head without spilling a drop; you have probably tied a stone to a string, whirled it about a few times, and sent it sailing much higher and farther than you could throw it with your arm. Centrifugal force did the work. It is the power that makes whirling bodies pull away from the center about which they are whirled. When a vessel containing milk is rapidly spun around, top like, centrifugal force is generated and pulls outward on the particles of skim milk and cream. But centrifugal force, like the force of gravity, pulls harder on the skim-milk particles than on the cream particles, so that the skim milk is drawn outward against the sides of the vessel, and the cream is squeezed inward toward the center. Add to this spinning receptacle proper driving mechanism and proper tubes for drawing off the skimmed milk and cream into separate vessels, and you have a centrifugal cream separator—a machine that separates cream and skim-milk by the use of centrifugal force.

The most interesting and valuable characteristic of centrifugal force is this—its strength or power can be increased as greatly as necessity requires. That is the great advantage centrifugal force has over the unchangeable weak force of gravity. Centrifugal force can be made strong enough to do perfectly and almost instantly what the force of gravity does incompletely and slowly. Centrifugal force is so great that it can wring practically the last drop of cream from the milk so quickly that the skimming of the entire milk from an ordinary herd may be finished, the single can of cream set away to cool and the skimmed milk fed to the calves before the skimmed milk can grow cold.

The gradual growth of the casein web which so seriously interferes with gravity systems does not interfere with centrifugal force. This great force easily breaks up this web in stale, cold milk and rescues the imprisoned butter-fat particles.

So what will you gain in dairy profits by using centrifugal force, as applied in the centrifugal cream separator, instead of some gravity system in the form of pans, crocks or cans?

- (1) A skimming force which may be made ten thousand times as strong as gravity.
- (2) A possible gain of one-quarter to one-third—sometimes even more—in the quantity of butter you get from the same amount of milk under the same conditions, depending upon the separator and how used.
- (3) A gain in butter quality that will run from one to five cents per pound, according to local conditions.
- (4) You will have fresh, sweet skimmed milk, still warm with the heat of the cow, which will be much better for your young stock than the stale, sour or diluted skimmed milk from pans, crocks, cans or creamery.
- (5) You will have a single can of cream to set away or haul to the creamery, instead of several crocks, pans or cans of whole milk to care for, and your trips to the creamery will be decreased by at least one-half.
- (6) You will require less storage room, less ice and practically no pans, crocks or cans, thereby greatly reducing the cost and labor of handling milk and cleaning milk utensils.

The man who hauls his whole milk to a creamery and carries the skimmed milk back gives his own time and the time of his team and wagon in making his daily trip. Every addition to the load he hauls sinks his wheels so much the deeper into the mud, or wrings the sweat so much the more freely from his horses. He must haul one load each way every day, and then the man who takes skimmed milk home from the creamery gets a stale article, diluted with washings, which may be the means of introducing into his stock tuberculosis or some other disease which afflicts some neighbor's herd.

Value of a Good Dairy Sire.

Everyone is familiar with the saying that the sire is half the herd. This is literally true, writes Professor Wilber J. Fraser, Chief in Dairy Husbandry in the University of Illinois. That is, of the qualities bequeathed to the calves the male parent furnishes half. The cow influences the character of but one calf a year; the bull passes on his personality to many calves, to all the calves of a herd of ordinary size. When he is chosen, half the character of all the calves is as much as that of the whole number of cows taken together.

If he is of stronger prepotency than most of the cows—that is, able to transmit his qualities more surely and strongly to the progeny, which is usually the case with a well-bred sire—then the bull represents more than half the herd. In that case more than half the characteristics of the calf, or the stronger and pre-dominating half, come from the sire.

Now if the sire, as an individual and in his pedigree, is superior to the cows—and this will be true where a purebred sire is used on a grade herd—the characteristics he transmits to the calf will be of more value (of higher quality or greater quantity) than those that come from the mother, and in this sense also the bull will be more than half the herd.

If the sire is kept with the same cows several years, each year he starts out a generation of calves more than half of whose qualities and strength were transmitted by the sire. This single step is a great improvement. But his successor, of similar type and breeding, mated to those improved heifers, carries the improvement forward another step, fixing the qualities and the power to transmit them more surely and strongly, carrying them to a higher degree and eliminating defects that have come from the mother's side. From generation to generation the succession of well-selected sires goes on increasing and intensifying the improvement of the herd. In this way the sire becomes three-fourths, seven-eighths, fifteen-sixteenths etc., of the herd. In fact, in a few years the sire is practically "the whole thing."

So the sire may be much more than half the herd, whether judged by the strength, quality or accumulated effect of the characteristics he transmits. It is literally true that the sire may thus, within a few years, at slight expense, completely transform a dairy herd and more than double its profit.

A GOOD BUSINESS PROPOSITION.

One can obtain a fine dairy sire for \$150, and forty grade cows for \$45 each, or \$1,800. Then a good bull costs only one-thirteenth of the investment; or in other words, one-thirteenth of the investment is so placed as to exert more influence in the improvement of the future herd than the other twelve-thirteenths of the investment. Isn't that a good business proposition?

Won't the extra \$100 put into a good sire be better spent than any other \$100 invested in the herd? Forty-one animals are purchased. The purchase of one animal will influence the succeeding herd more than the purchase of the other forty animals. Isn't it worth while then to give some extra time and study to the selection of that one, the sire?

THE SIRE AND THE MILK RECORD.

In breeding for improvement, the milk record of the sire's female ancestry is of just as much importance as that of the ancestry of the cow with which he is mated—is of more importance if the sire's ancestry has a better milk record.

And the good dairy sire, purebred, is almost certain to have a line of dams with a superior milk record; they have been bred for that very thing. Whether or not these dams have been tested, so the actual figures can be given they are far more likely to have been high-producing cows than are the dams of the grade cow. One of the very greatest things to secure for the heifer calf is the inheritance of a large capacity for milk production, and this comes from the mothers in both lines of ancestry.

The calf will be much more certain of getting a high degree of this quality through an improved sire than from a grade mother. A high milk record in the sire's ancestry affects all his female progeny—all the next generation in a common-sized herd. But such a record in the cow's ancestry can affect but one calf a year (and not that many unless they are all heifers).

ABSOLUTELY PROVEN.

And in general as to all the good qualities that it is desired to transmit, it should be clearly recognized that these may be secured far more surely from the purebred sire than from the general run of grade cows. Nothing is more certain than this. But all that is here urged for the great value of proper breeding is no excuse for a poor or weak animal, simply because he is purebred. No purebred bull is fit to head a dairy herd unless he is also a thoroughly good and strong individual, exhibiting in himself the typical characteristics and high qualities of the breed.

Every man who has had any extended experience or observation in the use of a good purebred sire from high-producing dams at the head of a dairy herd, will agree that this sire was of peculiar value and great economy in building up the herd. The records of dairy breeding have proven it conclusively a thousand times over. No man who studies the facts can doubt it. The evidence is to be seen in the heifers of every such sire, and in their contrast with heifers lacking such parentage.

A curious reader wishes to know, through the FARMER'S ADVOCATE, when, where, by whom, and of what material, the first silo in Canada was constructed? Without speaking positively, probably the earliest silo we recall was over a quarter of a century ago, a few miles south of Ingersoll, Ont. Delegates from the Western Ontario Dairymen's Association went out to see it, and the subject of silos was discussed in the annual convention then by the late Hon. Harris Lewis, of New York State. Glass jars or bottles of silage were exhibited on the platform as a curiosity. At another meeting held in London, Prof. E. A. Barnard, of Quebec, discussed at great length the principles and practice of ensiling as carried on in France.

FIELD NOTES

Events of the Week.

CANADIAN.

It is reported that iron has been discovered in the vicinity of Roblin, Manitoba.

Local option was sustained in the municipality of South Norfolk, Man., by a vote of 300 to 232.

Lieut.-Gov. Dunsmuir of British Columbia lost his yacht by fire when the party was on a trip up the coast.

Sir Wilfred Laurier has left England for Italy, to arrange a commercial treaty between the latter country and Canada.

The C. P. R. Pullman conductor, who assaulted a Swedish girl who knew no English, was sentenced to five years in Kingston Penitentiary.

Premier Pugsley of New Brunswick has resigned, and Clifford W. Robinson, provincial Secretary, has been called on to form a Cabinet.

The work on Government telephone lines in Alberta is going forward, most of the poles being up on the branch between Edmonton and Lloydminster.

Yorkton, Sask., expects to have one of the finest midsummer fairs held this year in the West, and is working to that end. The dates are July 8th, 9th and 10th.

The Alberta provincial coal mine commission is meeting at Lethbridge to enquire into hours of labor, conditions of work, cost and profit of operating in that province.

The appointment of the provincial pathologist and director of the pathological laboratory that is to be established in Alberta, has been announced. The appointee is Dr. D. G. Revell, a Canadian, who is at present pursuing post graduate work in the university of Chicago.

The Saskatchewan Department of Education announces that the following are the centers at which candidates will write on the departmental examinations which begin at 8.35 a.m. on Tuesday, July 2: Yorkton, Moosomin, Wapella, Whitewood, Grenfell, Indian Head, Qu'Appelle, Regina, Moose Jaw, Maple Creek, Carlyle, Weyburn, Carnduff, Oxbow, Saskatoon, Prince Albert, Paseweg and Lloydminster.

BRITISH AND FOREIGN.

Lord Methuen has been appointed commander of the British forces in South Africa.

General Overseer Voliva, Dowie's successor in Zion City, has been ordered by the Receiver to vacate all leases of Zion buildings.

The millionaires and high officials of corporations in San Francisco on trial for corrupt transactions have given half a million as bail in court.

Terrible storms have swept over Texas again during the past week. There was some loss of life and tremendous destruction to buildings.

The bill to provide a court of criminal appeal in the British Isles has passed its second reading by a unanimous vote of the House.

Mrs. William McKinley, wife of the late President McKinley, was stricken with paralysis and died on May 26th at Canton, Ohio. President Roosevelt attended the funeral.

The British Consul at Chicago is completing plans for the opening of a museum to display the varied products of the British Empire, including everything from Canadian wheat to India carvings.

There is a general strike of all the shipworkers of France which has affected every part of the republic, and has even reached Algiers, where the men have gone out in sympathy. There is no violence or disorder, and ships in port are unmolested.

Rebellion has broken out at Wong Tung, China, and all the civil and military officials have been assassinated. Foreigners do not seem to be the special object of attack. Troops are being rushed to the scene of the disorder and there has already been great loss among the rebels.

Fall Wheat in Manitoba.

The experiment of growing fall wheat in the northern part of Manitoba is being watched with considerable interest. A year ago last fall it will be remembered that Mr. A. J. Cotton of Swan River brought in a car-load of fall wheat for seed from Kansas and distributed it widely. The following winter was a hard one on fall sown crops, grasses and clovers, as every one remembers; but some fall wheat was harvested. Last winter was again pretty severe for crops in the ground and the condition of the fall wheat sown is yet rather uncertain. By the 24th of May much of it was looking brown and in need of sunshine and rain. Having since received both we expect it will be making a respectable showing. The experiment has been unusually hampered by the weather, but there is a determination to carry it still further and in view of the fact that the seed was brought from so far south the survival of a small percentage of plants should be encouraging. Time will be required to acclimatize a strain of fall wheat that will be adapted to our northern climate and perhaps it is just as well to weed out the less hardy strains at first. The fall wheat crop is expected to considerably assist in getting work forward in the spring and in getting the harvest off. Mr. Cotton, the moving spirit in the experiment, is to be commended for his enterprise and pluck in persisting in the growing of a crop under such adverse weather conditions.

Ontario Children to get Cheap School Books.

The Canada Publishing Co., Ltd., was awarded the tender for the publication of school books by the Ontario Government recently, the prices for the set of five readers being in all 49 cents, as compared with \$1.15 for the old issue.

In addition, 25 per cent. is allowed off all books, one or more, when bought direct from the publishers, and an extra 10 per cent. on quantities of \$250 worth and upwards.

It is estimated that should each child purchase one book a year in the schools the saving over the old prices will be \$60,000 a year to the parents.

This is figured on 91,000 in the first reader, part one; 56,500 first reader, part two; 75,000, second reader; 81,000, third reader, and 76,000, fourth reader.

The new prices are as follows for the Ontario series of readers:

"First reader, part one, 5c.; old price 10c. First reader, part two 7c.; old price, 15c. Second reader, 9c.; old price, 20c. Third reader, 13c.; old price, 30c. Fourth reader, 15c.; old price, 40c.

"Total cost under new prices for complete set of Ontario readers, 49c.

"Under old price, \$1.15."—World.

It will be to the interest of Western parents to compare these prices with the cost to themselves. School books should we believe be uniform for all the Canadian provinces, and should be prepared by a Commission appointed by the various Governments.

A Successful Imperial Conference.

The Imperial Conference in London, England, has been a great success, not so much for what it accomplished as for what is left undone. This is no disparagement at all of its utility. A periodical conference of Colonial Premiers with representatives of the Home Government makes for mutual understanding and if, in the present instance, there were few misapprehensions to clear up or difficulties to remove this quite probable that the Conference will have proved useful in averting impending trouble from some unexpected quarter or other. Not knowing when or whence difficulty will arise, it behooves the Empire to keep in close touch each part with the others. This is precisely what has been accomplished.

The besetting danger of a Conference such as the one just held is the mischievous tendency on the part of some of the assembled representatives, and of their friends at home, of thinking they must do something to make a big spread to flap their wings and crow over. That such an eventuality was avoided, was due in large measure to the sagacious statesmanship of Canada's Premier, Sir Wilfrid Laurier. Upon the question of an Imperial Council his mind was definitely made up, his reasoning farsighted and clear. He realizes that formal representation on a permanent Imperial Council might, through indiscreet representatives, or more probably through the decision of the majority, drag Canada and other Colonies into entanglements which they would instinctively avoid if left free, as at present, to choose their own course; and, anyway, the Colonies are too busy minding their own business to interfere unnecessarily in world politics. Great Britain can count on our moral support and on our active help in time of need whenever her cause commends itself to our judgment. That is enough at present. It is as close a union as is feasible. Britain keeps us with her by the very freedom she allows us. Attempt to forge links of formal union will destroy the harmony that now exists, cause friction, and create a sense of thrall-dom. True Imperialism is a spirit—not a form.

In line with this view is Canada's position on the question of preferential trade. The Dominion gave a preference to Great Britain primarily as a needed measure of tariff reform. Our tariff was too high. It imposed a needless burden upon our consumers. We concluded to lower it somewhat, and, instead of

simply making a sweeping general reduction in our schedules, we cut the larger slice off imports from Britain—a move which, in many lines of goods, had the effect of compelling foreigners to meet British prices in our markets, and hence relieved our consumers and taxpayers to almost as great an extent in such cases as an all-round reduction would have done. Incidentally, the preference proved a special advantage to Great Britain, as it was desired it should do.

In Britain the case is different. It is doubtful whether she stands to gain by any change in fiscal policy. Any considerable tax on food imported to feed her people, would be a handicap upon the whole British people and must tend to increase the cost of living, hence the cost of manufacture and commerce. Such a tax would irrevocably raise the price of food-stuffs for a time at least, and Britain is not to be blamed for hesitating about laying the beginnings of what might eventually become a fantastic fiscal fabric. It may be argued that a slight tax on foreign food-stuffs would encourage food production in the Colonies to a greater degree than it would handicap manufacture in Britain, and that such encouragement of production in the Colonies is justifiable as a precaution in the event of war shutting off supplies from other countries. That is a question for Great Britain to decide, and while we would welcome such a conclusion, it is not for us to interfere or dogmatize concerning her affairs. The British preference has paid us directly by relieving our consumers and filling our national coffers, and also indirectly by advertising Canada in the Old Country, and creating there a favorable prejudice for our goods. It would ill become us, therefore, to insist on Britain upsetting her whole fiscal system in order to grant us a quid pro quo. Whatever course Britain may see fit to take in this matter, she may rest assured we are making no demands or threats.

What the Conference did of a positive character was to decide in favor of meeting every four years, and ask that a special department of the Colonial Office, called a Secretariat, be appointed to prepare material for its consideration. A resolution was passed providing for the development, for the service of the Empire, of a general staff, drawn from the forces of the Empire, whose duty it will be to advise on defence and other military matters. Universal penny postage, cheaper cable rates, and Imperial naturalization, were discussed, to more or less definite purpose. Best of all, it looks as though a result of the Conference will be the inauguration of the long-looked-for fast Atlantic steamship service between Canada and Great Britain, also an improved Pacific service. In fact, the Conference did everything it could do that was necessary or wise, and refrained from doing that which would have entailed complications, embarrassment and friction, leading, quite conceivably, to rebellion, secession or disintegration. Our Imperial statesmen showed their wisdom by letting well enough alone.

The Provincial Auction of Purebred Bulls.

The third Annual Show and Sale of purebred stuff under the auspices of the Live Stock Division of the Dominion Dept. of Agriculture and the Cattle Breeders' Association of Manitoba, was held in the Wheat City, May 30th, under a blue sky and in strong sunlight, so that the lookers-on, whether prospective or actual buyers had a good chance to see the animals to their hearts' content. This year the sale was limited to bulls, and not quite sixty were listed. Provision had been made for stabling the cattle in the curling rink and the sale could also have been held there had the weather been bad. The arrangements were in charge of the Sale Committee, Messrs. W. H. English, Wm. Chalmers, and Geo. Allison. Dr. Bell and Holley Simpson, the superintendent, worked tirelessly and to their efforts and that of auctioneer Norris a great deal of the success of the sale is due; in fact it has been shown that it is not necessary to send either South or East for an auctioneer to sell purebred stock. In the forenoon of the thirtieth, Jas. Bray, the well-known breeder of Whitefaces, made the awards in the two classes for Angus bulls, the aged, two-year, and year-old classes for Shorthorn bulls and also for the Red Polls and Herefords.

Lord Houghton, an Angus bull bred by F. J. Collyer, Walwyn, and exhibited by R. Curran & Sons, Emerson, was first in his class and breed champion, and later grandchampion over all breeds. He is a massive bull and brought \$180 to the bid of D. C. Parker, Morden. Bella's Pride, exhibited by Geo. Cram, Morden, was second and brought \$65 to the bid of Wm. Morrison, Mortlach, Sask. Braeside Boy and Tom of Carroll were first and second respectively in the yearling class and brought respectively \$105 and \$70 to the bids of the Indian Department. The average for Angus cattle was therefore \$105. Only one Red Polled bull was exposed, and it by W. J. McComb, Beresford, and it went to Wm. Shillington, Red Deer, Alta., at \$90. Fred

Smith, Brandon, put forward two pretty fair Hereford bulls, the get of Chapman's well-known stock and show bull Albert. Hero went to McBishop, Invermay, Sask., for \$95 and Duke at \$70 to Simon Clarke, Rounthwaite. Judge Bray placed them as the money indicates. In Shorthorns there were surprises and disappointments, and although the averages were good for what was sold, the lessons taught were plain: First, that *it is little use offering for sale bulls unless over eighteen months old*; second that *people will not bid at all on thin, half starved or inferior stock*, and third, that some breeders need to be presented with a sharp knife and emasculator, and given a lesson at altering bull calves. It's rather a hard and expensive way of learning the lesson, to come probably a hundred or more miles and to get it under the public gaze and in view of rival breeders. In the aged class for Shorthorn bulls, Wm. Chalmers was first and breed champion and reserve for grand champion, with Strathallan Beau, a sappy, level, thick roan that brought \$190 to the bid of Ab. Hood, Oak Lake. Glendale Marquis, a white, fair, good bull, mellow and fairly deep, was second and brought \$80 to Mr. Graham of the Indian Dept. In two-year-olds, Chalmers Minister of the Interior, a good-looking roan, a little bit up and hardly so smooth as might be in the hips, was first. Robt. Milliken, Pipestone, took him at \$220. Andrew Graham's Red Prince was second; he brought \$150 to the bid of Robt. Rogers, Elkhorn. Red Gaiety was lucky to get third; he brought \$175, Jas. Shields taking him at that figure. Many fancied George Allison's Killerby for third, a mellow, meaty chap, not so plain in the head, as well having more covering over the loin and a greater width through the heart, but the figures, \$160, backed the judge, so the point must be conceded, as *money talks*. Bob Lang got to the front in year-olds, with Reformer, a deep, well-covered, mellow-handling bull, but rather small and also being a shade light in the bone, \$150 was the figure for which he went to J. Durnin, Brandon. Andrew Graham was second with Red Prince and parted with him for \$150 to R. Rogers, Elkhorn. Several (eleven) bulls were brought in, but lacking the initial bid of \$50, were sent out of the ring unsold.

The following figures and averages tell the balance of the story:
 Four Angus bulls brought...\$420, average \$105.
 One Red Polled " " 90 " 90.00
 Two Herefords " 165 " 82.50
 Thirty-four Shorthorns" 3425 " 100.70
 Taken big and large the sale was a success, especially when the attendance was considered, which was not large, due largely to farmers being busy at the seeding. The bids of the Indian Department helped the sale materially. Messrs. Marlatt and Graham took out 17 bulls at an average of a little over \$82, and taken all in all got good value for their money, besides helping the sale. Auctioneer closed the proceedings by thanking all for their attendance, stating that the sale would be carried on annually and as well advising breeders that it was no use bringing skins to put up at auction. At an executive meeting held just before the sale, the Cattle Breeders' Association expressed itself in favor of removing the present restrictions on the offering for sale of cattle by breeders from other Canadian provinces.

Things to Remember.

- Shorthorn Cattle Sale, Hon. Thos. Greenway, Crystal City June 13
- Winnipeg Horse Show June 13, 14 and 15
- Shorthorn Sale, A. & G. Mutch, Regina Exhibition Grounds..... June 26
- Calgary Exhibition July 9, 10, 11 and 12
- Portage la Prairie Exhibition. July 9, 10, and 11
- Hackney Sale, Rawlinson Bros., Calgary July
- Winnipeg Exhibition..... July 13 to 20
- Brandon Fair..... July 22 to 26
- Regina Exhibition July 30, August 2

MANITOBA SUMMER AND FALL SHOWS.

- Glenboro July 1
- Springfield July 3 and 4
- Wawanessa July 3 and 4
- Morris July 3 and 4
- Neepawa July 3 and 4
- Carman July 4 and 5
- Miami July 6
- Emerson July 8 and 9
- Birtle July 8 and 9
- Elkhorn July 9
- Portage Industrial Exhibition Ass'n. July 9-11
- Minnedosa July 9, 10 and 11
- St. Pierre July 10

Cypress River.....	July 11
Virden.....	July 11 and 12
Souris.....	July 29 and 30
Hartney.....	July 30 and 31
Swan Lake.....	August 1
Dauphin.....	Aug. 6
Gladstone.....	August 6
Strathclair.....	August 6
Melita.....	August 6
Oak River.....	August 7
Deloraine.....	August 7
Boissevain.....	Aug. 8
Shoal Lake.....	August 8
Swan River.....	August 8
Manitou.....	August 8 and 9
Hamiota.....	August 9
Holland.....	August 9

ALBERTA FAIRS.

Edmonton.....	July 1-2-3-4
Innisfail.....	July 4 and 5
Calgary.....	July 9-10-11-12
Okotoks.....	July 16 and 17
High River.....	July 18 and 19
Red Deer.....	July 22 and 23
Strathcona.....	July 24
Fort Saskatchewan.....	July 26
Macleod.....	July 31, Aug. 1-2
Lethbridge.....	Aug. 6, 7 and 8
Leduc.....	Aug. 8 and 9

SASKATCHEWAN FAIRS.

Battleford.....	July 24, 25 and 26
Hanley.....	July 30
Prince Albert.....	August 1 and 2
Saskatoon.....	August 6, 7 and 8
Rosthern.....	August 8 and 9
Indian Head.....	August 13 and 14
Ft. Qu'Appelle.....	July 31
Sintaluta.....	August 2
Moosomin.....	August 6 and 7
Grenfell.....	August 8
Wapella.....	August 9
Fairmede.....	August 13
Broadview.....	August 14
Wolseley.....	August 15
Yorkton.....	July 9 and 10
Saltcoats.....	July 23
Churchbridge.....	July 25
Dubuc.....	July 26
Strassburg.....	July 30
Abernethy.....	August 2
Carlyle.....	August 6
Arcola.....	August 8
Gainsboro.....	August 9
Carnduff.....	August 13
Oxbow.....	August 14
Alameda.....	August 15
Regina.....	July 30, 31 and August 1 and 2
Milestone.....	August 2
Moose Jaw.....	August 6 and 7
S. Qu'Appelle.....	August 8 and 9
Creelman.....	August 13
Stoughton.....	August 14

A Rara Avis.

A Northwestern lumberman, referring to the car shortage, inquired pertinently, "What is a freight car?" the inference being that he had not recently seen one. The office repeated the inquiry, and received the following contributed information:

"The freight car belongs to the fowl family. During the spring and early summer it can be found in nearly every part of the country, its favorite haunt being near railroad tracks, and it is easy prey to capture. In autumn, however, like certain of her fowl, it goes into hibernation, or flies away to other climes. Scattered incidents are known where specimens are captured during the autumn months. A lasso or a well-greased switch-crew is sometimes used in snaring a freight car, but main strength is the best weapon. In any case, the hunter must be very wary, as any noise, like the fluttering of a way-bill, will make the quarry disappear.

"Some railways own large flocks of domesticated freight cars, but they are carefully guarded during the closed season. The wild freight car, when caught and fairly loaded up, becomes perfectly stationary."

MARKETS

Where the market was not actually bearish last week it was cautious. The great mass of the public who had rushed into the speculative markets with their money two weeks previously and had thrust the price up 20 cents were last week content to watch the trend of things, so that dealers began to wear a more normal expression.

The sudden upshoot of the market two weeks ago and the maintenance of prices at the level which they reached after speculative buying ceased, furnishes ground for cogitation. Everyone realized at the time that it was not because millers were in need of wheat that prices went up, but simply because the public came clamoring for higher prices, and having got them having no further use for them, it would be expected that they would decline, but the market

situation shows that expectation is just ahead of actual needs and that prices would gradually come to their present level without the speculative storm. The demand from millers and exporters is now holding firm and values are upon an export basis.

The movement of wheat from country points continues heavy and it is expected that now seeding is well over there will be much more go forward. This in turn taking place all over the wheat belt may cause a sag in prices on June shipments. Seeding probably never was so rapidly accomplished as this year after a real start was made, and the warming up of the earth should hurry growth considerably.

At last week end Thompson, Sons & Co., reported as follows:

"The spring wheat crop situation over the Dakotas, Minnesota and Western Canada shows fair improvement during the past week. In regard to the extent of the acreage this year, a recent estimate made by a reliable authority puts the decrease in the three Northwest states at 12% under last year's acreage. There is a conflict of opinions as regards the acreage planted in the Canadian West, some maintaining that there will be no decrease owing to the fact that a great deal of new land prepared last year will be in crop for the first time, and that seed time although four to five weeks late has been latterly very favorable for getting the work done in good shape and without any loss of time. This must certainly have led to a larger wheat acreage than was anticipated and although our own opinion is that there will probably be a decrease of around 10% owing to many conservative farmers having decided to lessen their wheat acreage and increase oats and barley, we do not feel positive about it at present writing. The start, however, is the very latest on record, and it will require record weather during the next 3 months to produce better than moderate results. Our Winnipeg market has been firm during the week with moderate fluctuations."

Prices are practically on export basis and there is a considerable quantity of the old crop still to dispose of. Prices are 1 Nor. 91½c., 2 Nor. 88½c., 3 Nor. 84½c., spot or en route. Futures, May 91½c., July 93½c., October 94½c. All prices are for in store Ft. Wm. & Pt. Arthur."

Oats.....	42
Barley.....	50
Flax.....	1.32

PRODUCE (WHOLESALE PRICES.)

MILLFEED, NET, PER TON—	
Bran.....	17.50
Shorts.....	18.50
CHOPPED FEEDS—	
Barley and oats.....	24.00
Barley.....	22.00
Oats.....	26.00
HAY, per ton (cars on track, Winnipeg).....	17.00
Loose loads.....	18.00

GREEN VEGETABLES—

POTATOES, in cars or small lots, less freight, track Winnipeg.....	85 @ 95
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BUTTER—

Fancy, fresh made bricks.....	28
Second grade bricks.....	24 @ 25
Dairy, extra fancy.....	23 @ 24
Prints, fancy, in small lots.....	21 @ 22
Dairy, in tubs.....	19 @ 20

CHEESE—

Manitoba new at Winnipeg.....	12 @ 12½
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EGGS—

Manitoba fresh gathered, f.o.b. Winnipeg.....	17½ @ 18½
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POULTRY (cold storage stock)—

Spring chickens.....	15 @ 16
Spring ducks.....	10
Fowl.....	12
Young turkeys.....	18
Geese.....	14

LIVE STOCK.

There is a stronger feeling in the cattle markets and prices are actually increased. The wholesale price of meats has also increased indicating that a shortage of butchers' stock is anticipated. Best butchers' steers sold up to 5½c. per lb. live off cars and down to 3½c. for heifers. Cows bring 2½c. to 3c., and bulls as low as 2½c. Sheep are 6½c., to 7c., and lambs 8c.

Hogs are still \$7.75 down to \$6.75 for rough lots.

TORONTO.

Prices advanced in rather a sensational manner and holders of cattle secured from 20c. to 40c. per hundred more than they would have done a week ago. The supply was entirely inadequate for the demand and numerous buyers were unable to fill their orders. A feature of the market was the large number of buyers from outside points, particularly from the vicinity of Montreal. Butchers simply crowded buyers out of the market. Best cattle brought \$5.10 to \$5.50, with \$5.80 for one choice steer. Ordinary stock \$4.50 to \$4.75. Stocker and feeder trade was very quiet. Cattle of 700 to 900 lbs. sold fairly well, but lighter stuff was not wanted. Export sheep \$4.00 to \$5.50; spring lambs each \$3.00 to \$6.00; hogs \$5.10.

CHICAGO.

Cattle.—Beef 4.50 @ 6.55; cows and heifers 4.25 @ 5.50. Texas steers 4.25 @ 4.75; stockers and feeders 3.00 @ 5.15; western cattle 4.25 @ 5.15. Hogs, light 6.10 @ 6.35; heavy 5.65 @ 6.22½; rough 5.85 @ 6.00.

HOME JOURNAL

Life, Literature and Education

IN THE WORLD OF LITERATURE AND ART.

Novels in England are being reduced in price. Several firms are putting them out at three and sixpence and four shillings.

* * *

The corner stone of the Alberta Normal School being built at Calgary, was laid by Lieutenant-Governor Bulyea.

* * *

"Graham of Claverhouse" is the title of the last book completed by Ian Maclaren before his death. The hero of the story is John Graham, Viscount of Dundee.

* * *

Napoleon wrote a shockingly bad hand, and so illegible were his letters that those written to the Empress Josephine were thought to be rough maps of battle grounds.

* * *

Sir Joseph Frayer, physician extraordinary to the King of England, is dead. He had seen much military service with medical corps, and was the author of many valuable works on medical subjects.

* * *

It is likely that the operation of the consolidated school at Guelph, Ont., formed by the union of six school sections, will be discontinued when the three-year agreement terminates. Financial difficulties seem to be the cause of the failure.

* * *

The suggestion that American magazines be sent into Canada by freight or express and mailed on this side at the same rate as domestic matter has not been entertained by the Canadian postal authorities, as it would entail too great a strain on our postal facilities.

* * *

Swedish people in Canada and all over the world celebrated on May 23rd the two hundredth anniversary of the birth of Carl von Linné, the famous Swedish botanist. He is known to his compatriots as the "Flower King," from his loving, earnest study of plants and flowers.

* * *

A large monument designed and executed by the Italian sculptor, Tentana, is to be erected in honor of Shelley, the English poet, near San Terenzo, Italy. The idea is from Shelley's "Prometheus Unbound" and displays the figure of the Titan grasping the lightning in his hand and writing with it upon the rock the words, "To Shelley from the World Unbound."

* * *

At the sale of the Mulhbach collection Fragonard's "Jeune Homme" brought 40,500 francs, "Resistance Inutile" 62,100, "Dites Done" 24,500, and "Bad News" 30,500. "A Young Girl's Head," by Watteau, in black crayon and sanguine, sold for 55,000 francs. Vigee Lebrun's own portrait sold for 23,000 francs, and two Gouaches for 13,000 and 30,000 francs, respectively.

* * *

King Victor Emmanuel inaugurated, in the municipal palace at Perugia, (a large and beautiful edifice built in 1271) a most complete exposition of ancient Umbrian art arranged chronologically, and comprising a thousand pictures and thousands of other objects, including sculpture, miniatures, jewellery, arms, porcelains and pottery. One of the most interesting exhibits was the pontifical robes which belonged to Pope Benedict XI. (1303), which were found buried with him in the historic church of San Domenico here.

The grave in which Dr. Drummond is buried will be marked by a Celtic cross of grey sandstone. The cross in circle is copied after authentic North of Ireland models from St. Columbas at the ancient Iona island. Below the four-foot span, intricately carved, will be a symbolic square of entangled stags, foxes and birds of the air, and sheep or hounds. The inscription at the base is Drummond's line from "Child Thoughts," "The shadows past, I see the light—Oh, morning light, so clear and strong."

Another fragment, not the doctor's, but taken from his favorite Irish "Songs of the Glens of Antrim," by Moira O'Neil, was selected for a lower headstone, and this is what it is:

"Youth's for an hour,
Beauty's a flower,
But love is the jewel that wins the world."

WOMEN AS A FORCE IN NATIONAL AFFAIRS.

Civilized masculinity has always prided itself on the position of respect and honor it has accorded to its womankind and the ardor with which it has fought some of her battles. But all her attempts to put off swaddling clothes and to look after some of her own interests, have in their first stages at least been frowned down and opposed by man in his capacity of guardian.

But with increasing opportunities to acquire knowledge—in the schools, by travel and through books—feminine character has broadened and strengthened and naturally seeks an outlet for that augmented power. Like that Roman soldier of whom we learned in the school reader, women have resolved to "find a way or make it," and they are quite capable of doing either, without man's help and in spite of his opposition. It is some time since women as individuals invaded commercial life and extended their activities beyond the bounds of domestic service and the instruction of youth, which had so long marked the limits of female pursuits. Now almost every known occupation is open and a few hitherto unknown have been developed by feminine brains. The recompense for woman's services in occupations held in common with man has been a much disputed question, the daughters of Eve holding that equal service demands equal pay and their brothers advancing a variety of reasons why this should not be so. The New York women school teachers are at present in the midst of an exciting campaign that they hope will result in giving them salaries equivalent to those received by the male teachers. Since, in the primary departments at least, women can do better work than men in this occupation, it does not seem reasonable that they should receive less than the others, if wages are to be in any proportion to the work done.

There have been women preachers and lawyers, scientists and mechanics, doctors and navigators, but only the individual woman had accomplished things. As a body, a united force, they had not made themselves felt in the affairs of the world. That was left in abeyance, but now is becoming a leading question in some of the most progressive countries in the world, and a question to which thoughtful people are giving heed. There is a strong, steady current underneath the foam of "suffragettes" and shrieking sisterhoods. The novelty of casting a vote is a thing of the past to the women of New Zealand. In Finland nineteen of the chosen deputies of the Diet, or Parliament, are women, the universal suffrage act of 1906 not only giving them the right to the ballot, but also the right to a seat in the national assembly. And in the never-ending struggle for

liberty in that country the women play no mean part, the more effective because unhindered by the party politics with which the men become entangled. In 1894 various German women's organizations were consolidated into one league, the object of which was the development of women to take their part in advancing civilization in their own country. Since then German universities have been opened to them, a league for women's suffrage has been established, and very recently a society for the better protection of mothers has had its beginning.

THE BROTHERHOOD OF ST. ANDREW.

All that the Bible tells us of Andrew could be put into very small space indeed. Nothing especially brilliant is related of him, and his career seems to have been commonplace enough. But his was the first call to follow the Master and having obeyed, "he findeth his own brother Simon" and thereby wins to the cause the greatest preacher of Apostolic times and the most influential in the spreading of the Gospel. But it was quiet, ungifted Andrew who brought him.

When we say that the Brotherhood of St. Andrew is a body of laymen in the Anglican church whose aim is to follow the example of him whose name their organization bears, no more explanation is needed. The only pledge a member takes is to pray and to serve—to serve those nearest, whom the preacher cannot reach—to seek to present Christianity to individuals rather than to masses of humanity. It is a lesson the whole Church needs to learn, that Christian service is no more confined to going to church on Sunday than commercial service is confined to eating three meals a day in your employer's house. As one of the Brotherhood said in speaking at the recent conference in Winnipeg: "What is needed is not to give one's purse, but one's person, not to try to save men by proxy, but by proximity."

A CASE FOR THE WHIP.

There is no country in the world in which the honor of its womanhood is better protected by public sentiment than Canada, but occasionally the whole land is shocked and horrified over the tidings of violence done to a woman within our borders. Not very often as compared with lesser crimes, but once in a century is too often to be endured without protest. Just the other day a bright young Western girl gave her life in defence of her honor when attacked by a brute in human form. Since he killed her (and taking her life was a kindness under the circumstances) the gallows will probably be his fate, but if she had lived, a sentence covering a few months or years would have been the extent of his punishment, during which time he would be fed and clothed by the Government and surrounded by companions of his own moral calibre—an utterly inadequate punishment for a crime far worse than murder.

The most effective deterrent of this particular criminal offence is the lash. That may sound barbarous and ill-fitted to the civilization of the twentieth century, but the fact remains that in all ages there are men who can be reached through no appeal to honor or pride or purity, but only through their skins. To this class belong the assaulters of women. The sure and certain knowledge that the offender, if convicted, will be made to suffer physical pain of a most severe nature, forms a restraining influence of considerable power. At present, whipping for the crime of assault is occasionally imposed by Canadian judges, but this sentence is the exception rather than the rule. The law should be amended to make the lash with imprisonment with hard labor the inevitable penalty for attempted assault, with a larger dose of the same medicine if the man succeeds in his brutal attempt.

FOUNDED 1866

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I NEED BE NO FAILURE.

We glory in tribulation also: knowing that tribulation worketh patience; and patience, experience; and experience, hope.—Rom., v. 3, 4.

"Speak, History, who are life's victors? unroll thy long annals and say—Are they those whom the world called the victors who won the success of a day?"

The martyrs, or Nero? the Spartans who fell at Thermopylae's tryst, or the Persians and Xerxes? his judges, or Socrates? Pilate or Christ?

God holds out a crown of glory to the victor in life's struggles; not a wreath of earthly fame which can never satisfy the heart and which will fade in a few years, but a triumphant gladness which is well worth fighting for.

In spite of the apparent inequalities of life, it is a wonderful fact that as regards the greatest things we all stand on one level to start with. An emperor has to answer before the bar of his own conscience as humbly as the poorest laborer, and all the wealth in the world can never give him peace of mind if he is condemned by that stern judge. Neither can any poor man hope to pass unnoticed in the crowd, because he is in an obscure position. Each human being is small and yet great. We are so small that we should have no room for pride or conceit or looking down on other people, and yet we are so great that each thought of our secret hearts, each word that slips so carelessly from our lips, is a matter of deepest consequence to the Eternal and Infinite God. This being so, we should take ourselves and our lives very seriously. The common saying: "It will be all the same a hundred years hence!" is absolutely untrue, for the results of every action are eternal, and that fact makes the most commonplace lives inspiring and awful.

There are breaks in the quiet monotony of most lives, times of visible success, and other times of heart-breaking failure. Take our Lord's life for an example. There were the quiet years in the worship of Nazareth which must have been very trying in their monotony to the eager, boyish heart, longing to do some great thing for the good of the world. Then there were the days of outward success, when the young Messiah went from place to place with His enthusiastic followers, carrying a blessing everywhere to sick souls and bodies, feeling that he was laying out His manhood to good purpose. Then came the dark days of apparent failure, when friends deserted and turned against Him, when all His teaching seemed to have been thrown away, and His work on earth seemed wasted in total wreck and failure. What can we think of that defeating of hopes and plans? Would that young life that was lived so intensely have been a failure if it had not been for the great victory of the Resurrection? No! a thousand times No! The hopes and plans might suffer defeat, and the loving heart be broken by the crushing weight of sorrow, but the Man Himself was a Victor long before the dawn of Easter Day.

And real success or failure is in our own hands always. We cannot control circumstances, but there is no need for discouragement, even though we may have struggled and prayed our hardest, and yet failed to secure what we were fighting for. As Christ was a Conqueror in the midst of shame and disgrace, so we also can be conquerors, no matter what our circumstances may be.

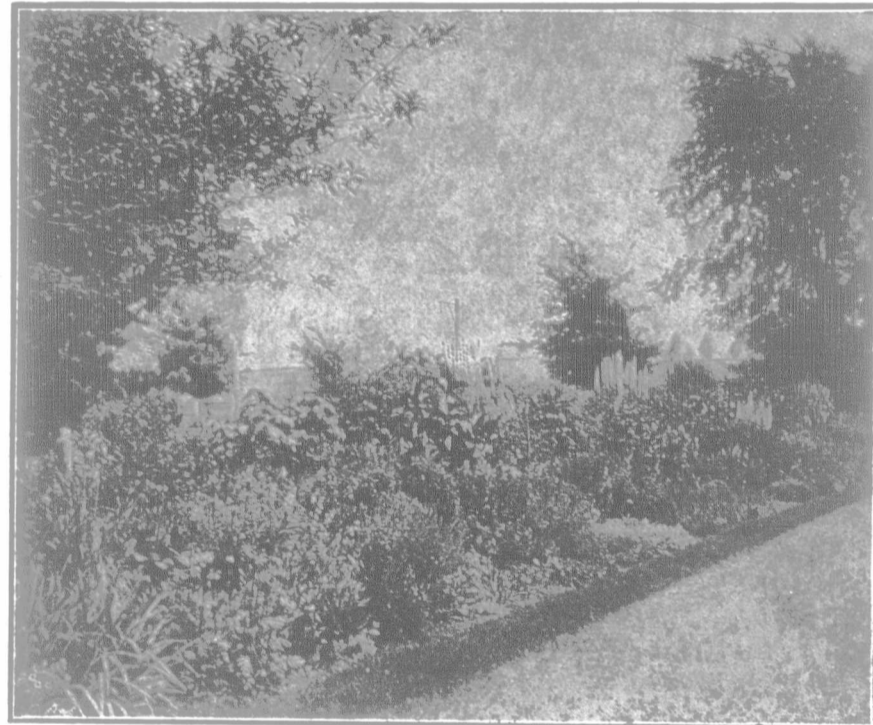
A nurse who strains all her powers in the attempt to save the life of a patient is no failure, even though the patient may die. But a nurse who is selfish and careless is a failure, even though her patient may recover. A farmer who has to contend with bad weather and poor soil may work hard, and yet have scanty crops; while another man may succeed far better and yet have put much less time and thought and conscience into his work. In such a case the latter is the real failure. This is only the beginning of our life, and the only lasting wealth is character. If character is strengthened and purified by the brave and patient acceptance of defeat, then the apparent loss is real gain. The seed that sinks into the ground and decays that a new and

stronger life may spring from its heart, is no failure; any more than a mother who gives her life in bringing a child into the world is a failure. The young man who works faithfully, and yet fails in his examination may make a far greater success of his life just because of the experience gained then. That is, if he refuses to be discouraged, but struggles patiently on. The author whose MSS. are "returned with thanks," may learn lessons through this discouraging failure, which will make his later writings a real success. While, if he had succeeded easily at first, he might have continued to write in an easy, shallow fashion and never have made the most of his powers. A man may work hard all his life in the eager pursuit of riches, and succeed in becoming a multi-millionaire. Is he, therefore, a success? Surely not! To devote the glorious gift of life to the heaping up of wealth that must be left behind at death, is a terrible waste of rich material and means utter failure. It means to enter the new life a bankrupt, for all that has been so carefully heaped up must be left behind. Those who have laid up no treasure in heaven must go forward naked and beggared when they pass the gate of death.

Let us look at ourselves and our lives

be satisfied with a merely stoical endurance, but lift up your head and thank God that you can stand beside Him unharmed by any outward circumstances, and can reach out a daring hand to draw priceless treasures out of the fire of sorrow. And it is not only in God's sight that men may stand out plainly as victors in the midst of defeat. How we honor those who can go on with undaunted courage when everything seems to be going against them. The light of hope shines most brightly when it is held up bravely against a dark background; the glory of manhood is most plainly seen when it stands in its unadorned beauty, stripped of all the pomps and vanities of the world.

We are so apt to fancy that God's purpose concerning us must surely be fulfilled if we succeed in doing some grand and beneficent work for the good of mankind. But surely God is far more pleased if we are steadily growing more grand and noble and beautiful ourselves—and the two things do not necessarily go together at the beginning. When I say "at the beginning," I mean on this side of death, for death marks off a very short space of our life. It is certainly true that every man shall reap the harvest of good or evil that he h-



A PERENNIAL BORDER ALONG A DRIVEWAY.

through God's eyes; then we may understand that one who is admired and praised by his world, one who wins easy success in everything he undertakes, may really be a saddening failure. He need not be, but he may be. If he should rest on his oars, thinking he has no need to struggle and work and pray, because unearned and undeserved rewards are showered upon him, then he is certainly a failure, because he is not doing the best possible with the talents committed to him. No one can be a success in God's eyes if he is allowing himself to drift easily along with the tide.

God wants us to do the best work of which we are capable, not so much for the sake of the world as for our own sake. The soul of each son of God is infinitely precious in the eyes of the Father, and He is polishing it and making it beautiful with wonderful patience and infinite wisdom. If you fail to carry out your plans, the plans for which you have earnestly worked and prayed, do not think that you are a failure. God can accomplish His good purposes for the improving of the circumstances of the human race without really needing any help from your weak arm; but even He cannot carry out His loving desire to make your soul strong and beautiful, unless you co-operate with Him. If you are forced to encounter disappointment and failure, do not

sowed; but, the better the harvest is, the longer he may have to wait for it. And we can well afford to wait. Yes, if need be, to wait until we see things as they really are in the clearer light beyond the veil of death—for we have all eternity to enjoy the harvest. All good work is put into God's hands, and He will never let it fail in the long run, though it may appear to fail at first. And all bad work is playing into the hands of Satan and will certainly bear its bitter fruit. "God is not mocked: for whatsoever a man soweth, that shall he also reap." To do wrong is to be sure of failure, while to do right is to place one's self in the army of the Divine Conqueror, and to be sure of lasting victory in the end. God's great "Well Done!" will not necessarily be given to those who have successfully carried out great and world-wide schemes for good, but belongs to those, and to those alone, who have been good and faithful servants. No matter what your position may be, nor how cramped your circumstances, you have as good a chance of winning that glorious commendation as anyone in this boundless universe. No one can make you a failure—no one but yourself—for faithfulness is always success, and you can be faithful if you will. To you has this inspiring promise been spoken:

"Be thou faithful unto death, and I will give thee a crown of life." HOPE.

SPEAK GENTLY.

Speak gently, dear heart, though often your days
Seem freighted with burden of care;
Though sometimes the fret and the friction of life
Seem more than your spirit can bear.
Never yet have I known an impatience to avail
In making a burden grow less.
Never yet have I known a harsh word in tone,
The life of another to bless.

Speak gently to those who are dear to your heart,
Those whose love you have put to the test;
For wounds are more painful and harder to bear
When given by those we love best.
And remember, your words when once uttered, dear heart,
You can never, no never recall;
For away on a mission of evil or good,
They speed the same moment they fall.

Speak gently to those who are thoughtless and gay,
To those who are erring and weak.
If you'd save them, and win them for God and the right,
Never harshly or angrily speak.
Speak gently to those who are aged and worn,
And spent with the toils of the way.
Oh! cheer them by kindness before they pass on;
Win their blessing, dear heart, while you may.

Speak gently, for why should the power of speech,
God-given, our fellows to bless,
Be used as a weapon to sting, and estrange
Sometimes e'en the hearts we love best.
Oh, this life is too short for a single harsh word,
For unkindness in deed or in thought;
Be gentle, be patient, be kindly, for vain
Are regrets when the evil is wrought.

When we stand one day at God's judgment seat,
And the books are opened there,
Our words will come back to us blessing-crowned,
Or a sad condemnation bear.
Then guard your hearts with a jealous care,
Bear it oft to the Master's feet.
If the fountain be pure, the stream, dear one,
Cannot be aught else but sweet.

CARRIE HAYWARD.

IN JUNE.

Some glad thing comes to me
Always in June,
Some new joy gladly sets
To a sweet tune.
Is it that earth so thrills
With bud and bloom,
That the sad heart of life
Lets go its gloom?
Some dear long-absent face
Answers some prayers,
Or maybe just a token
That some one cares.
Far back in earth's grey dawn
Before God's words
Had crystallized in suns,
Or stars had heard
That clear, creative call
"Let there be light
On all my works below
For day and night"—
When first earth's wrinkled face
Saw the white moon
Gleam on unfinished work,
There was no June,—
But as the thoughts of God
Shewed perfect spheres,
We think He called up June
To gem the years!
When we are inward drawn
To God's dear heart,
And the white silence falls
As we depart,
And the new air seems filled
With some rare tune,
How sweet our last earth-look
If it were June!

IRENE ELDER MORTON.

THE LATCH STRING OUT FOR THE BACHELORS.

In the issue of April 17th, the question of admitting men to the Ingle Nook was submitted to the members. That is six weeks ago and up to date not a voice has been raised to advocate the closed door. On the contrary many have expressed their willingness and their pleasure in agreeing to admit any one, male or female, who wishes either to give or receive help along home-making lines. Therefore, bachelors, be ye married or single, it is with great pleasure we welcome you with open arms (metaphorically speaking) to the Ingle Nook! You are not such a feeble company even now—about a score of good men and true—and we hope you will double that number before the end of the year.

DAME DURDEN.

GLIMPSES OF THE OLD LAND.

Dear Dame Durden:—I am coming again to visit you, and am bringing some Old Country views. I have often longed to send some views for your paper, but did not feel quite brave enough, until I noticed one week you said your people came from Glos.'shire. Well, that settled the question. So I think I will send two views and if you would like more it will give me great pleasure to send some, for I have lots. Will colored views do as well as photo views? I wonder what part of Gloucestershire your people came from? I have lived in different parts of that country nearly all my life until last year, when I came to Canada to my sweetheart, as I see another member did. She seems to be lucky, being able to get to a church sometimes. We are more than fifty miles from a church, so have not been able to go to one since we were married nearly a year back. But although we cannot get to church I am very happy in this lovely country. The winter has been a bad one for my first, but I hope we will not have many winters like it. It seems very like spring now to hear the frogs croak, croak, day and night. I hope I have not taken too much of your valuable time and space. May I come again with more views? I wonder would you send the views back when you have finished with them, for they are very precious to me; I have spent many happy hours in one of those dear old cottages.

GLOS.'SHIRE LASSIE.

(The towns I have heard my father and mother mention most frequently are Cirencester, Cheltenham and Stratton. Do you know any of them? Sometime I hope to visit those places, and am going to keep on hoping, though the realization does not seem very near. We are using the view of the cottages you sent and would be glad to see what others you have. The photos are better than the colored views for reproducing. I shall try to get them all returned to you safely. Did you get that catalog yet? We called up the firm you mentioned and they said one had been sent, but they would send another at once. Let us know if you got it, will you?—D. D.)

OUR "NEW YORK" LETTER.

Dear Dame Durden:—The Ingle Nook appeals to me as a place where we all drop in once a week to have a friendly cup of tea. And how we do enjoy that tea! Sometimes Dame Durden has nothing at all to say. Then I always feel as though the tea were not properly drawn or flavored or something. I was going to say "omitted altogether," but I know our hostess would never be so inhospitable. Please extend my sympathies to "A Bitten One." I knew a flea once and can fully appreciate her state of mind—and body. And tell "Helmet of Resolution" to cheer up, because there is a washing machine in course of construction which I understand is placed in the boiler with the clothes. As the water warms the heat operates the machine and the clothes are clean and ready to rinse when taken from the boiler. In the meantime may I suggest the use of a home-made soap that is easily prepared and has the dual advantage of being economical and exceedingly good. Soap—7½ lbs. sal. soda, 1 oz borax, 1 to 2 oz. Glauber's salts,

INGLE NOOK CHATS

8 lbs. good yellow bar soap. Directions:—Dissolve the sal soda, borax and Glauber's salts in 4½ gals. soft water; dissolve until not a lump remains. Then melt in the above solution the bar soap. Cut the soap in very thin slices, that it may dissolve quicker. Keep stirring while dissolving so as to mix them thoroughly. When the soap is melted it is done. Take it from the fire and let it stand about an hour; then pour it into tin pails, butter or lard tins.

Remarks:—A common wash boiler will do to make the soap in. If the soap is inclined to boil over, a very little cold water thrown into it will settle it. The above recipe will make 50 lbs. If exposed in a warm place it will dry up more than other soaps; it is therefore best to keep it in the cellar.

I wonder whether some of our English friends would care to try that typically American dish—Boston Baked Beans. Pick over and wash a cup of white beans. Soak over night. In the morning add a piece of salt fat pork (a cube about size of a teacup), and put the beans on to cook. Let boil gently 2 or 3 hours, or until beans are tender, but not soft enough to fall apart. There must be just sufficient water kept on to prevent burning—this may be added as necessary. When beans are done there should be little if any watery fluid. If there is drain it off. Now put beans in an agate dish, place the pork in the center and sprinkle over the top of the beans two-thirds cup sugar and then one-third cup vinegar. Do not stir. Place in a moderate oven and bake about one-half hour or until top is nicely browned. Serve in

the last sentence. There is no immediate danger.—D. D.)

VARIOUS RELISHES.

Dear Dame Durden:—Could some of your numerous writers tell me how "relish," as the manufacturers call it, is made? It is a pickle minced up fine and done in mustard. I enjoy your corner so much and would like to be a help to it.

MEDINA.

(Relish No. 1.—Chop fine 3 pints green tomatoes and 1 pint onions. Sprinkle with half a cup of salt, and adding enough water to barely cover, let stand over night; then drain through a colander. Cook tomatoes and onions soft. Then add one head of cooked cauliflower and two green peppers chopped fine, one quart vinegar and one-half cup sugar. Mix smooth with a little vinegar two tablespoons mustard, two teaspoons turmeric and half a cup of flour. Stir this into the pickle mixture and let simmer for ten minutes.

Relish No. 2.—Chop fine half a peck of green tomatoes, three onions and two heads of celery; sprinkle with salt and let stand over night, draining in the morning through a colander. Then add a pint of vinegar and a quart of water. Let boil for 20 minutes and drain again. In the preserving kettle put two cups vinegar, one and a half pounds light brown sugar, a quarter pound white mustard seed, one-eighth teaspoon cayenne pepper. Add to this the tomato; cook 15 minutes; then seal in small glass jars.

I owe you an apology for keeping you waiting so long, but when your letter came in first there were so many

cake, or else line a deep cake tin with buttered paper and put them all together by adding a tablespoon of one and then of the others until all the batter is used up.

I am a great lover of flowers and have quite a few pretty ones. Sometimes I bath them in soap-suds to keep the little bugs off and find it a very good method. We have large flower and vegetable gardens in summer. After wash day take the suds and pour them over your rose bushes. It will do them good.

May I come again? I wish some of the young girls would write to me. I would be only too glad to answer. I do a lot of fancy work, so, perhaps, I can make some friends over that.

HIGH GRASS.

(The lonely folk always get a special welcome in this corner. Cheer up, Little Girl, you will win friends yet, in your town and out of it.—D. D.)

ERRATA'S QUERY ANSWERED.

Dear Dame Durden:—I have never written to your corner before, but always enjoy reading the letters from the other members, and often wished I could help some of them and as I have just noticed "Errata" asking about the yeast for pop, perhaps I can help him. I made some of the same kind of pop last week, and to two and a half gallons I put half a yeast cake dissolved in half a cup of warm water and left it covered over all night. In the morning it had worked up beautifully, not too much but just nice. Now I must close hoping this will help "Errata" or perhaps someone else. I am very busy just now planting my garden. I had a splendid garden last year.

WILTSHIRE.

(We are very glad to hear from you and very grateful for your help. Tell us of your garden sometime.—D. D.)

CURE FOR BLACKHEADS.

Dear Dame Durden:—Will you please tell me a good cure for black-heads in the face? I will be very glad to see the cure in the FARMER'S ADVOCATE.

COUNTRY GIRL.

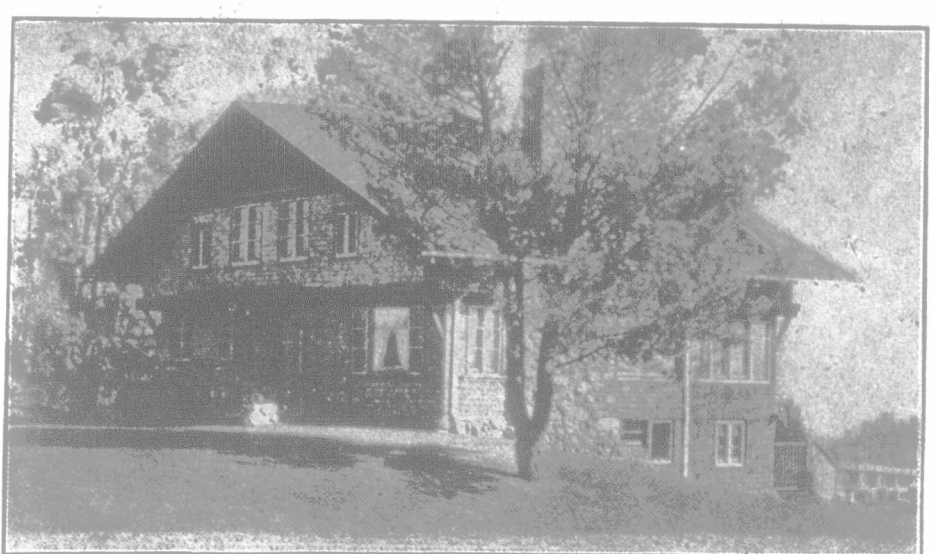
(A first step toward the permanent removal of blackheads is to drop fried foods, pastry and confectionery from your bill of fare for a time. Wash the face in warm soft water, using white castile soap; then rinse in cool water to close up the pores. Once or twice a week apply a lotion made of one dram each of carbonate of magnesium and zinc oxide, to four ounces of rose water. Shake the mixture well and "dab" on with a soft clean cloth. Leave for half an hour, then soften the skin with hot water and gently press out any blackheads that will come easily. Apply some good cold cream after the operation is finished.—D. D.)

ROOM FOR THE LONELY.

Dear Dame Durden:—Have you room in your cosy corner for a lonely, young widow, at present housekeeper for one of those bachelors who are very fond of good things to eat? The pudding recipe Puss sent was so good that I come to ask if some kind reader could give me a recipe for cream pie. In return I will send you a recipe for Sally Lunn.—Take one-half cup of butter, half a cup of sugar, one cup of sweet milk, two eggs, three cups of flour, two teaspoons of cream of tartar, one teaspoon of soda. Bake in cake tin 25 minutes and eat hot. To serve in the English way cut them thin and toast both sides. Butter well, then place together again. This recipe may suit Northumberland. Don't laugh at my second recipe. I know it will be useful to some of the farmers to cure a setting hen. To one of her legs fasten a string four feet long and tie her outside for three days and three nights. At the end of that time I guarantee that she will set no more the rest of the summer. May I come again?

LONELY ONE.

(Somebody will be sure to find both of your hints useful and will be grateful accordingly. The only recipe I have for cream pie appeared in a recent issue, that you will have seen before this; but perhaps some of the other members have good recipes for that delectable article.—D. D.)



AN ARTISTIC DESIGN FOR A COUNTRY HOME. By permission of "House Beautiful."

the dish in which it is cooked. Apropos of the remarks about verandahs in the last issue (which by the way were very good), it makes us think of ways and means of keeping cool when the very warm days come. Often one has a nice cold supper prepared but lights a fire to make tea. Why not try cold tea occasionally? Make a pot of strong tea at noon. Pour into a pitcher and put in the cellar (or the coolest place you have) until tea time. Then add sufficient cold water to make desired quantity, slice a lemon or half a lemon into it and sweeten to taste. We never use cream in iced(?) tea.

Just a word more. If the bachelors occasionally call on Dame Durden why should we object? I am only afraid one of them will carry her off one of these days and we will lose her altogether.—Auf Wiedersehen.

NEW YORK.

(We are glad to get your bright, jolly letter. Come in often for your cup of tea and meet all the others. Wish I could gather you all in bodily and give you tea. Wouldn't we be a hilarious crowd? Do you know I enjoy the "tail-pieces" I add to the letters better than writing remarks under a heading of my own. It seems more informal and friendly, somehow. You may calm the fears expressed in

ahead of it, and, afterwards, I could not get hold of the recipes I wanted for you. Some of the members will probably be able to add to what I have given you.—D. D.)

A NEW GERMAN MEMBER.

Dear Dame Durden:—Here comes an intruder! Will you accept me? I have long been a silent reader in this cosy corner. I think it is just what we want on the lonesome farm. I would not like to be without it, for I have had quite a help from the Ingle Nook. I am very thankful to all the members for all the good they did to me. I will give a recipe for a cake which is very nice and a favorite of mine.

Marmor Cake.—White part: one quarter cup butter, one cup sugar, one-quarter cup milk, whites of four eggs, one and a half cups flour, one teaspoon baking powder. Yellow part: one dessertspoon butter, three-quarters cup sugar, one-quarter cup milk, one-half teaspoon vanilla, yolks of four eggs, one cup flour, one teaspoon baking powder. Brown part: take half a cup each of the white and yellow mixtures and add a quarter cake of unsweetened chocolate grated fine and melted over the steam of the tea kettle. Then bake the three in jelly cake tins and arrange as a layer

HOW CURE THE PUPPY?

Dear Cousin Dorothy:—Just a few lines to the Children's Corner as I am just a visitor. My father has taken the FARMER'S ADVOCATE for as long as I can remember and likes it very much. We have a team of horses whose names are Polly and Jenny; a cow named Pet, and the little calf named Beauty. I have a little dog named Nipy and he chases the hens and I would like to know if there is any cure to break him of it. I have a little dicky bird, and a cat, three turkeys, and mamma has about thirty hens.

MAMIE MCKNIGHT. (10)
Saskatchewan. (c)

MUSIC LESSONS.

Dear Cousin Dorothy:—My brother-in-law takes the FARMER'S ADVOCATE and I enjoy reading the Children's Corner very much. I have one sister and two brothers. My sister is married. I go to school, nearly every day, but we have holidays now on account of not having a teacher. I am in the third book. My father was one of the first settlers in Wetaskiwin. I have a pony named Bell, one cat and two dogs. The cat's name is Daisy and the two dogs' names are Bob and Tiny. I take music lessons and my teacher's name is Miss S.

RUTH E. SWANSON. (11)
Alberta. (b)

A JOURNEY WELL DESCRIBED.

Dear Cousin Dorothy:—I am going to tell you about a trip my mamma and little brother and myself had to Brandon and Indian Head. We went to Brandon on the twenty-fourth of May and stayed there a few days; then we went to Indian Head and stayed there nearly two weeks. My aunty only lived half a mile from the experimental farm and we went down several times. The trees were just out in leaf and there were some of the flowers out in bloom in the garden. My uncle had an elevator just across the street and we often went over to see the wagons being unloaded. One day my uncle got a car-load of flour and oatmeal. My cousins and my little brother and myself went over and played in the car while my uncle was unloading. The day before we came away we all went out to a farm five miles from town. There was a big creek running through their farm, and they had a big dog that would swim in the water after sticks. The next day we went to Brandon. One day we went for a drive and saw the hospital and colleges and experimental farm and saw the industrial school for Indian boys and girls. Some of them were sewing. My uncle had a drug store, and I went down one day to see some men making candy. When we were coming home we stayed at Belmont for dinner; then we went to Minto, and papa drove us from there to Boissevain.

MARJORIE JOHNSTONE. (11)
Manitoba. (a)

ONE ON A SHORT LIST.

Dear Cousin Dorothy:—I have never written to your Corner before, but seeing that you had not very many members in "P" I thought I would add one to your list. My teacher name is Miss F. I like her very well. I have one brother and two sisters. My sister and I walk to school in the summer and my brother drives us in the winter. We live two and one-half miles from our nearest school, which is Pacific school. I am in the fourth grade and take up arithmetic, spelling, reading, history, geography, drawing and music.

EFFIE POLLOCK. (9)
Manitoba. (c)

ON A HOMESTEAD.

Dear Cousin Dorothy:—I thought I would write you a letter as I have been reading the letters in the FARMER'S ADVOCATE. I am going to school now. There are about thirty go to our school. I am in the second reader. My brother is away from home on his homestead 20 miles west of us. He went up last fall.

EDMUND GAMBLE. (10)
(You did not put any address.—C. D.)

CHILDREN'S CORNER

GOING TO HAVE A NEW SCHOOL.

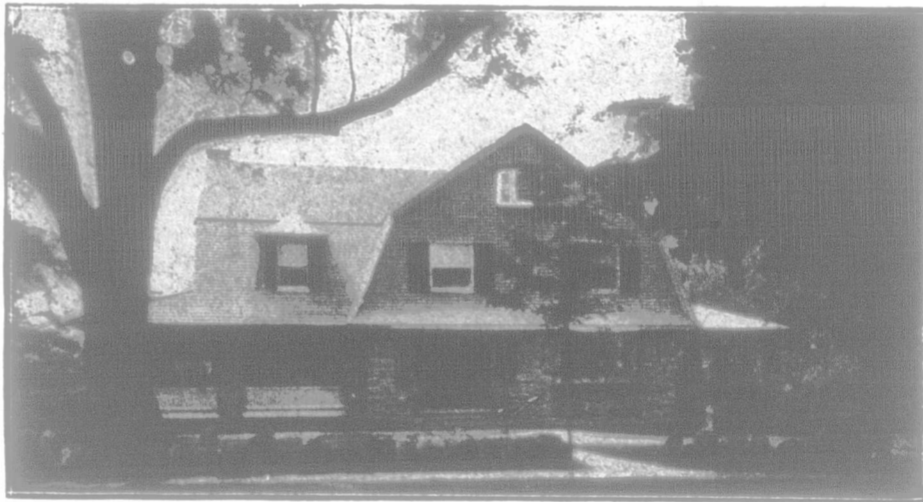
Dear Cousin Dorothy:—We live on a homestead sixty-five miles north of Edmonton and two miles south of the Pembina river. I go to school when it is not too cold. I have to go a mile and a half. My teacher's name is Mr. B. and we all like him very much. There are eleven pupils when all are present. The trustees are preparing to build a new school in the spring, as at present we have only a house fitted up for that purpose. My father is one of the trustees, also secretary-treasurer of the school. We moved here last June. My father has taken the FARMER'S ADVOCATE for some time and I like reading the Children's Corner. I have one brother who was six years old the 28th of January, but no sister. I was twelve on the 24th of January. I am taking lessons on the violin and hope I can learn to play nicely. As this is my first letter to the ADVOCATE I must leave room for the others.

OLIVE ALLEN.
Alberta. (a)

THIRTY MILES FROM THE OFFICE.

Dear Cousin Dorothy:—We live thirty miles from the post office. We have two horses and a colt. One is named Jenny and the other is Dolly. We have two cows, and a dog named Waggy. I have one sister Gladys, and no brothers. We have no school here yet. I was nine on the 17th of December.

FRANCES BRADLEY. (9)
Alberta. (c)



["SIMPLICITY, COMFORT, AND BEAUTY ARE COMBINED HERE.
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A FARMER'S BOY.

Dear Cousin Dorothy:—This my first letter to the FARMER'S ADVOCATE. I stay on a farm of B. G. Thorvaldson and like it very much. He has seventeen head of cattle, two sheep, thirty chickens, three horses and one colt. Their names are Belle, Fanny, Dick and they are all good horses. I have one sister and brother.

SIGURDUR S. ERIKSON. (13)
Manitoba. (c)

TELEPHONE ON THE FENCE.

Dear Cousin Dorothy:—This is my first letter to the Children's Corner so I am going to try to do my best. I live nine miles from the town of Brandon, within a mile of the G. N. R. station and half a mile from school. We take the FARMER'S ADVOCATE and think it a helpful paper on the farm. We have a telephone running two miles and a half on a wire fence; it is the only one in the country around here and is quite a novelty. We are keeping the post office and find it very handy in the cold weather on account of our mail. I was out on my vacation to Hanley, Sask., and had a very nice time visiting my brother, who has a large farm out there. My brother got me a doll for a Christmas present. On May 20th I was eleven years of age.

SARA M. KIDD. (10)
Manitoba. (b)

THE MOWAT SCHOOL.

Dear Cousin Dorothy:—I read the Children's Corner and thought I would write as it is a long time since I have written. Our nearest river is the Mossey. It runs from Lake Dauphin to Lake Winnipegosis. The Mossey River is about seventy to seventy-five yards wide; Lake Winnipegosis is about 200 miles long and from one-half to twelve miles wide. Lake Dauphin is about thirty-nine miles long and from nine to twelve miles wide. There are several rivers running into it, but only the Mossey runs out of it. We live one mile from Lake Dauphin. The Mossey never freezes over in front of our house and not very often within two miles of our place, but it was frozen over for about ten days this last winter. There is no ice on it now and we had a boat ride on it to-day. It was so nice and warm that I took mamma and another lady for a boat ride. I have a dog called Nero who pulls me to school every day in winter. The school I go to is the Mowat school. It was named after Sir Oliver Mowat. The schoolhouse was built the year he died.

LORNE H. LACEY. (10)
Manitoba. (b)

A BUSY BROTHER AND SISTER.

Dear Cousin Dorothy:—I will be eleven years old in March and am the eldest of the family. The youngest are twins, Leonard and Lillian, and they will be two years old in June. I did not

A PHOTOGRAPHER IN THE FAMILY.

Dear Cousin Dorothy:—I go to school every day and am in grade three. My teacher's name is Miss R. I like her very much. I am nine years old, and have three brothers and two sisters. My eldest brother is attending college in Winnipeg. My second eldest brother takes photographs. We have eleven horses whose names are, Ned, Nellie, Topsy, Maud, Roy, Ruth, Fly, Queenie, Minnie, Pansy and Tom. We have ten cows, six calves, three pigs, thirty-seven sheep and eighteen lambs at present. We have a dog whose name is Collie, and one cat. We have about seventy-five hens, two guineas, four geese, three ducks and one turkey. My father owns one whole section of land and a lot in town. We live two miles east of town.

ANNIE C. GAMBLE.
Manitoba. (b)

A BUSY LAD.

Dear Cousin Dorothy:—I have been reading the Children's Corner and like it very much. My father has been taking the FARMER'S ADVOCATE for about two years and thinks it a very good paper. I live on a farm and we have two horses, three cows, two calves, four pigs, two ducks, four turkeys and fourteen chickens. I and my brother have one cow named Tory. I have five brothers. I am the oldest and have been working in the field since I was eight years old. My father has been hauling wood from the bush this winter. We live on a homestead in Canada. I will have to work in the field this summer.

OAKLEY JAMES. (13)

A MANITOBA MEMBER.

Dear Cousin Dorothy:—I live on a farm seven miles from the little village of Sperling, and twelve miles from Carman. We live one and a quarter miles from church and school. I go to school and am in the fifth grade. Our teacher's name is Mr. C. We like him very much. We have sixteen horses and twelve head of cattle, and twelve pigs. I have three brothers and three sisters.

SADIE McMAHON. (14)
Manitoba. (b)

THREE MILES FROM SCHOOL.

Dear Cousin Dorothy:—My father has taken the FARMER'S ADVOCATE for nine years. We have eleven head of horses, twenty-one head of cattle, thirty-six pigs and one hundred and twenty hens. I have two brothers and three sisters. My brother and I go to school; we have three miles to go. There are four rooms in my school and forty-nine in my room.

ARCHIE STAPLES HOOPER. (9)
Manitoba. (c)

CAME FROM SCOTLAND.

Dear Cousin Dorothy:—I live on a farm and my father has five horses fifteen head of cattle and one pig. My father has taken the FARMER'S ADVOCATE for five years and he likes it very well. I have five sisters and two brothers. I have one sister older than I am. I go to school every day, but we have got holidays now. I have a gun and often go shooting rabbits, but this last week I have not been out. We came from Scotland five years ago.

EDWARD GRAHAM. (12)

A PROGRESSIVE SCHOOL.

Dear Cousin Dorothy:—I like to read the Children's Corner; I am very much interested in it. I go to school every day. My teacher's name is Miss L. We have a new red brick schoolhouse, with eight rooms in it. It isn't quite finished yet, but already there are six teachers in it. I am in the third reader. My studies are arithmetic, reading, spelling, writing, drawing, grammar, geography and history. We have just got through with our Canadian history and have started on English history. There are about forty pupils in our room. I have two sisters, one younger and one older than I. We have just lived in Canada two years, coming here from the central part of Illinois. We find a great difference in the winters as they are much colder and longer here than there. We have an uncle, aunt and four cousins living up here now. They came one year ago and the cousins are very much company for my little sister and me, as we were strangers when we first came here; we didn't know anybody.

IDA HENINGER. (12)
Saskatchewan. (b)

CHAPTER XXX.

THE TAILLESS TYKE AT BAY.

On the following morning there was a sheep-auction at the Dalesman's Daughter.

Early as many of the farmers arrived, there was one earlier. Tupper, the first man to enter the sand-floored parlor, found M'Adam before him.

He was sitting a little forward in his chair; his thin hands rested on his knees; and on his face was a gentle, dreamy expression such as no man had ever seen there before. All the harsh wrinkles seem to have fled in the night; and the sour face, stamped deep with the bitterness of life, was softened now, as if at length at peace.

"When I coom doon this mornin'," said Teddy Bolstock in a whisper, "I found 'im sittin' just so. And he's nor moved nor spoke since."

"Where's th' Terror, then?" asked Tupper, awed somehow into like hushed tones.

"In t'paddock at back," Teddy answered, "marchin' hoop and doon, hoop and doon, for a' the world like a sentry-soger. And so he was when I looked out o' window when I wake."

Then Londesley entered, and after him, Ned Hoppin, Rob Saunderson, Jim Mason, and others, each with his dog. And each man, as he came in and saw the little lone figure for once without, its huge attendant genius, put the same question; while the dogs sniffed about the little man, as though suspecting treachery. And all the time M'Adam sat as though he neither heard nor saw, lost in some sweet, sad dream; so quiet, so silent, that more than one thought he slept.

After the first glance, however, the farmers paid him little heed, clustering round the publican at the farther end of the room to hear the latest story of Owd Bob.

It appeared that a week previously, James Moore with a pack of sheep had met the new Grammocho-town butcher at the Dalesman's Daughter. A bargain concluded, the butcher started with the flock for home. As he had no dog, the Master offered him Th' Owd Un. "And he'll pick me up i' th' town to-morrow," said he.

Now the butcher was a stranger in the land. Of course he had heard of Owd Bob o' Kenmuir, yet it never struck him that this handsome gentleman with the quiet, resolute manner, who handled sheep as he had never seen them handled, was that hero—the best sheep-dog in the North."

Certain it is that by the time the flock was penned in the enclosure behind the shop, he coveted the dog—ay, would even offer ten pounds for him!

Forthwith the butcher locked him up in an outhouse—summit of indignity; resolving to make his offer on the morrow.

When the morrow came he found no dog in the outhouse, and, worse, no sheep in the enclosure. A sprung board showed the way of escape of the one, and a displaced hurdle that of the other. And as he was making the discovery, a grey dog and a flock of sheep, travelling along the road toward the Dalesman's Daughter, met the Master.

From the first, Owd Bob had mistrusted the man. The attempt to confine him set the seal on his suspicions. His masters' sheep were not for such a rogue; and he worked his own way out and took the sheep along with him.

The story was told to a running chorus of—"Ma word! Good, Owd Un!—Ho! ho! did he thot?"

Of them all, only M'Adam sat strangely silent.

Rob Saunderson, always glad to draw the little man, remarked it.

"And what d'yo' think o' that, Mr. M'Adam, for a wunnerfu' story of a wunnerfu' tyke?" he asked.

"It's a gude tale, a vera gude tale," the little man answered dreamily. "And James Moore didna invent it; he had it from the Christmas number o' the *Flock-keeper* in saxty." (On the following Sunday, Old Rob, from sheer curiosity, reached down from his shelf the specified number of the paper. To his amazement he found the little man was right. There was the story almost

Bob, Son of Battle

(Continued from page 822.)

identically. None the less is it also true of Owd Bob o' Kenmuir.)

"Ay, ay," the little man continued, "and in a day or twa James Moore'll ha' anither tale to tell ye—a better tale, ye'll think it—nair laffable. And yet—ay—no—I'll no believe it! I niver loved James Moore, but I think, as Mr. Hornbut aince said, he'd rather die than lie. Owd Bob o' Kenmuir!" he continued in a whisper. "Up till the end I canna shake him aff. Haffins I think that where I'm gaein' to there'll be grey dogs sneakin' around me in the twilight. And they're aye behind and behind, and I canna, canna—"

Teddy Bolstock interrupted, lifting his hand for silence.

"D'yo' hear thot?—Thunder!"

They listened; and from without came a gurgling, jarring roar, horrible to hear.

"It's comin' nearer!"

"Nay, it's goin' away!"

"No thunder thot!"

"More like the Lea in flood. And yet—Eh, Mr. M'Adam, what is it?"

The little man had moved at last. He was on his feet, staring about him, wild-eyed.

"Where's yer dogs?" he almost screamed.

"Here's ma— Nay, by thunder! but he's not!" was the astonished cry.

In the interest of the story no man had noticed that his dog had risen from his side; no one had noticed a file of shaggy figures creeping out of the room.

"I tell ye it's the tykes! I tell ye it's the tykes! They're on ma Wullie—fifty to one they're on him! My God, My God! And me not there! Wullie, Wullie!"—in a scream—"I'm wi' ye!"

At the same moment Bessie Bolstock rushed in, white-faced.

"Hi! Feyther! Mr. Saunderson! all o' you! T'tykes fightin' mad! Hark!"

There was no time for that. Each man seized his stick and rushed for the door; and M'Adam led them all.

A rare thing it was for M'Adam and Red Wull to be apart. So rare, that others besides the men in the little tap-room noticed it.

Saunderson's old Shep walked to the back door of the house and looked out.

There on the slope below him he saw what he sought, stalking up and down, gaunt and grim, like a lion at feeding-time. And as the old dog watched, his tail was gently swaying as though he were well pleased.

He walked back into the tap-room just as Teddy began his tale. Twice he made the round of the room, silent-footed. From dog to dog he went, stopping at each as though urging him on to some great enterprise. Then he made for the door again, looking back to see if any followed.

One by one the others rose and trailed out after him: big blue Rasper, Londesley's Lassie, Ned Hoppin's young dog; Grip and Grapple, the publican's bull-terriers; Jim Mason's Gyp, foolish and flirting even now; others there were; and last of all, waddling heavily in the rear, that scarred Amazon, the Venus.

Out of the house they pattered, silent and unseen, with murder in their hearts. At last they had found their enemy alone. And slowly, in a black cloud, like the shadow of death, they dropped down the slope upon him.

And he saw them coming, knew their errand—as who should better than the Terror of the Border?—and was glad. Death it might be, and such an one as he would wish to die—at least distraction from that long-drawn, haunting pain. And he smiled grimly as he looked at the approaching crowd, and saw there was not one there but he had humbled in his time.

He ceased his restless pacing, and awaited them. His great head was

high as he scanned them contemptuously, daring them to come on.

And on they came, marching slow and silent like soldiers at a funeral: young and old; bob-tailed and bull; terrier and collie; flocking like vultures to the dead. And the Venus, heavy with years, rolled after them on her bandy legs, pausing in her hurry lest she should be late. For had she not the blood of her blood to avenge?

So they came about him, slow, certain, murderous, opening out to cut him off on every side. There was no need. He never thought to move. Long odds 'twould be—crushingly heavy; yet he loved them for it, and was trembling already with the glory of the coming fight.

They were up to him now; the sheep-dogs walking round him on their toes, stiff and short like cats on coals; their backs a little humped; heads averted; yet eyeing him askance.

And he remained stock-still, nor looked at them. His great chin was cocked, and his muzzle wrinkled in a dreadful grin. As he stood there, shivering a little, his eyes rolling back, his breath grating in his throat to set every bristle on end, he looked a devil indeed.

The Venus ranged alongside him. No preliminary stage for her; she never walked where she could stand, or stood where she could lie. But stand she must now, breathing hard through her nose, never taking her eyes off that pad she had marked for her own. Close beside her were crop-eared Grip and Grapple, looking up at the line above them where hairy neck and shoulder joined. Behind was big Rasper, and close to him Lassie. Of the others, each had marked his place, each taken up his post.

Last of all, old Shep took his stand full in front of his enemy, their shoulders almost rubbing, head past head.

So the two stood a moment, as though they were whispering; each diabolical, each rolling back his eyes to watch the other. While from the little mob there rose a snarling, bubbling snore, like some giant wheezing in his sleep.

Then like lightning each struck. Rearing high, they wrestled with striving paws and the expression of fiends incarnate. Down they went, Shep underneath, and the great dog with a dozen of these wolves of hell upon him. Rasper, devilish, was riding on his back; the Venus—well for him!—had struck and missed; but Grip and Grapple had their hold; and the others, like leaping demons, were plunging into the whirlpool vortex of the fight.

And there, where a fortnight before he had fought and lost the battle of the Cup, Red Wull now battled for his life.

Long odds! But what cared he? The long-drawn agony of the night was drowned in that glorious delirium. The hate of yeart came bubbling forth. In that supreme moment he would avenge his wrongs. And he went in to fight, revelling like a giant in the red lust of killing.

Long odds! Never before had he faced such a galaxy of foes. His one chance lay in quickness: to prevent the swarming crew getting their hold till at least he had diminished their numbers.

Then it was a sight to see the great brute, huge as a bull-calf, strong as a bull, rolling over and over and up again, quick as a kitten; leaping here, striking there; shaking himself free; swinging his quarters; fighting with feet and body and teeth—every inch of him at war. More than once he broke right through the mob; only to turn and again face it. No flight for him; nor thought of it.

Up and down the slope the dark mass tossed, like some hulk the sport of the waves. Black and white, sable and grey, worrying at that great center-

piece. Up and down, roaming wide, leaving everywhere a trail of red.

Gyp he had pinned and hurled over his shoulder. Grip followed; he shook her till she rattled, then flung her afar; and she fell with a horrid thud, not to rise. While Grapple, the death to avènge, hung tighter. In a scarlet, soaking patch of the ground lay Big Bell's lurcher, doubled up in a dreadful ball. And Hoppin's young dog, who three hours before had been the children's tender playmate, now fiendish to look on, dragged after the huddle up the hill. Back the mob rolled on, her. When it passed, she lay quite still, grinning; a handful of tawny hair and flesh in her dead mouth.

So they fought on. And ever and anon a great figure rose up from the heaving inferno all around; rearing to his full height, his head ragged and bleeding, the red foam dripping from his jaws. Thus he would appear momentarily, like some dark rock amid a raging sea; and down he would go again.

Silent now they fought, dumb and determined. Only you might have heard the rend and rip of tearing flesh; a hoarse gurgle as some dog went down; the panting of dry throats; and now and then a sob from that central figure. For he was fighting for his life. The Terror of the Border was at bay.

All who meant it were on him now. The Venus, blinded with blood, had her hold at last; and never but once in a long life of battles had she let go; Rasper, his breath coming in rattles, had him horribly by the loins; while a dozen other devils with red eyes and wrinkled nostrils clung still.

Long odds! And down he went, smothered beneath the weight of numbers, yet struggled up again. His great head was torn and dripping; his eyes a gleam of rolling red and white; the little tail stern and stiff like the gallant stump of a flagstaff shot away. He was desperate, but indomitable; and he sobbed as he fought doggedly on.

Long odds! It could not last. And down he went at length, silent still—never a cry should they wring from him in his agony; the Venus glued to that mangled pad; Rasper beneath him now; three at his throat; two at his ears; a-crowd on flanks and body.

The Terror of the Border was down at last!

"Wullie, ma Wullie!" screamed M'Adam, bounding down the slope a crook's length in front of the rest. "Wullie! Wullie! to me!"

At the shrill cry the huddle below was convulsed. It heaved and swayed and dragged to and fro, like the sea lashed into life by some dying leviathan.

A gigantic figure, tawny and red, fought its way to the surface. A great tossing head, bloody past recognition, flung out from the ruck. One quick glance he shot from his ragged eyes at the little flying form in front; then with a roar like a waterfall plunged toward it, shaking off the bloody leeches as he went.

"Wullie! Wullie! I'm wi' ye!" cried that little voice, now so near.

Through—through—through!—an incomparable effort and his last. They hung to his throat, they clung to his muzzle, they were round and about him. And down he went again with a sob and a little suffocating cry, shooting up at his master one quick, beseeching glance as the sea of blood closed over him—worrying, smothering, tearing, like fox-hounds at a kill.

They left the dead and pulled away the living. And it was no light task, for the pack were mad for blood.

At the bottom of the wet mess of hair and red and flesh was old Shep, stone-dead. And as Saunderson pulled the body out, his face was working; for no man can lose in a crack the friend of a dozen years, and remain unmoved.

The Venus lay there, her teeth clenched still in death; smiling that her vengeance was achieved. Big Rasper, blue no longer, was gasping out his life. Two more came crawling out to find a quiet spot where they might lay them down to die. Before the night had fallen another had gone to his account. While not a dog who

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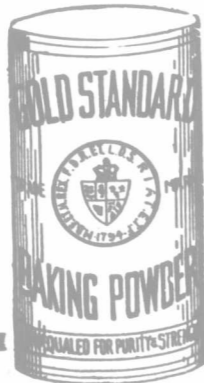
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fought upon that day but carried the scars of it with him to his grave.

The Terror o' th' Border, terrible in his life, like Samson, was yet more terrible in his dying.

Down at the bottom lay that which once had been Adam M'Adam's Red Wull.

At the sight the little man neither raved nor swore: it was past that for him. He sat down, heedless of the soaking ground, and took the mangled head in his lap very tenderly.

"They've done ye at last, Wullie—they've done ye at last," he said quietly, unalterably convinced that the attack had been organized while he was detained in the tap-room.

On hearing the loved little voice, the dog gave one weary wag of his stump-tail. And with that the Tailless Tyke, Adam M'Adam's Red Wull, the Black Killer, went to his long home.

One by one the Dalesman took away their dead, and the little man was left alone with the body of his last friend.

Dry-eyed he sat there, nursing the dead dog's head; hour after hour—alone—crooning to himself:

"Monie a sair daurk we twa hae wrought,

An' wi' the weary warl' fought!
An' monie an anxious day I thought
We wad be beat."

An' noo we are Wullie—noo we are!"
So he went on, repeating the lines over and over again, always with the same sad termination.

"A man's mither—a man's wife—a man's dog! they three are a' little M'Adam iver had to back him! D'ye mind the auld mither, Wullie? And her, 'Niver be down-hearted, Adam; ye've ave got yer mither.' And ae day I had not. And Flora, Wullie (ye remember Flora, Wullie? Na, na; ye'd not) wi' her laffin' daffin' manner, cryin' to one: 'Adam, ye say ye're alane. But ye've me—is that no enough for ony man?' And God kens it was—while it lasted!" He broke down and sobbed a while. "And you, Wullie—and you! the only man friend iver I had!" He sought the dog's bloody paw with his right hand.

"An' here's a hand, my trusty fier,
An' gie's a hand o' thine;
An' we'll tak' a right guid willie-waught,
For auld lang syne."

He sat there, muttering, and stroking the poor head upon his lap, bending over it, like a mother over a sick child. "They've done ye at last, lad—done ye sair. And noo I'm thinkin' they'll no rest content till I'm gone. And oh, Wullie!" he bent down and whispered—"I dreamed sic an awfu' thing—that ma Wullie—but there! 'twas but a dream."

So he sat on, crooning to the dead dog; and no man approached him. Only Bessie of the inn watched the little lone figure from afar.

It was long past noon when at length he rose, laying the dog's head reverently down, and tottered away toward that bridge which once the dead thing on the slope had held against a thousand.

He crossed it and turned; there was a look upon his face, half hopeful, half fearful, very piteous to see.

"Wullie, Wullie, to me!" he cried; only the accents, formerly so fiery, were now weak as a dying man's.

"Are ye no comin', Wullie?" he asked at length in quavering tones. "Ye've not used to leave me."

He walked away a pace, then turned again and whistled that shrill, sharp call, only now it sounded like a broken echo of itself.

"Come to me, Wullie!" he implored, very pitifully. "'Tis the first time iver I kent ye not come and me whistlin'. What ails ye, lad?"

He recrossed the bridge, walking blindly like a sobbing child; and yet dry-eyed.

Over the dead body he stooped.

"What ails ye, Wullie?" he asked again. "Will you, too, leave me?"

Then Bessie, watching fearfully, saw him bend, sling the great body on his back, and stagger away.

Limp and hideous, the carcass hung

down from the little man's shoulders. The huge head, with grim, wide eyes and lolling tongue, jolted and swagged with the motion, seeming to grin a ghastly defiance at the world it had left. And the last Bessie saw of them was that bloody, rolling head, with the puny legs staggering beneath their load, as the two passed out of the world's ken.

In the Devil's Bowl, next day, they found the pair: Adam M'Adam and his Red Wull, face to face; dead, not divided; each save for the other, alone. The dog, his saturnine expression glazed and ghastly in the fixedness of death, propped up against that humpbacked boulder beneath which, a while before, the Black Killer had dredged his weird; and, close by, his master lying on his back, his dim dead eyes staring up at the heaven, one hand still clasping a crumpled photograph; the weary body at rest at last, the mocking face—mocking no longer—alight with a whole-souled, transfiguring happiness.

POSTSCRIPT.

Adam M'Adam and his Red Wull lie buried together: one just within, the other just without the consecrated pale.

The only mourners at the funeral were David, James Moore, Maggie, and a grey dog peering through the lych-gate.

During the service a carriage stopped at the churchyard, and a lady with a stately figure and a gentle face stepped out and came across the grass to pay a last tribute to the dead. And Lady Eleanour, as she joined the little group about the grave, seemed to notice a more than usual solemnity in the parson's voice as he intoned: "Earth to earth—ashes to ashes—dust to dust; in sure and certain hope of the Resurrection to eternal life."

When you wander in the grey hill country of the North, in the loneliest corner of that lonely land you may chance upon a low farm-house in the shadow of the Muir Pike.

Entering, at all old man comes out to greet you—the Master of Kenmuir. His shoulders are bent now; the hair that was so dark is frosted; but the blue-grey eyes look you as proudly in the face as of yore.

And while the girl with the glory of yellow hair is preparing food for you—they are hospitable to a fault, these Northerners—you will notice on the mantelpiece, standing solitary, a massive silver cup, dented.

That is the world-known Shepherds' Trophy, won outright, as the old man will tell you, by Owd Bob, last and best of the Grey Dogs of Kenmuir. The last because he is the best; because once, for a long-drawn unit of time, James Moore had thought him to be the worst.

When at length you take your leave, the old man accompanies you to the top of the slope to point you your way.

"Yo' cross the stream; over Langholm How, yonder; past the Bottom; and oop th' hill on far side. Yo'll come on th' house o' top. And happen yo'll meet Th' Owd Un on the road. Good-day to you, sir, good-day."

So you go as he has bidden you; across the stream, skirting the how, over the gulf and up the hill again.

On the way as the Master has foretold, you come upon an old grey dog, trotting soberly along. Th' Owd Un, indeed, seems to spend the evening o' his life going thus between Kenmuir and the Grange. The black muzzle is almost white now; the gait, formerly so smooth and strong, is stiff and slow; venerable, indeed, is he of whom men still talk as the best sheep-dog in the North.

As he passes, he pauses to scan you. The noble head is high, and one foot raised; and you look into two big grey eyes such as you have never seen before—soft, a little dim, and infinitely sad.

That is Owd Bob o' Kenmuir, of whom the tales are many as the flowers on the May. With him dies the last of the immortal line of the Grey Dogs of Kenmuir.

You travel on up the hill, somewhat pensive, and knock at the door of the house on the top.

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You ask the child his name. He kicks and crows, and looks up at his mother; and in the end lisps roguishly, as if it was the merriest joke in all this merry world, "Adum Mataddum."

THE END.

The Literary Society

POSITION OF WOMEN IN CANADA.

Dear Editor: My heart goes out to those British women who have come from their old comfortable homes and left friends and everything that makes life dear to help build up a new country. One of the women in writing to you finds one fault with the country; i. e. the law concerning women's rights.

It is a blot on the fair name of Canada. Instead of sending missionaries to foreign countries to raise the position of women, I think charity should begin at home. We represent Canada as a lovely young woman in suitable clothing ready to face the winter's storm and blast. "Puir buddy!" How little she knows what breakers are ahead in the storm of life! I would advise British women with money to keep it in your own name. In that way your children will be the heirs, not the second wife's offspring.

Hardships! Well, yes. A farmer's wife of moderate means, without help, who raises a large family of boys and girls to be worthy members of society, and who finds time for her own moral and mental development is the greatest woman on earth. It is not only the housework and rearing of children, but very often the mother is school teacher and music teacher to the little ones entrusted to her care. Yet a foreigner, a drunken, illiterate, unlettered, and immoral man it may be, comes into our midst and the most sacred of privileges, the ballot, is placed in his hands.

Lady Steel of Edinburgh has won distinction for all time in British history as the first woman who refused to pay taxes without a vote. Oh! for a Canadian woman of the same "metal" to start a movement of this kind. New Zealand is considered the best governed country in the world. This distinction over the other parts of the world is certainly due to the fact that women there are allowed a voice in all matters pertaining to the state.

After the noted lecture given by Prof. Madame Curie in Paris University, one of the male professors remarked that the time was soon coming, when women should be treated like human beings.

BESSIE WELLINGTON.

PHILOSOPHIC ADVICE.

I pray you, O excellent wife, not to cumber yourself and me to get a rich dinner for this man or this woman who has alighted at our gate, nor a bed-chamber made ready at too great a cost. These things, if they are curious in, they can get for a dollar at any village. But let this stranger, if he will, in your looks, in your accent and behavior, read your heart and earnestness, your thought and will, which he cannot buy at any price in any village or city. Certainly let the board be spread and let the bed be dressed for the traveller; but let not the emphasis of hospitality lie in these things. Honor to the house where they are simple to the verge of hardship, so that there the intellect is awake and reads the laws of the universe, the soul worships truth and love, honor and courtesy flow into all deeds.—Emerson.

Trade Note.

KASLO IS ONE of the rich fruit growing districts of British Columbia. Kaslo is in the Kootenay, and the Kootenay is a name to conjure with these days. And Kaslo is a beautiful

townsite too. The streets are level, the ground free of stone and a healthful climate with splendid scenery and excellent fruit and timber lands assures a prosperous future for the town. In our advertising columns will be found the announcement of Mr. A. J. Curle. Mr. Curle has been for many years in charge of the land department for one of the railways, and is competent to judge of the merits of the different sections of B. C. He predicts a great future for this district and we would suggest that our friends write Mr. Curle for further particulars. B. C. holds many happy homes. There is no part of Canada where life is more enjoyable, where industries are more diversified, or where opportunities are better for the fruit grower and the home seeker.

QUESTIONS AND ANSWERS.

PAYING FOR MARE.

A sold a mare to B, the value of the animal to be paid in work. B not having the mare on trial brought the animal back and tied her in the stable at the end of three months, saying the animal was no good.

Can A make B pay for the mare having no writings?

R. R.

Ans.—Yes, the using of the mare by B is equivalent to him signing an agreement to pay for her. He is liable for the price of the mare.

MARE ABORTING.

Mare 9 years old had a colt which lived 8 days. Next year she missed; next year she slipped her foal; then slipped her second foal. Would you advise breeding her again? Would the carbolic acid treatment be of benefit to her? How should it be given?

J. K.

Ans.—Would advise breeding the mare as it may be some local cause and if you succeed in getting her in foal you might try the use of Fluid Extract of Cramp Bark in one ounce doses for some time before her usual time of aborting.

FEET OVER HALTER-SHANK.

Three-year-old colt gets his front feet over his halter-shank. I tie him not more than two feet long, but still he will get his feet over.

A NEW SUBSCRIBER.

Ans.—Possibly the manger is lower than necessary. If, so, raise it by adding a plank or scantling. Bore a hole in this near the top, and run the halter-shank through it, attaching securely to the end of a block of wood or iron, which, while not heavy enough to cause the colt inconvenience when lying down, will take up the slack when he is standing.

SALE OF UNSOUND COW.

In your April 18th issue we note an answer to J. A. W. re sale of an unsound cow, in which it seems to be the opinion that B is not liable to A, the drover. Now, we know of a similar case, where the farmer made full refund to drover, and such seems to be the general custom in our locality.

1. Is the drover required, by law, to run all risk?

2. Would a guarantee of soundness from seller make a difference?

Ontario. SUBSCRIBER.

Ans.—1. Each case must depend largely upon its own especial circumstances. It is open to the drover in every case to protect himself by proper terms of agreement. In the one referred to, it did not appear that he had taken the necessary precaution.

2. Most assuredly, for then the purchaser would have a right to damages for breach of warranty in the event of the animal turning out to have been unsound at the date of the contract.

MAMMITIS.

What is mammitis? I have had two cows this winter that went wrong in one quarter soon after calving. The end of the teat became sore first, and it then seemed to work up in the udder,

Notice

Owners of imported Clydesdale Stallions and Fillies not yet recorded in the Clydesdale Stud Book of Canada, are urged to do so at once, as under the new regulations, regarding the registration of imported Clydesdales, only those bearing registration numbers in the Clydesdale Stud Books of Great Britain and Ireland, and whose parents and grand parents are similarly recorded, will be held eligible for registration in the Clydesdale Stud Book of Canada, after July 1st, 1907.

Address,—

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Department of Agriculture,
Ottawa, Ont.

J. W. SANGSTER, Secy.,
Clydesdale Horse Association.

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is an orchard land sub-division in the famous South Thompson River Valley, 24 miles from Kamloops, British Columbia, and on the main line of the C. P. R.

SUNNYSIDE

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SUNNYSIDE

Will grow anything grown in the North Temperate Zone, from apples to apricots. No late or early frosts. The finest climate in B.C. Land all cleared, free from stones and ready to plant your trees on now. We run no excursions, but you can come any time after your seeding is done, and we will pay your fare both ways if you purchase. Write for information to

J. T. ROBINSON,
Manager B.C. Orchard Lands Ltd., Kamloops, B.C.

Monuments



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WRITE
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AGENTS WANTED.

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which swelled considerably. There still seems to be an obstruction in teat that hinders the milk from flowing freely, and seems to grow shut from one milking to another. READER.

Ans.—Mammitis, also known as garget, consists of inflammation of the mammary gland. It occurs in two forms, in one form being confined to the superficial structures of the gland—this is the mildest, and is sometimes caused by a companion cow stepping upon the udder or teat. In the other form, the interior of the gland is affected. Your case would appear to be the former, as in the latter, lameness and loss of appetite usually accompanies. Treatment, in either case, consists of a purgative of 1 lb. Epsom salts, followed by two-dram doses nitrate of potash, in feed, three times a day for three or four days. Poultice with hot bran or steamed hops, and apply carron oil or camphorated oil to the teat twice a day. If milk cannot be drawn by hand, use a milk tube, being careful to disinfect it each time before using, and enter it gently so as to irritate as little as possible.

CARING FOR HORSES.

A owes B some money and gives B a mortgage on some horses. A leaves the horses with C and goes away. B seizes the horses and has a sheriff's sale. C does not send in his bill for keep of horses till after sale and sheriff has settled up with B and B is short of what A owes him. Can C collect his bill for keep of horses, and how much a day can he collect?

Sask.

W. A. P.

Ans.—Neither A nor the sheriff are under any obligation to pay C for care of the horses since he did not send in his bill to the sheriff. In fact it ought to be assumed that he was caring for the horses for B and would have to look to B for the money.

BITTER CITRONS.

What is it that causes our citrons to be bitter? Last year we had a fine patch, some being all right, but some bitter. We had citron, squash, pumpkin and cucumber vines all close together. Would that affect the citron? Man.

W. G. G.

Ans.—The reason that some citrons are more bitter than others is very difficult to explain. It is no doubt due to some inherent qualities of the seed. It would be a good plan to retain for the purpose of planting, seed from those citrons of good quality and discard those of poor quality.

The cucumber, squash, pumpkins, and citrons all belong to the same order (*Cucurbitaceae*), but there is little probability that there would be any cross fertilization taking place to which could be attributed the bitter flavor of some of the citrons.

INDIGESTION.

I have a two-year-old heifer, which bloats up every day. In the morning she appears to be all right, but is bloated up every evening, and seems to be getting larger. Have lost one already with something similar. Can you tell me the cause and treatment?

OLD SUBSCRIBER.

Ans.—This is evidently caused by indigestion. Give 1 lb. Epsom salts dissolved in warm water, as a drench. Repeat the dose in 36 hours, if necessary. Follow with 2 drams nux vomica and one dram each of sulphate of iron and gentian, night and morning for three days. Feed lightly. If bloating continue or recur, give 1½ pints raw linseed oil and two ounces oil of turpentine.

STAGGERS IN PIGS.

I have a litter of five pigs weaned about two weeks, which appear to be all right. They are in a small pen. When we feed them, they come to the trough and take a swallow, and run backward a couple of feet, and fall on their side, kick and squeal for a short time; then get up, and apparently get better. Do the same every time they are fed.

J. A. D.

Ans.—This trouble occurs not infrequently with young pigs too liberally fed, and is generally supposed to be the result of indigestion, but is not well understood. It is also thought to be of the nature of apoplexy from a rush of

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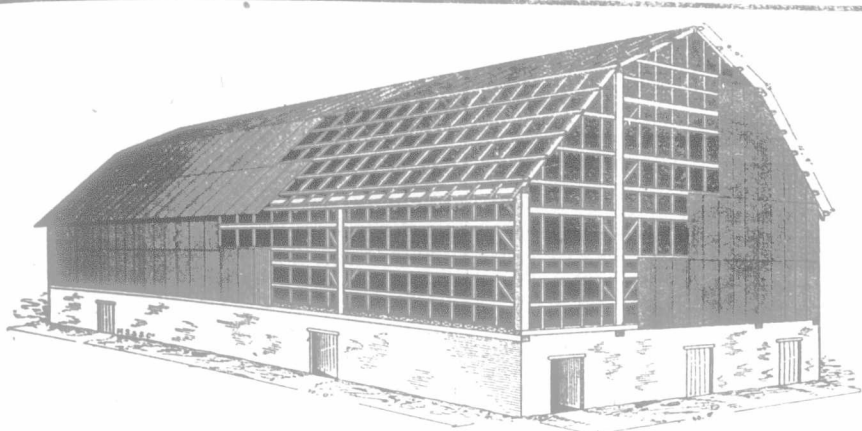
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I have for sale 320 acres, 4 miles South of Swan Lake, Man., N. E. ¼ of
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Your silent salesman—The Advocate Advt.



This cut shows an up-to-date Barn Construction, 40 feet x 70 feet, and the method of covering with Corrugated Sheets. The framework is light, as the corrugated sheets, when nailed in place, make the building very rigid. This drawing is made from actual plans and the barn has been built many times with splendid results.

The saving of wood sheathing, as compared with the ordinary barn construction, will cover the difference in cost between wooden shingles and our "Acorn Quality" Corrugated Galvanized Sheets.

This galvanized covering protects your building from lightning, prevents fires from the outside, is easily and cheaply applied, and OUTLASTS A GENERATION.

Do not make a mistake and put up an old style barn, when you can secure a better and more durable construction for less money.

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Largest prizes ever offered by any Fall Fair for Clydesdales, Heavy and Agricultural teams of horses.

Splendid programme of races.

Entries close July 1st.

GEO. H. GREIG,
President.

A. W. BELL,
Manager.

blood to the head. Feeding dry meal and giving drink in a separate trough has been recommended as a preventive; also mixing food less sloppy, say in a thick, pasty form, or scattering grain on a clean plank floor, so they have to eat more slowly. Any food tending to relax the bowels will be helpful. A mixture of charcoal, ashes and salt kept where the pigs can take it at will may also have a good effect. Can any of our readers suggest a better treatment or preventive?

DIGESTIVE TROUBLE.

Am working a horse that seems to have something the matter with him internally. He will suddenly start to step very high and gather himself as though he were going to jump over something; and also when he drinks, there seems to be something jumping inside him at the plank. This is all I can tell you, except that he is very dull

F. O. B.

Ans.—There is no doubt but your horse is suffering from some derangement of the digestive organs affecting the brain. Give the following physic:—Aloes barb., one ounce; ginger, 2 drams. Dissolve in water and drench. Afterwards give a tonic as follows:—Sulphate of iron, 4 ounces; powdered gentian, 4 ounces; soda bicarb., 4 ounces; powdered nux vomica, 2 ounces. Divide into 24 powders and give one every night in soft food.

PAINT WANTED.

Would you kindly send me a receipt for a paint to use for a building 36x70x20 feet high.

Miniota Mun. Man. H. T.

Ans.—For outside work a person likes to strike a medium paint as far as cost is concerned. Hand-mixed white lead and oil makes rather an expensive application, although it doubtless is warranted by its greater durability. But the ready mixed paints are prepared to meet the demand for applications that are inexpensive and durable. We would therefore recommend that you ask your general merchant or hardware dealer to get you a supply of either Stephens' or The Canada Paint Co's. outside paints.

SELECTING SHORTHORNS.

Would you kindly give instructions in regard to selecting Shorthorn cattle by pedigree? I read about different families, but, to a new beginner, they are all Greek. I should like to start a herd on a small scale, and should prefer the milking strain, but don't know how. Would you instruct me, through your paper, how to tell a Cruickshank, a Bates, or a Booth strain? J. E. L.

Ans.—It is only by reading the history and studying the herdbooks, and the different types of the breed that one can get helpful light on this question. While it has always been claimed for the breed, and with good grounds, that it is a dual-purpose breed, the cows, as a rule, being fairly good milkers, and many of them heavy milkers, it must be admitted that in the last thirty years, or more, by the Booths and by Cruickshank and their disciples, much more attention has been paid to developing the early-maturing and beef-producing than the milk producing propensities of the breed, with the result that, as a rule, the females of those classes or strains that have been in that line are only moderate milkers, although there are yet some cows in most herds of these strains that are excellent milkers. Mr. Bates, one of the early improvers of the breed, gave more attention to the milking proclivities of the breed, and gloried in the dairy production of his cows, as well as their style and symmetry, and, as a rule, in herds that have been bred mainly in the Bates line, the females are better milkers than those of the families that have been bred mainly for beef. For this reason, the females of families of Shorthorns in this country that trace to the early importations which were principally of Bates strains, more or less nearly related to the fountain-head of that strain, are more generally good milkers, though, of course, that tendency has not been helped by the use of sires of the special beef type, without regard to the milking qualities of their dams and earlier female ancestry. As there are few, if any, families as such now that have special claims to

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dairy qualities, the safest rule we can recommend for the selection of milking Shorthorns is to select cows having the individual indications of superior milking qualities, such as a large and well-shaped udder, with plenty of loose skin to give capacity that you have seen milked, and that give a fair quantity. Then the conformation of a likely milker should be more nearly like that of the ideal type of dairy cow; namely, a clean-cut head, slim neck, somewhat thin withers, and prominent hook bones, broader behind than in front, and deep ribbed. In selecting a bull to breed for milk, see that his dam is of the type described, and that she is actually a superior milker—test your cows by the scales—and continue to breed from the best producers.

BROODER CHICKS DYING.

Little chicks are dying at the age of from one to two weeks. They are kept

in a brooder about three feet square, which gives them ample room; the heat ranging, first week, 95 degrees, and gradually lessening. Can find no lice, and chicks seem to be healthy in the morning, but at noon one or two are dead. They are fed as follows: Prepared chick feed, scattered in chaff for scratching; grit; clean water; beef scraps, and dry mash always before them. Had some of another hatch that went weak on the legs, but seem to be getting all right now.

G. F. R.

Ans.—It is difficult to say exactly what is wrong with these chickens. I gather from the tone of the letter that they are not affected with diarrhoea or indigestion. A few chickens at this season of the year are likely to die from a lack of vitality. It may be that your correspondent is not using heat enough in his brooder. Ninety-five degrees in a brooder would be ample temperature for some makes of brooders, and insufficient

for others. One should use sufficient heat so that the chickens will sit at night with their heads sticking under the hover. I do not think the chickens are lousy.

In raising chickens in the winter time, one of the chief difficulties is to keep them on their feet. In order to do this, one has to give them plenty of exercise, and as much fresh air as possible without chilling the chickens. You also require to feed them considerable green food or vegetables. We use some sprouted oats or barley, mangels, and the tender shoots from various roots, which develop in an ordinary root cellar, refuse lettuce, or anything of this nature. Sometimes we grate the mangels, and mix dry chop with it.

I should like to know whether or not your correspondent examined the chickens that died. It would be interesting to know whether the yolk was entirely absorbed, or whether it had begun to

harden. Raising chickens in winter-time requires the use of one's best common sense, and you have to watch them daily. I might add that it would be advisable to feed these chickens some ordinary dry bone, also some charcoal. I cannot say that I would advise beef scrap being left before them constantly. It might not do any harm, but our experience is that hopper feeding is a good thing in the summer-time, but very bad in the winter. With winter chickens, we have been unable to keep them on their feet at all satisfactorily when hopper feeding has been used.

GOSSIP

The word "irrigation" which a few years ago was only met with in engineering text books, is beginning to have a familiar sound, especially with our readers in some of the interior B. C. fruit land districts and in the southern part of Alberta. "Cost of Irrigation" is the title of a booklet just issued by the American Well Works, Aurora, Ill., and contains suggestions of the following nature:—Installing irrigation apparatus, where losses are sustained and costs reduced, and the application of irrigation schemes to small farms. The booklet is helpful and interesting and will be sent free to any one asking for it mentioning this notice or the advertisement.

Mr. R. P. Stanley, proprietor of Maple View Farm, Moosomin, Sask., writes that he has completely sold out his stallions for this season, but will have on hand a supply in the fall for future trade. He also mentions the fact that his advertisement in the FARMER'S ADVOCATE was largely responsible for the demand he experienced for Percherons and Hackneys. Mr. Stanley is well situated to supply a large district to the north and south of Moosomin, where many admirers of the Percherons have settled.

TOBACCO GROWING IN BRITISH COLUMBIA.

Extract from the May number of *Tobacco*, a journal devoted to the trade and published in London, England. The quotation is from their report of the International Tobacco Trade Exhibition, held in London at the Royal Horticultural Hall, Vincent Square, Westminster, from April 20th to April 27th, 1907.

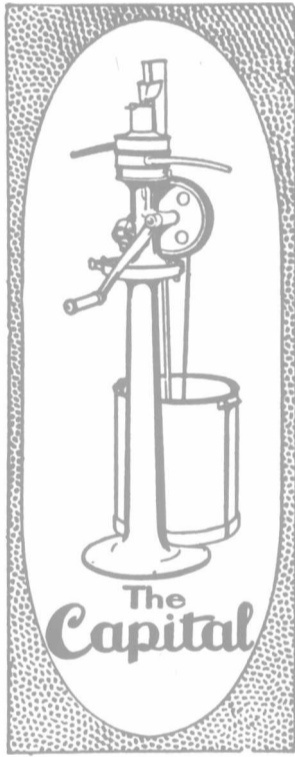
"The display of leaf, manufactured tobacco and cigars from Kelowna, B. C., created attention and interest, and conveyed a very fair idea of the possibilities of British Columbia as a tobacco growing territory. Notwithstanding that tobacco growing is in its infancy, Mr. Holman, of Kelowna, succeeded in raising many fine specimens of plants, having leaves from two to three feet in length, while cigars made from Vuelta Abajo, Havana leaf, 1902 crop, were equal to many well-known brands of imported Havana. The exhibit included bundles of Wisconsin seed leaf, 1906 crop, a number of bundles, mostly three bands each, of Vuelta Abajo, Havana leaf, crop 1906, and other of the 1902 crop. There is a succulence about British Columbia tobacco that is absent from every other country's growth and which creates a flavor that must be acquired to be truly appreciated. There is ample room in British Columbia for enterprising agriculturists if only they will direct their attention to tobacco planting."

When it is remembered that tobacco from every tobacco growing country in the world was shown at this exhibition, the prominent place and extended notice given to Mr. Holman's exhibit must be highly gratifying to him and to the people of the whole Okanagan Valley.

The credit of securing the admirable position which the exhibit occupied at the show, is due to Mr. J. H. Turner, Agent General of B. C. in London, who spared no efforts to obtain for it the recognition which its importance as a coming industry demanded. In his personal letter to Mr. Holman announcing the close of the exhibition, Mr. Turner states that it has proved to be an excellent advertisement for the province as well as for the tobacco.

Four Cows Will Earn You MORE Money Than EIGHT Cows Earn You Now

Tell me to show you how to get over thirty dollars a year more out of each cow you keep. Make me prove that four cows AND a Capital Separator will actually earn you —YOU, PERSONALLY—more money in cold cash profits than an EIGHT-cow herd and no Capital Separator. Don't take my say-so for it. Don't wrap yourself up in your own belief that it can't be done. It CAN be done, and I can PROVE it to you, in a practical, hard-sense fashion, with figures and facts that you won't want to dodge. Write to me and see.



Let's get the thing clear to start with. Here is what I say I can show you: That with four good cows and my method of separating, making butter—and selling butter—you can make more money in one year than eight cows will make you without my method.

If I do that,—if I do show you a difference of over thirty dollars profit a year on every cow you keep,—then I want to talk business with you. I don't want a cent of your money until you are satisfied that I have made good every word I say and everything I promise. I don't want to sell you a Capital Separator until you ask me to,—I shan't importune you, nor bother you. All I want to know is your name and address, and how many cows you keep. When I get these facts, I'll tell you some things you haven't heard before. I'll show you not only why you need a Capital Separator, but why you can make more money by my method of selling butter than you'll make any other way. It won't be all separator talk I'll talk to you,—you've read reams of separator argument, but you haven't heard yet about the right way to

make butter and the right way to SELL butter. Tell me to tell you about it,—there's nothing to pay.

Why don't I tell you right here in print? Simply because I am not giving "blanket" advice. What might be a good plan for a man in Ontario wouldn't work in Manitoba,—and I propose to advise each dairyman according to his location and other vital details. Naturally, I want to sell Capital Separators. I am no philanthropist. But I will sell them faster because I can tell people how to make them pay,—and that's something new in this business.

I don't care what your experience with dairying has been, nor what with separators. You may have what you think is the best separator there is. Or you may believe, as many do, that there isn't any real profit in dairying. I can show you where you're wrong in either case. Do I get the chance to do that? Will you listen to the mere, sheer, downright facts? Just write to me and say so.

I don't care whether you feel able to buy a Capital Separator or not. It won't be a hard matter, once you get to the buying point, to make terms with me. Some of my friends—I don't consider them merely my customers—take three years' time to pay in. Some of them pay in three months. Doesn't make any difference to me, because I know, and I can prove to you, that my Separator will buy itself the first year you have it. It will save you enough money and trouble, to pay for itself twice over in that time. And I can prove that, too,—just write and ask me to.

I've got a machine here, and a method, that will open your eyes to what there really is in keeping cows for profit. Maybe you are one of the few that know that already. Even if you are, you won't be any the poorer for reading what I'll write you. Let me tell you about the easiest separator to run you ever saw,—the easiest to buy,—the separator that skims cleanest and does it easiest,—the one with the really low-down can,—and about the method that makes more butter, makes better butter, and gets better prices for it the whole year round. Just write to me—address as follows:

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You should keep in touch with the Homeland and read the best agricultural literature. This is easily done by this special low priced offer

THE FARMER'S ADVOCATE

WINNIPEG, MAN.

UNION SCALE FOR ATTORNEYS.

When it was announced that Mr. Delmas, who was brought from California to defend Harry K. Thaw, was to receive \$100,000 for his services there was general research into the higher rates prevailing in the pay for legal services. The estimate has since dwindled to \$25,000, and this seems to have relegated Mr. Delmas to a lower rank and threatened him with the loss of his union card. It is stated that James R. Dill of New York received a million dollars for settling a steel Corporation dispute. Another persistent report runs to the effect that William Nelson Cromwell received one million, and possibly two million, for managing the sale of the Panama Canal to a syndicate. Mr. Cromwell admitted having received \$200,000, and said he expected more. This is not Mr. Cromwell's first big fee. For reorganizing the firm of Decker, Howell & Co. in 1891 he received from the court \$260,000. He is said to have been paid a \$100,000 fee on another occasion. It is claimed that Mr. Dill, now a judge on the New Jersey Bench, was paid a million dollars for straightening out the tangle between Andrew Carnegie and Henry C. Frick over the transfer of the properties merged in the United States Steel Corporation.

A fee of \$800,000 is said to have been paid to a New York lawyer, William D. Guthrie, for breaking the will of the late Henry B. Plant, owner of a system of steamships, railways, and hotels. Another large attorney's fee recently granted in a court's decision at Seattle was that of Senator S. H. Piles, who will get \$450,000 in the famous John Sullivan will case. In a contested will case recently closed at Milwaukee one firm of lawyers was allowed \$107,000, another \$50,000, and a third \$150,000. For a single argument before the United States Supreme Court Joseph H. Choate is said to have received \$200,000. The effect of the argument was the declaring unconstitutional of the income tax. The payment of great fees for services in court is anything but flattering to the courts. It is a plain intimation that their decisions are affected by the ability of the counsel. Yet by a strange distortion of logic these fees are regarded as affording grounds for increasing the salaries of judges. There has been some talk of great legal fees in Canada, but alongside of these records they look like non-union rates in an open shop and no recognition of the walking delegate.—*The Globe.*

REGISTER IMPORTED CLYDES.

Owners of imported Clydesdales should not overlook the announcement in another column of the new regulation with regard to recording pedigrees. Much future trouble and expense will be saved by attending to this matter before July 1st.

King Edward has opened the splendid New Bailey which has been erected in London on the site of Newgate jail at a cost of about £300,000. The Old Bailey had been used for the administration of justice, he said, since 1188, but the first mention of a sessions house was in 1356, the year of the battle of Poitiers. The name given to the building at that time was the "Sessions Hall." In 1785 a new sessions house was built by the corporation. The building was added to from time to time until 1834, when the present sessions house was built. The first trial of prisoners in it took place on November 24, 1834.

"This proposition," said Rudolph Boker of Indianapolis during a shareholders' meeting, "reminds me of one that a wife made to her husband the other day.

"'James,' she began, 'you know how I have been scraping and saving all the year for my Easter costume.'

"'Yes,' said the man, 'I know.'

"'Well,' she went on, 'I've decided on it now. It is an empire gown of pale green broadcloth, and it is to cost \$150. I want to ask you to help me a little.'

"'How much do you need?' the husband inquired.

"'I've got all but \$125,' she replied."

WANTS & FOR SALE

Advertisements will be inserted under this heading, such as Farm Property, Help and Situations Wanted, and miscellaneous advertising.

TERMS—Two 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 50 cents.

BULL FOR SALE—Aberdeen-Angus, 4 years old, recorded in the Canadian Aberdeen-Angus Association's Records. Very sure. Weight 1,800. S. E. Armstrong, Lumsden, Sask. 12-6

SABLE COLLIE PUPS from imported stock. White Rock cockerels, also White Rock eggs for hatching. Glen Bros. Didsbury, Alta. 5-6

PLANTS—Tomato plants 25c. per dozen; cabbage, cauliflower and celery plants, \$1.00 per 100; Asters, stocks, snapdragon, pansies, verbena, etc., 25c. per dozen by express at purchaser's expense. If wanted by mail add 15c. per dozen for postage. Address all orders to W. A. Linden, Box 47, Portage la Prairie, Man. 12-6

WE WANT to hire two good men of brains, push and enterprise. If you can't rustle and make money don't apply—we don't want dead ones. B. J. S. & Co., Box 345, Winnipeg.

WANTED—Experienced and reliable person to look after purebred cattle. Married man preferred. Wife could help in the house. Address, J. B., FARMER'S ADVOCATE office, Winnipeg, Man. 19-6

FARMERS AND STOCKMEN—Our new book entitled "Live Stock and Complete Stock Doctor" covers every subject pertaining to stock of whatever kind, in health and disease, and meets a positive want felt by every farmer and stockman. Send for illustrated circular to-day. Cody and Hawley, 32 Commonwealth Block, Winnipeg, Man.

SUNNY BRAE, Oakburn, Man., importers of purebred Clydesdales, some choice stallions and fillies, prices right. Tait & Halliday, C. P. R. and C. N. R. 5-6

160 ACRE FARM for sale. All Land. Half mile from Asquith, C.P.R. to Wetaskiwin. 1 mile G. T. P. siding. Terms, four thousand cash or five thousand four yearly payments—James Mallas, Asquith, Saskatoon, Sask.

POULTRY and EGGS

Rates—Two cents per word each insertion. Cash with order. No advertisement taken under fifty cents.

W. C. TAYLOR, Dominion City—Barred Plymouth Rocks, Buff Cochins, Black-breasted Red Game, Eggs for setting.

AT MAW'S Poultry Farm, Parkdale Post Office near Winnipeg. Acclimatized utility breeds' turkey, geese, ducks, chickens, incubators and poultry supplies. Large catalog mailed free.

ADDRESS YOUR CORRESPONDENCE to the Eden Rest Poultry Farms, P. O. Box 333, Lethbridge, Alberta, when you want eggs for hatching from pure bred, barred white and Buff Rocks White and Buff Wyandottes, S. C. White and Brown Leghorns and Buff Orpingtons. Eggs \$1.50 per setting. E. J. Cook, Mgr. 26-6

FOR SALE—Stock and eggs of the following breeds: White Wyandottes, Black Minorcas, Buff Rocks, Blue Andalusians, Black Langshans, R. C. Rhode Island Reds, White Leghorns, Pekin Ducks. R. P. Edwards, South Salt Springs, B. C. 5-6

REDUCED PRICES—S.C. Buff Orpington and brown Leghorn eggs \$1 for 15; \$5 per 100. Orders taken for Berkshire pups.—Allan McEwen, Clearwater. 5-6

FOR SALE—White Wyandotte's eggs, Massie Dustan strain, one dollar per setting. Alex Porter, Alexander, Man. 5-6

H. E. HALL, Headingly, Man. Pure-bred Barred Rock Eggs for sale. \$1.50 for 15. Incubators lots, \$7.00 per 100 eggs. 26-6

WHEN REPLYING to advertisements on this page mention the FARMER'S ADVOCATE.

TURKEY EGGS \$3 per doz. B. P. Rocks and B. Leghorn, 15 eggs \$1.50. Rabbits and pigeons. Geo. Perceval, Priddis, Alta. 5-6

W. F. SCARTH & SON'S S. C. Buff Orpingtons. Eggs from carefully selected hens mated with first prize cock, Manitoba Poultry Show, 1907, \$2.00 per 13. Box 706, Virden.

CHOICE SINGLE COMB Snow-white Leghorn eggs from carefully selected pens of choicest matings. Bred for heavy layers and typical beauty. Testimonials report excellent hatches. Selected eggs reduced to \$1.50 per setting. Good hatch guaranteed. Orders filled promptly. Honest dealings. G. Norman Shields, 29 Close Ave., Toronto, Ont. 22-9

BARRED ROCK Eggs from carefully selected pens of choicest matings. Leading strains of America. Selected for their choice barring and heavy laying of large brown eggs, and headed by cockerels, vigorous, blocky, and beautifully barred. I expect grand results from my Barred Rocks this season. Testimonials report excellent hatches. Eggs carefully selected from choicest matings reduced to \$1 per setting or \$1.50 per two settings. Good hatch guaranteed. Orders filled promptly. Honest dealings. G. Norman Shields, 29 Close Ave., Toronto, Ont. 22-9

"PRIDE OF MANITOBA"—Rhode Island Reds and Buff Rocks. "Greatest laying combination on earth." "Bred for Western climate." Catalog free—Maple Leaf Yards, Oakville, Man. 5-6

Breeders' Directory

Breeders name, post-office address, class of stock kept, will be inserted under this heading at \$4.00 per line per year. Terms cash strictly in advance. No card to be less than two lines or more than three lines.

POPULAR GROVE HEREFORDS, A number of young cows, heifers, and bulls now for sale from this famous herd at low prices. J. E. Marples, Deleau, Man. Buff Orpington Eggs.

A. & J. MORRISON, Glen Ross Farm, Homestead, Man., Clydesdales and Shorthorns.

JAMES WILSON, Grand View Stock Farm Inasfall, Alta.—Breeder of Shorthorns.

H. H. KEYS, Pense, Sask.—Aberdeen Angus Cattle and Buff Orpington Chickens for sale.

GUS. WIGHT, Napinka, Man.—Clydesdales and Shorthorns for sale. Evergreen Stock Farm

WA-WA-DELL FARM—Leicester sheep and Shorthorn Cattle. A. I. Mackay, Macdonald Man.

O. KING, Wawanesa, Man.—Breeder of Yorkshires, Barred and white Rock Powl and Toulouse geese.

MERRYFIELD FARM, Fairville, Thos. Brooks breeder of Clydesdales and Shorthorns. Box 13, Pense Sask.

CLYDESDALES, Shorthorns and Tamworths T. E. M. Banting & Sons, Banting, P. O. Man. Phone 85, Wawanesa. Exchange.

STROESA STOCK FARM—Well bred and carefully selected Shorthorns and Berkshire David Allison, Roland, Man.

SHETLAND PONIES and Hereford Cattle, finest in Canada. Write or come and see them J. E. Marples, Poplar Grove Farm, Deleau, Man.

JOHN GARDHOUSE & SONS, Highfield P. O. Ont.—Breeders of Scotch and Scotch-topped Shorthorns, Lincoln and Leicester sheep and Shire horses.

R. A. & J. A. WATT, Salem, Elora Station, G. T. and G. I. R. R.—Champion herd at Toronto and New York State fairs, 1906, also Grand Champion females, including both Senior and Junior Honors at both fairs. Write you want.

BROWNE BROS., Ellsboro, Assa.—Breeders of Polled Angus cattle and Berkshire swine Stock of both for sale.

ASHCROFT, W. H. NESBITT, Roland, Man., Clyde and Hackney mares and Stallions, work horses in car lots, Ayrshires. Our motto, Live and let Live.

BERKSHIRES—Gold Medal Herd, Neepawa Manitoba. Address, I. A. McGill.

WOODMERE FARM—Clydesdales, Shorthorns and Yorkshires. Pigs at 8 weeks, f. o. b. Neepawa, \$8 apiece. S. Benson.

GEORGE LITTLE, Neepawa, Man.—Shorthorns of best Scotch type.

BELLEVUE HERD of Yorkshires—Boars in service: Oak Lodge Gamester, Summerhill Oak and others. Young stock got by the above boars out of choice sows ready to ship soon. Eight litters to select from, order early. Oliver King, Wawanesa, Man. 5-6

Lost, Strayed or Impounded

This department is for the benefit of paid-up subscribers to the FARMER'S ADVOCATE, each of whom is entitled to one free insertion of a notice not exceeding five lines. Notices exceeding five lines will be charged two cents per word for each additional word, payable in advance.

ESTRAY.

DELEAU, MAN.—Two Shetland pony mares, both black; one having one white hind foot white stripe on face, and glass eye. Information leading to recovery rewarded.—J. E. Marples.

FOR ANYTHING YOU HAVE FOR SALE USE THE FARMER'S ADVOCATE

The health of the Country depends upon the purity of food and drink.

COWAN'S Perfection COCOA

is guaranteed absolutely pure and is recommended by the best medical authority.

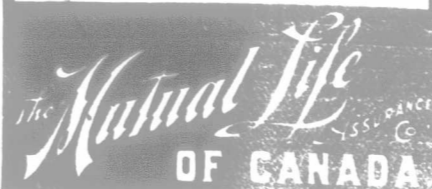
The Cowan Co. Ltd., Toronto

This Surplus of Over a Million and a-Half

—\$1,552,364.26—the 1906 surplus of The Mutual Life of Canada, on Government Standard of Valuation — or \$1,203,378.58 on Company's Valuation Standard (an increase on the latter, for the year, of \$251,377.46)—proves that The Mutual Life enjoys, to an extraordinary degree, the full confidence of the people.

The gains in every department are far beyond our expectations —and the steady gains of preceding years had made those expectations reasonably high.

Write the Head Office, Waterloo, Ont., for particulars.



"Only One 'BROUQUER' That is LAXATIVE BROMO Compound. Early named remedies sometimes contained first and original Gold Label. Each PACKAGE with black and red labels bears the signature of E. W. GROVE, etc."

AN APPLE DID IT.

The tailor's sign in a little inland town was an apple, simply an apple. The people were amazed at it. They came in crowds to the tailor, asking him what on earth the meaning of the sign was. The tailor with a complacent smile, replied: "If it hadn't been for an apple, where would the clothing business be to-day?"

"Yes," remarked a country merchant, "I certainly have a snap. The houses send duns every month and draw on me at sight, but if I send a bill to a farmer he becomes swearing mad and quits trading at my store. While I am hard up for money, many of those who are owing me are sending cash in advance to mail order houses. If I contribute money to any cause people say I am bidding for trade. If I don't they say I am a hog. Every day I am expected to dig up for everything that comes along, from a raffle ticket to a church fund by people who claim I ought to do this because they do part of their trading here, but the mail order houses neither buy tickets nor help the church fund, and yet get the cash in advance business; and if I were to circulate a subscription paper among the wholesale houses where we trade, I would get the laugh proper. If I sell a pair of pants I must treat the family to candy and cigars; if I buy a load of potatoes I must do the same. Customers who are able to pay, hang on to their money, while I pay 10 per cent. at the bank to get ready cash. I have a big business during hard times and poor crops from people who are willing to trade with me, providing I can duplicate catalog house prices and wait until harvest for money. My scales weigh too much, when I sell sugar, and too little, when I buy butter. I am a thief, a liar and a grafter. If I smile I am a soft, soapy hypocrite, and if I don't I am a grump. Yes, certainly this is a snap." And he looked over \$10,000 worth of accounts, all good, and wonders how he could raise \$350 to pay a sight draft due to-morrow.—Ex.

It was a case of breach of promise. The defendant was allowed to say a word in his own behalf.

"Yes," he said "I kissed her almost continually every evening I called at her house."

Lawyer (for defendant)—Then you confess it?

Defendant—"Yes, I do confess it. But I had to do it."

Lawyer—"You had to do it! What do you mean?"

Defendant—"That was the only way I could keep her from singing."

The jury gave a verdict for the defendant without leaving their seats.

Descending in great haste from the top story of a hotel to catch his train, a traveller found when he reached the hall that he had forgotten his umbrella.

"Just go up to my room, No. 37," he called to boots, "on the top flight and see if my umbrella is in the corner; and be quick, as I have to catch a train."

Boots fled upstairs his fastest and returned within a minute.

"Yes," he said, "it's all right; it is in the corner just where you thought it was."—Pete Mcle.

Officer Roberts of the traffic squad, who holds down the four corner's at Dev street and Broadway, is a wit as well as a grammarian. Recently he cited two examples of English as it is mis-spoken in New York. One man came up and said:

"Do you know where Cedar street is?"

"Yes," said Roberts turning away.

"But you didn't tell me how to get there," added the pedestrian.

"You didn't ask me," was the cop's laughing reply. "You asked me if I knew where Cedar street was."

Another man inquired:

"Where is John?" meaning that

"John is a day off," retorted Roberts

turning to his side partner—and the

pedestrian went away puzzled.—New York Daily Commercial Advertiser.

Gossip

WESTERN CANADA GETS MORE DRAFT HORSES.

The *Scottish Farmer* of recent date says with reference to a shipment to that popular importer of Clydesdales, Jno. Graham, of Carberry:

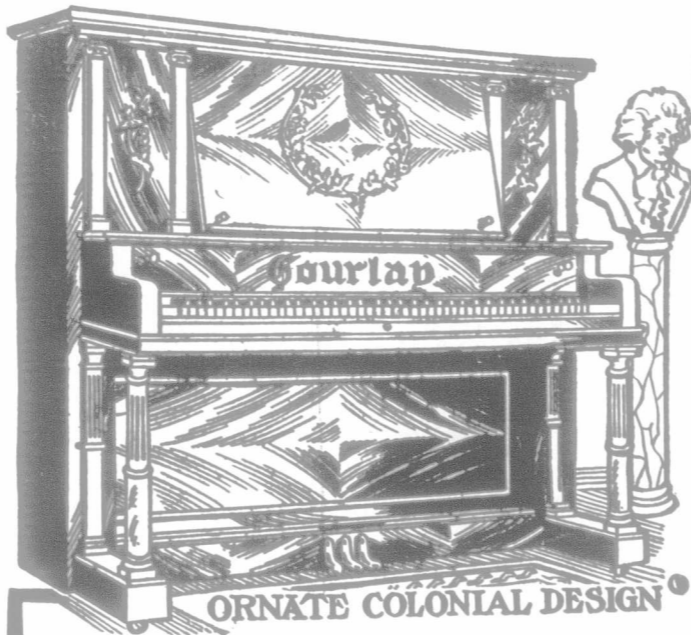
"Last week there was a great rush to get Clydesdales shipped, that they might be landed in Canada before 1st June. The Donaldson liner *Parthenia* carried somewhere over eighty head for buyers from Manitoba, British Columbia, and Ontario. Mr. John Graham, Carberry, Man., had twelve, of which number ten were mares or fillies and two were colts. All of them were purchased from Mr. Matthew Marshall, Stranraer. The mares were got by the Darnley horse Carthusian (9722), which bred well in Wigtownshire and elsewhere; the noted premium horse Mercutio (11431), by Hiawatha; the big horse Gallant Pride (12989); the well-bred Park Mains horses Sir Humphrey (11942), and Sir Wamphray (11203), for some time stud horse at Hedderwickhill; the celebrated sire of champions, Baronson (10981), and in this case the dam is by the unbeaten Cawdor Cup champion Prince of Carruchan (8151); the favourite premium and breeding horse Up to Time (10475), like Baronson, got by the champion sire Baron's Pride (9122); and the Seaham Harbour noted stud horse Lord Stewart (10084), the dam of the mare by him being got by the champion Orlando (8092), and the grandam by the other champion Flashwood (3604). Altogether, this shipment is likely to be received with favor in Manitoba."

Mr. J. S. Morrison, Kamloops, B. C., a native of Bute, had a shipment of twenty-nine Clydesdales and one Hackney. He had eight fillies and three colts from Mr. Archd. Crawford, Broughton Mains, Sorbie, all of which were bred in Wigtownshire, out of some of the best-known studs there. These were got by the well-known premium and prize horses Durbar, Argosy, and Pride of Blacon, of the Baron's Pride—Sir Everard race, as well as by Royal Chief, a son of the great champion horse Royal Gartly, and Broughton Chief, of the same race. From Mr. Wm. Murray, Borrowmoss, Mr. Morrison purchased two Clydesdale colts by the celebrated sire Baronson (10981), the sire of the champion Oyama; and the Hackney, which was got by a son of the Gowanbank stud horse Ruby, which died last week. Mr. Morrison had also four big, growthy, useful, well-bred fillies from Mr. Jas. Kilpatrick, Craigie Mains, and eleven fillies from different breeders in his native island of Bute. Three of these were three-year-olds, one was a yearling, and one a four-year-old. The rest were two-year-olds. This is the first shipment made by Mr. Morrison, but it is not likely to be the last. He is breaking new territory for the Clydesdale and deserves to succeed.

BIG SHORTHORN SALE AT REGINA.

Those who note the trend of the times will doubtless have marked June 26th as the day of the auction sale of Shorthorn cattle at Regina. Notice of the date and the breeding of some of the immediate sires of the stock offered has been given before and here we wish to refer to some of the individuals themselves. In the first place we might say that the whole herd impresses one with its uniformly strong character and the evenness of the lot. There are not thin culls to reduce the general average, but all are big, growthy, breedy-looking females and strong, sappy, rugged bulls.

Most of the cows and heifers are red, but there are a few roans. Nearly all these of a breeding age have calves or are in calf, and every thing is offered in its natural condition. On opening the catalog which is now ready the first lot entered is Amaranth 51675 by Colborne Archer (imp.) and her dam by Earl of March, two very celebrated bulls. Amaranth is a good type of what a breeding Shorthorn should be, a regular breeder, raises her calves,



Gourelay Pianos

If Your Boy or Girl Plays an Instrument

Is there any more delightful way of adding to the pleasure of life in the the home than by accompanying your child on a piano that assists the performer in producing the sweetest melodies and the most ravishing harmonies? But to get the best you must have the best piano in the world.

GOURLAY PIANOS

are unexcelled in responsiveness to the touch and possess a tone of the utmost melodiousness, pure, rich, and capable of expressing every shade of feeling. A "Gourelay" is indispensable in every home that pretends to musical culture.

High-Priced But Worth the Price

Means something when applied to Gourelay Pianos, because they are the chief exponent in Canada of fine art in piano-building. No more serviceable and dependable pianos are made anywhere in the world. Tell us your needs by mail, and we'll do the rest to your fullest satisfaction. We ship the "Gourelay" anywhere in Canada on approval.

Write us for illustrated literature.

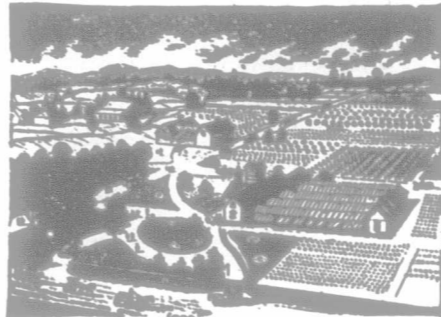
GOURLAY, WINTER & LEEMING

HEAD OFFICE: 189 YONGE ST., TORONTO



HARDY TREES FOR A TREELESS COUNTRY

Grown and For Sale by "CANADA'S GREATEST NURSERIES"



Thoroughly tested and recommended by the

WESTERN EXPERIMENTAL STATIONS at BRANDON and INDIAN HEAD as suitable varieties for Manitoba, Alberta and Saskatchewan

SALESMEN WANTED

Start now at best selling time BIG INDUCEMENTS, PAY WEEKLY, PERMANENT EMPLOYMENT.

Specially designed Western Outfit free. For full information write—

STONE & WELLINGTON

Over 800 Acres

FONTHILL NURSERIES

Toronto, Ontario

Clean Skimming Means Good Living

The hog trough is no place to put butter.

Wide awake farmers want the cream separator that skims the cleanest. It means more profit—better living. That separator is the Sharples Dairy Tubular—the separator that's different.

Sharples Dairy Tubulars have twice the skimming force of any other



separators—skim twice as clean. Prof. J. L. Thomas, instructor in dairying at the agricultural college of one of the greatest states in the Union, says: "I have just completed a test of your separator. The skimming is the closest I have ever seen—just a trace of fat. I believe the loss to be no greater than one thousandth of one per cent."

That is one reason why you should insist upon having the Tubular. Tubulars are different, in every way, from other separators, and every difference is to your advantage. Write for catalog \$1.00 and valuable free book, "Business Dairying."

The Sharples Separator Co., West Chester, Pa., Toronto, Can., Chicago, Ill.

PIANOS and ORGANS

Highest grades only. Prices reasonable and easy.

J. MURPHY & COMPANY CORNWALL ST. REGINA.

TRADE MARK B&K REGISTERED

"B & K"

Cereals bearing this trade mark push themselves along.

Once used always used.

Insist on getting this brand.

THE BRACKMAN-KER MILLING CO. Ltd.

CALGARY, ALBERTA.

TRADE MARK B&K REGISTERED

TRADE MARK B&K REGISTERED

TRADE MARK B&K REGISTERED



I Stand Back of Huttig's Rubber Roofing

With a Written and Personally Signed, Legally Binding Guarantee

Yes, sir—I can afford to stand back of my roofing, because it stands back of me, and makes my word good as gold.

H. W. Huttig

I give you a written guarantee that my roofing will do all I claim—not a mere verbal promise, through your dealer, but an iron-clad, legally binding guarantee, signed by the Huttig Mfg. Co., capitalized at \$1,000,000, and responsible for every promise it makes.

No other roofing gives you a personally signed guarantee as strong as this. No other roofing can afford to do so. Why can I do it?

Simply because my roofing is the only roofing on the market, made from pure, natural, imported Asphalt. That's why! That's the secret of my success with roofing.

Asphalt comes from the Island of Trinidad. A large part of it is used in the exclusive manufacture of Huttig's Rubber Roofing.

My roofing is made of long-fibered wool felt, densely compressed and heavily saturated with this specially prepared Natural Trinidad Asphalt, which protects every particle of the fiber.

Now, mark this carefully: The saturation of Felt with Asphalt in Huttig's Rubber Roofing is 150 per cent as against 104 per cent, the highest saturation of any of the roofings with the crazy names.

That's the principal reason why my roofing will not "stick" in the hottest, nor crack in the coldest weather.

Other rubber roofings, which have to depend on Texas and California Asphalts (products of petroleum oil), crack in winter and "run" in summer. They are not in the same class with Huttig's.

Test it for yourself! Send for sample of Huttig's Rubber Roofing and the others; then do this—get a small quantity of sulphuric acid from your druggist. Put in the samples of Huttig's and the other roofings. Let 'em soak for 24 hours, and note results.

Remember, that the very gases that constitute sulphuric acid are found in the atmosphere, and it is their chemical action that causes roofings to decay.

Huttig's Rubber Roofing requires no skilled labor to lay it. Every roll contains enough liquid cement, nails, caps, etc. It will not run, rust, rot, crack, leak, blow off, require frequent repairs, and is not a fire trap.

Now, here's how I feel about it. If you have use for roofing this season, you want the best, which is the cheapest in the long run.

You don't want to fool with a doubtful article, when you can get Huttig's with a guarantee that means absolute protection, both to your roof and your pocketbook.

Just put the burden on Huttig. My shoulders are broad. I will take care of all your roofing troubles, if you will trust me.

Ask your dealer for Huttig's Rubber Roofing. If you can't get it of him, ask me, and I'll see that you do get it.

Anyway, write for a big, free sample of my roofing and let me send you my booklet A-1 and special iron-clad Roofing Guarantee. Write me personally, and do it today.

H. W. HUTTIG, President,

HUTTIG MANUFACTURING CO., 718 E. Second St., Muscatine, Iowa
W. F. Lee, General Contractor, 94-96 Mill St., Winnipeg, Canada
Sole Agency for the Dominion of Canada

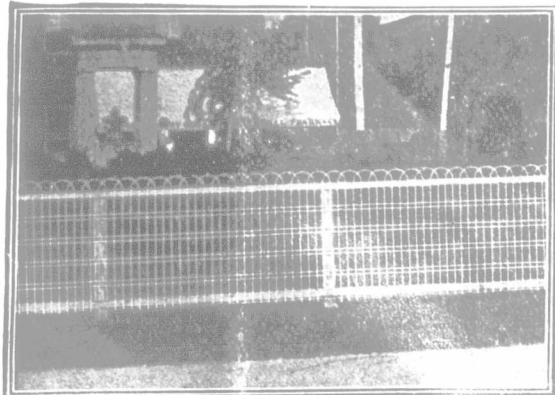


BUY IDEAL FENCE

YOU should build fence like you make other permanent improvements. Tinkering does not pay. Fences made of light wire, and wires that break rather than give when it gets cold; fences that an unruly animal could break through; fences not properly stayed—these are not paying fences. Ideal fence is the right kind. It is made of No. 9 hard steel wire from top to bottom, and is heavier and stronger than any fence on the market. Remember, it costs no more to dig your post

holes, set your posts, stretch your fence and staple it when the heavy Ideal fence is used than for a light, flimsy article. And notice how the Ideal fence is locked at every crossing. It is heavily galvanized to keep off rust. Adapts itself to extremes of heat and cold, and always presents a handsome, well-stretched appearance. It pays to study the matter over thoroughly before you buy any kind of a fence. Our little fence book gives you all the pointers. Write us today for free copy.

The Ideal Fence Co., Ltd., Dept. B, Winnipeg, Man.



PAGE LAWN FENCE

For Lawns, Gardens, Cemeteries, Parks, Etc.

Galvanized and coated with white enamel paint

Any height up to 8 feet and any length from 10 feet up. No waste.

THE PAGE WIRE FENCE CO., Limited
Walkerville Montreal Toronto
Winnipeg St John 411

and keeps in splendid mellow condition. She now has a six months heifer calf by Leader. In breeding she combines the Augusta and the famous Missie families. Amaranth 2nd, a two-year-old, is one of her best produce. This heifer handles mellow like her dam, is in calf and looks like a good useful breeding Shorthorn. She is by Sittyton Hero 7th, who was three times first and sweepstakes at Winnipeg and second at the Pan-American.

Amaranth 3rd is a yearling heifer out of Amaranth. She is a red calved last October, and is by the stock bull Leader (imp.). This heifer and her sister above indicate how regular their dam is in breeding.

Another of the very good cows in the herd is Victoria Pearl by Prince Gloster and from this on back her sires are among the most illustrious in Shorthorn history, while her dams were Mr. Cruikshanks noted Victorias. Victoria Pearl is a fine, matronly cow, a good breeder, an easy feeder and of splendid type.

Then there are Duchesses of Gloster 15th and 17th. The former is an exceptionally well ribbed cow of fair size and well covered; she has a bull calf by Leader. Duchess of Gloster 17th is her yearling heifer calf, a very sweet, thick, deep and square heifer by Leader also.

Another representative and her heifer is Golden Gloster, a Brawith Bud cow by Prince Gloster. This is an average sized, breezy-looking roan, five years old, with a bull calf at foot by Leader. Her two-year-old heifer Brawith Bud 2nd, is by Sittyton Hero 7th, and is a square, straight-lined, even young cow that handles nicely. The three-year-old cow, Golden Gloster's first calf, Craigie Mains Gem, is a coming cow, square, heavy quartered and true, being sired by the Toronto junior champion, Clipper Hero.

Lavender Gem and Craigie Mains Lavender II represent the Lavender tribe. Lavender Gem is a young cow calved in 1901, is a straight Lavender and by the good sire Prince Gloster. She is a splendid breeder, a square, even cow, heavy quarters and good middle. Craigie Mains Lavender II, her yearling heifer, is by Leader and is low, deep, well-matured and full of character.

Two representatives from Jas. I. Davidson's herd are Necklace 28th and Necklace 29th. The former is one of the biggest cows in the herd, being very thick and low set. As a yearling she was fourth in a class of twenty-two at Toronto. She is by the good breeding bull Sittyton Hero 15th and her dam was by Scottish Prince. Necklace 29th, a three-year-old, is a good type of Shorthorn, straight in her lines and of sweet character. She is by Choice Archer (imp.), a much-used bull in Ontario.

One of the best balanced cows in the herd is Gloster Flower, another of Mr. Davidson's breeding. She is four years old, smooth, heavy quartered and mellow. Her grandsire, Moneyfuffel Lad, was champion at Toronto three years in succession. Her yearling heifer, Prairie Flower, by Leader, is a most promising individual, being full sister to the Champion at Regina Fat Stock Show, 1906.

Golden Drop is a five-year-old cow, extra wide and deep, a regular breeder and with lots of character. She is of the Golden Drop family of which was the highest priced bull, \$50 guineas, at Mr. Duthie's last sale.

An imported cow that should not be overlooked is Sittyton Flower, a square, sizeable, even cow, four years of age, having raised a calf last year and again in calf to Leader. Northern Bounce is the last of the females we shall mention; she is four years old, by Prince Gloster, is smooth, wide and even, low-set and with heavy quarters.

The bulls are all young. The stock bull Leader having suffered an injury will not be offered. They are home-bred and out of the cows mentioned above, being sired by Leader. From among the lot one can pick herd headers and all are capable of working big improvement upon ordinary cattle.

Catalogs will be sent upon application, giving full details of each lot offered. Write for it mentioning this notice.

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KOOTENAY FRUIT LANDS

Two of the finest locations on Kootenay River 20 miles west of City of Nelson.

14 Acres, best of soil, free of stone, mostly cleared. Price \$75 per acre—Part cash, balance on terms.

35 Acres, 4 acres cultivated, 200 fruit trees, good frame house, good work horse and all necessary farm tools and implements. For quick sale \$75 per acre, everything included, half cash, balance on terms.

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It means cleaner, whiter clothes—no backache—no chapped hands—no torn garments—no shrunken fabrics. It means a tubful of clothes washed every five minutes, with less trouble and exertion than running a sewing machine.

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BY DEALING WITH US ALL GOODS ARE QUOTED EXPRESS or FREIGHT PREPAID

We Pay Freight to any railway station in Western Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

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We only handle the best goods money can buy, only goods of best mills, manufacturers and packers shipped.

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References: Any Bank, Railway or Express Company in the City, or the names of twenty thousand satisfied patrons in the four provinces.

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Steedman's SOOTHING Powders

Relieves FEVERISH HEAT. Prevents FITS, CONVULSIONS, etc. Possesses a healthy state of the constitution during the period of

TEETHING.

Please observe the EE in STEEDMAN.



CONTAIN NO POISON

PRAIRIE HOME SHORTHORN SALE.

June 13th has again been set as the date of Hon. Thos. Greenway's auction sale of Shorthorn cattle. This is the fifth annual sale at Prairie Home and the best opportunity, it is claimed, that has yet been offered to secure breeding stock. This sale differs from those preceding it in that the whole herd is for sale, although only about one half of the 80 head are cataloged. Prairie Home is for sale and the cattle are to be dispersed. There are also offered Ayrshire cattle, Clydesdale horses and Yorkshire swine. In all these breeds the bluest of blood prevails and there are many individuals that can take a top place at large fairs.

Mr. Greenway has been some twenty years now in the purebred cattle business and has during that time been one of the most prominent figures in Shorthorn circles, not only in the West but throughout Canada. In 1901 his herd made a strong showing at the Toronto and Pan-American exhibitions, carrying off many of the best prizes. A few years ago at Winnipeg the Prairie Home contingent was always the formidable foe and throughout the whole West may be found cattle that once roamed the fields of Manitoba's greatest stock farm. The passing of Prairie Home from the stage of Shorthorn breeding operations should be signalized by a spontaneous tribute, in the way of long prices, to the good it has done the stock interests of the West. Shorthorn breeders, especially throughout Manitoba, by attending the sale and lending it a generous support, will not only give breeding a much needed stimulant, but will also secure cattle that will do their farms credit. The business in Western Canada needs some such impetus and breeders can only look for vitality in the trade by showing their own confidence in it.

Returning to the cattle. The offering as cataloged comprises a choice selection, including representatives of such families as the Victorias, Rosemarys, Lustres, Clementines, Isabellas, Matchlesses, Bracelets, Arabelas, Roan Ladys, Vacunas, etc.

Of the lot there are ten bulls offered, chief of which is the imported stock bull Rosy Morning, a roan-four-year-old, by the great bull Merry Morning who at seven months of age, brought \$2,250. Rosy Morning is a good typical Shorthorn, smooth, heavy fleshed and a good doer. Many of the cows offered have calves by him or are in calf to his service. Most of the other bulls are two-year-olds, being by such sires as Sillyton Hero 7th, Royal Prince (imp.), Royal Duke, Judge Victor of the Ring and Rosy Morning.

The catalog which is now ready will be sent on application to those desiring it, mentioning this paper. Breeding notes of interest are given in it and should be secured by breeders of Shorthorn cattle.

Special rates on the railways will be given by obtaining from the home agent standard certificates. June 13th is the date.

Alex Galbraith & Son write as follows:—Mr. John Stevenson, of Souris, has just purchased from us the beautiful black Clydesdale stallion Silver Clink (12737)—one of the best horses ever imported into Manitoba. Silver Clink is by Gartly Squire and is a horse of medium size, lovely quality and extraordinary action. As a show horse or a sire Silver Clink has been equally successful and it is hoped that Mr. Stevenson's enterprise in bringing such a valuable stallion into the community will be appreciated and rewarded.

TUBERCULOUS CATTLE DANGEROUS.

(Continued from page 846.)

Milk from tuberculous cows with unaffected udders we believe to be free from infection until it has become contaminated with feces or some other material that contains tubercle bacilli from the outside of the cows or from their environment; that is to say, it is not believed that tubercle bacilli are eliminated with the milk from tuberculous cows unless disease of the udder or structures connected with it is present. This conclusion is drawn from the present series of investigations and is supported by our earlier work relative



REMARKABLE INVENTION FOR THE Culture of Hair

THE EVANS VACUUM CAP is a practical invention constructed on scientific and hygienic principles by the simple means of which a free and normal circulation is restored throughout the scalp. The minute blood vessels are gently stimulated to activity, thus allowing the food supply which can only be derived from the blood, to be carried to the hair roots, the effects of which are quickly seen in a healthy, vigorous growth of hair. There is no rubbing, and as no drugs or chemicals of whatsoever kind are employed there is nothing to cause irritation. It is only necessary to wear the Cap three or four minutes daily.

60 DAYS' FREE TRIAL! The Company's Guarantee:

An EVANS VACUUM CAP will be sent you for sixty days' free trial. If you do not see a gradual development of a new growth of hair, and are not convinced that the Cap will completely restore your hair, you are at liberty to return the Cap with no expense whatever to yourself. It is requested, as an evidence of good faith, that the price of the Cap be deposited with the Chancery Lane Safe Deposit Company of London, the largest financial and business institution of the kind in the world, who will issue a receipt guaranteeing that the money will be returned in full, on demand, without questions or comment, at any time during the trial period.

The eminent Dr. I. N. LOVE, in his address to the Medical Board on the subject of Alopecia (loss of hair) stated that if a means could be devised to bring nutrition to the hair follicles (hair roots), without resorting to any irritating process, the problem of hair growth would be solved. Later on, when the EVANS VACUUM CAP was submitted to him for inspection, he remarked that the Cap would fulfil and confirm in practice the observations he had previously made before the Medical Board.

Dr. W. MOORE, referring to the invention, says that the principle upon which the Evans Vacuum Cap is founded is absolutely correct and indisputable.

An illustrated and descriptive book of the Evans Vacuum Cap will be sent post free, on application.

THE SECRETARY, EVANS VACUUM CAP CO. LTD. REGENT HOUSE, REGENT STREET, LONDON, ENG.

FAIRVIEW SHORTHORNS

SIX YEARLING BULLS, fit to head herds. Sired by Nobleman, Meteor and Topman's Duke. Also some cracking BULL CALVES by Meteor. Some females (Cows and Heifers) in calf; just the stuff to lay the foundation of a herd with.

NOW IS THE TIME TO BUY

Cattle are going up in price. I shall not hold a sale this year, but parties will have abundant opportunities to buy by private treaty.

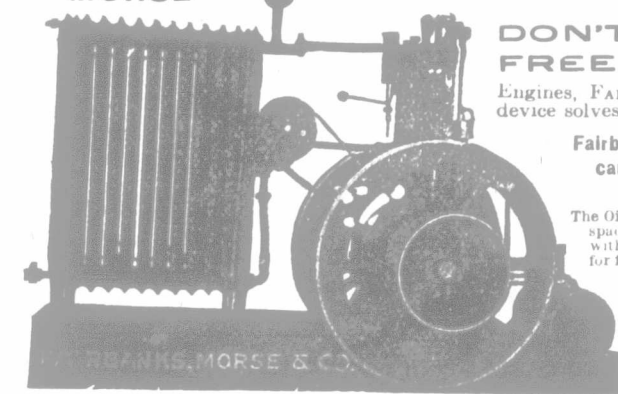
CARBERRY—C.P.R. and C.N.R. FAIRVIEW—C.N.R.

JNO. G. BARRON

JOHN A. TURNER, BALGREGGAN STOCK FARM, CALCARY P. O. Box 472

Importer and Breeder of Clydesdales, Hackneys, Shorthorns and Shropshire Sheep. New importation from Scotland has just arrived. Scottish Farmer reports—"Altogether this makes up one of the grandest shipments made this eventful year." A large number of excellent males of the above breeds to select from, both home bred and imported. Also a few stallions suitable for range purposes. Quality and breeding of the best. Prices defy competition. No agents or commission men—business conducted personally. Sales speak for themselves—35 stallions sold last season. Anyone wishing a show stallion or filly can have a greater choice here than in any other breeding establishment in Canada. Orders for stock carefully filled. Visitors all made welcome.

FAIRBANKS-MORSE Oil Cooled Gasolene Engines



DON'T FREEZE! In exceedingly cold climates where it is impossible to use water for cooling Gasolene Engines, FAIRBANKS-MORSE Oil Cooling device solves the problem.

Fairbanks-Morse Oil Cooled Engines cannot freeze up in the coldest weather.

The Oil Cooling attachment takes up less space than a water tank and does away with water altogether. Write us to-day for full particulars.

Fairbanks-Morse Engines are made in Canada and specified by the Canadian Government. There are more of our engines in use than any other make.

Cut out this advertisement and send it to

The Canadian Fairbanks Company, Limited, 52-54 Arthur St., Winnipeg

I may want an engine for.....

Name..... address.....

SHORTHORN CATTLE SALE

Regina, June 26th

at 2 p. m.

Owing to the reducing of our farm we are compelled to sell our entire herd of Shorthorns.

These cattle have been selected and bred with exceptional care, and possess in an unusual degree the best characteristics of the breed—wealth of flesh and proficiency at the pail.

Breeding the best: individuality unsurpassed: credit given.

Sale under cover at the city amphitheatre, Regina.

Reduced rates on the railways.

Write for a Catalogue giving full particulars

G. P. BELLOWS,
Missouri,
Auctioneer.

A. & G. MUTCH,
Craigie Mains,
Lumsden, Sask.



We began our breeding operations with selections from the herds of Hon. John Dryden and Jas. I. Davidson, from whence have come cattle that have

held spectators at the largest shows on the continent in amazed admiration.

FIFTH ANNUAL SALE AT

PRAIRIE HOME STOCK FARM

CRYSTAL CITY, MAN., ON

THURSDAY, JUNE 13th, 1907

After 20 years experience as a breeder of Shorthorns, I have decided to sell PRAIRIE HOME STOCK FARM and am now prepared to dispose of my whole herd, some eighty in number, including a number of the most profitable individuals that I have possessed.

Notable among the males to be offered is the magnificent imported bull, "Rosy Morning" (50081), bred by the world-renowned breeder, Wm. Duthie, of Collynie, Scotland. This animal combines rare breeding with very strong individual merit, and has proved himself a sure stock-getter. Among the

10 Bulls of Breeding Age

will be others by such sires as "Sittyton Hero 7th," "Royal Prince" (imp.), "Judge," and "Rosy Morning" (imp.) Also a number of bull calves by "Rosy Morning" (imp.).

Among the females in the herd are about

40 Breeding Cows and Heifers

A large proportion of these young cows and heifers nursing or carrying calves by "Rosy Morning" (imp.). They are splendid breeding stock, excellent buying, and in many cases good show animals. Not all of the Shorthorns are offered in the catalogue, but they are all open for private purchase.

There will also be sold a few

Registered Clydesdale Mares (one with foal at side)
Ayrshire Cattle and Yorkshire Swine

Special train to Winnipeg in the evening. Single fare for round trip on all trains by securing standard certificate.

Luncheon from 12 to 1 o'clock, when sale will be called.

For breeding of individuals, write for catalogue, mentioning this advertisement.

WALDO GREENWAY,
Manager.

THOS. GREENWAY,
Proprietor.

to the milk of tuberculous cows. The present investigations include only a few cows and a comparatively small number of guinea pigs. The earlier investigations extend over a dozen years, during which milk from scores of tuberculous cows was injected into the abdominal cavities of hundreds of guinea-pigs.

When milk injections into guinea-pigs are made by pathologists or bacteriologists as a test for the presence of infectious material, unusual, though not always sufficient precautions are taken at the time of milking to protect the milk from contamination with foreign matter of any and every kind that may reach it from the exterior of the cow or her environment. It follows that the scientific injections give nearly accurate results as to the frequency with which tuberculous cows pass tubercle bacilli with their milk; but they give no data at all as to the frequency with which milk from tuberculous cows, or healthy cows in a tuberculous environment, contains infectious material when it is drawn and handled with the ordinary precautions that a dairyman can economically practice.

The observations made by the writers definitely show that the frequency with which milk contains tubercle bacilli is greatly underestimated, especially when it is milked in the customary way from tuberculous cows with healthy udders, or from entirely healthy cows in a tuberculous environment.

9. It has been positively shown that the introduction of a small quantity of feces from tuberculous cattle into normal milk is equivalent to the introduction of a sufficient amount of infectious material to cause a generalized tuberculosis in guinea-pigs that are given intra-abdominal injections of small amounts of such soiled milk.

The quantity of feces introduced into the milk was no greater than frequently enters with ordinary milking.

10. We are unacquainted with any means by which it can be determined when cattle or their feces become dangerous to the health of persons or animals; hence every cow known to be affected with tuberculosis must be regarded as positively dangerous. Physical condition gives no information from which it is possible to determine how seriously a cow is affected with tuberculosis or how freely she is scattering tubercle bacilli. Cattle affected with advanced tuberculosis from which infection is being disseminated in a dangerous way may retain the appearance and give the general impression of perfect health. Frequently nothing abnormal can be detected about them after the most searching examination by the owner or even by a trained veterinarian; and besides it is not customary to make careful examinations or to employ professional men to do so until cattle show marked symptoms of disease.

11. In order to guard against the spread of tuberculosis among cattle and other animals, and more especially for the protection of persons, every dairy cow should be periodically tested with tuberculin, and every cow that shows a reaction indicating that she is affected with tuberculosis should at once, regardless of her general appearance or condition or semblance of health, be removed from use as a dairy cow and from all contact with dairy cattle or other healthy animals. If segregation is practiced, it should be complete, so that no healthy animal will be exposed to feces that may swarm with living, virulent, tubercle bacilli.

HOW THE FANCY CHEESES ARE MADE.

(Continued from page 851.)

The following brief studies of the making and ripening processes of these three varieties of cheese kept the problem constantly in view:

STILTON.

Stilton cheese is made in the midland counties of England in large quantities. Cheese-making begins about April and continues through the summer. Very little cheese is made after October. During the winter months the cheese produced is shipped to the large

Earn More

There is inspiration in good health. With keen appetite, sound digestion, good blood, clear head, strong nerves, you feel that you can attempt and succeed in almost any undertaking.

Keep physically fit and you can do more and earn more.

Beecham's Pills

have special value for busy people. When overwork causes brain-fag, loss of nervous force, impairs the digestion; or when inactive bowels make one feel discouraged and blue—take Beecham's Pills. There is nothing like them to strengthen the digestion, regulate the bowels, remove bilious disorders, relieve nerve tension, and beget the self-confidence and poise which

Inspire Success

Sold Everywhere. In boxes, 25c.



Breeders and Stockmen

Why not use Business Stationery?

Something distinctive, something that will advertise your business?

We design, edit, illustrate and print live stock catalogs, booklets, advertising literature, stationery.

We are specialists at this work

Let our Department of Ideas make a suggestion for you.

THE FARMER'S ADVOCATE,

Winnipeg, Man.

Kettle Valley Irrigated FRUIT LANDS Company

have large acreage of subdivided fruit lands now for sale. Prices \$100 to \$150 per acre. Ample supply of water for which NO RENT is charged. Soil a rich sandy loam which produces the finest apples, small fruits and vegetables. Valuable land, excellent climate and excellent railway facilities. Apply to

W. O. WRIGHT, Managing Director
KETTLE VALLEY, B. C.

Winnipeg, B. M. TOMLINSON & CO
Edward Building, Winnipeg, Man.
Phone 210

For Sale or Lease TO 14 DAYS
If you are interested to cure any
catarrh of the nose, throat or protruding
P... .. by refunded, 50c.

Fistula and Pilon Evils



Any person, however inexperienced, can readily cure either disease with Fleming's

Fistula and Pilon Evils Cure

—even bad old cases that skilled doctors have abandoned. Easy and simple, no cutting, just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in Fleming's Vest-Pocket Veterinary Advice. Write us for a free copy. Twenty-six pages, covering more than a hundred veterinary subjects. Durable bound, indexed and illustrated. FLEMING BROS., Chemists, 45 Church Street, Toronto, Ontario

FRUIT LAND IN KOOTENAY B.C.

Farm of 290 acres with Railway and Steamer shipping facilities. Land is level, soil is good and plenty of water for irrigation. Suitable for subdivision. Deal with owner and save agent's commission. Price only \$25.00 per acre for quick sale.

F. J. WATSON, Fernie, B. C.

Kootenay Fruit Lands! Best in the World!

Write me for information. I know all about the land situation here, having been in business in Nelson twelve years.

S. M. BRYDGES, Nelson, B. C.
Brydges, Blakemore & Cameron, Ltd.

LIVER COMPLAINT.

The liver is the largest gland in the body; its office is to take from the blood the properties which form bile. When the liver is torpid and inflamed it cannot furnish bile to the bowels causing them to become bound and costive. The symptoms are a feeling of fulness or weight in the right side, and shooting pains in the same region, pains between the shoulders, yellowness of the skin and eyes, bowels irregular, coated tongue, bad taste in the morning, etc.

MILBURN'S LAXA-LIVER PILLS

are pleasant and easy to take, do not gripe, weaken or sicken, never fail in their effects, and are by far the safest and quickest remedy in all diseases or disorders of the liver.

Price 25 cents, or 5 bottles for \$1.00 all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited Toronto, Ont.

SPEND A CENT

on postage and ask us for a mailing box for your watch. We will report cost of repairs and upon your instructions will repair and return to you, guaranteed for one year.

A. BRUCE POWLEY
324 JASPER AVENUE
EDMONTON

Official Time Inspector for the C.N.R.

Kootenay Fruit Lands

For Sale 100 acres in Slochan Valley, no waste land; no stone, all level; soil first class, 2 nice streams. Close to school, P.O., Ry Siding. 7 acres cleared 400 fruit trees, some are bearing. Good log building. \$4000.00 Cash.
Geo. G. McLAREN, Box 654, NELSON, B.C.

and sold as milk, but in the summer months better returns can be derived from cheese. The largest markets where this cheese is handled are perhaps Leicester and Melton-Mowbray.

To make good Stilton cheese the milk should contain at least 3 per cent. of fat; some dealers say 4 per cent. is still better. The common Shorthorn cattle in the dairy sections of England give milk with 3 to 3.5 or even 4 per cent. of fat. The cheesemakers say that Jersey milk is too rich in fat, causing discoloration of the cheese. A Stilton cheese when ripe weighs about 14 lbs. It requires about 16 gals. of milk; that is, 9 or 10 lbs. of cheese are made from 100 lbs. of milk. Best Stilton retails in London at 1s. 4d. (32c.) a pound for whole cheese and 1s. 6d. (37c.) a pound for half cheese. No smaller pieces are cut in the best markets. In America we commonly buy Stilton the way boys trade jack-knives, "sight unseen" (and with about the same result), at from 45 to 60c. The poorer product sells in England for all prices down to that of the cheapest hard cheese—about 10c. a pound.

In the making of Stilton cheese there is apparently considerable variation of practice. One dairy instructor said that the milk is treated with rennet and the curd prepared exactly as with Cheddar. The process seen in another place was briefly as follows: The milk was heated to about 90° F. It was curdled in approximately one hour. The curd was then dipped into a vessel covered with a coarse linen cloth, so that the whey could drain off through a valve in the bottom of the vessel. The mass of curd after pretty thorough draining was lifted in the cloth to another vessel and placed in a warm room, approximately 70° F., over night to sour. In the morning the curd, which was by that time quite hard and sour, was kneaded in the hands into small lumps about one-half inch in diameter. Salt was thoroughly mixed into it, and the curd was then put into hoops. The hoops used were heavy tin, 15 or 16 inches (38 to 40 cm.) high and 7 inches (17.5 cm.) in diameter, with four transverse rows of holes about three-sixteenths of an inch in diameter to facilitate the escape of whey. The hoop was placed upon a smooth board and filled with the curd by handfuls. In filling, the curd was distributed carefully and the surface smoothed with the hands. The newly made cheese was set to drain in the same warm day room where the curd had stood over night. This was done in one of the homes, where the cheese-making is still sometimes carried on, by a farmer's wife who had taken the second prize for Stilton cheese in the national show and whose daughter at another time had taken first prize in that show.

The cheese so made remains in the hoops several days—one maker said nine days. It is turned each day. It must remain until the cheese is solid enough to stand fairly firm when the hoop is removed. The cheese is then carefully scraped or rubbed with a knife until the surface is smooth, then often wrapped in a cloth to assist in preserving the shape if it is still rather soft. In the earlier weeks of ripening the cheeses are turned every day and rubbed down every second day. As they became older and drier the amount of handling is very much reduced. Many dealers keep large, airy, dry cellars, where the ripening of the cheese takes place. In a large factory visited a series of rooms was used with a variation in temperature and humidity. Cheeses were taken from one to the other as their appearance and texture seemed to demand. One of these rooms was on the ground floor and continuous with the making room and remained quite moist. The second was somewhat higher and drier, while the third was on the floor above the first. For the most part no heat was supplied to such rooms, though this factory had pipes for steam heat. It must be borne in mind that the atmosphere of the regions of England where this cheese is made is very much more humid than ours, while it lacks the extreme changes in temperature we find under most American conditions.

Is your Horse always "Going Lamé"?

Either it's an old Strain or Swelling—or there is chronic weakness of the joints. In either case, your horse needs FELLOWS' LEEMING'S ESSENCE.

Strains in any part of the body—sprained or wrenched back, shoulder, knee or fetlock—bruises from kicks or falls—all lose their soreness when you rub the sore spot with

Fellows' Leeming's Essence

for Lameness in Horses

It makes weak joints strong—enables a horse to do a good day's work every day. Get a bottle and keep it handy in case of accidents.

50c. a bottle. If your dealer has none, write

NATIONAL DRUG & CHEMICAL CO., LIMITED, MONTREAL.



Unreserved Sale of Messrs. Rawlinson Bros. Hackneys

CALGARY, Alberta, Canada

The proprietors having sold their Rancho and intending leaving the country, the entire stud will be sold by

Public Auction on July 24th, 1907 At the Rancho 11 Miles West of Calgary

The stud includes:—Imported and home-bred Stallions, brood mares, yearling, two, three and four-year-old colts and fillies.

Nearly all the best mares the Champion "Robin Adair" ever got in this stud are included in this sale, together with full sisters to "Saxon"—Priscilla and Minona who won everything in sight at all the Eastern shows, including the championship of both sexes at the St. Louis World's Fair.

Catalogues will be ready for distribution on June the first, which may be had, together with full particulars from

JORDISON BROS., Auctioneers, P O Box 1172, CALGARY, Alberta

CLUB STABLES

12th STREET, (Box 485) BRANDON

MacMillan, Colquhoun & Beattie

Importers and Breeders of

Clydesdale, Percheron and Hackney Stallions

THE MOST FASHIONABLE STRAINS OF BREEDING ALWAYS ON HAND

GOLDEN WEST STOCK FARM

Clydesdales and Shorthorns

Stallions and mares of excellent breeding, of all ages, for sale.

Also some choice young bulls fit for service and a number of cows and heifers of noted Scotch strains.

Many of them Leading Prize Winners at the big Western Fairs.

P. M. BREDT Regina, Sask.

Hawthorn Bank

Clydesdales
Hackneys
Shorthorns

I have a few three-year-old colts left, which I will sell at attractive prices to clear. I am entirely sold out of mares, but will have another carload from Scotland about May 30th.

SHORTHORNS—I have a grand lot of young bulls on hand both imp. and home bred. If you want a herd header don't buy till you see me. Also females of all ages for sale

JOHN GRAHAM Carberry

A lame horse is a dead loss.

It costs as much to keep a lame horse, as it does a horse in harness — and the cripple brings nothing in. You can't afford to support idle stock. That's why you can't afford to be without



Kendall's Spavin Cure

It takes away the pain and stiffness from Sprains and Bruises—draws the soreness out of Strained Muscles and Tendons—CURES Spavins, Soft Bunches and Swellings. Used for two generations by two nations.

KATRINE STATION, ONT., Dec. 15, '04.
"I have used Kendall's Spavin Cure for a Bone Spavin of 4 years standing, which has entirely cured the lameness and greatly reduced the swelling. Another bottle of the Spavin Cure, I am sure, will complete the cure."
HOWARD BROCK.
\$1.00 a bottle or 6 for \$5. Sold by dealers everywhere. Write for free copy of our famous book—"Treatise On The Horse." You will find a need for it every day.
DR. B. J. KENDALL CO., ENOSBURG FALLS, VERMONT, U.S.A. 29

Sold Out of mares but we have still a few extra choice

CLYDESDALE, SHIRE, SUFFOLK, PERCHERON and HACKNEY STALLIONS.

For sale at Special bargain prices. Write us at once or call on **ALEX. CALBRAITH & SON.**
BRANDON.

Remember that every Stallion we sell is absolutely guaranteed.

By MR. DOUGLAS H. GRAND, Auctioneer Important Unreserved Sale

OF PRIZEWINNING, PEDIGREE

HACKNEYS

AND

HARNESS HORSES

The property of R. G. HEATON, ESQ., at The Ferry Stud Farm, Chatteris, Cambridgeshire, England, on

Monday, June 17th, 1907

The Monday following the International and Richmond Shows.

Included in the sale there will be such famous mares (with their foals) as Orange Blossom (champion mare, H. S., London), Surprise, Eone, Welcome, Orange Girl, Gay Ophelia, Hersey, La Cigale, and a number of colts and fillies out of these mares by Garton Duke of Connaught, Mathias and St Thomas. Also a superb collection of **Harness Mares and Geldings**, by Goldfinder VI., Gentleman John, Royal Danegelt, Polonius, Lord Hamlet, Ganyne, Diplomatist, etc.

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The time required to ripen a Stilton cheese is said to be five months for the best cheese. But there are several causes of uncertainty. Certain deleterious fermentations are very common. When these appear to a serious extent the cheese is sold and eaten much earlier and brings a much reduced price. Some cheeses refuse to mould properly, so that they do not develop the flavor of ripe cheese at all. Various schemes are used to hasten the growth of mould. The cheeses may be skewered (punched with holes with an instrument resembling a skewer) or it may be "ironed" and the plug left out some time to admit fungus spores. Such a cheese becomes dry and hard without acquiring the proper flavor. Other cheeses mold too rapidly and decay quickly. It is seen that the problem of getting the proper amount and distribution of mold is still largely unsolved. Some makers are reputed to inoculate their cheese with mould, but this practice is discouraged by most makers and instructors in cheesemaking.

In the ripening rooms another great source of loss is the universal presence of cheese mites. These tiny insects appear in countless numbers and eat and burrow into the rind of the cheese. So numerous are they that commonly the outer half inch of the cheese is totally destroyed. In the store-room visited nearly every cheese was surrounded by the powdery remains of destroyed cheese, which must be repeatedly removed. No satisfactory means of combating the mites has yet been found for Stilton cheese. There is, therefore, a continuous loss, sometimes seemingly as high as 15 to 20 per cent. of the product.

In addition to the plague of mites, specific bacterial troubles which attack the surface of the cheese add to the hazards of the Stilton industry.

Even a hasty survey of the present status of the Stilton industry shows an unsatisfactory condition. The percentage of low grade cheese is too large. This, taken with a very appreciable percentage of total loss, is so great as to show much need for improvement in the methods used. But it is equally true that a really good Stilton will approximate in texture and flavor the best Roquefort, and that a small amount of even questionable Stilton finds a market in America at a price higher than Roquefort or Gorgonzola. It is therefore interesting to compare these methods with those used in producing Roquefort and Gorgonzola, in the belief that knowledge of each of these varieties may contribute something toward the improvement of methods in dealing with the problems found.

GORGONZOLA.

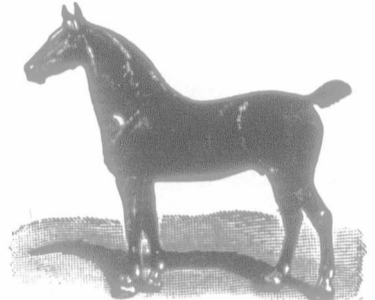
Gorgonzola is a cows' milk cheese made in Lombardy. The name comes from the village of Gorgonzola, but the town produces little or no cheese at the present time. The cheese is made all over that region upon farms and in small factories, from which it is transported to the ripening cellars as soon as it is solid enough to bear handling. The buildings and cellars devoted to the ripening of this cheese are situated in valleys of the Alps, principally near Lecco.

Gorgonzola cheeses are about 30 cm. in diameter and 18 cm. thick, and weigh from 7 to 12 kilograms (15 to 20 lbs.). One hundred kilograms of milk are said to produce 14 to 18 kilograms of cheese. This figure was given, but appears too large. This cheese sells at retail in Europe, where seen by the writer, at between 25 and 30c. a pound. The usual price in America is 45c.

The making of a Gorgonzola cheese was seen in a factory near Milan, as follows: Freshly drawn milk is curdled in 30 minutes with rennet prepared directly from calf's stomach by the cheesemaker. The curd is finely cut and the whey discarded as rapidly as it separates. In a few minutes the curd is dipped into cloths stretched over other vessels to hasten the separation of the whey. The cloths are slightly squeezed in the hands, so that at the end of 30 minutes the curd is in firm lumps of irregular size and shape. The hoop used was 1 mile of wood, 25 cm. high and 30 cm. in diameter. This was lined with a coarse linen cloth and

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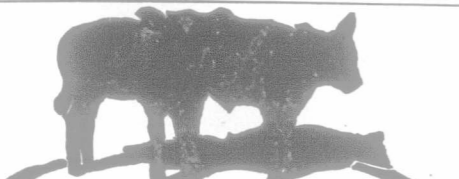
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carefully filled with the curd without pressure. A cheese so made is turned the next morning and each succeeding day for four or five days. It is then ready to remove from the hoop and to salt, the salt being rubbed over the outside. This salting process is repeated four or five times, or, according to other makers, every other day for two weeks. The practice probably varies in different factories. When the salting is complete the cheese is sold and transported to the ripening room.

The cheeses after salting are hard enough to stand considerable rough handling. In some cases they are properly crated for transportation, but very often they are simply piled into wagons upon straw, hauled to the ripening rooms, and roughly thrown out. Cheeses were often cracked and broken, besides acquiring sufficient dirt to mask their original color.

The rooms used for ripening Gorgonzola vary with the season and the stage of ripeness. For use in the warmer part of the summer one cellar was snowed, half of which was filled with shelves, the other half with the winter's snow. Many tons of the snow of the preceding winter were still to be seen at the time the visit was made (November, 1905). In the cooler portions of the year the same factory provides rooms on the ground floor for finishing the ripening process, with some provision for proper heating. The fresh cheeses were found in large, airy rooms, both on the ground floor and on the floor above. The windows of these rooms were not screened, and stood open at the time, with fresh breezes blowing through the room from mountains whose summits were that day covered with snow. These rooms contained shelves as closely crowded as possible and together provided for about 40,000 cheeses.

When one month to six weeks old these cheeses are mostly covered with a yellowish viscid layer largely of bacterial origin, with probably also *Vidium lactis* (judging by the smell). At this stage they are punched or skewered. The operator uses a brass instrument about 6 inches long, tapering from a sharp point to a thickness of 4 to 5 mm. at the base, where it is set in a wooden handle like a gimlet. With this tool holes are made at intervals of about 1 1/2 inches over the whole surface of the cheese, 150 holes being made. This operation requires about two minutes for each cheese. In these earlier weeks of ripening each cheese is turned once in two days, but later the turning is reduced to once in eight days, after the surface of the cheese has become dried so that the cheese no longer sticks to the shelf. As such a cheese becomes older the surface becomes hard and dry and frequently cracks. This cracking is not objected to by the dealers, however, as it is in the case of some other cheeses. Upon entering a room filled with such cheeses a very strong ammoniacal smell was at once noticed. When tested the cheeses in this room showed an abundant presence of green mould in the holes and cavities, and gave a somewhat bitter taste which was just passing over into the taste of ripe cheese.

An examination of fresh made Gorgonzola as it reached the ripening rooms showed that the texture of the newly made cheese is frequently almost homogeneous. The masses of curd are commonly so completely blended that in sections very few air spaces are found in large areas and where such air spaces are found at all they are very small. To induce uniform mould growth it is therefore necessary that holes be made evenly throughout the cheese. Only in this way can mould action affect all parts of it. Parts are often found in a market cheese where, for lack of such holes, no mould has developed. It is also found that whole areas in these cheeses are often infected with bacteria of the species found upon the surface. These bacteria produce areas of discoloration and decay, and frequently injure the flavor of the whole cheese. A study of the handling shows that these bacterial infections are due to organisms carried into the cheese by the punching process. Such observa-

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tions may account for the uneven distribution of bacteria in Gorgonzola cheese as reported by Rodella.

Gorgonzola cheeses are sold for the retail market when three to four months old. Before leaving the factory they are coated with barite held together by a mixture of lard and tallow and colored with annatto or a similar coloring matter.

It needs but a casual survey of this process to see that the hand labor used is less efficient than the methods of the Roquefort makers, and that biological principles are nearly lost sight of in attaining the desired end. However, a large measure of good results are obtained and immense quantities of cheese are produced.

B. A. I. REPORT.

MISTAKEN IDEAS ABOUT BREEDING.

Some erroneous ideas in regard to breeding prevail among horsemen. One is that the second foal which a mare produces by any stallion is sure to be of no account. A subscriber writes as follows: "Please let me know whether returning a mare to the same stallion is a detriment to the offspring. I was told this morning that invariably in such cases the second foal is a dub and it is better not to breed a mare the second time to the same stallion."

There undoubtedly have been cases where the second foal that a mare produced by the same stallion was not so good as the first. The condition of the mare or stallion before and at the time of mating may have been the cause in such cases. The influence of atavism or throwing back to some remote ancestor is also frequently sufficient to make a great difference in the characters of two foals of different years, that are the offspring of the same parents and are apparently bred and raised under precisely similar conditions. With some men a single case seems sufficient to establish in their minds a rule. Such men, though they may be honest and well meaning, are not safe guides for breeders to follow.

Horsemen of England are without doubt as a class the most enlightened breeders of high-class race horses in the world. They had been breeding and raising horses for racing purposes and had been racing them for several hundred years before the breed known as Thoroughbred race horses was established. The law of heredity is the same in the running as in the trotting families. Some of the practical breeders of race-horses in England have written and published interesting and valuable standard works on the subject of breeding for the race-course. One of these modern authors is William Day, who wrote a work that was published in 1888 by Richard Bentley & Son, London, Eng.

In one of the chapters of this work the author remarks that "a curious fact which must be familiar to most breeders is that a mare will often breed better horses from one particular stallion than from others. Yet where such has been observed to be the case, efforts are seldom made to preserve the connection which has proved so favorable." Continuing he gives the following advice: "Should a mare breed a winner, if only of a small race at or about the commencement of her breeding career, it gives presage of better things; and the same cross should be persevered with, even though a bad horse or two may now and then result from it."

Fortunately the Year Book and Register furnish a correct basis for an intelligent opinion on this question, an opinion founded on facts, not on theory or imagination. We will mention a few of these facts. In 1885 Sapphire, by Jay Gould, 2.21½, produced the stallion Nominee, trotting record, 2.17½. Sapphire's next foal was also by Jay Gould and is known as Nominator, trotting record, 2.17½. Nominee, 2.17½, is the sire of the trotter Nominated, 2.26½, and is also credited with three pacers. Nominator, 2.17½, sired the trotter Noun, 2.20½, and is credited with one pacer with a standard record. Nominee is credited with one son that has sired three pacers with standard records; Nominator with one son that has sired a trotter with a standard record.

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| Hackett J. A. | Hartney |
| Hassard F. J. | Deloraine |
| Harrison, W. | Glenboro. |
| Hayter, G. P. | Birtle. |
| Henderson, W. S. | Carberry. |
| Hilton Wm. | Winnipeg |
| Hilton, G. | Portage la Prairie |
| Hinman, W. J. | Winnipeg. |
| Hodgins, J. | Newdale. |
| Husband, A. G. | Winnipeg. |
| Irwin J. J. | Stonewall. |
| Jamieson J. | Brandon |
| Kennedy M. S. | Elm Creek |
| King, Thomas. | Souris. |
| Lake, W. H. | Morden. |
| Lawson, R. | Shoal Lake. |
| Leduc, L. | Montreal |
| Leslie, W. | Melita. |
| Lipsett J. H. | Holland |
| Little, C. | Winnipeg. |
| Little, W. | Pilot Mound. |
| McArthur, D. A. | Boissevain. |
| McArthur, D. H. | Hartney. |
| McFadden, D. H. | Emerson. |
| McGillivray, C. D. | Binscarth. |
| McGillivray J. | Manitou |
| McKay, D. H. | Brandon. |
| McKenzie, G. A. | Neepawa. |
| McKenzie, W. H. | Winnipeg. |
| McLoughry, R. A. | Moosomin. |
| McMillan, A. | Brandon. |
| McQueen I. | Selkirk. |
| Mack, J. S. | Neepawa. |
| Manchester, W. | Wawanesa. |
| Marshall, R. J. | Oak Lake. |
| Martin, W. E. | Winnipeg. |
| Molloy, J. P. | Morris. |
| Murray, G. P. | Winnipeg. |
| Ovens, Hugh. | Swan River. |
| Pomfret, H. | Elkhorn. |
| Part, J. H. | Swan River. |
| Robinson, P. E. | Emerson. |
| Robinson, S. | Brandon. |
| Roe, J. S. | Neepawa |
| Rombough, M. B. | Winnipeg |
| Rowcroft, G. V. | Birtle. |
| Rutherford, J. G. | Ottawa. |
| Rutledge, J. W. | Winnipeg. |
| Shoultz, W. A. | Gladstone. |
| Smith, H. D. | Winnipeg. |
| Smith, W. H. | Carman. |
| Snider, J. H. | Emerson. |
| Stevenson, C. A. | Reston. |
| Stevenson, J. A. | Carman. |
| Stiver, M. E. | Elgin. |
| Swenerton, W. | Carberry. |
| Sirett, W. P. | Minnedosa. |
| Swanson, J. A. | Manitou. |
| Taylor, W. R. | Portage la Prairie |
| Thompson H. N. | Waskada |
| Thompson, Wm. | Minnedosa. |
| Torrance, F. | Winnipeg. |
| Walton, T. | Killarney. |
| Welch, J. | Roland. |
| Westell E. P. | Winnipeg. |
| Whaley, H. F. | Glenboro. |
| Whimster, M. A. | Hamiota. |
| Williamson, A. E. | Winnipeg. |
| Woods, T. Z. | Winnipeg. |
| Wilson, A. F. | Portage la Prairie. |
| Young, J. M. | Rapid City |

The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute, and renders him liable for prosecution.
FREDERICK TORRANCE, Registrar.

Beatrice, by Cuyler, was mated with Pancoast, 2.21 1/2, and in 1880 produced Patronage, sire of Alix, 2.03 1/2. The next foal that Beatrice produced was Patron, 2.14 1/2, by Pancoast. Patron trotted a record of 2.19 1/2 as a three-year-old and it was then the world's champion record for trotters of that age. Anteeo, 2.16 1/2, was the first foal that the great brood-mare Columbine produced by Electioneer. Her next foal was Antevolo, 2.19 1/2, by Electioneer. Penelope, by Mohawk Chief, mated with Electioneer produced the noted ten-heat race winning trotter Pedlar, 2.18 1/2. Penelope's next foal, was by Electioneer, and was the game trotting mare Peko, 2.11 1/2.

The great brood mare Fleetwing, by Rysdyk's Hambletonian, produced two foals, by Sultan, 2.24. The first was Ruby, 2.19 1/2, and the next was Stamboul, 2.07 1/2. Pantalette, by Princeps, produced two trotters by Auditor that made fast records. The first was Burglar, foaled in 1879, and her next was Epaulette, 2.19, foaled in 1880. Angeline, by Chester Chief, produced two foals by Shadeland Onward, 2.18 1/2, that made fast pacing records. The first was foaled in 1889 and is Ontonian, 2.07 1/2; the second, foaled in 1880, was Online, four-year-old record 2.04, which is the world's champion four-year-old record to harness.

The great brood mare Alma Mater produced several foals by George Wilkes. The first was Alcantara, foaled in 1876, trotting record 2.23. Her second was Aleyone, foaled in 1877, trotting record 2.27. The latter died when only ten years old, but it is generally admitted by the best posted horsemen that, short life and opportunities considered he was the most remarkably successful sire and perpetuator of speed that has ever lived. Abbess, by Albion, produced several foals by Strathmore. Her first, foaled in 1875, was the great brood mare Soprano. Her second, foaled in 1876, was Steinway that lowered the world's champion record for three-year-old trotters to 2.25 1/2, at Lexington, Ky., August 26, 1879. Steinway is now credited with 14 trotters and 26 pacers that have made records in standard time, one of which is Klatawah with a three-year-old record of 2.05 1/2, the world's champion record for three-year-olds to harness.

Flora, by Sayre's Harry Clay, 2.29, produced several foals, by Volunteer 55. The first, foaled in 1868, was a colt that was gelded, named Abelard, but he failed to make a record in standard time. Her second, foaled in 1869 was St. Julien that lowered the world's champion trotting record first to 2.12 1/2 and later to 2.11 1/2. Belle Brandon produced two foals by Rhode Island, 2.23. The first was a filly that never took a record. The second was Governor Sprague that trotted to a record of 2.20 1/2, as a five-year-old, which was then the world's champion record for five-year-old trotters. Governor Sprague was sold as a five-year-old for \$27,500 to the late J. I. Case. Rhode Island died in 1883 when 12 years old, yet he is credited with 36 trotters and two pacers that made records in standard time.

The above are only a few of the many instances that can be named, but we trust that the list is sufficient to convince our subscriber that the man was mistaken who asserted that the second foal that a mare produces by the same sire is "invariably a dub." When a mare has produced an unusually promising foal by any sire it shows good judgment on the part of her owner to return her to the same sire. Prove all things and hold fast to that which is good.—The American Horse Breeder.

DEVELOPED FROST-PROOF CATTLE.

A former Iowa man, who, a few years ago, hiked to the Canadian Northwest to carve out a new fortune, returned to his former home the other day (says the Chicago Live Stock World), and in answer to an interrogatory as to cattle losses in his section, replied—"I didn't lose a steer."
"But" persisted the sceptics, "isn't it cold enough up there to freeze 'em solid?"
"Not my cattle," he replied. "I house 'em."
"But how do you feed 'em?"
"Don't do it. I've got the best cattle

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for wintering purposes you ever saw. When I first went up there I tried all the standard breeds for range purposes, but each succeeding spring found it was easier to count the live than the dead ones. Then an idea came along. I trapped a bear, domesticated him, and crossed Bruin on a Galloway cow. If you will believe me, and my veracity was always considered good around here, the result is a breed of cattle that is of fair beef quality, but its chief merit lies in the fact that it retains the hibernating instinct of the bear. When the first blizzard sweeps across the range, my cattle scamper for cover, and, like so many bears, tuck themselves away in less shed-room than you can imagine, and, resigning themselves to the arms of Morpheus, comfortably snooze the winter away. When grass rises, the herd casts off dull sleep, and calmly resumes chewing the cud and making money for me. Not only do they sleep the winter away themselves, but they save me the trouble of walking the floor nights."
They made him a member of the Ananias Club on the spot.

DR. McLAUGHLIN'S ELECTRIC BELT

Dr. McLaughlin's men (the men I have cured) are shouting this all over the world. You can't hear it too often.

"Let every man know it." "I will preach the merits of your wonderful treatment wherever I go." "It has been worth its weight in gold to me, and I will never cease shouting its praise."

Such are the messages of gladness sent in to me from patients restored to health and strength by my Electric Belt. They come daily, and nearly always after other treatments had failed.

Varicocele, Spermatorrhoea, Losses and Drains and all ailments which destroy Manhood's Vigor are cured by DR. McLAUGHLIN'S NEW ELECTRIC BELT. The Free Electric Suspensory for Weak Men sends the current direct to the Prostate Gland, the seat of all weakness. It develops and expands weak organs and checks losses. No case of weakness can resist it.

Electricity is an external application. By the infusion of a current through the suspensory into the weakened parts, every nerve and tissue is affected by it. They are immediately strengthened with the new life; they expand and develop with each application until complete vigor and strength are restored.

Every day we have evidence that the weakling has no place in the busy, bustling life of to-day. It takes nerve and strength to go up against the obstacles we are now forced to encounter, and this the weakling lacks. Look about you and see the successful man of to-day; it matters not whether he be a Merchant, Lawyer or Laborer, with head erect, eye clear, strength in his every movement, he is ready to tackle any problem with that enthusiasm which insures success.

I can make just such men of weaklings. I care not how long they have been so, nor what has failed to cure them. Let them wear my Dr. McLaughlin's Belt every night as I direct, and in place of the weak-nerved, debilitated being, I will show you a strong man—full of vigorous life, with nerves like steel and ready to look any man in the face and feel that he is the equal of the best of them and can do what they can do.

You will say this is promising a great deal. I know it, and can show you evidence that I have done it for twenty thousand weak men, and every one of them had spent from \$50 to \$500 on drugs before he came to me as a last resort.

Now, what does this mean to you, dear reader? It simply proves what I have been telling the public for the past twenty years, the only way to restore strength is by electricity. Drugs will not.

READ WHAT SOME OF THEM SAY :

"I should have written to you long ago, but neglected doing so. I got one of your belts nearly three years ago and used it according to your instructions for over two months, and I am well pleased with the result. My back, which was so weak and lame, is entirely cured, and has not bothered me since. I lent it to some of my neighbors with the same result. Wishing you all success in your good work."—ALLEN SHOEMAKER, Grand View, Man.

"You must excuse me for not writing before this. The belt I bought from you some time ago worked all right. I put it on at night and wore it until morning, and it did me a lot of good. You can use my name with the greatest of pleasure. My back was entirely cured."—W. L. TIERNEY, Gladstone, Man.

"I received the Belt from you a month ago, and I now write you with pleasure. I am pleased to say that the Belt is doing me a great deal of good. My back has not troubled me once since the first night I had it on. I have a good appetite and I feel better than I have for several years. Thanking you for the belt."—J. W. BUSH, 317 Pacific Avenue, Winnipeg, Man.

If you are skeptical, all I ask is reasonable security for the price of the Belt, and

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PERSISTANCE IN TREE PLANTING WILL PAY WELL.

(Continued from page 851)

THE COST OF PLANTING TREES.

The plants were set in land which last year had grown a crop of seedlings. The ground was plowed and worked up in the fall. In the spring the rows for the trees were marked out by making shallow lines with a hoe drill, some of the teeth having been removed to make the rows the necessary distance apart. The trees were set in holes dug with spades. In this manner it took five men eight hours to set out an acre. Allowing a foreman's wage of 20 cents per hour and men's wage at 16 cents per hour, marking rows 20 cents, we find the actual cost of planting to be \$6.95 per acre.

Plantation No. 2 cost considerably more than any of the others, the reason for this being that the maples used were very large, averaging over four feet high and some six feet. These were picked out from two-year seedlings as they were too large for shipping. It shows the extra expense entailed in handling large trees compared with small ones, say 18 inches to 2 feet high. We find too that a greater proportion die after transplanting as, owing to the larger root system, they are apt to be put in too shallow.

It is intended to treat these plantations as a growing crop. As soon as the wood becomes large enough for use it will be cut. Careful records will be kept of all expenditures in connection with each plot and also of the yields. In this way it can be determined what varieties and what mixtures are likely to prove the most profitable. Judging from the present rate of growth of cottonwood it is expected that thinnings will be made about six years from now, from which it is expected to obtain wood large enough for summer fuel. As the plantation grows older the wood will become larger and consequently more valuable.

The shrubs planted along the drives and bordering the lawns have done well, though a few of the more tender varieties, owing to the lack of protection during the winter and the absence of snow, have been considerably killed back. Those suffering no injury, although absolutely unprotected, are the lilacs, Tartarian, Spirea Van Houttei, Spirea arguta, Caragana and Cinnalium maple.

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The Farmer's Advocate of Winnipeg

ARTIFICIAL IMPREGNATION IN DOMESTIC ANIMALS.

The subject of this paper has been attracting more or less attention in breeding establishments during the past few years, and as there seem to be some features which have not been already discussed, I have been requested to bring the question before you, and also to present a few points which I gathered in various ways as years rolled by.

By way of introducing the subject, it may be well to follow the example of those investigators who have given so much attention to the etiology or cause of disease during the past twenty or thirty years; and in doing so it will be in order to review some of those conditions which prevent fecundity in the natural way; for, if we do not understand the cause of an evil, it is hardly possible to adopt intelligent measures in its removal, and thus more harm than good may be done by laboring in the dark.

To begin with, sterility or infecundity may be regarded as the unfruitful result of copulation, and may be discussed under two distinct heads; viz., permanent sterility and temporary sterility. The former is, unfortunately, beyond our reach as far as overcoming it is concerned, in most instances, for example, hermaphrodites, or those animals which possess so many of the characteristics of the opposite sex to which they really belong—a stallion looking like a mare and such like animals of this description are invariably barren.

In cattle, when twins are born, the one a male, the other resembling a female, the latter is called a "free martin" and as a rule these will not breed because they are usually hermaphrodites. Those free martins which I have examined after death have always been so defective in the make up of their generative organs that it would have been impossible for them to have conceived.

Hybrids are usually barren, although there are some cases reported in which the female mule is said to have produced offspring. It is also the result of disease of the generative organs, such as fatty degeneration of the ovaries, or some other disease. I once saw a case in a bull which I attributed to tuberculosis of the testicles, and another case in a cow to general tuberculosis of her generative organs; her entire womb was little more than an indurated mass of tubercular deposit. Other cases, in stallions, have been the result of inability on the part of the testicles to form spermatozoa; at least I failed to find them in the fluid collected immediately after copulation and examined with the aid of a microscope.

The temporary causes of sterility are numerous, but not always difficult to overcome, it is sometimes the result of premature or late coition, when the generative organs of the female are not in proper condition for conception in other words, when she is not in season.

Some breeders believe that for mares accustomed to hard work, active exertion before service is favorable to conception; and the Arabs for this reason are said to gallop their mares to such an extent as to bring them breathless before the stallion, and when the act is accomplished, leave them for a few hours to cool down; but I have seen the opposite to this procedure, both before and after copulation, so often practiced with satisfactory results, that I have yet to be convinced that one method has any real advantage over the other. Change of climate also seems to have a marked effect upon fecundity, sometimes putting it indefinitely in abeyance. I have known cases where even removal from one state to another seemed to have a baneful effect on the fecundity of the cow.

I think there is one cause of fecundity in the female which is often overlooked, and the failure to conceive is often attributed to a wrong cause and male animals are condemned as not being sure "getters," when really the fault, if it may be so called, is with the female. In an effort to make myself clear upon this point, let me say that the mental picture which I have drawn in my mind's eye, in connection with the bursting of the Graafian vesicle and the discharge of the ovum is, that the pavilion of the fallopian tube, joining the ovary and the womb, is conveyed around the surface of the ovary by its fimbriae and surrounds it in a proper manner the ovum (egg) is collected, and if other conditions are favorable, the process of reproduction is soon set agoing; but the movements of the fimbriae are under the control of the sympathetic nervous system, and we have abundant evidence that the operations of this system are very fickle, for which reason I think it is fair to assume that it often misses or fails to select the right spot upon the ovary to collect the ovum, and as a consequence the female fruit of oestrus escapes into the abdominal cavity, where it may soon perish; although the oestrus may have come on in the regular manner and other things have been conducted in a regular way, but the service fails to impregnate and the male is wrongly blamed for the failure. A strong argument in favor of this theory is, that artificial methods of impregnation sometimes fail for one or more trials, and again we have that peculiar condition of extra uterine pregnancy demonstrating most conclusively that the ovum sometimes escapes into the abdominal cavity.

Again, temporary sterility may be due to constriction of the mouth of the womb, the result of spasmodic contraction or organic disease of the tissues forming it; the former condition may sometimes be overcome by inserting a suppository of belladonna or some other antispasmodic, but the latter requires more positive and energetic treatment, which consists in some mechanical means for opening it up; such, for instance, as spreading it with the fingers or one of the many instruments designed for the purpose, and on theoretical grounds that would seem to be all that is necessary; but my own experience, as well as unsatisfactory results from the operation which have been reported to me by other veterinarians, cause me to believe that more heroic measures should be adopted; and an operation which I performed in a cow a few years ago tends to verify my suspicions and also shows that considerable liberties may be taken with the oestrus without doing permanent injury to the animal.

For the purpose of a clearer understanding of the matter, it may be well to relate the various circumstances which led up to the operation, which, by the way, I now regard as a compromise between artificial and natural impregnation.

One of my patrons, a Shorthorn breeder, purchased a cow, several hundred miles from his farm, and after bringing her home, subsequent efforts failed to produce impregnation, and it was finally arranged that I should visit the farm on a day when the cow would be in season. I did so, but was informed by the owner that he had telegraphed me not to come as the cow had come in season the day before the appointed time; but I did not get his message, and when I arrived all evidence of the oestrus had subsided. After a short parley with the owner, the cow was handed over to me with permission to do as I pleased with her. I forthwith made an examination and found the os so firmly contracted that it would not yield to pressure of the index finger, although it was pushed against it until the cow exhibited her discomfort by a moan, at which signal I decided I had gone far enough with that part of the operation. I then introduced a concealed bistoury, which had been prepared for the purpose, and made a slight incision across the circumference of the organ, but it was not sufficient to permit free passage of the finger, although I had gained some ground. Whereupon, I made incisions until I could get the finger all the way through to the last joint; then, by manipulation, I finally got my entire hand, as far as the wrist, through the opening and into the womb. I then concluded that the limit had been reached as far as operating was concerned. The cow was then, with much difficulty, served by the bull, though, as might be expected, the service was of no avail; but, anticipating this, I left instructions to have her served the next time the heat came on, and without any artificial interference. This was done, but somewhat to my disappointment the cow did not hold, as the heat came on a second time, and I had some visions that I might have carried the operation too far and possibly set up an inflammation which had again closed the mouth of the womb. However, I wished to give the work a thorough test, and more gave instructions to have the second or, rather, third service performed in the natural way, and as a consequence the cow held this time, and in nine months produced a fine, vigorous calf.

I doubt very much if cases like the foregoing could be impregnated by the ordinary artificial means which are now adopted, without, first of all, breaking up the occlusion.

Another cause of sterility is undue protrusion of the cervix into the vagina and misplacement of the os uteri; the treatment is obvious.

Turning for a few moments to that which may be regarded as purely artificial impregnation, I venture the opinion that if this operation is properly performed, the percentage of fecundated mares and cows will be materially increased, and we will hear little more of shy-breeders, while the offspring, as far as my observations have gone, are just as vigorous and perfect as those produced in the natural way, and the fecundating fluid of the male may be employed to a remarkable extent. In the literature of the subject I find mention made of fecundating two or even three mares with one discharge from the stallion, and a Kentucky breeder informed me recently that six mares had been impregnated from a single discharge at his farm. Then the risk of service is a good deal less than other things of minor importance but still in favor of artificial impregnation.

The technique of the operation is simple in the extreme, especially for those who are familiar with the anatomy of the parts, and who observe due cleanliness in their operations. The instruments required are simply a suitable syringe and a glass beaker, or some such vessel warmed to about 100 degrees Fahr. I have used a water-bath for keeping things warm (a sand bath might be more convenient), and when a number of animals are to be fecundated from a single discharge, I think the chances of success are greater when the fluid is kept at about the temperature of the body.

The animals to be operated upon should be close at hand.

The service is conducted in the usual way, and immediately after, the fluid is collected from the end of the penis, from which a considerable quantity will usually flow, and this may be augmented with that which comes from the vulva of the female; a clean syringe is then charged with the required amount, which in its turn is injected into the os uteri, and the operation is completed.

The remarkable things which are transpiring in the scientific world these times, in transplanting specific fluid cultures for certain soils and crops, and work of that kind, have caused me to think that there is a good, and unexplored field for experimentation in transporting the male fruit of impregnation hundreds if not thousands of miles.

E. A. GRANGE, V.S., before the Veterinary Medical Association of New York City.

THE TONGUE.

"The boneless tongue, so small and weak Can crush and kill," declared the Greek.

"The tongue destroys a greater horde," The Turk asserts, "than does the sword."

A Persian proverb wisely saith, "A lengthy tongue—an early death."

Or sometimes takes this form instead, "Don't let your tongue cut off your head."

"The tongue can speak a word whose speed," Say the Chinese, "outstrips the steed."

While Arab sages thus impart, "The tongue's great storehouse is the heart."

From Hebrew wit the maxim sprung, "Though feet should slip, ne'er let the tongue."

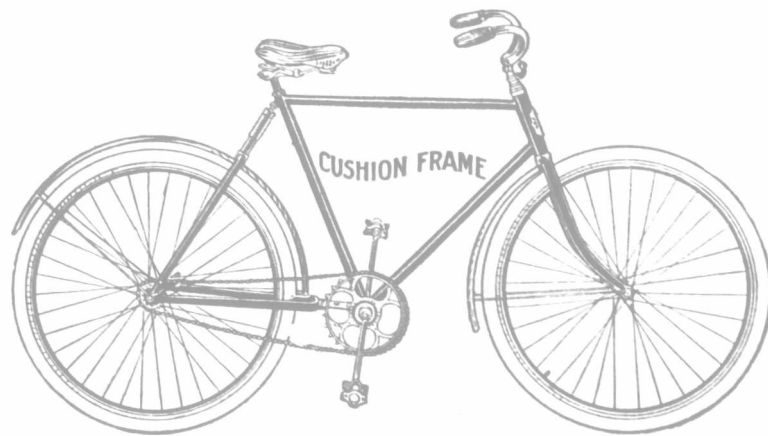
The sacred writer crowns the whole, "Who keeps the tongue doth keep his soul."

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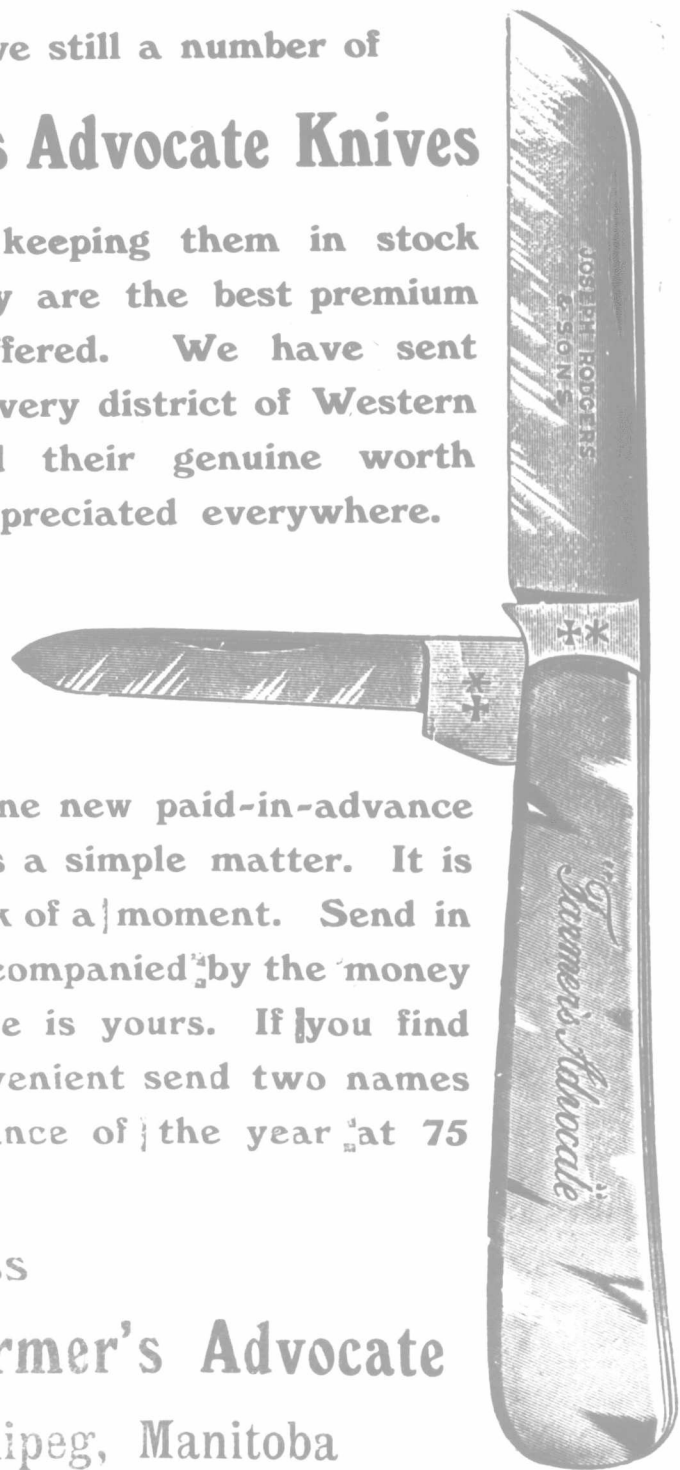
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The Farmer's Advocate

Winnipeg, Manitoba

ever saw. I tried all purposes, and it was the dead along. I him, and cow. It veracity I around attle that hief merit the hiber- When the he range, and, like ves away imagine, e arms of the win- the herd resumes g money sleep the hey save the floor r of the ANTING REES. id which eedlings. worked the rows out by oe drill, removed distance oles dug it took an acre. 20 cents 16 cents nts, we g to be nderably e reason es used er four These eedlings ing. It uled in d, with et high. portion ing to apt to planta- soon as gh rds will nection yields. d what likely udging vth of t thin- s from obtain r fuel, e wood ently drives done tender ection nce of killed njury, l, are loutei, nalian n time quality n price nipeg

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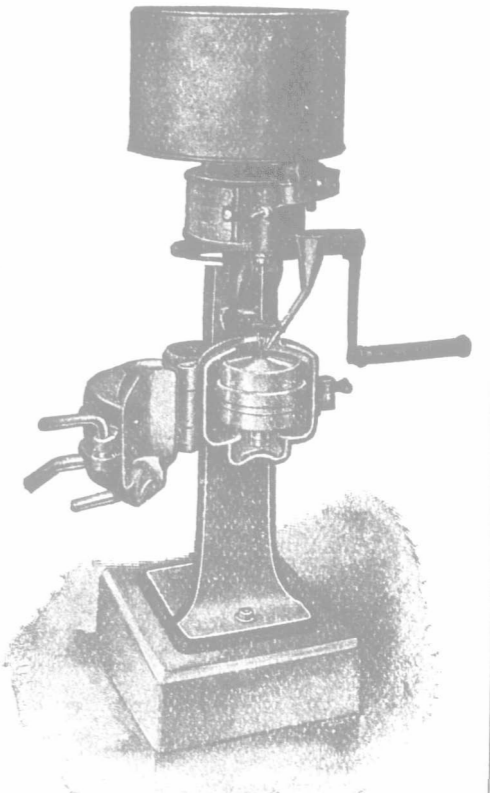
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