

**PAGES
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EDITORIAL.

THE RURAL SCHOOL AND THE FARMER.

In pursuance of the general policy of the Department of Education, advantage is being taken of the present holiday season to carry out a number of important improvements in the grounds, building and equipment of many rural public schools in the Province of Ontario. This is commendable for the reason that some 58 per cent. of the total population of the country is reported officially as receiving its education in the rural school, and, therefore, not only decent, but attractive and comfortable quarters should be provided for so important a work. The habits of observation and ideals of youth are largely moulded by the character of the surroundings where their schooling is received. Unfortunately, in too large a proportion of cases the grounds and buildings have been in a notoriously disgraceful condition. If it further be true, and we believe it is, as the Deputy Minister of Education for Ontario (Mr. Colquhoun) lately observed that no country will rise higher than the level of its rural population, then it becomes us in every possible way to improve the character of the rural school, in its externals, its curriculum, and the nature of its teaching.

For years past the High School or Collegiate Institute has been idealized in the minds of the people, and the success of the rural teacher has been measured in the community by the number of pupils who could be crowded along to pass the Entrance Examination. Our young folk have been going in droves at the immature age of 12 and 13 years into the cities and towns, where the whole trend of education is away from the country and its pursuits. This tendency we believe to be costly for the pockets of the parents, not the best for the general up-bringing of the youth, and bad from an educational point of view for the reason that the efficient government and teaching of these schools is not likely to improve in proportion to their size and attendance, but rather the reverse. The individual scholar becomes lost in the mass, and receives less and less personal attention. Individual development disappears in a sort of general average. For this reason, many thoughtful parents, and students as well, have come to the conclusion that better results are attainable in a school of moderate size and attendance than in one where the roll ranges from 500 or 600 to 1,000. In the university, where the student may be assumed to be somewhat settled in his habits and purposes, the lectures are given for him, but whether or not he profits by them depends largely upon himself; but in public and High Schools a better system is necessary. Even in the case of Toronto University, some are beginning to question if it is not becoming too unwieldy for the best educational results, which are held to be not proportionate to the outlay involved.

We are not surprised to find in the United States a strong feeling taking root in the public mind against the schools, which have been growing bigger and bigger, with hundreds, and in some cases thousands, of little ones herded into one building. The physical and mental effects are bad, to say nothing about the questions of morality. "The huge High or Public School," observes one writer, "is not a credit to the intelligence of the community, which will soon cease to point with pride to these great masses of masonry devoted to educational purposes." Let Canada take warning in time.

It may be urged that Ontario has a system of continuation classes, given in response to the de-

mand for a more extended course of studies in the public schools, so that passing the Entrance Examination might not be regarded as the finishing point of the public-school course, thus depleting its attendance and lowering its standard. We find in the report of the Inspector of Continuation Classes (R. H. Cowley), for the past year, attention is called to the disparity in the amounts and rates per capita of Government grants to the continuation classes, compared with the more liberal assistance to the High Schools. He also points out that the curriculum of the continuation classes should be modified to encourage the pursuits of the farm and the interests of the farm home. "At present," he says, "the obligatory course of study is not even neutral in this respect. It rather inclines to draw the youth away from the farm and rural life. Not only are the examinations for matriculation into the university and for entrance to teaching distinctly provided for, but, through long force of habit and circumstances, these are made a special end in nearly all the secondary schools (High Schools and Collegiate Institutes) of the Province. To some extent, too, special attention is given to commercial subjects. While it may be claimed with some propriety that the studies tending in these directions are also of value in the education of the farmer, there is nothing in the required courses to incline the student to think definitely, or even to think at all, of farming as a desirable life-work. On the other hand, there is much in the definite aim of the school and the long usage of the school to cause him to gravitate away from the farm."

The present educational system, about which so much boasting has been done, is, therefore, convicted out of the mouths of those who are officially well qualified to testify. "Undeniably," adds Mr. Cowley, "our secondary schools have given the student a distinct bias towards the professions and mercantile pursuits. The very fact that the graduates of our rural schools have been forced to repair to towns and cities to obtain secondary education, has itself constituted a long-standing, serious and unadvisable discrimination against the progressive development of rural life." Clearly, then, the whole tendency of the public-school system has been antagonistic, rather than favorable, to the interests of agriculture, tending to depopulate the country and drive workers in a steady stream into the pursuits of the city. For these reasons, the improvement of the rural public school is indeed welcomed, but it must not stop with the building and a continuation class; the spirit and letter of the whole curriculum requires a general revision. It has been thought that the Consolidated School, such as has proved so acceptable as an object lesson or demonstration in portions of the Maritime Provinces, might solve the problem in Ontario; but since there is evidently little disposition to proceed by that method, we must take the line of least resistance, which we believe to be in the direction above indicated.

THE CLYDESDALE SITUATION.

There is perhaps little need of editorial reference to the discussion of the topic of Clydesdale registration, which, to the unsophisticated, has evidently assumed the condition of a tangled skein, requiring skillful handling in its unravelling, and will probably need to be approached in a spirit of compromise by one if not more of the parties to the settlement. The question is handled in a commendable spirit in his letter in this issue by our Scottish correspondent, who is intelligently familiar with the situation, and the only object in this paragraph is to direct the attention of

interested readers to his explanation, which will at least serve to throw some light on the condition of things in this connection as they exist, and may be helpful in working out a deliverance from what has at present the appearance of a deadlock.

WINTER WHEAT IN ONTARIO.

While winter wheat is a somewhat less sure crop in Ontario than some of the spring grains, owing to its being exposed to the rigors of our winters, occasionally suffering from alternate freezing and thawing and other unfavorable weather conditions in the early spring, yet it is seldom that winter wheat is a general failure in this Province. The cold, drying winds of the spring of this year had a killing effect on a considerable acreage which had come through the winter successfully, a good many fields being plowed up and re-seeded to other crops, but there are many fields in some districts, now ripening for the harvest, which give promise of yields of 25 to 35 bushels an acre, which is about equal to the returns in the average of former years, when wheat was the leading crop in most parts of the Province. While Ontario may not now successfully compete with the newer Western Provinces in the quantity or quality of wheat raised, and while, owing to the less valuable bread-making qualities of our wheat, we cannot expect as high prices as the hard varieties of the West command, yet our wheat always finds a ready market, at a fair price, to be mixed with the Western product, and it may yet be profitably raised to a limited extent, and has its place in the rotation of crops on many Ontario farms. The system of summer-fallowing for wheat, formerly so generally practiced in this Province, and which was expensive, since it involved three or more plowings and harrowings in the preparation of the land, and waiting two years for returns, is now followed only in exceptional cases and for special reasons, and the more economical system of plowing down a clover or other sod after a crop of hay has been harvested, or a few months pasturage by stock has been secured, is found to make an ideal preparation, provided the plowing is done early and is followed by frequent surface cultivation to hasten decomposition of the sod and conserve the moisture in the land, conditions essential to securing strong and vigorous growth of the plants and fitting the crop to endure the stress of winter freezing and chilling spring winds, should they come. But unless the land is in good heart and the weather conditions favorable to securing a well-pulverized and compacted seed-bed, it were better not to sow fall wheat, but prepare the land for a spring crop, which will in most cases prove a more profitable course.

In so far as the probabilities can be judged at the present time, the indications point to rather a serious shortage in the wheat crop of the world.

The United States Government report, issued on June 10th, indicates a probable deficiency in the winter wheat crop of that country of 100,000,000 bushels. According to an apparently carefully-considered article on the subject, in Everybody's Magazine for July, the London authorities state that the European shortage this year will be at least 120,000,000 bushels, as compared with last year, even if Russia should raise as much as in 1906, which is considered possible. The deficiency in Western Canada, a possible result of the month-late seeding season, may be 20,000,000 bushels, with a similar loss in India—all of which means that there is now a prospect of a possible shortage in the world's crop, as compared with 1906, of 240,000,000 bushels, unless the spring-wheat harvest should largely exceed the

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estimates of the less sanguine, which, to say the
least, is a doubtful contingency.

While this probable shortage presages an in-
crease in the cost of living to those who buy their
bread, it is not entirely discouraging to farmers
who may have wheat to sell, since the deficiency
in supply logically means a higher price for the
product, and already the speculative markets have
tended to reviving the farmer's dream of "dollar
wheat" in the coming months. Whether this re-
sult be realized or not, while not advising Ontario
farmers to rush into wheat-raising on a large
scale, it is, we believe, safe to say that the pros-
pect for good prices will justify sowing at least
the usual acreage on well-prepared land. And,
with such preparation, the experience of not a few
has shown that well-managed Ontario farms are
yet capable of yielding as heavy crops of wheat as
when they were called new lands.

AN IMPORTANT POULTRY CONFERENCE.

In our Poultry Department this week will be
found a special correspondent's report of a poultry
conference held at University College, Reading,
England, July 8th, 9th, 10th, 11th and 12th. Offi-
cially, this foregathering was designated the
Second National Poultry Conference, but in reality
it was international in programme and attend-
ance. The real organizer was Mr. Edward Brown,
F. L. S., Hon. Secretary of the Conference, and
Secretary of the National Poultry Organization
Society, Assistant Director of the Agricultural De-
partment, University College, Reading, Eng.,
and author of several books on poultry. It was
he who visited America last year, and upon his
return to England prepared a "Report on the
Poultry Industry in America," which has on two
or more occasions received very favorable mention
and review in "The Farmer's Advocate." For
upwards of thirty years he has been working for
the advancement of the utility poultry industry of
Great Britain, and, in fact, it is due to his en-

deavors, for the most part, that the industry in
the mother country stands in the position it oc-
cupies to-day. The influence of the Conference
will undoubtedly be great and lasting, and it is
hoped that before many years another assemblage
will be held, so that the work may be constantly
helped forward towards a successful and profitable
end.

Investigation of prices by the Ottawa Civil-
service Commissioners shows that for the lower-
salaried officials the cost of living has increased
from 30 to 35 per cent. in ten years, and for the
higher-salaried officials the increase has been from
26 to 30 per cent.

HORSES.

OUR SCOTTISH LETTER. THE HIGHLAND SHOW.

We have just closed our "great national show,"
the "Highland." It was held this year in the
Capital (Edinburgh), and was visited on two days
by the Prince and Princess of Wales and a dis-
tinguished party from the seat of the Duke and
Duchess of Buccleuch, at Dalkeith Palace. On
this aspect of things I have little to say. The
royal visitors showed themselves to be deeply in-
terested in the various departments of the show,
and their presence undoubtedly lent eclat to the
proceedings, and insured a very large attendance
of visitors. The showground was none the best,
and it may be hoped no further effort will be made
to hold a gathering of the kind on a site like that
at Prestonfield. There were many visitors from
Canada and the United States, some on business,
and a number of agricultural professors, some of
whom appear to delight in asking all kinds of im-
possible questions. For example, one of them
wanted to know how many Clydesdale breeders
there were in Scotland. That is a question which
I could not answer to save my life, and I would
never dream of spending three minutes of my time
in attempting to form an estimate of the number
of breeders of any class of stock. Many meetings
are held in connection with the show, and the at-
tendance of breeders from all parts is very large.
Lord Polworth took advantage of the great gather-
ing to sell a number of Shorthorns from his
well-known Booth herd at Mertoun. The results
only demonstrated that the days of Booth Short-
horns are over. A very extensive trade was done
in the hiring of Clydesdale stallions for 1908. So
far as I have been able to learn, about a score
of horses had their locations fixed for next season.
In no case are "fancy" terms being given, but
those arranged should leave a handsome revenue
to owners from horses which leave at least a
good percentage of foals. In Scotland, the
principle is so much paid in fees at service, and
so much additional at a given date, unless it is
proved that the mare is not in foal. Of course,
this system is scarcely so favorable to the owner
of the mare as is your system of "no foal, no
money," but it is an old-time custom in Scot-
land, and some of the best horses, or rather the
very best horses, are at stud on payments of
terms for service only, without foal money. This
is harder still on the owner of mares, and makes
breeding from the highest class of horses more or
less of a gambling transaction.

THE CLYDESDALE REGISTRATION RULES.

As I am referring to Clydesdales, I may as
well mention that a meeting of the Council of the
Clydesdale Horse Society was held on Wednesday
morning of the show week. The business which
occupied most time was reading a lengthened cor-
respondence which has passed between the Secre-
tary here and both Mr. Sangster and Mr. Brant
on your side, with reference to the alterations
made by your Clydesdale Association on the rules
for registration of imported stock in the Clydes-
dale Studbook of Canada. We here find it rather
difficult to know what the Canadian men want.
When the first intimation of an alteration reached
us, early in April, a communication was sent to
Mr. Sangster, and he was asked whether the Cana-
dians wanted every animal, male or female, ex-
ported to have a number here and now before
leaving. His answer was that they did not, but
that what they wanted was that every animal ex-
ported should have a registered sire and registered
dam, and that the said registered sire and dam
should each have a registered (that is numbered)
sire and dam. Although this rule would dis-
qualify the produce of several useful and well-bred
Clydesdale sires, it would not upset our system of
registration, and, as a matter of fact, it was
rather welcomed as backing up the aims of those
who have been pressing breeders here to pay closer
attention to registration than they have done,
and it would not in any way upset the system up-
on which registration in the Clydesdale Studbook,
as in the Shorthorn Herdbook, has been carried on
for thirty years. In a subsequent letter, how-

ever, Mr. Sangster rather indicates that what
your breeders want is that every male and female
animal exported, no matter what its age, should
have a number at date of exportation. Under
our system of registration here (not merely our
rules), it is as impossible for us to comply with
this demand as it would be for the Shorthorn
Society of Great Britain and Ireland to comply
with a similar demand. As doubtless many of
your readers are aware, females do not under any
conditions receive numbers in Coates' Herdbook
for Shorthorn cattle. In the Clydesdale Stud-
book neither males nor females receive numbers
until it is seen whether they are likely to prove
breeding animals. That is to say, a colt or male
animal cannot be entered for a number until he is
more than a year old. When the Studbook was
started, numbers were not granted until the colts
were two years old, but when the foreign trade
opened and exporters began to buy yearlings, the
Council agreed to number such, as, of course, no
one would export horses except they were at
least intended for breeding purposes, and certain,
barring accidents, to be kept entire. In the case
of females, they are not entitled to entry for
numbers until they have produced at least one
foal. The purpose in both cases is to save in-
creasing the numbers of registered stock, by ex-
cluding such animals which are non-productive.
But this does not mean that pedigreed stock can-
not be registered, with full recognition of their
eligibility to receive numbers when they are likely
to be breeders; the system of registration
adopted both in Coates' Herdbook for Shorthorn
cattle and in the Clydesdale Studbook means the
very opposite. The basis of registration is the
breeding mare. She should be entered with all
the produce she may have had, no matter what
they are, up to the date of entry, and her ad-
ditional produce should be entered year by year
as they are foaled, by the owner of the mare. When
this system is effectively and regularly carried out,
it is an ideal system for the prevention of fraud.
The editor of the Studbook then knows that all
the produce of a breeding mare is accounted for
in the studbook. If anyone, in after years, claims
to have a stallion or a mare out of a numbered
mare, all he has to do is to look up the record of
that particular mare's produce, and see whether,
in the year referred to, she had a foal of the sex
and color and breeding now described. If there is
no record of the mare having produced such a foal,
then the owner of the animal which is claimed to
be her produce is called on to make good his
claim, and the whole question is sifted to the
bottom. Were this system of registration de-
parted from, and every animal numbered right
away when a foal, the book would be swelled by
the numbering of many animals which never would
come to anything as breeding stock; and the most
valuable check upon fraud, the entry of the pro-
duce of each breeding mare year by year, as they
appear, would be done away with.

It is because this appears to be what is in-
volved in the latest resolution of your breeders
that the Council of the Clydesdale Horse
Society on Wednesday resolved to ask your
Association to suspend the operation of what we
understand to be the latest resolution of your
Association until 1st January, 1908. And there is
another reason. All the schedules and regula-
tions for Volume XXX, are now issued and in the
hands of breeders, and many hundred of entries
have been received and accepted on the basis of
the system which has been in force for nearly 30
years. It is, in fact, impossible to alter that
system this year, and, therefore, impossible to
comply with what we understand to be the later
resolution of the Canadian Clydesdale Association.
The earlier one can be complied with and the views
of your breeders met, although, as I have said,
their rule will prevent the importation of the
produce of quite a number of horses of the best
breeding and merit—the very kind which you ought
to import if you want Clydesdales of a good type
and character.

The show, which closed this week, did not con-
tain much that was fresh for those who have read
my account of the Royal. Several of the awards
in the Shorthorn section were reversed. The
breed champion, as at the Royal, was Linksfield
Champion, but the female champion was the
heifer Pitlivie Rosebud II., the cow Sweetheart,
which beat her at the Royal, being placed reserve.
In the Aberdeen-Angus section, Sir George Mac-
pherson Grant, of Ballindalloch, secured breed
champion honors with his stock bull, Jeshurun,
which last year was first at the Peebles Show.
A comparatively new exhibitor, Mr. R. Wylie Hill,
Balthayock, Perth, took champion honors in the
female section with Bartonina of Glamis, which
stood first at the Glasgow show in 1905. The
Galloway championship, as at the Royal, went to
Mr. John Cunningham, Tarbrooch, Dalbeattie, for
his great bull Chancellor of Ballyboley, and the
best female was Mr. Walter Montgomerie Wilson's
three-year-old cow, Joyce of Queenshill. She
seems to have been entirely of home breeding.
Mr. D. A. Stewart, Ensay, Portree, had the High-
land championship with his celebrated cow
Lauchag Bhindhe IV., and the best bull was Lord

Southesk's Saladin, which has been three times first at this great show. The Ayrshire championship went to Mr. James Howie's well-known bull Spicy Sam, and a notable fact in this connection was that all the females in milk had been tested for milk produce as well as individual merit, with the result that every cow in the show complied with the conditions. It was whispered that in the home test a good many entered had not come up to the standard, and therefore had not been sent forward. It was, however, satisfactory to know that all the prizes went to cows which had been tested for dairying merit and had stood the test. Messrs. Kerr, Old Graitney, Gretna, had the first-prize cow, and Sir Hugh Shaw Stewart, Ardgowan, Greenock, the second. These are very highly spoken of as the choicest dairy specimens. The Clydesdale section was exceptionally well filled. The male championship went to Mr. Wm. Renwick for his first-prize two-year-old colt, Royal Review 13712, and Messrs. A. & W. Montgomery had reserve and first in the aged class with their big black horse, Ruby Pride 12344, as well as first with their yearling colt which was first at Ayr. Both were got by Baron's Pride. Mr. Walter S. Park was first with his noted three-year-old stallion, Clan Forbes 12913. In the female section there was a magnificent display. Mr. J. Ernest Kerr got champion honors with his great black mare, Chester Princess 16371; first with his brood mare, Pyrene, the champion at the Royal; first with his unbeaten two-year-old filly, Marilla, and first with a home-bred yearling filly. All of these animals were got by Baron's Pride, as was also Mr. Robert Forrest's Jean of Knockenlaw 17643, which led a splendid class of yeld mares, all the prizewinners in which but one were by the same sire. Mr. Stephen Mitchell, of Boquhan, had first in the three-year-old class with the unbeaten Minnewawa. She and Royal Review are by Hiawatha, her dam being the noted prize mare White Heather, by Baron's Pride, and Royal Review's dam was by Sir Everard, the sire of Baron's Pride. "SCOTLAND YET."

THE HACKNEY AS A HARNESS HORSE.

The horse-breeding industry was never in a better condition than at present. Fancy prices are not in vogue for any breed, for nothing is more salable than good commercial horses of all classes. One of the first—indeed, the very first—breed that might have been expected to feel the effect of the new competition is the Hackney. It is as much alive to-day as ever.

The other day I met a well-known breeder from England, and after a brief examination of a few of the animals which he had brought over to Canada, I began with the rudimentary question of what the Hackney should be.

"The proper size is, I think, 15.3 hands," he said. "I would not aim at a bigger, though I would rather have a 16-hand horse than a 15.1 hand. The difficulty is that they are inclined to lose type and quality at 16 hands and over. If you have a cross of blood you may still retain quality, and get a 16-hand horse. The primary object, however, is to breed for what is wanted in what might be called the commercial market. To breed for show purposes only would inevitably end in disaster."

"Yes, the type has altered within my recollection. In my opinion, we have much better quality and action now, and also more size; 15.2 hands used to be considered a very good height, and now we look for 15.3 hands and even 16 hands. The older classes of stallions are showing more size every year."

"And then what about the uses of the breed?" I pursued.

"I look upon it as a harness horse entirely," was the answer. "It has too much action for a comfortable ride. It is all right for a mile out and a mile back, but a ride of, say, ten or twelve miles, would shake one up a good deal. Some Hackneys, of course, have better riding shoulders than others, and are higher at the withers. I like what are called the riding shoulders in a Hackney, but do not claim for them that they are riding horses. Unfortunately, that type of shoulder is not so common as it used to be."

Turning then to the prospects of the breed, I asked an opinion on this point.

"I think there was never a better time than the present for good harness horses," was the reply. "It was a general opinion that the motor car was to do a lot of harm, but, if that is so, it is to the lower class of animal. There has never been a better demand for a good horse. In the long run, I think it will have done the best class of horse good. No, I don't think we want more pace to compete with the motor car. An increase in pace would injure the fancy action. Action and style are the most marketable qualities in the Hackney, and we must hold fast to these at all costs. I might say that I sell a large proportion of my horses for export."

"What about colors?"

"Bays and browns are unquestionably the best, though liver chestnuts are not objectionable. In the case of a horse of the very first rank, able to win prizes in the leading showyards, I don't think color makes much difference. In the show-ring, too, white legs give a smart appearance, and show up the action. On the other hand they are not desirable in the commercial animal. I have read that white feet do not wear so well, but have not experienced it in my stud, nor had any complaints. They are said to be more liable to cracked heels, etc. In the ordinary market, however, a chestnut is not so salable as a nice bay."

"Is the show, generally speaking, beneficial?"

"Yes, decidedly, I should say. It helps the breeder, if only for this reason, that animals are brought out and made the best of. I do not say that the influence of the show is entirely beneficial. They go so much for flash action and smart turn-outs in the harness classes that some of the favored horses, if they got into ordinary hands, would be difficult to get rid of. The show horse may be looked upon as the fancy man's horse, and there is generally not enough of substance and bone for the trade. Judges should go more for the salable type, and study more what is wanted in the market. We see the same thing also in the breeding classes. In the stallion this is especially to be regretted. Substance and stallion character do not receive the attention they should. Of course, above all things, a stallion must have character."

"Is the stallion-in-harness class a good institution?"

"It is the best thing that could have happened, because it encourages people to work their stallions, which keeps them from getting coarse and heavy topped, and keeps them altogether finer. It is the best way of exercising, as one can do

LAMENESS IN HORSES.

(Continued.)

The examiner, having satisfied himself which leg the horse is lame in, must now endeavor to find out the seat of its cause. In all cases where doubt exists as to the seat of lameness, it is good practice to remove the shoe and examine the foot carefully; and if he fails to find anything wrong there, he must endeavor to find out where the lameness is by a careful manual examination, assisted by observing the peculiarity of action, which will be discussed later on, as the various lamenesses are observed.

Lameness is not of itself a disease, but a sign of it. It is the expression of pain or inability, the result of disease, accident or malformation in the limb or limbs in which it is manifested. It may, however, arise from disease apart from the limbs, as from injury to or disease of the spinal cord, from disease of the brain, disease of the arteries or nerves, and occasionally from disease of the liver. It may exist for a time independent of disease—a mere expression of pain without actual disease, as from a stone in the shoe or a badly-fitting shoe, but if these causes of pain and lameness exist for any length of time, inflammation is sure to follow. Disease much oftener exists in a limb without lameness than lameness without disease. Thus, a horse may have a wound, ulcer, bony deposit, a tumor, or other diseased condition in a limb, without showing lameness. Some authorities claim that any impediment in action is lameness, while others claim that lameness cannot exist without pain, and that where disease which interferes with action but does not cause pain exists, it causes stiffness, but not lameness. For example, the fracture of a bone or inflammatory action in a joint may result in ankylosis (the union of the bones into one by bony deposit) of two or more bones of the joint, which, when inflammatory action has ceased, causes no pain, but interferes more or less with action, causes the horse to go stiff. Again, complete dislocation of the patella (stifle bone) causes the animal no pain, but produces complete inability to move the limb.

Pain may be generally said to be the common cause of lameness. The patient feels the pain either when he moves the limb or when he bears weight or presses upon it. During motion the patient endeavors to avoid throwing weight upon the lame limb by treading lightly or stepping short, and by removing weight as far from the seat of pain as he can, not only by using the lame limb in a manner best calculated for this purpose—as by treading on the heels when the

lame limb is in a manner best calculated for this purpose—as by treading on the heels when the pain is in the toe, and upon the toes when in the heels—but also by throwing as little weight as possible on the lame limb.

Weakness of the limbs, either congenital or acquired, may cause lameness and inability to perform the functions of progression properly. For example, want of development of muscular fibre in the extensor muscles of the forearm, sometimes seen in foals, causes the animal to stand and walk upon the front part of the fetlock joint, the heel of the foot and the fetlock pad being in close contact, due to the flexor muscles being well developed and having little antagonistic power opposed to them, the fetlock joint is flexed, and the animal able to move only with great difficulty. Again, a horse may be lame from excess of tonicity in the muscles of the limb, accompanied by much pain, as in muscular cramp, which renders him very lame for a time.

For the detection of the lame limb, the following general rules should be observed: When the lame limb comes to the ground during progression, the patient suddenly elevates that side of the body and drops the other side. If the lameness be in the fore limb, the head, as well as the fore part of the body, is raised from the lame and dropped upon the sound limb. This is called "nodding." If the lameness be in a hind limb, the quarter of the lame side will be elevated, and that of the sound side thrown forwards and downwards with a jerking motion, the head being held moderately steady, unless the pain be great, in which case it will be jerked in agony.

The signs indicating the seat of lameness are of two kinds: (1) Those manifested by action,



"Chieftain" and "The Only Way."

First-prize carriage pair at International Horse Show, Olympia, 1907.

much more at it than exercising in hand. I have not found that it affects the progeny."

"The Hackneys have been accused of softness; what is your opinion on this point?"

"As a breed I do not think they are. Of course, like all other breeds, various strains differ, and I don't deny that some strains are softer than others."

"Then as to crossing," I asked in conclusion, "do you think a better commercial class of animal can be bred in this way?"

"A cross of blood is a good thing, so long as there is substance with it," was the reply. "It depends largely on the mares."—[W. R. Gilbert, in Rider and Driver.]

A BATH FOR THE HORSE.

A driver of one of His Majesty's mail stages in Middlesex Co., Ontario, who is careful for the comfort and well-being of his horses in hot weather, finds the plan of giving the team a sponge bath after their 30-mile day's trip over the dusty gravel roads decidedly beneficial. A tub of water standing in the sun during the day will become sufficiently tepid, and after the horses cool down and dry off a little he gives them a thorough washing all over, using a big sponge or a cloth and the hands. It is easily done, and proves most refreshing to the horses, removing all the dust and sweat clots. The currying and brushing is chiefly done in the morning, and it is surprising how good a coat may be preserved by this means, and the health of the animals maintained.

and (2) those discoverable by examination while the animal is at rest. In some cases the latter alone are sufficient to indicate the seat and nature of the disease, but the lameness must be of a severe character, manifested by "pointing," standing with the lame leg flexed or elevated from the ground, with the healthy feet placed as much under the body as possible to bear the weight.

In the majority of cases, however, it is necessary to cause the patient to perform some movement, and experience teaches us that a slow trot on hard ground, with a loose rein, is the best pace. A horse may walk lame, but in most cases the peculiar characteristics of the lameness is best shown at the gait mentioned. There are cases of lameness, however, as in slight splint lameness, where it is necessary to urge the patient to a sharp trot before any deviation from the normal gait can be noticed.

"WHIP."

HORSES IN HOT WEATHER.

Just now, writes A. S. Alexander, V. S., in the Live-stock Report, we are hearing from a good many owners of horses who are having trouble with their work animals, and most of them have the same complaint to make. They tell us that the horse that was all right in cold weather has begun to rub and gnaw at places which have broken out on his legs or other parts of his body; while some of them add the practice of tail and mane rubbing. In most of these cases it transpires that the horse does not work well; does not sweat at work, but breaks out in a sweat on standing for a while in the stable; pants and tires easily while at work; has a capricious appetite and his manure is mushy and offensive, or his urine thick and opaque.

These horses are afflicted with "summer itch" or with indigestion, and in many instances the owner is to blame for the trouble. Of course if he has bought a horse without knowing his previous history he likely has had an "overhelt" animal put onto him and may be sure that the trouble is chronic and incurable; but if the horse affected was born on the farm or has worked on the same place for several years, then the cause is in the feeding and management and better methods might have prevented the ailment. It should readily be understood that in summer time the skin is apt to become clogged with excretions from the sweat glands, with exfoliated scarf skin and the dust and other matters lodging on the skin and adhering to the sweat unless grooming be attended to properly and frequently. Yet many owners of farm work-horses are "too busy" to do such work or forget to "get around to it," and about all the chance the horse has to relieve the discomfort of his filthy skin is to enjoy an occasional roll on the grass when turned out at night. But many and many a horse even is deprived of the luxury of a roll on grass, sand, or earth, and many farmers fail to understand that the rolling act is nature's way of enabling the horse to cleanse his skin and free it of some of its discomfort. It would be strange did not the filthy skinned horse commence to itch and gnaw, nor is it strange that as the habit commences, so it increases, until it becomes a nervous disorder (pruritis) characterized by uncontrollable itchiness indicated by rubbing on every available place and biting at the sides of legs and perhaps tearing and destroying harness and dust sheets or blankets.

In some cases trouble is caused by the proximity of hen roosts, which should never at any season be near the horse stalls. Next to the chicken lice comes lack of grooming as a cause of skin irritation in summer, and then we must include dirty, sweaty harness, often not removed at noon; dirty, hot, fly-infested, badly-ventilated stables, where manure is allowed to fester and give off noxious gases, and where manure piles around doors and windows breed flies and so provide another fertile source of irritation.

The hard working horse pays daily for decent treatment, but too often does not get value received. The least we can do for him, if we be humanely inclined and appreciative, is to insure him a clean skin, by daily grooming; a clean stable, by daily cleansing and ventilation; clean harness, by frequent drying and brushing; clean air, by removing all causes of pollution; clean water, by attention to the condition of the troughs; clean food, by providing it fresh at each meal and removing all that is not consumed; clean beds, by providing an abundance of fresh litter and by removing all soiled litter instead of packing it up in front of the horse during the day and then spreading it under him at night; and clean lungs, by allowing the horse to pasture at night, when possible, so that he may fill up on God's fresh air.

Then, too, feed has a deal to do with comfort in summer time. Corn is too heating for summer use. We get better results from feeding oats, or a mixture of oats, bran and corn, the oats being the major part of the ration, and it is best not to burden the work horse with a lot of hay at

noon, but to give him his chief supply at night after he has eaten his grain ration. And water is of great importance, also. It should be given often during hot weather, and should be cool and pure, but not in oversupplies when he is hot.

Try to treat the work horse rationally, and if that be the aim of the owner, he will not let the harness remain in place at the noon hour, but will remove it for drying and cleansing; then, he will remember to sponge the horse's mouth and eyes; to wash his galled shoulders with a soothing and cooling lotion, such as a mixture of alum and water or a decoction of white-oak bark. (Note.—Members of "The Farmer's Advocate" staff have found nothing better for the shoulders than bathing with salt and pure water.) Then, too, he will understand that the horse worked between two others in the mower or binder is getting the hot end of the deal, in that he is exposed to the radiated heat of his mates, in addition to the direct rays of the sun, and so is most apt to succumb, and therefore should be worked but part of the day. He will endeavor to give his horses as much rest as possible; to shade their heads when they are at work; to work early and late, and, unless in times of emergency, avoid working during the heated middle hours of the day.

THE CLYDESDALE RULES AGAIN.

Editor "The Farmer's Advocate":

The reply of Mr. William Smith, published in your issue of July 18th, to my letter in the number for July 4th, utterly fails to answer my question, "How can a Clydesdale mare imported after July 1st, 1907, be registered in the Canadian Studbook under the amended rule, which requires that, in order to being accepted for registration here she must first bear a registration number in the Scottish Book, the rule of which is that no female shall be numbered until she has produced a foal?" Mr. Smith's answer evades the question, and he quibbles over the difference in the meaning of the words "will" and "shall," which, in this case, he must know, is simply equal to the difference between "tweedledum" and "tweedledee," as it surely follows that if mares SHALL be accepted on the conditions named in the amended rule, they WILL be accepted under those conditions. The words, "shall be accepted," if they mean anything in this case, surely imply that, if mares imported after July 1st bear numbers in the Scottish Studbook, they will, on application, be given numbers in the Canadian Book, and not otherwise, thus giving an unfair advantage to the short-pedigreed mares imported before July 1st, inasmuch as these have already been given or will be given numbers, while those imported since that date must wait for numbers until they have produced a foal, unless the rule of the Scottish Book be changed. A Toronto paper announced last week that the mover and seconder of the amended rule had sailed for Scotland, presumably armed with the imperative rule, with the object of forcing the Scotsmen to change their rule, at the peril of the loss of Canadian custom. Meantime, the Clydesdale breeders of Canada await with breathless interest the outcome of the mission of their brilliant leaders, which, if successful, will entitle them to as grand an ovation on their return to our shores as that accorded the Premier on his recent arrival home from the Colonial Conference. But, remembering that it was a Scotsman who wrote, "The best laid schemes of mice and men gang aft a-glee," and knowing that Scotsmen like "facts," as the same writer says, are "Chiefs that winna' ding and canna' be disputed," I, for one, shall, or will, not be surprised to read before many moons a call for a meeting to consider a proposal to amend the amended rule.

Huron Co., Ont.

HORSEMAN.

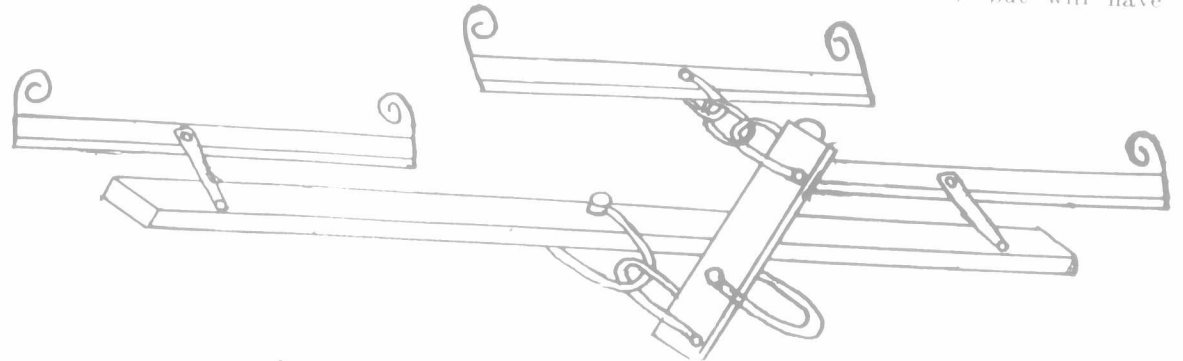
THREE-HORSE EVENER.

Editor "The Farmer's Advocate":

I herewith send you a rough sketch of a three-horse evener which I am using for plowing this year. I find it an excellent plan, as all three animals are as close as they can be got, and it gets rid entirely of that annoying side-pull that cants the plow over on one side. I hope it will be of use to some of your readers.

Sask.

R. J. R. M.



LIVE STOCK.

GRUBS IN THE HEADS OF SHEEP.

By A. S. Alexander, V. S.

Complaint having recently been made to us of trouble from the presence of grubs in the heads of sheep, and with the request for information on the subject, we shall here give the matter the attention it deserves in an article for the benefit of all readers who keep sheep.

The grubs of the larvæ of the gad-fly of the sheep (*Estrus ovis*) are deposited in the nostrils of the sheep about this time of year, or during what generally is termed "fly time" in summer. The fly deposits young grubs or larvæ, and not eggs, in the nostrils. These grubs then proceed to crawl up the nostrils by means of hooks and bristles projecting from their bodies, and at length attain the upper parts of the nostrils, and there lodge among the turbinated bones. They may go higher still, and lodge in the frontal or maxillary sinuses, and there or in the nostrils they rapidly increase in size and become brownish in color. Each grub has two large hooks, by which it clings to the mucous-lining membrane of the sinuses, nostrils or turbinated bones, and the grub takes its nourishment from the muco-purulent matter which its presence occasions in the parts invaded. This discharge, issuing from the nostrils of sheep in late winter and early spring and summer, is a prominent symptom of the trouble, and is accompanied by sneezing, coughing, reddened lining membrane of the nostrils, and inflamed appearance of the eyelids. The badly-affected sheep may fail to thrive, and if the grubs have invaded the sinuses of the head, the brain may become affected by irritation, and in that case the sheep steps high when walking, or may stagger about as if dizzy. Where there is this aggravated degree of irritation, the sheep may succumb if not well nourished, or if affected with some other insidious disease, such as that of the liver, which is common in pregnant ewes, or the presence of intestinal worms, such as stomach worms or tapeworms, or "nodular disease of the intestines," due to the worm known as "*ascophagatoma columbianum*." Rarely, in our experiences, has the simple presence of grubs in the head occasioned the death of a sheep, but quite often the irritation due to the grubs, acting in association with some other cause of debility, proves too much for the sheep, and it succumbs in a few days, after showing the plain evidences of brain affection.

The sheep gad-fly is a little insect of grayish color, and about the size of the common house-fly. It works in the sunlight, and is inactive in cold weather. When it attacks, it darts at a high rate of speed, making a humming noise, which terrifies the sheep so that it stampedes in seeking to escape its enemy, or stands with its nose snuggled under the body of another sheep, or in the dust or grass. The sheep congregate in bands, and, while huddling together, paw and snort to raise the dust, in which the flies do not care to work, or which hides the parts usually attacked. Often the sheep congregate in water or get behind a rock or among trees, with the hope of standing off the pest; but daily the attacks continue, and at length every exposed sheep harbors one or more grubs in its nostrils, and gradually the evidences of these irritating parasites become apparent.

To ward off the attack of the flies, the noses of sheep should, during fly time, be kept daubed with some substance repellant to the insects. Common pine tar often is used, but is more effective if mixed with an equal quantity of lard and oil of tar, crude carbolic acid, or coal-tar dip; or, is made more abnoxious still by mixing in a little iodoform or asafetida. The best way to use the mixture is to smear it upon the margins of holes made six inches deep with a two-and-one-half-inch auger in a squared log, and kept filled with salt and primed with the "smear" daily throughout the season of fly attack. The sheep then daub their noses with the tar mixture each time they lick at the salt.

Treatment of the trouble is comparatively useless, but some good may be accomplished early in the season by sprinkling snuff upon the floor of a pen into which the sheep are turned daily. The snuff causes sneezing, and this may lead to the expulsion of grubs present in the nostrils or even among the turbinated bones, but will have no

effect upon grubs that have entered the sinuses. To get at these is a difficult matter. One plan is to lay the affected sheep upon its side and then pour one teaspoonful of benzine into the lowest nostril, which is held in such a way as to allow of this being done. The nostril is then closed by the fingers for half a minute or so, and the operation afterward repeated on the other nostril, the sheep having been turned upon its other side. Fumigating with burning sulphur also is practiced by some shepherds, and said to be fairly effective.

Valuable sheep may be operated upon with a fair degree of success for grubs that have entered the frontal sinuses. In horned sheep, the opening is made by means of a three-quarter-inch trephine introduced at one side of the base of the horn, or the horn may be sawn off close to the head. Benzine then is injected into the sinus, and following it warm water is copiously injected by means of a syringe to wash out the grubs by way of the nostril. In hornless sheep, the places to trephine are found by drawing a line with colored chalk from one eyebrow to the other across the face, and running a second line down the face to exactly intersect the middle of the first line. The trephining places then are located in the two upper angles of the cross thus formed. To operate, the skin is first cleansed, and then is dissected back from the skull, until a place sufficiently large to accommodate the end of the trephine has been laid bare. The trephine then is used like an auger to remove a wad-like disc of bone, through which benzine is injected into the sinus, and afterward water is freely used, as already stated, for the expulsion of the grubs. When this has been accomplished, the skin-flap is brought back over the trephine wound, held in place by a stitch or two, and then a pitch plaster is put over the part, and that suffices in the way of after treatment. The operation scarcely pays in common sheep, and seldom is needed where sheep are generously fed upon grain and hay, as a vast majority of the affected sheep escape having the grubs penetrate into the sinuses of their heads, and in time, if well nourished, get rid of their pests by sneezing and the discharges characteristic of the condition.

The chief facts to remember in this connection are the importance of generous feeding of sheep, the prevention of attack by use of tar mixtures during time of fly attacks, and then the destruction of each grub discovered upon the ground where affected sheep are kept.—[Live-stock Report.

BRIGHTER PROSPECTS FOR THE STOCK-CATTLE TRADE.

The two auction sales of Shorthorns, held in Western Canada in June, namely, Hon. Thos. Greenway's and Messrs. A. & G. Mutch's, besides some good private sales by breeders, indicate that the interest in pure-bred cattle breeding and in stock-raising generally is reviving. Prices realized at these sales were somewhat higher than those that have prevailed in recent years for cattle of the same quality, and that in spite of the fact that stock-raising has undergone one of the severest tests to which it has been subjected for many years by the extremely severe winter the West has come through. Doubtless the cattle trade in Canada is benefited by the rising tide and buoyant tone of the pure-bred cattle market in the States, and apart from that, there appears to be a steady tendency among our own farmers to devote more attention to stock-raising. Market prices for commercial cattle are doing a lot toward encouraging this tendency. As high as five and a half cents per pound live weight has been paid on the Toronto market for good butchers' cattle, and six for exporters, and that is what makes feeding attractive.

The improvement in the trade comes at a time when the breeding industry needs assurance. The men who have persisted in raising cattle during the years when the public appeared to be quite indifferent to the value of stock of any kind, are deserving of considerable compensation. It requires courage and no small amount of confidence and cash to persist in raising cattle for the betterment of the general average when the country appears to regard the products of the stables and byres as unnecessary to their welfare. The hope is that such a time is now passed; that from now on there will be a steady demand for cattle of a class that will tend to provide meat at the least possible cost to the feeder, and, to accomplish this, breeding stock that have this characteristic largely developed are required in every herd.

MORE PRAISE FOR MUSLIN-CURTAIN VENTILATION.

I have used the muslin in stable windows one winter, used a thin, unbleached muslin, simply tacked in, had part glass and part muslin. It gives good, pure air without a draft. It would probably last two seasons. The stable is drier when muslin is used. It is better in every way to have part of windows with muslin.

D. H. BINGHAM.

Corland Co., N. Y.

RECOLLECTIONS OF A SHEPHERD.

THE UPS AND DOWNS OF TRADE.

Trade in pure-bred sheep, as in cattle, horses and other stock, has had its ups and downs, its periods of prosperity and depression in market values, but not more frequently or to greater extremes. Time was, along in the seventies, when the best end of a crop of ram lambs could be sold readily for \$50 to \$75 each at six months old, and exhibitors at the big Provincial fairs did a cash business almost equal to that of a departmental store in these days, having, at the end of the day, little idea what amount of money they had crammed into their trousers-pockets, till they had straightened out the bills after supper and counted it over. I remember selling a home-bred Cotswold ram lamb for \$125 to that big-hearted man, the late Col. Tyrwhitt, M. P., of Simcoe County, and I recall his good-natured remark that it was expensive lamb, but it suited him and he wanted it. But no wonder sheep were at fever heat, when, in 1872, creek-washed wool of the long-wooled breeds was eagerly sought for at 60 to 65 cents a pound, and so anxious were buyers to secure it that they sent agents into the country to contract with farmers for their wool months ahead of shearing time. In that year we sold our wool for 50 cents a pound, unwashed, while yet on the sheep's backs, and I proudly rode to town on a load of wool that was sold for \$560, the one year's clip of the flock on my father's farm. It would have taken a good many loads of wheat or barley to have brought in as much money, and wool is a crop you don't have to summer-fallow for, and a crop you don't look for on any other class of stock. That was when we had practically free trade with our neighbors of the United States, which was our principal market for wool, as it is

tion, "Who pays the duty?" A party of importers of pure-bred stock had warmly debated the question on the voyage over the ocean, and when they landed at Quebec the man who had most keenly upheld the protectionist theory that the duty comes out of the seller, and who had brought over a donkey in the shipment, was indignantly protesting when informed by the customs officials that that class of stock was not on the free list, and that duty must be paid on it. "Hoots mon," said that canny Scot, the late James I. Davidson, who loved a good joke, "what are you complainin' about, sure you don't have to pay the duty, it's the other fellow that pays that."

But this is a wide digression from the ups and downs in the sheep trade, which, while it was pretty low down a few years ago, is now on the crest of a wave of substantial prosperity, and the country is being scoured by buyers in search of sheep at good paying prices, while the pity is that we have few to sell, many of our farmers having become discouraged and parted with their flocks, because the price of wool—a crop that costs nothing to grow—had gone low for a season. Do farmers forget that fifteen years ago horses that ten years before were booming in price had gone down so low that they could hardly be given away, and a team such as would sell for \$400 to-day could then have been bought for one-fourth of the money; and that Shorthorn cattle that sold ten years ago for as high as \$1,000 have since gone slow at a quarter of that price, and that both these classes of stock have had such ups and downs more than once in the recollection of men not far beyond the age of three-score years? During all these years, the men who have stayed with the class of stock they understand, and which has done fairly well for them in the average of years, are the best off to-day.

With common lambs, that cost little to raise, selling to-day at more per pound than three-year-old cattle, and with a greater demand for lamb and mutton than any other meat, because of its palatability and wholesomeness, Canadian farmers, who have a climate and soil and feed as well suited for raising sheep as any on the face of the earth, and with fewer diseases or other handicaps to the business than in any other country, it seems to me, stand in their own light, and miss a splendid opportunity for making money easily, with little labor, in not keeping sheep, a small flock of which might profitably be kept on nearly every one-hundred



Judging Southdowns at the Royal Show, '07.

yet, and whatever may have been the truth in the erstwhile spirited discussion of the then red-hot question of free trade versus protection, the farmers of this country certainly had no reasonable kick coming when they were getting sixty cents a pound for wool and a dollar a bushel for barley owing to the open door in their neighbor's yard. When, in after years, prices for wool ran down grade till it had reached the depth of a York shilling a pound, and some silly sheep-raisers, with a protectinal bug in their lug, appealed to the Canadian Government for a tariff on wool, that shrewd politician, Sir John A. Macdonald, knowing there was practically no wool of the class we were raising being imported into this country, said: "Certainly, if the farmers want it, they should have it." And promptly a tariff of a few cents a pound on long wool was granted, and some farmers fancied they were made happy, although scarcely a pound of that class of wool was in competition with theirs. Now the farmers on the other side of the line are getting 33 cents for wool that we are selling for less than half that price, and no doubt the political economists who asked for a tariff here will claim that the American tariff protects their wool-growers against Canadian competition, although all the wool we have to sell amounts to no more than a drop in the bucket of the market over there. And simple Canadian farmers in the last few years have sold their sheep for a song to wide-awake Americans, who got the wool through duty-free on the sheep's backs, and sold it for half as much as the sheep cost them. There might possibly be a lesson for farmers in a survey of this situation, but for the blinding influence of partyism prevailing. And this reminds me of an incident that occurred in the time when discussion was hot over the ques-

acre farm, to the improvement of the land, and with little interference with other lines of live-stock raising. For sheep-raising, no costly buildings are required, no daily cleaning of stables, nor tying up and letting loose; no milking or churning or cleaning of cans and pans. Sheep will live and prosper where other stock would starve, and they make no complaint even if water be not provided for them—happy, contented, harmless, uncomplaining, owing no man anything, always paying their own way, and a profit to their owners in semi-annual dividends, a crop of wool and a crop of lambs, who can truthfully say there is not money in sheep-raising? For a sure thing for profit, with the least labor, taking the years as they come, with summers wet or dry and winters mild or stormy, the writer, from long and satisfactory experience, doffs his hat to the humble sheep, so singularly neglected by the majority of Canadian farmers, and claims, without fear of successful contradiction, that, considering cost of production and gain of weight for food consumed, and for price current per pound in the world's markets, they stand at the head of all meat-producing quadrupeds, plus the wool they produce, which is equal to found money.

"SHEPHERD."

Not for many years has the demand for breeding sheep for the United States been so active as at the present time. Dealers are scouring the Province of Ontario, buying largely of rams, and also of young ewes, wherever they can persuade breeders to sell; and the pity is that when such a chance for profitable business presents itself, our farmers have so few sheep to sell. To part with the best of the young ewes is surely unwise.

THE FARM.

ANOTHER TRIBUTE TO ALFALFA.

The Utah Experiment Station has been conducting some experiments with feeds for dairy cows, and has added some more evidence to the value of alfalfa as a producer of milk and butter-fat. In summing up some of the experiments, Bulletin No. 101 says:

"To what extent can forage similar to bran in composition, be substituted for bran? is a question that has been investigated by a few of the experiment stations. At the Tennessee Station an experiment was carried out in which the following rations were compared: Silage, wheat, bran, and cottonseed meal; and the silage, alfalfa hay and wheat bran. The following are some of the conclusions drawn from this experiment: "In substituting alfalfa hay for wheat bran, it will be best to allow one and a half pounds of alfalfa to each pound of wheat bran, and the results are likely to prove more satisfactory if the alfalfa is fed in a finely-chopped condition."

"These tests indicate that, with alfalfa hay at \$10 per ton and wheat at \$20, the saving effected by substituting alfalfa for wheat bran would be \$2.80 for every hundred pounds of butter and 19.8 cents for every hundred pounds of milk. The farmer could thus afford to sell his milk for 19.8 cents a hundred less than he now receives, and his butter for about 22 cents, as compared with 25 cents a pound."

"These experiments show why alfalfa has been frequently used as a basis for manufactured food-stuffs, and indicate that the farmer who can grow it makes a mistake in purchasing artificial food-stuffs of which it forms a basis."

The following is taken from New Jersey Experiment Station Bulletins Nos. 161 and 148:

"A home-grown ration composed of thirteen pounds of alfalfa hay and thirty pounds of corn silage, proved both practical and economical when fed in comparison with a ration in which over two-thirds of the protein was derived from wheat bran and dried brewer's grains. Milk was produced from the home-grown ration for two-thirds the cost of that from the feed ration. The cost of milk per hundred was 55.9 cents, against 83.9 cents for the feed ration."

"On the basis of this experiment, when mixed hay (timothy and red-top) sells for \$16 per ton, wheat bran for \$26 per ton, and dried brewer's grains for \$20 per ton, alfalfa hay is worth \$24.52 per ton as a substitute for mixed hay, wheat bran and dried brewer's grains fed in the proportions indicated in the ration."

"A feeding experiment showed that the protein in alfalfa hay could be successfully and profitably substituted in a ration for dairy cows for that contained in wheat bran and dried brewer's grains, and for this purpose is worth \$11.16 per ton, when compared with the wheat bran and dried brewer's grain at \$17.00 per ton."

From these Station findings, one can readily understand that great value is given alfalfa in some of the American States in substituting it for grains of similar composition.

THE CULTIVATION PROPAGANDA IN ALBERTA.

Alberta has been hearing the gospel of soil cultivation from one of the best preachers of it, a Mr. Campbell, from across the line. His key is nothing more or less than the application of the well-known fact that by cultivating the top layer of the soil the moisture below is prevented from evaporating and is available for the roots of plants. Many men have known this, and have practiced it more or less extensively, especially upon corn land; but this man Campbell, living in a country where rainfall is light, and where a few pounds of moisture conserved at the roots of the plants exercise a more noticeable effect than the same amount would in a country of greater precipitation of moisture, has become an enthusiast upon the subject, and preaches the system in season and out of season. For this reason he has attained an international reputation, and has been lauded and blessed by farmers and real-estate men and land-holding railway companies all over that sparsely-vegetated area that lies to the eastern slope of the Rocky Mountains in the central part of the continent.

BREAKING BY POWER.

Steam plowing has been quite general upon the prairie the last few weeks, says "The Farmer's Advocate and Home Journal," of Winnipeg. The steam outfit, with several gangs, is doing a lot of work that was only considered possible of execution with animal traction and a hand-breaker. True, the sod is not as well laid as where it is turned up by a good plowman, but the time saved more than compensates for the difference in work.

BLIGHT IN THE OAT-FIELDS.

Editor "The Farmer's Advocate":

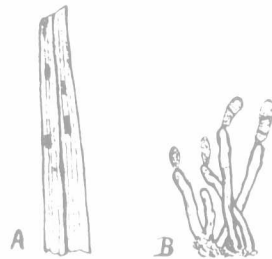
I have examined the specimens of oats received from you, and labelled, respectively, from a correspondent in the County of Oxford; Mr. Twedle, County of Wentworth; Mr. Brodie, Middlesex, and from several other farms in the County of Middlesex.

The disease on all the specimens has similar characteristics. It appears as a blighting of the outer end of the leaf (but not usually of every leaf of the plant), and spreads along the veins towards the stem. As the tissues die, the color changes to a yellowish or reddish brown. I find no mark in root, joint, stem or leaf of the invariable presence of any insect. If the affection were due solely to adverse conditions of soil or weather, all the leaves, as well as the other parts of the plant, might be expected to be similarly discolored.

The only other causes capable of producing so widely-spread an affection are of a bacterial or fungal nature. On all the specimens the microscope reveals the presence of fungi. Two difficulties, however, are encountered. On several of the plants there are more kinds of fungi than one, and they all belong to groups that usually invade weakened, dying or dead tissues.

The particular form most common on the leaves examined can be detected by the naked eye, where its spores and hyphae are massed as sooty blotches. This is a fungus which, I believe, has been named *Fusicladium destruens*. The specific name, *destruens*, means destructive. The common, dark-colored leaf-spot on the leaves and fruit of apple trees is another species of *fusicladium*.

In a New York State report, Prof. C. H. Peck, the State Botanist, wrote of *Fusicladium destruens* as follows: "In the southern part of St. Lawrence County, which was visited by the writer the



FUSICLADIUM DESTRUENS.—A: part of an oat leaf, showing four sooty blotches. (Natural size.) B: five hyphae and four spores (from one of the blotches as magnified by the compound microscope).

past summer (1889), scarcely a field of oats was free from this disease. So prevalent was it that the general color of the fields was changed thereby, and it was the opinion of the owners that their oats were rusting badly. Upon close examination, no rust was to be found. In its stead, the discoloration of the leaves and the fungus now described appeared. It is apparently a very injurious and destructive fungus."

In the following year, Prof. Peck, who is one of the best mycologists in America, studied this disease of the oat-fields, and modified his former opinion. To quote him again: "When my last report was written, this fungus (*Fusicladium destruens*) was suspected of being the cause of the disease, which has appeared over a wide extent of country, and in the fields examined scarcely an unaffected plant could be found." He refers to other fungi found on the dead and dying leaves, and proceeds to express the belief "that it is hardly probable that the *fusicladium* could have spread so extensively in so short a time. It is more reasonable to suppose that it, like the other fungi mentioned, is a consequence rather than a cause of the disease." He added that there seemed no indication of the work of insects or nematodes.

His description of the affected oat-fields agrees exactly with those of your correspondents. The fungus he most strongly suspected at first is present on most of the leaves received here. If it is not the cause, but only a concomitant of the disease, then I should say that we have here either a destructive bacterium to be put in the class with the bacterium of pear-blight, or a case of the reduction of the vitality of the oats by some climatic cause, to such an extent as to permit the invasion of the fungi observed. The problem is an interesting and important one. It may already have been attacked and settled so far as the bacteriologist is concerned. If so, I have not heard the result.

Were several correspondents in widely-separated districts to send you reports of their observations upon this disease, accompanied with typical specimens, valuable material would be afforded for further study of it.

J. DEARNESS.

GOOD VALUE FOR EXPENDITURE AT THE O.A.C.

Editor "The Farmer's Advocate":

Allow me to call attention to the report of the Agricultural College and Farm just published, the amount of cash expended being not less than \$129,042.10. May I ask in what way do the people of this Province receive an adequate return, or do they receive any? Many subjects are discussed in "The Farmer's Advocate," but this, which is of much importance, is left untouched by all. Any light thrown on this subject will, I have no doubt, be appreciated by your readers.

D. MESSENGER.
Wellington Co., Ont.

In reference to the total expenditure at the Ontario Agricultural College and Experimental Farm and Macdonald Institute last year, would say that the only justification for such a large expenditure is the fact that the farmers of this Province insist on our keeping a thoroughly equipped and up-to-date institution. In the report from which your correspondent quoted the figures, it may be noted on page 14 that we had in attendance 957 students in all departments. While these men and women came mostly from Ontario, we also had students here from each of the other Provinces of the Dominion, and from seventeen foreign countries.

The farmers of Ontario, who visit the College in increasingly large numbers each year, demand that the one institution supported by the Ontario Government for farmers' sons and farmers' daughters shall be the very best of its kind, and the 31,000 farmers who took lunch with us at the Government's expense in June of this year seemed pleased with what they saw here. The Government has seen fit also to make the fees so low that the poor boy can come here and get an education. The result is that the revenue is correspondingly small, the Government being willing to help worthy persons to secure a practical education at the lowest possible cost.

Another side of the question also is that a large part of the farm is devoted to experimental work. This requires a vast amount of labor on each acre, but you and your readers are aware of the benefits that have been derived to the country by the work which has been done here in the improvement of varieties, the distribution of seeds to the farmers, the reports and bulletins which have gone to the farm homes, and the work which our professors and instructors have done through the Farmers' Institutes and the fall fairs to improve the agricultural conditions of the Province.

As I said in the beginning, the amount seems a good deal in the aggregate, but I do not believe that our farmers would consent to reducing it by one penny.

G. C. CREELMAN, President.

A WESTERN FARMER WHO MAKES HAY CAREFULLY.

Farmers in Eastern Canada who deem it too much trouble to cure hay by putting into coils, are respectfully informed that a Manitoba farmer, J. A. Russell, writing in "The Farmer's Advocate and Home Journal," of Winnipeg, tells how last year, in an unusually wet season (for that country), he cut, coiled and stacked two hundred and twenty-five acres of timothy, averaging a ton to the acre, with the aid of four men, besides himself and boy ten years old. The coiling was not done with the horse rake, but by hand, and in the most careful and precise manner, with a view to making coils that would shed rain. All the haymaking machinery he used was the mower and horse rake, but he intends to use this season the hay fork, attached to two poles. We often wonder, in travelling through the country, whether many of us are not, while seeking short-cuts in haymaking, abbreviating the process too much, and thereby sacrificing quality to an unprofitable extent. There are some places where labor can be saved to unquestionable advantage, and then, again, there are places where this effort can be carried too far.

OUR GROWING NEED FOR TIMBER.

The scarcity of timber suitable for telephone and telegraph poles has of late assumed serious proportions. To users of poles, therefore, the question of how best to meet this situation is of first importance. Latest reports of the Census Office of the United States Government show that there were in operation in 1902, approximately, 700,000 miles of line. It is safe to assume that there are in operation at present fully 800,000 miles of line. The average line contains about 40 poles per mile, so that there are, approximately, 32,000,000 poles in use. Assuming that the average life of a pole is 12 years, it follows that for the maintenance of the lines now in operation there are needed each year more than 2,650,000 poles. Such an enormous demand must soon deplete the available supply. This is fully recognized by different companies.

Potato bugs are said to be more numerous and persistent in Manitoba this year than they have ever been in any district of the Dominion. And Manitoba used to boast immunity from the ravages of this pest. Verily the prairie settler had a great snap for a good while, but the bug cometh, when all men must spray.

MUSTARD SPRAYING AT MACDONALD COLLEGE.

A visitor to the Macdonald College Farm at Ste. Anne de Bellevue, Que., reports that the spraying experiment with copper sulphate for the destruction of wild mustard in a barley crop on the farm this spring, has fairly satisfactorily demonstrated the practicability and success of the treatment. The work was not done under the best conditions. The spraying ought to have been done two or three days earlier, before the mustard was in bloom, and before the barley had grown so high. The spray nozzles might better have been closer together and the pressure lower, but, with the machine used (which was designed primarily for spraying potatoes), the nozzles could not be brought nearer to each other than was done. On the other hand, the barley being only a nurse crop, it was permissible to apply more of the copper sulphate than usual, 11 or 12 pounds being used to the acre instead of the usual 8 pounds. The barley was browned somewhat by the chemical, but looks all right now. Under these conditions, fully eighty per cent. of the mustard plants were killed, and the remainder have since been pulled by hand. Had the spraying been done a few days earlier, and at the lower pressure, it is believed that practically every mustard plant up would have been killed.

The reason that the spraying has to be repeated so many years is that the mustard seeds, when deeply covered, will remain in the ground for years without germinating, and as the ground is worked year after year, new seeds are brought to the surface and germinated.

In connection with mustard, a story is told which may be new to some "Farmer's Advocate" readers. It is said that when, a few years ago, the farmers came on their June excursions to the Ontario Agricultural College at Guelph, President Mills use to give them their lunch in the gymnasium, and then station the College staff at the doors to keep them in until he had given them a half-hour lecture. And one of the main points of the lecture was an exhortation to fight the pestiferous mustard plant. As he repeated the lecture to deputation after deputation, he became warmer and warmer upon this subject, and finally, after describing the inroads the plant was making upon formerly clean farms, he would burst out with, "For God's sake, gentlemen, take off your coats and pull out that mustard!" One day Mrs. Mills came down to hear her husband talk, and, after the farmers had departed, remonstrated with the Doctor upon the violence of his language. "I am afraid, James," she said, "you will shock and offend some of those good people." James promised to be more careful, and the next day, when in the course of his talk he reached the subject of mustard, after, as usual, expressing his regret and indignation at the progress the weed was allowed to make, he proceeded: "Now, I am not going to talk to you as I have to previous deputations. Mrs. Mills has told me my language has been too strong, and likely to give offence. So you are to be spared what your predecessors have suffered, but—for God's sake, gentlemen, get off your coats and pull that mustard."

THE DAIRY.

ESSENTIALS FOR SUPPLYING GOOD MILK.

The following important points are effectively presented in a circular distributed by the Western Dairy-men's Association:

Clean milk, no dust, dirt, or bad odors, and cool milk, secured by ice or cold water, insures good cheese and butter. More money for the farmer and manufacturer, and a permanent industry.

Clean milk implies well-cared-for cows, milked by careful and clean milkers.

Boil cloth strainers after they have been thoroughly washed.

Utensils should have all crevices filled with solder. Rusty cans and pails cannot be kept clean.

Cool your milk, and do it quickly.

Stir the milk while cooling.

Bad odors and flavors are often caused by unsuitable foods or poor water.

Use a brush for washing dairy utensils.

Co-operate with your instructor, maker and proprietor of factory in improving the quality and increasing output of cheese.

NEVER TOO LATE.

It is never too late to commence keeping individual milk records, so long as you have a herd of cows. Never too late, and for that matter never too soon. Write to J. H. Grisdale, Agriculturist, Central Experimental Farm, Ottawa, Ont., for blank ruled forms for recording the weight of milk.

E. Bjorkeland, Mgr. Stonecroft Stock Farm, Ste. Anne de Bellevue, Que., says: Personally, I have kept milk records for 25 years, from the time I learned farming in Denmark. They are simply indispensable in the improvement of the dairy herd.

PUT A DETECTIVE ON THE POOR COWS.

Two comparisons of milk and fat yield in the cow-testing associations organized by the Branch of the Dominion Dairy and Cold-storage Commissioner, are of peculiar interest. In the Coaticook, Que., association June test, 128 cows gave a total yield of 3,412 pounds of butter-fat, but in the St. Prosper association, during the same period, 124 cows gave a total yield of 4,002 pounds of fat, or 590 pounds more. The average yield per cow at Coaticook was 26.6 pounds fat, and at St. Prosper, Que., 32.2 pounds of fat per cow, in 36 days.

Did you catch that point? In one association a lot of 124 cows yielded an additional 590 pounds of butter-fat over the total product of another lot of 128 cows in another association. This is equivalent to at least one hundred and forty dollars, representing the amount of hard cash that the 128 cows might easily have returned to their owners more than they did, and that just in 30 days. A simple word of advice that means thousands of dollars extra into the pockets of our farmers is just this: "Get rid of the poor cows, and feed the pretty good cows more liberally."

At Warsaw, Ont., 199 cows gave a total yield during the June test of 152,880 pounds of milk, but at North Oxford, Ont., the same weight of milk, within 45 pounds, was produced by 147 cows. In other words, 52 cows fewer need have been milked and cared for in the Warsaw Association to bring as much return. What a distinct saving of energy in this hot weather there might be if the general average production were better. The average yield increases quickly when the poor cows are disposed of. The poor cows can quickly be detected, just as soon as a record is kept of

DAIRY AND OTHER NOTES FROM P. E. ISLAND.

In this section of the Island we had a cold, dry June, but on July 3rd the welcome rain came, and we have had perfect growing weather ever since. Every few days we have a lovely warm rain, followed by heat, and one can fairly hear the crops growing. Some parts of Prince County are reporting to have a heavy crop of hay, and I hope such is the case, but I can safely say there are few, if any, heavy fields of hay for miles around this part of the Island. Many thought that the hay would be all right after the rain began to come, but it was too late to insure a full crop of hay, yet it has helped wonderfully what would otherwise have been the lightest crop inside of twenty years. The grain crop did not appear to suffer to any extent from the drouth, and now, since the heat with the warm rains has come just at the time the grain needed it, we can look with pleasure and satisfaction on what promises to be the best harvest we have had for many years.

Corn, potatoes and roots of all kinds have made an excellent start, and they, too, will likely yield a heavy crop. Last year hundreds of acres planted to potatoes missed, principally on account of the deluge of rain in the month of June, while this year not more than two hours' rain fell during the whole month. The outlook for the coming winter's feed is by no means discouraging. Hay will be a little scarce, of course, but if the farmers have plenty of grain to feed, with abundance of straw, and some hay, the stock will come out all right.

The greatest drawback to this Province is the long time we farmers have to feed our stock in the stables. We begin stabling them in October, and it is generally the middle of June before they

can get their living outside.

The pastures, although a little shorter than we would wish to see them, are fresh and sweet, and the cows are pulling out well, and our cheese and butter factories are doing a big business. Dairying in P. E. I. has come to stay, and farmers intend to stick to it until they get something better. Some still go in for raising beef, but they are getting fewer every year. Five cents live weight is a pretty good price for stall-fed beef, but few farmers can make it pay even at that price, and especially this spring, when hay was selling for \$20 per ton, oats at 50 cents, and potatoes reached 70-cent mark for one day, but a week later were sold for 20 cents. The dairy industry is increasing year by year, and yet the output of cheese and butter could easily be doubled, and it should be doubled. Many

Island farms are at present contributing little or nothing, and if we should take an average of the milk produced for every hundred acres under cultivation, it would be ridiculously low. We do not need to increase the number of cows in order to increase the supply of milk, but there is certainly need of more attention to the breeding, care and feeding of what we now have, and likewise the weeding, for there are hundreds of cows now kept on our farms which do not pay their board, and many of them would not do it even if they were well fed. Who are the men who are making money out of milk? It is the farmers who are not afraid to spend a little money in the purchase or the patronage of a pure-bred sire; while some, to this day, think if they can save half a dollar on the service fee by breeding to a scrub they are that much better off. Experience has taught many farmers that they can get scrubs enough by using the very best sire that can be had.

The pork industry has hardly kept pace with the dairy industry in this section, and I think there will be quite a shortage in pork this fall from that of a year ago. Yet the price is good, but there is none handling this warm weather.

The oats are looking splendid, growing very rank, and of a very rich-green color. This is partly due, I think, to the excellent condition of the land this spring, which worked up so well on account of so much frost last winter. Some of the early spring wheat is beginning to shoot; wheat will be a good crop. The potato bug and horn fly are still with us, but are not so bad as other years, and they don't need to be when Paris green has gone up to 35 cents per pound. Eggs have dropped to 14c.; wool is 30c. per pound; potatoes



Golden Treasure.

Shorthorn yearling bull. First at Bath & West Show, 1907. Shown by His Majesty the King.

the production of each cow in the herd. Cow-testing associations are of immense benefit in this regard.

Some of the current records of the cow-testing associations under the charge of the Dairy and Cold-storage Commissioner, Ottawa, are:

Beaverton, Ont., 7th June—102 cows average 641 pounds milk, 3.5 test, 22.6 pounds fat. Highest yield, 1,045 pounds milk, testing 3.8.

Lorneville, Ont., 13th June—87 cows average 580 pounds milk, 3.5 test, 20.4 pounds fat. Best yield, 1,270 pounds milk, testing 4.6.

Bagotville, Que., 19th June—127 cows average 734 pounds milk, 3.7 test, 27.7 pounds fat. Best cow, 1,195 pounds milk, testing 4.0.

Chicoutimi, Que., 26th June—108 cows average 728 pounds milk, 4.0 test, 29.3 pounds fat. Best yield, 1,150 pounds milk, testing 4.3.

St. Armand, Que., 20th June—163 cows average 660 pounds milk, 4.0 test, 24.2 pounds fat. Best yield, 1,100 pounds milk, testing 4.1.

Warsaw, Ont., 20th June—199 cows average 768 pounds milk, 3.2 test, 25.1 pounds fat. Highest individual yield of milk, 1,250 pounds, testing 3.4, in the thirty days.

North Oxford, Ont., 21st June—199 cows average 1,039 pounds milk, 3.2 test, 33.9 pounds fat. Best yield, 1,665 pounds milk, testing 3.0.

A summary of the tests shows the average yield of 3,660 cows for the month of May to be 661 pounds milk, 3.5 test, 23.1 pounds fat. Of these cows, 1,663 in Ontario had an average for May of 764 pounds milk, 3.3 test, 25.4 pounds fat; while 1,963 cows in Quebec averaged 574 pounds milk, 3.7 test, and 21.2 pounds fat.

C. F. W.

are up again to 40c., and oats about 48c., with hay (old) from 15 to 20 dollars per ton.
Prince Co., P. E. I. C. C. CRAIG.

AMOUNT OF TIME TRIFLING.

Editor "The Farmer's Advocate":

For somewhat more than two years, ending 31st March, 1905, at which time I disposed of my farm at North Kingston; I kept records of the individual cows comprising my herd of 9 to 11. The tax on one's time is trifling. My method has been to keep a scale ready at hand in the stables, and weigh each cow's milk immediately it is drawn, and having a blackboard hanging on the wall of the stable sufficiently large to contain 14 milkings—a week's record—headlined with the number of each cow, and with a crayon enter the weights under the number corresponding to the cow's number, in line with the day of the week, and at the end of the week copy the record into the blank form provided free by the Central Experimental Farm for the purpose.
Annapolis Co., N. S. JOHN KILLAM.

INTERESTING AND PROFITABLE.

Editor "The Farmer's Advocate":

We started the keeping of individual milk records on November 1st, and cannot recommend them too highly. Before that date our herdsman was taking the best care of the herd possible, but was feeding the cows that gave 700 pounds at the same cost as those which gave 1,000 pounds. Afterwards, he looked at the records, and fed each cow her proper allowance. If there is a shortage in any individual cow's milk, we know at once, and try to find the cause. I consider the time spent in keeping milk records interesting and most profitably spent.
C. L. MAITLAND.

TERSE.

Editor "The Farmer's Advocate":

Have been keeping cow records two years. It takes about one minute per cow a day. Objects are: To weed out poor cows, and to find how to feed, and how much to feed for profit. Believe it is only way to success. My motto, Breed, Weed, Feed.
Brome Co., Que. LEON O'BRIEN.

Henry Cooper, New Westminster, B. C.: I am firmly convinced that keeping records and testing is the only way to find out what cows are paying one.

GARDEN ORCHARD.

ADVANTAGES OF CO-OPERATIVE PACKING AND SELLING.

For the ordinary methods of packing and selling fruit, discussed at length in our issue of July 18, it is proposed to substitute co-operation in packing as well as selling, and incidentally in any other phase of apple-growing that will readily lend itself to this mode of operation. The following advantages that will be gained by the adoption of co-operation are enumerated by Mr. McNeill in his bulletin on "Co-operation in the Marketing of Apples":

1. Large stocks will be controlled by sellers who will act as a unit.
2. Uniform packing, grading and marking will be practiced.
3. A reputation associated with a permanent brand or trade-mark will be established.
4. The cost of picking, packing and marketing will be reduced.
5. Fruit will be picked and packed at the proper time.
6. Less-common varieties will be utilized.
7. Storing facilities will be better provided for.
8. Direct selling at the point of production will be encouraged.
9. Packages will be bought in large quantities or manufactured on the premises, with a material reduction in cost.
10. The placing of the purely commercial part of the industry in the hands of competent men whose interests are connected with those of other members of the association.
11. Spraying by power outfit, co-operatively, will in most cases be adopted.
12. The manager and the better growers among the patrons will have every inducement to stimulate the less progressive members to better work.

He then proceeds to elaborate these point by point:

LARGE QUANTITIES.

The influence of what merchants call "long lines" is seldom appreciated by the producer. The cost of selling is almost as great for a small quantity of produce as for a large; but the commission on a hundred barrels is ten times the commission on ten barrels. It is easy to see the

incentives that prompt merchants to look for long lines of goods. Again, the large quantities give a customer a choice. It also gives the merchant an opportunity to sell upon sample. Nothing offers a greater hindrance to sales than new or unknown brands. Retailers are obliged to make an individual explanation for each sale in such cases.

UNIFORMITY IN PACKING AND GRADING.

Of course, the value of large stocks is lost if the sample is not perfectly uniform throughout. Hence the necessity of having apples not only in large quantities, but uniformly packed and graded. This can be secured only by co-operation, when the fruit is grown in small orchards.

REPUTATION.

With large quantities of any particular article, uniformly marked and packed, a reputation is very soon established, and even if the quality is not the highest it will secure a price much above small lots that are not uniformly even, though of higher quality than the other. Under the co-operative method, there is every incentive to maintain this uniformity in packing and grading, and to better it if possible. Under the ordinary system of buying and selling, the whole machinery of commerce, from the tree to the markets, offers inducements for fraudulent packing and marking. The manager of a co-operative concern is personally interested in securing the uniformity of marking and packing. But of more importance than this is the fact that he has the power, by means of the central packing-house system, and a direct personal oversight of all the work of the packers to enforce uniformity, not only for a single season, but from year to year. It is not too much to say that the extraordinary prices procured by the growers on the Pacific coast is the result largely of a reputation for perfect uniformity in grade and marking. It must be added at once, however, that the only grade shipped is that of practically perfect fruit; but the quality of it, tested either by the eye or by the palate, is certainly not better than the same grade grown in the East. If there were no other inducements than simply the securing and preservation of a reputation for a brand, co-operation would justify itself.

ECONOMIES IN HARVESTING.

The history of Canadian orchards presents hundreds of examples of wasted fruit, because the varieties were not grown in sufficiently large quantities to pay for picking and packing at the proper time by the ordinary methods. For years the Red Astrachan, Duchess, Colverts and Jennetings have been allowed to go to waste in nearly every orchard in Western Ontario. It would be too much to say that the only reason for this was want of organization; but it is well within the mark to say that organization in co-operative societies would have made it possible years ago to harvest these varieties at a profit. During the seasons of 1904, 1905 and 1906 the Fruit Division has received numerous letters from growers of these earlier varieties complaining that they could find no market for their fruit at a profitable price. During the same seasons the co-operative societies in Chatham, Forest and Walkerton were selling these varieties for a price, all things considered, equal to the best winter varieties. One large grower, having from two to three thousand barrels of Duchess for sale, says that he has never found any difficulty in selling his output at good prices. All these facts emphasize the importance of the economies which can be practiced by dealing with large quantities. Even the less common varieties of summer and winter fruit become, under the co-operative system, a marketable product.

ECONOMIES IN PACKAGES.

Following directly upon co-operation in selling comes co-operation in buying packages. Packages form a very important part of the fruit business. The cost of these is often twenty per cent., and even twenty-five per cent., of the value of the fruit which they contain. It is therefore of the utmost importance that every economy in connection with these should be practiced. The co-operative methods enable these to be produced at a minimum cost: the quantities needed can be more accurately estimated; the orders can be given earlier in the season; both these considerations are conducive to the interests of the cooper. He can buy his stock in the best market, can keep his men employed for longer periods during the year, and, perhaps, more important still, he can rely upon the contracts which he makes with these associations.

STORING FACILITIES.

It must be taken as a fundamental principle, in the production of apples, that each variety should be harvested and placed on the market when it is mature. This, however, must be added to the extent of saying that occasional exceptions are desirable to hold for a few days in the case of early and fall fruit; and it is desirable to hold winter fruit so as to supply the market as long as possible. It is, therefore, with no thought of holding early varieties for long periods that packing-houses are

suggested. Nevertheless, large quantities of fruit cannot be properly assembled and prepared for shipment without storehouses and packing-sheds, involving the expenditure of comparatively large amounts of capital. These storehouses and packing-sheds have not been provided at the points of shipment under the present system of buying and selling apples, and it is fair to assume they never will be, notwithstanding the importance of such buildings. The matter becomes easy under the co-operative system. It is one of the best evidences of the permanency of this co-operative movement that we can point to excellent storehouse and packing-sheds in the case of all older associations, and it can be taken for granted that ample storing facilities will be a feature of every one of the successful associations.

SELLING AT THE POINT OF PRODUCTION.

Closely connected with this matter of storehouses is the very important one of selling at the point of production. Too much cannot be said for this method of doing business. It is desirable both for the grower and for the fruit merchant. That it has not been adopted in Canada is solely the fault of the producer. The fruit merchant cannot be expected to travel long distances, involving large expense, upon the mere chance of getting something that will suit his trade. He must have a certainty of large quantities of uniformly-graded goods, packed in standard packages, designated by thoroughly reliable grade marks. These cannot be furnished under the present system of apple-selling. It can be accomplished by co-operative methods. Already more than half the co-operative associations sell their entire product directly from the packing-houses, receiving the cash before the goods are shipped. Fruit is so perishable in its character that it becomes necessary to deal with it on a somewhat different basis from ordinary staple commodities. If fruit is moved from the original packing-house, without a definite agreement as to the price of it, the shipper is at the mercy of the consignee. It cannot be held at the market end, and in very few cases can the representations of the dealer to whom it is consigned be effectively examined; the shipper has simply to accept whatever the seller remits. Hence the necessity of having all questions of price and quality settled before the goods leave the shipping station, because it is only then that the buyer and seller are acting on terms of equality. At that point the seller can accept or refuse an offer, without jeopardizing the condition of his fruit. The buyer is equally free to accept or refuse an offer without running risks with reference to quality and condition. The co-operative method promises to make possible the sale of apples at the point of production, a reform which will enable apples to be placed before the consumer at a very great reduction in price.

UTILIZING THE BEST BUSINESS ABILITY AMONG THE GROWERS.

It is a matter of common observation that ability varying in character is developed to a very different degree in different men. It is saying much in favor of co-operative methods that we can utilize the highest ability of each man in his special line. The ability to grow excellent fruit may not be associated with the ability to sell it, and it is quite possible the contrary of this is true. A co-operative organization enables the man with the ability to sell fruit and to manage business concerns to take charge of the business end of apple-growing, leaving the others skilled in the growing of fruit to follow their bent. This may not seem important at first sight, but a careful survey of the apple industry shows that there is a marked deficiency in business methods of the growers. In few industries are all the rules of the commercial world so persistently ignored. It is not too much to say that one of the chief benefits of the co-operative movement will be to place the business men among the apple-growers at the head of the concerns.

THE INFLUENCE OF THE MANAGER.

This consideration should be one of the strongest inducements for co-operation. Its value is certainly underestimated, if not altogether overlooked.

It has often been pointed out that, under the present system of buying and selling, the buyer has no incentive to improve the product of the individual grower. There is only a remote possibility of his buying the same orchard two years in succession, because his inducements do not bind the orchardists to him personally. If he did secure any improvement, either by advice, the investment of money, or in any other way, none of the advantages would accrue to him. He, therefore, does nothing to improve methods, although, from his position as a middleman, he is frequently most competent to give useful information. Not so with the manager of the co-operative association. In most cases he possesses not only the best business ability, including the same information as the ordinary apple operator, but at the same time he is a thorough fruit-grower. Unlike the former, he has a direct interest in the improvement of the fruit, and therefore he takes

advantage of every opportunity to induce his patrons to improve their methods. His reputation as a manager is at stake, and it is therefore reasonable to suppose that the ability which placed him at the head of the association will be exercised to improve the product of the organization. His patrons remain with him from year to year. Of necessity, he suffers from the mistakes of each, but the nature of the business makes it necessary for him to meet them frequently, giving him ample opportunity to admonish and advise on the defects noticed.

INFLUENCE OF THE BETTER GROWERS.

The manager will not be alone in striving to improve the product of his individual patrons. He will have the help of his best patrons in the general improvement of all. The reputation of the fruit and the price following it depends in the last analysis upon its quality. If, therefore, the patrons who grow good fruit can improve the quality of their neighbors' fruit, they are directly benefiting themselves, which, considered with the fact that they are benefiting their neighbors, becomes a powerful incentive towards the improvement of the product. It is not remarkable, therefore, that there has been a very great improvement in the fruit grown by the members of the co-operative associations already established.

The benefits which have accrued to the dairy interests by the adoption of co-operative methods have often been cited. Although it is true that Canadian dairymen have in a very large number of instances, indeed, departed from the true co-operative principles, they have adopted the best methods of these principles in the factory system of making butter and cheese.

FRUIT AND DAIRY PRODUCTS.

Co-operation in apple-packing corresponds to cheese and butter making by the factory system, and it may be reasonably expected that the same benefit will follow its adoption. Indeed, the apple and dairy industries have many things in common. Both industries are incidents of the system of mixed farming likely to be followed in Canada. It is hardly conceivable that milk will be produced at one point in large quantities, on a scale comparable to the manufactures of wood and iron. Ten, twenty or even thirty cows to the farm may be kept with profit. More than this will require a rare combination of skill and favorable conditions to yield a dividend. It is equally certain that the small apple orchard of five or ten acres will be the rule in this country, although it must be conceded that the large orchard is more likely to be successful than the very large dairy. In both industries the individual interests in the raw material are likely to be small, and producers, therefore, cannot profitably follow their finished product to a distant market. There is, then, an equally strong incentive in each industry for co-operation, which has been acted on in the case of dairy products, but only to a small extent in the apple industry.

CO-OPERATION IN OTHER LINES.

The co-operation movement cannot be stopped simply at the selling point. It will extend, certainly, to nearly all the work connected with apple production. It has already developed in the direction of co-operative spraying, co-operative packing and the storing of apples, as well as the co-operative buying of packages. It is, therefore, confidently to be expected that, where co-operation in the apple industry has proved successful, it will be a comparatively easy matter to introduce co-operative methods in other lines. There is still much to be done in perfecting the co-operative system in connection with dairying. The poultry industry is one that might be developed to enormous proportions in Ontario, in connection with fruit-growing and dairy interests; and yet it is almost impossible that the poultry industry succeed, except by the introduction of co-operative methods in the selling of poultry products, as well as in the development of poultry stock. Having developed the true co-operative spirit in these branches of farm work, where co-operation is comparatively easy, we may then hope for co-operative methods in bacon-production, with the certainty of great improvement in the quality of the product, as well as in the profits to the farmer.

VALUE OF ORGANIZATION.

The successful orchardist that always sells better than his neighbor, sometimes hesitates to throw in his lot with his less-progressive neighbor. He feels that by averaging with such he is lowering the price to himself. Such is not often the case. As a matter of fact, his less-progressive neighbor, by his want of knowledge of markets, and possibly of the relative merits of his own products, is an easy victim for the shrewd buyer, and sells his output often below the market value. After a few actual deals of this kind have been closed, it is almost impossible for the best sellers to realize proper prices. Every well-informed grower has had experiences of this kind, which emphasize the fact that the only way to secure proper prices is to place the selling of the whole, as far as possible, in the hands of skilled

salesmen. Thus the growers who lack the commercial instinct are protected from the wily ways of the apple-buyer, and the best salesmen will be able to improve his prices.

The members of the co-operative associations in Ontario sold the greater portion of their crop for 1906 at \$2.25 per barrel. Many of the outside growers did not succeed in selling their earlier varieties at all, and on any sales they did make they did not secure more than \$1 per barrel, the equivalent of \$1.50 free on board. One apple-buyer reported that he had secured two thousand barrels in Southern Ontario at fifty cents per barrel. The only explanation for this is want of organization among the growers.

ORGANIZING AN ASSOCIATION.

To organize an association is a comparatively simple matter. It is expected, of course, that the whole subject has been discussed in the neighborhood, and that the expediency of organizing is conceded. In such cases a preliminary meeting is usually held, for the purpose of selecting officials. The officers that are usually appointed are a president, vice-president, secretary and treasurer, together with five or more directors. Sometimes the office of secretary and treasurer is combined. It will be found better, however, to combine the office of secretary and manager. It is desirable that all the officers should command the confidence of their fellow fruit-growers. Perhaps the most difficult office to fill would be that of manager; nevertheless, it is a matter of experience that men who have made a success of their own business by generous methods do not fail when they are placed in charge of a co-operative association. Having decided upon the officers, the next step is to secure incorporation. The exact steps for this purpose will be somewhat different in each Province. The secretary should write to the Provincial Department of Agriculture asking for information with

may be expedient, sometimes, to delay incorporation until such time as a larger business would warrant it.

The advantages of incorporation are evident. Until the association is incorporated, some one member must be legally responsible for all obligations connected with the business, but may not legally be able to get the usual compensations that go with such responsibility. A claim for breach of contract or for damages might arise, through no fault of the one who took the responsibility. He would not only have to go to the expense of defending the suit, but also would have to depend on the generosity of his associates for reimbursement. The risk is not great when the business is small and all the members well known to each other. Incorporation, however, costs nothing, practically, and places the responsibility where it belongs, on all in proportion to the benefits derived.

EVAPORATED APPLES IN BRITAIN.

The British trade in evaporated apples is almost monopolized by the United States, New York State having an overwhelming proportion of the business, while California gets most of what is left, writes W. A. McKinnon, Canadian Commercial Agent in Bristol.

Figures just issued by the British Government, for the year ended December 31, 1906, indicate that Canada is far behind the United States in exporting evaporated fruit to the United Kingdom. The import figures are as follows:

	Quantity.	Value.
Total imports	cwt. 24,164	£49,736
From the United States...	" 21,197	42,718
From Canada	" 408	708

CANADIAN PREFERRED.

As in many other lines, I have the most hearty assurance of those engaged in this trade, that the Canadian product will be welcomed, and that, quality and price being approximately equal, supplies from Canada would have a decided preference in this market.

PACKAGES.

Three packages only need be mentioned: the 50-pound boxes, the 25-pound boxes, and the one-pound cardboard carton. These packages, I am told, are quite satisfactory to the trade, though there is room for a two-pound package, to be retailed at slightly less than 1 shilling, the object being to have it a little cheaper than two of the one-pound packages, which sell retail for sixpence. The bulk of ordinary fruit comes in 50-pound boxes; the 25-pound boxes, and still more the carton, should be reserved for fancy fruit. With regard to the carton, it is essential that it should be made attractive, neat in shape, tastefully printed, and (as some recommend) lined with a waxed or oiled paper.

GRADES.

The trade recognizes three grades, namely: prime, choice (sometimes called extra choice), and fancy. In determining the grade, color is the chief requisite, and of course a clear, clean white is the most desirable color. Size of rings is a secondary consideration, though fair size is expected in the "fancy" grade. There is, however, no fixed rule for determining whether a box of apples is in fact entitled to the grade mark under which it may be offered; the only standard is a somewhat vague one, set by the packers themselves in competition with one another. That is to say, if a certain shipper's "fancy" or "choice" is inferior to the average of the same grades shipped by his competitors, he will very quickly lose his reputation. Grading, therefore, though not artificially exact, must be carefully attended to, and the standard observed season after season.

PACKING.

The packing must, of course, be carefully and neatly done, the package being substantial, and completely filled with fruit. I am given to understand that "facing" is allowed and even expected; that is to say, that the upper layer is expected to be arranged with particular care so as to be attractive, and the quality of fruit used in it may be somewhat superior to that through the package. What is not expected is that "fancy" fruit should be shown on the top layer, while



On the Umlaas River, South Africa. Kaffirs in Everyday Costume.

These are the fellows who do much of the handling of meat imported into South Africa, and sent sometimes hundreds of miles inland. In regard to them, Mr. J. A. Kinsella, in his report, "Agriculture in Other Lands," says: "I have seen labor of all kinds in many parts of the world, and I am of the opinion that the dirty, oily, half-naked, strong-smelling Kaffir is the most undesirable man on earth to be allowed to handle the fresh or frozen food eaten by white men."

reference to the incorporation of associations, and he will receive full instructions how to proceed. In British Columbia incorporation will probably be under the Agricultural and Horticultural Societies Act. In Ontario, the Co-operative Cold-storage Associations Act will be available. There is no special act for such societies in the Maritime Provinces, but the General Stock Company Corporation Act will cover the case, though the fees are larger than in the case of Ontario and British Columbia.

In the appendix will be found samples of constitutions and by-laws suitable for the organization of co-operative associations. Of course, in all cases the constitution and by-laws must be in accordance with the Act under which the association is incorporated. With this limitation, the provision of the constitution and by-laws may vary to suit the circumstances of each particular case. In Ontario most of the co-operative associations have a constitution and by-laws similar to that of the Forest Fruit-growers and Forwarding Association, which will be published later. It will be noted that the by-laws in this case anticipate trade in apples only.

Of course, where the business is small, it is quite possible to ship and sell co-operatively without incorporation, if the members have perfect confidence in each other and in their manager. It

the bulk of the package consists of greatly inferior samples, or "rubbish." Particularly in the case of "rings" it is essential that the fruit throughout should be in fact "rings," and not quarters or odd scraps, such as have sometimes been found beneath a very attractive "face" of rings.

SETTLEMENT OF DISPUTES.

This brings us to the question of differences of opinion between the packer on one side of the Atlantic and the purchaser on the other. Under the present system such differences are usually adjusted by the broker through whom the order was placed. Questions regarding grading, packing and weight (which is guaranteed within 1 per cent.) are thus settled between two parties in the same city, an arrangement which naturally gives the purchaser much greater confidence in buying.

PRICES.

The average price during the last seven years is reported by a large firm as having been about 30s. per cwt. (112 pounds), c.i.f. Bristol, for "Primes." Last year "Primes" began at 83s. and rose to 45s. per cwt., while "Choice" ruled from 37s. to 43s., and "Fancy" from 42s. to 48s. It will be readily understood that in seasons such as the last, when prices are high, consumption is restricted, while in cheap seasons the trade expands to an extraordinary degree. "Fancy" rings retail at about 5½d. a pound, or in cartons at 6d. a pound. Whole-cored frequently bring 7d. retail, but the Newtown Pippin, whole-cored, which arrive just before Christmas, often bring as much as 9d. a pound. If a similar quality could be landed earlier, it would sell extremely well.

CANADIAN TRADE.

Canadian packers are at present, as above indicated, practically unknown here. To get an opening they should negotiate through reliable brokers and endeavor to secure trial orders, which I am assured will be readily placed, if satisfactory references are furnished. If such trial orders are found to compare favorably in quality, packing and appearance with supplies from New York State, substantial orders are sure to follow, and the result will be a permanent trade of great value. It need hardly be added that if these conditions are not observed, it would be better for Canadian packers not to undertake an export trade to Great Britain.

HORTICULTURAL PROGRESS.

Prepared for "The Farmer's Advocate" by W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

CRANBERRY CULTURE IN CANADA.

Last autumn when in Nova Scotia the writer visited several of the cranberry bogs in the Annapolis Valley, and was much impressed with the growing importance of the cranberry industry there. A few enthusiasts have for a long time been strong advocates of cranberry growing in the Maritime Provinces, and notwithstanding many disappointments and loss of crops, the interest has been steadily growing, and as the conditions are now better understood, failures will not be so frequent in the future as they have been in the past. There are many places in Canada where cranberries can be grown successfully, and as the demand is steady and the prices usually good, there is an increasing number of enquiries regarding the culture of this appetizing fruit.

At a meeting of the Nova Scotia Fruit-growers' Association, held at Wolfville last winter, Mr. J. S. Bishop, of Auburn, N.S., one of the largest growers of cranberries in Canada, gave an address on what he called "A glimpse of the cranberry situation," which is really a summing up of the past experience in growing cranberries in Nova Scotia, with the outlook for the future.

One of the difficulties in growing cranberries in the Maritime Provinces is the danger from autumn frosts. This danger has been overcome to a large extent by the discovery that a light litter of coarse hay or straw spread over the vines protects the fruit sufficiently to save it from frost. About 1½ tons to the acre is sufficient. This covering can be applied to the vines just before a frost is expected, and allowed to remain through the rest of the season. The berries will continue to grow and ripen for some three weeks or longer, thus extending the time of picking, besides growing a larger and much better quality of fruit.

During recent years the scoop has been adopted in Nova Scotia for gathering the fruit. This is a great improvement over picking by hand. By means of a large scoop the berries can be picked quickly, and at a cost of not over 10 cents a bushel, as opposed to the old way of picking by hand, when the cost is from 1c. to 1½c. per quart. The vines are trimmed and fitted for the picker in the fall, with an instrument something like a hand rake, with sickle-shaped knives in place of teeth. By drawing this through the vines in the same direction all over the bog the cross laterals are cut, admitting the easy working of the picker or scoop in the same direction. This pruning is good for the vines, causing a more vigorous growth the next year. The great importance of sanding the bog has been learned by experience. If the bog is not kept well sanded it will soon deteriorate. About half an inch of sand every two or three years is necessary for keeping the bog in shape for a crop. A bog that is properly sanded rarely suffers from fall frosts, as the sand draws the sun, causing the vines to flower earlier and maturing the fruit more rapidly than when no sand can be seen.

At one time it was thought that cranberries would continue to give good crops on poor soil without giving any additional plant food, but it has been demonstrated that a yearly application of commercial fertilizers is a good practice. There were about 2,000 barrels of cranberries marketed from Nova Scotia bogs in 1906, which sold at from \$5.00 to \$6.00 per barrel, of about 100 lbs. Mr. Bishop considers the cranberry a very profitable fruit to grow, notwithstanding failures. In his concluding words, he said: "It is time we opened our eyes to the fact that all over the Canadian Northwest there are cities springing up that will call for a supply of cranberries. No later than this fall we had orders from Winnipeg for several carloads that we could not fill because we had not the fruit."

Cranberries are grown very successfully on Prince Edward Island, and in every other Province of the Dominion, from the Atlantic to the Pacific, there are places where they can be grown to a greater or less extent.

No systematic experiments in cranberry culture have been carried on by any of the Government Experiment Stations in Canada, as far as the writer knows, and what knowledge we possess has been obtained mostly from the experience of private individuals, and from experiments tried in the United States, and from the experience of growers there. In the State of Wisconsin, where large quantities of cranberries are being grown, there is a "Cranberry-growers' Association." This association has during the past few years worked in conjunction with the Wisconsin Experiment Station at Madison, Wis., and some valuable experiments have been conducted. The results of some of these are given in the annual report of the Wisconsin Experiment Station for 1906.

WISCONSIN EXPERIMENTS.

One experiment was conducted to determine the difference in temperature two inches above ground over a cranberry marsh which had weeds and grass, and one which was sanded and clean. The minimum temperature was found to average over 5 degrees lower where there were weeds and grass than where there was sand, the difference sometimes being as much as 9 degrees. This is important information, as a degree or two in temperature may mean the losing or saving of a crop when the nights are cool. A fertilizer test has been continued for three years. A plot which has received nitrate and phosphate has yielded more than twice as much as that which has received no fertilizer, and more than plots receiving nitrates or potash together or separately. The fruit worm is one of the troublesome insects with which the cranberry-grower has to contend. Experiments were tried in flooding the bog to destroy it. It was found that if the temperature of the water was over 65 degrees the fruit suffered from being "water-soaked" if left flooded for twenty hours. Water of 60 degrees temperature or lower did not injure the fruit in 35 hours. The vines were flooded on August 5th, 7th and 9th. The fruit worm was found to remain alive where bogs were flooded, and they were submerged for twenty hours, but when submerged thirty-six hours they were destroyed. This also destroyed the vine worm or fire worm which eats the foliage. Experiments were tried to destroy the fruit worm and fire worm by spraying. On July 7th, when the plants were in bloom, Bordeaux mixture and Paris green were applied very thoroughly, at the rate of about ten barrels per acre; the formula being copper sulphate, 6 lbs.; slaked lime, 6 lbs.; Paris green, 1 lb.; water, 50 gallons (wine measure). Though in full bloom when sprayed, the spray did not interfere, "but rather favored the setting of the fruit." Another lot was sprayed on July 18th, when about 10 per cent. of the fruit had not yet set. The experiments in spraying were very successful. The plants and fruit "were found to be free from both fire and fruit worms, the surrounding areas being affected." A second application was given on July 19th. Another experiment tried at the same time also gave very marked results. The fact that insects can be controlled so readily by spraying makes it much easier to grow cranberries successfully, as flooding is not always possible at the right time.

Some experiments with kerosene are in progress, to determine whether the worm will be destroyed by flooding for a short time to bring them out of the fruit, then covering the surface of the water with kerosene and drawing off the water. It was found in the initial experiment that when the kerosene touched the worms, after the water was withdrawn, they were destroyed, but further experiments are necessary to find if the vines are injured by the kerosene.

ONTARIO VEGETABLE CROPS.

The vegetable crop in Ontario is late, but is looking well, report the correspondents of the Ontario Vegetable-growers' Association. Frost in south-western part of the Province did some damage. The demand for green truck from Essex County exceeds the supply, and many new greenhouses soon will be built for cucumbers and other crops. All kinds of truck are looking well in the vicinity of Hamilton and Toronto.

The potato crop of the Province promises to be only fair. Table roots, including turnips, parsnips, carrots and beets are doing well, and will be plentiful. The celery prospects are bright; it is probable that there will be a large crop of celery. The onion crop will be quite late, but it is expected that the yield will be fair to good. Corn will be medium. Melons promise to yield an average crop.

POULTRY.

SHALL WE STAMP THE EGGS?

Editor "The Farmer's Advocate":

In regard to the origination of the idea of stamping eggs, I may say that I had heard some time ago of one or two parties doing so; but my letter in your paper, I believe to be the first move in the interests of the general use of the stamp. I am deeply interested in poultry, and would like to see better profits for the one who devotes his attention to all produce—both eggs and poultry. I am also anxious that the consuming public have the privilege of procuring a high-grade article in fresh eggs; that is, an article that they can wholly depend upon, and feel that it is right in every sense. There are people who will pay well for this kind; and so they should, for the good flavor cannot be obtained by allowing the hens to pick up their living in the stables and hogpens. Now, I am convinced that stamping is the solution—not the date, necessarily, but the producer's name, farm name, or trade-mark. How to bring it about is the question. At first thought, an Act of Parliament seems the best means; but legislation should be avoided where possible. Too many laws means too many officers, and a lack of enforcement. It is better not to compel people to stamp, but to bring about the system simply by discrimination in prices in favor of stamped goods. If a producer will not guarantee his goods, let him take a lower price for same.

The purchasers are the ones we must look to to bring about the change. If the matter were properly brought before the Grocers' Union, they would easily see the advantage to them, and no doubt they would pay a little more for a guaranteed article. They would thus be better secured themselves against fraud, and the trade would soon be upon a far more healthy basis. I hope we may soon take a step forward in this direction.

Wentworth Co., Ont.

J. R. HENRY.

[Note—This is a good subject for discussion in our columns, and it will be beneficial to have the pros and cons set forth. An objection to the use of an indelible stamp would be that many housewives would not care for the decoration on boiled eggs. Let us hear from our poultry-raisers and egg dealers as well on the subject.—Editor.]

POULTRY AT MACDONALD COLLEGE.

In the Poultry Department, at Macdonald College, Ste. Anne de Bellevue, Que., experiments are being conducted to improve the laying qualities of the hens. About 21,500 eggs were collected from 250 hens in the seven months ending June 30th, an average of 86 eggs per hen, and the individual hens have varied from 2 eggs to about 145. About 1,400 chickens have been hatched from the eggs of the best layers.

The Poultry Department at Macdonald College appears to be very provocative of jocularity. Prof. Elford has been requested by one of the ladies of the institution to produce eggs with handles and flattened at one end. A young Englishman in the Poultry Department told us he had one day marked an egg with the number of the layer and put it back under the hen. Presently the Professor came along with a party whom he had just told that he had only one hen educated up to the point of marking her own eggs. He happened to stop at this very nest, and, taking out the marked egg, was able to produce evidence of his veracity. A professor was one day showing around a couple from the University of Maine, and quoting the number of eggs laid by Macdonald hens. "We have one down in Maine that laid—I forget how many—I think, over a thousand eggs in a year," said the lady. "Well, replied the professor, "I do not know exactly what our best record is, but I am confident it is as good as yours."

NEW POULTRY-BREEDERS' ORGANIZATION.

A number of prominent poultrymen met in the office of Prof. Graham, Ontario Agricultural College, Guelph, on July 18th, and formed an Ontario association, to affiliate with the American association. The name is the Ontario Branch of the American Poultry Association. Among those present were Messrs. R. Oke and Wm. McNeill, London; I. K. Millard, Dundas; L. H. Baldwin, Toronto; Messrs. Daly and Dill, of Seaforth, and representatives of the Canadian Barred Rock Club, the Canadian White Rock Club, and the Canadian Wyandotte Club, and also Mrs. Dawson, of Niagara-on-the-Lake.

The object of the new association is to secure Canadian members a voice in the deliberations of the American Poultry Association, which formulates and publishes the Standard of Perfection, for the use of judges at the poultry shows. Wm. McNeill, London, is President, and H. B. Donovan, Toronto, Secretary.

Poultry Conference at Reading, England.

The poultry industry in England is going ahead, if one can judge by the success of the Second National Poultry Conference, which was held in Reading on July 8th, 9th, 10th, 11th and 12th. Under the direction of a representative committee of leading poultry-keepers and agriculturists, and attended by upwards of 250 delegates and members from all parts of the country, the effect upon the poultry industry of the country must be enormous. The programme was a full one, and it speaks well for the organization that the Conference passed off without a hitch. Under the patronage of Their Royal Highnesses the Prince and Princess Christian, of Schleswig-Holstein, with Sir Walter Palmer, Bart., as Chairman, Mr. Edward Brown, F. L. S., as Honorary Secretary, the following Societies and Colleges were represented: Board of Agriculture; Department of Agriculture and Technical Education for Ireland; South Australian Government Agency; Tasmanian Government Agency; Victorian Government Agency; Western Australian Government Agency; Provincial Government, Friesland, Holland; Royal Agricultural Society of England; Royal Dublin Society; Agricultural Organization Society; British Dairy Farmers' Association; Central and Associated Chamber of Agriculture; Ceylon Poultry Club; Hungarian Society in London; Imperial South African Association; National Poultry Organization Society; Poultry Club; Scottish Agricultural Organization Society; Transvaal Poultry Club; South African Utility Poultry Club; Women's Agricultural and Horticultural Union; Aspatia Agricultural College; Bradley Court Agricultural School; Royal Agricultural College, Cirencester; University College, Reading; West of Scotland Agricultural College; Antrim C. C. Agricultural Committee; Devon County Education Committee; Exeter County Education Committee; Glamorgan Chamber of Agriculture; Gloucester Agricultural Education Committee; Hereford County Education Committee; Kent Education Committee; Kirkcudbright Education Committee; Louth Committee of Agriculture; Reading Town Council; Somersetshire Chamber of Agriculture and South Somerset Farmers' Club; Somerset Education Committee; West Sussex Education Committee; Beaminster Poultry Society, Ltd.; Fairfield Egg Collecting Depot, Ltd.; Street & District Collecting Depot, Ltd.; Black Sumatra Game Fowl Club; Blue Langshan Club; Campine Club; Langshan Society; Old English Game Club; Variety Orpington Club.

The meetings were a success from the commencement. The opening ceremony, on Monday, July 8th, was a reception in the Town Hall, Reading, by the Mayor and Mayoress of Reading; E. Jackson, Esq., J. P., and Mrs. Jackson, when the delegates and members were welcomed to the town. In making the visitors welcome, the Mayor expressed regret that the Rt. Hon. the Earl Carrington, K. G., G. C. M. G., President of the Board of Agriculture and Fisheries, who had intended being present to formally open the Conference, was unable, through affairs of State, to fulfil his promise, but he was pleased that Sir Thomas Elliott, K. C. B., had kindly stepped into the breach.

The business of the Conference opened on Tuesday, July 9th, and, owing to the fact that there were many papers to be read and discussed—34 in all—arrangements were made for two sections to be carried out at the same time. The subjects were divided into six sections, as follows:

- Section A.—Poultry Farming and Production.
- Section B.—Breeding.
- Section C.—Hygiene and Disease.
- Section D.—Women and the Poultry Industry.
- Section E.—Education and Research.
- Section F.—Commercial.

In Section A, under the Presidency of the Hon. Cecil T. Parker, the following papers were given: Scratching Sheds and Curtain-front Houses, by A. F. Hunter, of Abington, Mass., U. S. A.

The Colony-house System, by J. H. Robinson, Editor Farm Poultry, Boston, Mass., U. S. A.

Some Observations on Moisture and Ventilation in Incubators, by Will Brown, Esq., College Poultry Farm, Theale.

Modern Methods of Chicken-rearing, by Rouse Orlebar, Esq., J. P., D. L., of Hinwick Poultry Farm.

Lessons of the Laying Competitions:

(a) British, by Cyril Dunkley, Esq., Hon. Sec. Utility Poultry Club Laying Competition.

(b) Australian, by Major Norton, D. S. O., of South Australian Government Agency.

The Keeping of Fowls Permanently on Arable Land, by Miss A. S. Galbraith, of Bagshot.

Naturally, under the circumstances, one could not expect either Mr. A. F. Hunter or Mr. J. H. Robinson to be present, but their papers were thoroughly enjoyed by those present. It must be remembered that the experience of English poultry-keepers with scratching sheds and colony houses is only that gained during a comparatively short

number of years, and, therefore, the remarks by such well-known experts as Mr. Hunter and Mr. Robinson were listened to with added interest. A practical suggestion was made by one speaker, namely, that scratching sheds should be employed as movable houses and placed out on the land, but the general consensus of opinion was that the question of labor was greater with the colony system, and therefore it would fail to appeal to the farming community of England. It is undoubtedly a fact that Great Britain is not so suitable for intensive poultry-keeping as is perhaps America, and that it is believed that the difficulty in the country, in the way of supplying eggs for market, can only be solved when farmers realize that poultry can be made to pay; anything that entails extra work is vetoed by the English farmer.

Artificial Incubation.—Mr. Will Brown, of the College Poultry Farm, Theale, gave some highly interesting scientific facts with reference to the questions of ventilation and moisture in incubators. It was shown that the humidity of the egg chamber varies with the usual type of machine, according to the variations in the degree of humidity of the room in which the machines are placed, and that until machines are so constructed that the humidity and greater circulation of the air can be governed, really universal successful artificial hatching cannot be obtained. It was felt, as is always the case with such a gathering, that the subject was so technical and scientific that it would be impossible to discuss it without considerable thought, therefore no discussion followed.

Chicken-rearing.—The majority of those present, when Mr. Rouse Orlebar gave his paper on "Modern Methods of Chicken-rearing," seemed to be somewhat disappointed. The dry system of feeding chickens was introduced into England about a year ago from America, and undoubtedly it has become popular. The discussion which followed pointed to the fact that the modern method was certainly advantageous under certain conditions, but the general opinion was that the wet and dry systems of feeding should be carried out together. Certain breeders gave it as their opinion that, for large, weighty birds for the table, wet feeding must be followed; but, unfortunately, the whole discussion was most disappointing.

Laying Competitions.—Two capital papers were read under this heading, the "British" by Mr. Cyril Dunkley, -Hon. Sec. Utility Poultry Club Laying Competition; and the "Australian" by Major Norton, D. S. O., South Australian Government Agency. In the former particulars were given of the Tenth Laying Competition, which was held from October, 1906, to February, 1907, over a period of sixteen weeks. The following scale was adopted for marking the eggs: Six points for eggs weighing 2 ounces and over; five points for eggs weighing 1½ ounces and over; four points for eggs weighing less than 1½ ounces. The question of feeding was entered into, but no fact of importance was disclosed. It was mentioned that the competition was becoming more popular every year, since the entries have risen from seven to over a hundred; in the latter case only forty pens were allotted places. The paper by Major Norton was distinctly more interesting, the opportunities of those working in the Commonwealth being greater, since the public support the movement, and therefore more rapid strides have been made. A two-years' competition is being carried out at Hawkesbury, in New South Wales, and this should produce good results. Moreover, the scale of marking was more favorable for increase in the production of birds which will lay large eggs, as well as a large number. In the discussion which followed, the British competition was severely criticised by two or three speakers. It was shown that, by the scale of marking adopted by the Utility Poultry Club, a premium was being put on those birds which produced a large number of eggs, irrespective of size and market value. It was shown from the Club's own report that the average of eggs in winning pens was well below 2 ounces, and it was stated that this was entirely due to the unfavorable scale of marking. It was suggested that the danger of the competition, as held at present, was that it would be used as an advertising medium by those breeders who had eggs for sale from birds which produced a goodly number of eggs, without any regard being paid to size. Figures were given showing that eggs on the English market weighing 14 pounds to the 120, although only 9½ per cent. in weight less than those weighing 16 pounds, were valued at 22 per cent. less. This was considered important. Reference was made to the competition at Hawkesbury, N. S. W., in which case, out of a hundred pens entered, the eggs of only seven pens averaged under 2 ounces in weight, whereas in the last British competition, out of forty pens, only one averaged eggs of 2 ounces, all the others being considerably under this weight.

SECTION B.

Mendel's Law, and Its Application to Poultry-

breeding, by C. C. Hurst, Esq., F. L. S., of Burbage, Leicester.

Hybridization Experiments with Ceylon Jungle Fowl (*Gallus Stanleyii*), by Dr. J. Llewellyn Thomas, of Colombo, Ceylon.

The Economic Values of External Characters, by Mons. Louis Vandersnickt, of Brussels.

Breeding and Mating:

(a) Of Dorkings, by O. E. Cresswell, Esq., J. P., Morney Cross, Hereford.

(b) Of Leghorns, by L. C. Verrey, Esq., Oxshott, Surrey.

(c) Of Ducks, by W. Bygott, Esq., Ulceby, Lincolnshire.

"Without doubt, the most interesting papers were given in this section, for those by C. C. Hurst, Esq., and Dr. Llewellyn Thomas, Colombo, Ceylon, were listened to with keen attention. In speaking of the question of "Mendel's Law, and Its Application to Poultry-breeding," W. Bateson, Esq., Department of Agriculture, Cambridge University, indicated that the very groundwork of all experiments in this direction must be breeding for results from individuals, and not from pens of hens mated to one male. There were many factors to be taken into consideration, but at the very outset it must be realized that average results are of no use, and therefore individual birds must be depended upon entirely. It is a pleasing feature of the Conference that, though styled a "National" Conference, so many Colonial and foreign representatives were present, and in this section two of the readers of papers, namely, Dr. Llewellyn Thomas and Mons. Vandersnickt, are leading poultry experts in their own countries, and their experience is most interesting and instructive to British breeders.

UNIQUE POULTRY EXHIBITION.

The second and third days of the Conference were fully filled, since, in addition to the reading of papers on various subjects, a display of poultry was held. This was a show quite out of the usual run; there were no prizes, and only one pair of birds of each breed was staged. It was thought by the promoters of the Conference that it would be interesting, and at the same time instructive, to have a display of a large number of varieties of utility breeds, and to this end one hundred and fifty pairs were on view. It came as a revelation to many to find that there was so many distinct breeds and varieties, but this was hardly surprising, since many of them had never been seen in England before. There were ninety-three English, or, if we may so term them, "naturalized" English, pairs, the more uncommon of these being Aseels, White-crested Black Polish, Scotch Dumpies, Sultans and Yokohamas. The ducks, geese and turkeys were simply the usual breeds, as seen at all shows. In the foreign section, Belgium was represented by eighteen pairs, the Netherlands by ten pairs, and France and Russia by a smaller number. The American type of Leghorn was shown by a pair of Whites from Mr. A. L. Brown, of Lakewood, Burrsville, N. J., U. S. A., and, for utility purposes, they compared very favorably with the extremely large English specimens. Perhaps the birds which aroused the most curiosity were the celebrated fighting geese of Russia. These were obtained by the Honorary Secretary of the Conference through the courtesy of the Imperial Poultry Club of Moscow, and as they came as a present to him, Mr. Edward Brown intends to breed them, so that observations may be made of any special characteristics which they may possess.

An excursion took place to the College Poultry Farm and Experimental Station in connection with the University College, Reading, and, since many experiments were nearing completion, it was most instructive. It will be remembered that the Poultry Farm at Theale was the first of its kind in Britain, and that it was established just one year prior to the first Experimental Station on this side of the water. The influence which the Farm has had on the industry of the country is enormous, for over 550 students have passed through courses of instruction there since it was commenced. It is considered in England, and, in fact, many parts of Europe, to be the center of the utility section of the poultry industry.

One feature of the Conference was the comprehensiveness of the programme; in fact, we are under the impression that it was rather too comprehensive, since the thirty-two papers which were read occupied so much time that there was little opportunity for public debate. This is unfortunate from one point of view, but it is undoubtedly correct that one benefit of such a conference is that breeders from all parts are able to come together and thrash out between themselves, at their private deliberations, the many vexed points connected with their work. The poultry industry of England requires "hustling" in certain directions, and it is expected that improved methods of production and more up-to-date systems of packing and marketing will assuredly follow.

The section dealing with "Education and Re-

search" was perhaps the most important, and many interesting points came out during the discussion. It was realized by all that the support given to the industry in this country is greatly under that which is accorded to it in other lands. Up to the present, all experimental and research work has been carried on at the instigation of private individuals who have had to find both time and money for the purpose, but the time has surely come now when the Board of Agriculture must realize that the poultry industry is an im-

portant branch of agriculture, and that they must exert themselves to help on the movement. Their willingness is shown in a measure by the presence of three of the leading men of the Board of Agriculture at the Conference. Both parties in the State are agreed that steps must be taken at once to repopulate the rural districts of England; to take the people from the crowded centers where work is scarce and conditions most detrimental to the health of the nation, and, by giving them profitable occupation on the soil, make the land bear its rightful portion of the population. The establishment of small holdings is the only solution of the difficulty, and it is undoubtedly a fact that poultry-keeping will play a very important part where such a system is carried out. Even though people do return to the land, they must be taught how to make that land give them a return for their labor, and it is here where the work of the Board should lie. We believe that England stands almost alone in this respect; the Government of every other civilized country in the world has already associated itself with the industry, and no matter in which direction we look—in Europe, with Denmark and France heading the list; to Russia, Servia, Bulgaria and Roumania, United States and Canada—the "powers that be" give every help that is possible to forward this the most important minor branch of the great agricultural art.

The first impression that an outsider receives when he learns of the enormous value of the annual imports of eggs and poultry into Great Britain is that, since England, particularly, is one of the most suitable countries for poultry-keeping, the cause of failure on the part of the producer to satisfy the demands of the market must be due to something other than production. There is every reason to believe that one great cause of failure is that the question of marketing has not as yet been properly understood. In the commercial section, some instructive papers were read relative to this question. After Mr. Edward Brown, F. L. S. (Hon. Sec. of the Conference), had given particulars as to the "World's Production in Eggs and Poultry," Mr. Verney Carter (Organizing Secretary of the National Poultry Organization Society) discussed the "British Egg and Poultry Trade." As an offset against this, some statistics were given with regard to the developments which have taken place in the Transvaal, and the question of "Co-operation in Relation to Marketing in Denmark and Britain" was dealt with, respectively, by Mr. W. A. Kock, Copenhagen, and Mr. E. G. Warren.

A highly-instructive section was that dealing with "Cold Storage of Eggs and Poultry," by Major Norton, D. S. O., South Australian Government Agency, and Mr. H. C. Cameron, New Zealand Government Agency, respectively. Major Norton, after referring to the necessity in his country of finding an outside market for the poultry produce, stated that in his opinion there were degrees in the value of chilled eggs, and that, given the eggs well chilled gradually to a temperature of 33 degrees F. to 35 degrees F., when perfectly fresh and infertile, and then raised in temperature gradually before being used, after three or four months, they would be as fit for boiling, frying, poaching, and all culinary purposes, as the day they were put in.

FINAL SESSION.

The closing session was held in the College Hall, with Sir Walter Palmer, Bart., in the chair. Sectional resolutions were brought forward and passed, and, after votes of thanks were passed to the promoters and worker, the Conference was brought to a close. W. B.

COLLEGE POULTRY FARM AND EXPERIMENT STATION, UNIVERSITY COLLEGE, READING, ENG.

In view of the Poultry Conference at Reading, Eng., specially reported for "The Farmer's Advocate," elsewhere in this issue, a few notes about the College Poultry Farm and Experiment Station connected with University College, Reading, Eng., will be of interest. In 1895 a commencement was made on a small scale at Reading College, to give advanced instruction in poultry-keeping, and from 1896 to the present, poultry courses have been held at the College, and a large number of students have passed through, some of whom now hold important positions both at home and in the Colonies. At first the teaching was largely theoretical, but in 1898 the College Poultry Farm, Theale, was established. The Farm is five miles from the town of Reading, on the old Bath Road, and is situated in Kennet Valley. In addition to students from various sections of the United Kingdom, there have been pupils from Canada, South Africa, New Zealand, France, Germany, Holland, Sweden, and other countries. The number of students trained to date is over 550.



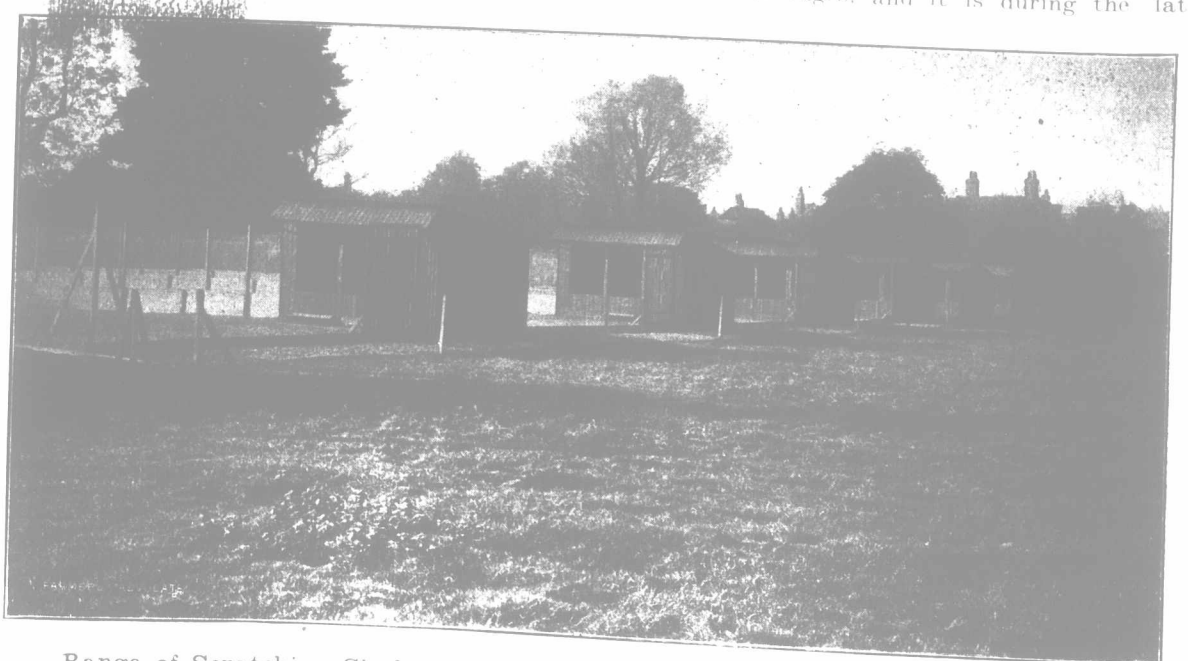
Incubator House at College Poultry Farm, Theale, Reading, Eng. Showing ventilation.

Part of the Rearing Ground, College Poultry Farm, Theale, Reading, Eng.



Part of the Rearing Ground, College Poultry Farm, Theale, Reading, Eng.

The poultry farm is primarily intended for educational and experimental purposes, and is not run as a commercial farm, consequent upon the work having to be carried out in accordance with the requirements of students. There is a number of permanent buildings in connection with the farm which are utilized as far as possible, one object being not to set up what may be called a "model" poultry establishment, with expensive homes and appliances, but rather to show how such material as is available on the ordinary



Range of Scratching Sheds, College Poultry Farm, Theale, Reading, England.

farm can be adapted for the purpose in view. On the large meadows surrounding the farm portable houses are used extensively, as in this way the birds have the advantage of fresh ground, and at the same time they give considerable return by manuring and cleansing the soil.

The lectures are given by various members of the staff, and include "Poultry-keeping," "Chemistry of Foods," "Anatomy and Embryology," "Soils," and "Bookkeeping." They are intended to give a broad basis for future work and a wide conception of the possibilities of poultry-keeping as part of the agriculture of the country. It has always been the main idea to develop poultry as a branch of agriculture, as much as a separate industry.

The breeds of poultry maintained upon the farm are varied from time to time, but at the moment of writing they consist of Buff Orpingtons, Red Sussex, White Wyandottes, White Leghorns, and Black Minorcas. Formerly, Dorkings were kept, but the ground was found a little too damp for them. There are several lots of Aylesbury ducks, also Huttegem ducks, of which a specialty is made, the conditions being very favorable to this branch of poultry-keeping. An important feature is made of the experimental work, several experiments being now in process. The reports published by the Board of Agriculture and the College have awakened a great amount of attention both at home and abroad.

The Instructors are as follows: Lecturer in Poultry-keeping, Mr. Edward Brown, F. L. S., Assistant Director of the Agriculture Department, and Secretary of the National Poultry Organization Society; Assistant Lecturer in Aviculture and Practical Instructor, Mr. Will Brown, who holds the Certificate in Aviculture; and the business arrangements are in charge of Messrs. T. and W. Brown.

The following are the leading buildings upon the farm:

1. Winter Brooder House.
2. Chicken House.—A small house for chickens, wherein an experiment is being conducted on the dry-mash hopper system of feeding.
3. Range of Scratching Sheds.—Of these there are eight, two accommodating twenty-five birds each, and six smaller in size, intended more for breeding pens. In each of these smaller houses there is, first, a roosting-place; second, a separate laying house; and, third, a covered scratching shed. In front are the usual gravel runs, 20 feet in length, and for each three houses there is a grass run 100 feet in length. The latter are cropped for hay and planted with fruit trees.
4. Hatching Shed and Feeding Cages.—This is for hens, which are accommodated in boxes placed inside the shed, and are brought out once a day and put into the feeding cages in the lean-to at the side, where they have a dust bath.
5. Incubator House.—This is a large and well-built house. It is 33 feet in length by 16 feet in width, divided into two compartments, the incubator room, 28 feet by 16 feet (egg capacity upwards of 2,000), and a smaller compartment, used for stores, and where the lamps are refilled. Special attention is drawn to the system of ventilation, designed for the purpose of supplying pure air both to lamp and eggs.
6. Plucking and Trussing Shed.—There is a roomy shed, 30 feet by 16 feet, divided into two parts. It is fitted with movable desks, and can be used as a lecture room when required, as the partition folds back, making one long room. Here the students are taught trussing of fowls, for which special tables are provided. In front the nursery brooders are kept.
7. Fattening Shed and Cages at Side.—The birds are placed in the outside cages and kept there from a week to ten days, when they are removed to the inside cages, and it is during the latter

period that the cramming takes place. This is a shed 30 feet by 14 feet, and accommodates 500 birds when full.

8. A portable continuous-brooder has been built on the farm, holding 160 young chickens. It is heated by lamps and pipes. Runs are fitted outside, and, as the house is upon wheels, it can easily be moved to fresh ground.

9. Outdoor brooders of various makes, coops, etc., are accommodated in the home paddocks.

10. Open-fronted Houses.—Recently a range of scratching sheds has been erected, the houses of which are built on what is known as the open-air principle, and are largely used for experiments. These houses are 10 feet square, in which the roosts are at the back, where is also a laying compartment. The front of the house is formed of wire netting, and it is uncovered both in winter and summer, so that the birds are practically in the open. It is interesting to note that the hens in these houses have laid better during the winter than those in house of ordinary type, an indication of the importance of fresh air. In the first four of these houses (9 to 12) a comparative test is being made of the ordinary and hopper systems of feeding.

11. Duck-breeding Pens.—Through the fields there is a stream about 12 feet in width, which is excellent for the ducks, which are accommodated in four houses.

12. Colony System.—In the lower field the colony-house system of keeping fowls is demonstrated.

13. Portable Poultry Houses.—These houses can easily be moved about, and vary in size and design. In one of these the birds are fed in the afternoon; they are then shut into the run, and go in to roost when they like, also coming out in the morning as they wish. This saves a great deal of labor, but is more costly in initial outlay. Several of these houses are fitted with a simple arrangement for raising upon wheels for removal. Where that is the case, they have no other floor than the earth, and labor in cleaning is saved.

THE FARM BULLETIN

HAY, SPRING GRAIN, FODDER CROPS, AND RYE

Editor "The Farmer's Advocate":

I read with a good deal of interest the letters on haymaking that appeared from time to time in the columns of "The Farmer's Advocate," giving the views and relating the experience of many of Canada's most successful farmers, but when I laid the paper aside and looked out on the fields and meadows I was forced to exclaim, "The advice is good, but where is the hay!" for up until June 20th, within the memory of the writer the prospect for a hay crop never looked so discouraging. To make matters worse, the bottom of the mows were reached early in May, even before a green blade appeared in the pastures, and the price of hay jumped to \$30 per ton, and was hard to obtain even at that price. Farmers, as a rule, are the most optimistic of all men, and although the barns were empty and the weather cold and backward, seed time and harvest was promised, and spring work was proceeded with, just as if we were the most favored lot of men in the world, and that a lean year was the exception and not the rule. Some there were, however, whose faith was weak; pulled up the stakes and went West, leaving more vacant farms behind; but the majority did not grumble more than the occasion seemed to demand, and the situation to-day calls for rejoicing instead, for the weather during the past month was everything that could be desired. The hay crop will not be a large one, but will be at least twenty-five per cent. better than it seemed possible it could be a month ago. Grain of all kinds is growing fine; frequent showers and warm sun does the trick all right. The root crop is in splendid shape, and in the past few weeks bare fields have changed into "seas of waving green." Vegetation has been so rapid, we are inclined to think that farmers have made the mistake of winding up their seeding operations in too much of a hurry. We have arrived at this conclusion by seeing a field that was sown July 4th with vetches, oats, and a small quantity of buckwheat that was out of the ground in eight days, and at date of writing is covering the whole field with a luxuriant growth, and gives promise of a heavy yield of green fodder if weather conditions keep right. Buckwheat sown alone on July 8th has a promising appearance, and turnips sown the same week are now nearly ready for thinning. These things being so, why is it that so many of our farmers put their plows, harrows, seeders, etc., into the barn so early in the season, and next winter pay out their money to Ontario millers for millfeed that ought to be raised on their farms? We hear a good deal nowadays about balanced rations, in which costly feedstuffs figure prominently, but given a good cellar of turnips, plenty green feed, such as green corn (silos being out of the question), oats, vetches and peas cut in the milk, and well cured, we think if the herd of dairy cows did not give a good account of themselves at the pail, the fault must certainly be in the cows. The old Scotch spirit of strife (good in some respects) that makes one farmer try to get his crop into the ground ahead of his neighbor, is to some extent responsible for the fact that we are depending too much upon our hay crop to tide

us through the winter, and instead of taking advantage of every opportunity to get all the seed into the ground we can while the season lasts, we are too apt to indulge our optimistic spirit, and hope that next season may do better for us than the past one.

There is another crop, not spoken of often, seldom read about and very seldom seen, that it would be well for us to take into consideration, and for which there is yet plenty of time to get ready. We refer to rye, called in Europe the poor man's crop. Sown the last week of August, or up to September 10th, it can be pastured in early winter, when there is not a green bite elsewhere, and can also be fed to some extent before the other pastures are ready in the spring, and afterwards cut for hay, and while the quality is not the best, if cut before it gets woody it makes a very good substitute. We hope to see all our farmers give it a trial the coming fall.

Pictou Co., N. S.

ANDREW McPHERSON.

THE FLY PLAGUE.

Editor "The Farmer's Advocate":

The fly pest is a serious loss to every farmer with cows. You can figure the loss in milk at from two to three dollars per head per month, saying nothing about what they lose in flesh. A farmer may feed liberally of chop, and yet the cows will shrink anywhere from 10 to 15 lbs. per day. It should not be the case, if we could get some means to keep down the flies. Anything I have tried cost too much to use. Considering the time it takes to rub it on, and the cost of the stuff, it is a losing business. What we want is something that a couple of hands can put on in a very few minutes. In the busy season time is very valuable. I wish the Government would take hold of it, and assist us in finding something that is cheaper and quicker than anything yet advised. I think I am safe in saying that every farmer keeping 20 cows loses more than a hundred dollars in a season. We lose far more than we really realize. Will you be kind enough to call the Government's attention to the fact, or assist us in any way that you know of?

ARCHIE McVICAR.

[Note.—We shall be pleased to hear from the authorities of agricultural colleges and experimental farms, as well as commercial farmers, who may have found a cheap, effective and unobjectionable means of dealing with the fly pest.—Editor.]

DEVELOP P. E. ISLAND'S ORCHARD RESOURCES

A. McNeill, Chief of the Fruit Division, Ottawa, said to a representative of the Guardian, Charlottetown, P. E. I.: "I see that you have organized a '200,000' in Prince Edward Island. I have a scheme which I think will fall right in with their object. Let the farmers of Prince Edward Island plant 100,000 trees next spring. This would make, at 50 trees to the acre, 200 orchards of 10 acres each. An orchard of 10 acres will give work and revenue for one more family on the farm. Taking the usual estimate of five persons to the family, these two hundred orchards will then require at least one thousand additional population. This will be something for the 200,000 Club to start with." Mr. McNeill said he would be glad to co-operate with the 200,000 Club in organizing a campaign among the farmers to secure this additional population to the Island. One great advantage of this scheme would be that it could be carried out without interfering in the least with any other work or scheme that is now in operation.

GRASS A WEED IN THE ORCHARD.

Mr. A. McNeill, Chief of the Fruit Division, Ottawa, is reported to have said at a P. E. Island orchard meeting, in referring to the orchard of John Annear, Lower Montague: "This orchard would do credit to the best parts of Annapolis Valley or Southern Ontario. The trees are well sprayed, well pruned and trained, and are most admirably clean." He pointed out to the audience that there was no grass to be seen among the trees anywhere, and that where crops were grown between the trees they were all late starting crops, and all kept scrupulously clean; no grain nor grass was grown anywhere among trees. "Grass," said Mr. McNeill, "is one of the worst weeds that can get into an orchard. More than half of all the failures in growing apples on the Island can be traced to allowing grass to grow up around the trees. If a man does not intend to keep his trees absolutely free from grass for the first six or eight years, at least, he had better not waste money buying and planting them."

FAIR DATES FOR 1907.

Aug. 23-30—Iowa State, Des Moines.
 Aug. 26 to Sept. 9—Canadian National, Toronto.
 Aug. 29 to Sept. 6—Detroit, Mich.
 Sept. 2-14—Dominion Exhibition, Sherbrooke, Que.
 Sept. 6-14—Western Fair, London.
 Sept. 9-13—Indianapolis, Ind.
 Sept. 9-14—New York State Fair, Syracuse.
 Sept. 13-21—Canada Central, Ottawa.
 Sept. 14-21—Fredericton, N. B.
 Sept. 17-19—Guelph.
 Sept. 18-20—Woodstock.
 Sept. 25 to Oct. 3—Halifax, N. S.
 Sept. 27 to Oct. 5—Springfield, Ill.
 Oct. 8-11—Charlottetown, P. E. I.

THE "IDEAL BUTTER SEPARATOR."

Modern invention supplies us with many wonderful discoveries and not a few failures. To discern and utilize the valuable discoveries and reject the spurious requires a degree of sound judgment, fortified by careful reading and study. Fortunately, there are numerous experiment stations, well-informed private citizens and discriminating journalists quick to detect impositions and warn the public against them.

Among the many fields open to exploiters of questionable apparatus, the buttermaking industry seems to be one of the most alluring. It has had rather more than its share of such humbugs as dilution cream separators, Cole's hot-air process of making butter without churning, chemical compounds for converting caseous matter into fat, and the like, regarding which for years our readers have been kept well posted.

The latest contrivance in this line is an apparatus called the "Ideal Butter Separator," manufactured at Iroquois, Ont. This, it is claimed, is "a new invention, which will produce a maximum quantity of pure butter from sweet or sour milk and cream in five to ten minutes." After giving a description of the churn or separator, as it is called, the printed circular advertising the machine proceeds to explain the process in the following language: "The butter is separated by the combined action of the agitation of the dasher and the aeration of the air. The air is sucked down from the outside to near the bottom of the milk or cream, where it is distributed by centrifugal action and bubbles up, causing the separation of the butter globules."

The "advantages" are set forth as follows:

"1.—More butter is produced from a given quantity of milk or cream than by any churn. This is because it separates the globules of butter from the cream without breaking them. The old process broke them up by the continued friction produced by agitation.

"2.—The butter will keep better, since it is pure and has been thoroughly aerated. It has no mixture of casein or milk in it.

"3.—The residue is pure and sweet, and may be used for table use.

"4.—The separation is more rapid than any other separator, and the air introduced is always pure and does not bubble through more than once. This is because the air is drawn from outside the vessel.

"5.—The gearing is simple, and a child can operate it with safety. No cogwheels to catch the fingers.

"6.—No casein, albumin or impurity in the butter. It is not possible to remove these by any other process. The ordinary churning beats the butter-fat into an oily mass, containing all the impurities, such as casein and albumin. The Ideal Separator causes the butter globules to form separately and cohere together. The butter will thus not become rancid and smell offensively."

In order to ascertain how far the claims made for this invention might be supported in practice, a series of tests have been carried out by Frank T. Shutt, Chemist, Experimental Farms, Ottawa. In making the tests the printed directions were followed, cream and milk being used, both sour and sweet. The investigation, so far as the buttermaking was concerned, was conducted at the dairy of the Central Experimental Farm, the work of manipulation being left entirely in the hands of a representative of the manufacturers, sent specially for that purpose.

The results showed that in all the trials, except that with sour cream, there was an excessive loss of butter-fat in the buttermilk. Buttermilk ordinarily contains between .1 per cent. and .2 per cent. fat. In four out of five trials with the "Ideal" it was between 1 per cent. and 2 per cent. Owing to the proportionately large amount of buttermilk in these trials—due to water added during churning—the real loss of fat is much greater than is indicated even by these high percentages. In the case of the sweet cream, out of 128 ounces of fat in the cream, 9 ounces were found in the buttermilk, whereas with an ordinary churn and good work the loss would not exceed 3 ounces. That is, the loss of fat by the "Ideal" method was twelve times as great as with an ordinary churn. Bad as this is, the showing was much worse with milk, both sweet and sour. In one test with the sweet milk, one-seventh of the total fat was lost in the buttermilk, and in the sour-milk test, one-fifth was lost. A partial explanation of these heavy losses was due to the high churning temperature (about 70 degrees) which the operator considered necessary for the successful operation of his machine. The temperature of the wash water he used was also high. The water content of the butter was dangerously near the legal limit, and in one case exceeded it. Analyses show that, contrary to the manufacturers' claims, the butter is not free from curd.

In addition to the loss of fat in buttermilk and wash water, a certain amount is lost in the apparatus, for, owing to its construction, it is impossible to remove all the butter from the mechanism of the churn. The total loss of fat was almost 2% with the sour cream; with sweet cream, 9%; with sweet milk, 33%, and with sour milk, 34%, or practically one-third.

"In conclusion," writes Prof. Shutt, "so far as our investigation gives proof, the only claim made good is that regarding the time of churning. The process appears to be one of the most wasteful of all those that have been put forward to supersede the ordinary or orthodox methods of buttermaking, and which have been examined in the farm laboratories during the past twenty years."

WINTER INJURY TO APPLE TREES.

Apple-growers in Durham County have been alarmed of late at the mysterious dying of large apple trees in a number of orchards. In the orchard of Mr. Charles Axford, of Darlington Township, which was made up of thrifty twelve-year-old trees just beginning to bear heavily, the trouble first showed itself last year, when two or three trees died after leafing out. The rest of the trees bore an exceptionally heavy crop, but this year two or three dozen trees have died, and nearly half the trees in the orchard show signs of failing. Many theories have been advanced regarding the cause of the trouble, but as nothing definite could be assigned, Prof. H. L. Hutt, Ontario Agricultural College, Guelph, was requested to investigate the matter. He went down for that purpose last week, and after a careful examination declared that the trouble was the result of a combination of causes, the chief one being winter injury during the severe winter of 1903-4. Many of the more tender varieties of apples were that year killed outright in many parts of the Province, Baldwins suffering the most. In Mr. Axford's orchard the principal failures are among the Baldwins, and the injury may be seen in the dead bark around the collar of the tree, which practically girdles the tree, and eventually causes death through lack of proper nutrition. That the injured trees have lived so long is ascribed to the fact that the roots were not injured and the sap was carried up to the leaves as usual, but the down-flow of cambium elaborated in the leaves was unable to cross the girdled part and return to the roots, which eventually caused the starvation of the trees. The unusually heavy crop of fruit last year was the direct result of the girdling, as trees so injured usually make an effort to reproduce themselves by producing seed. The effect of the heavy bearing, however, lowered the vitality of the trees, and has hastened their death this year. This winter injury was most severe in orchards that were not on high, well-drained land, which emphasizes the importance of care in the selection of a site for the orchard. This was particularly noticeable by comparison with the orchard of Mr. John Penfound, east of Oshawa, where he has a thrifty young orchard twelve or thirteen years old, situated on a sidehill, where there is excellent drainage to lower ground. In this orchard even the Baldwins have escaped injury.

The result of Prof. Hutt's investigation has been to assure fruit-growers that the trouble is not caused by some new insect or disease which it was thought might spread and do damage to other orchards, but is really the results of previous winter injury, which could not well have been avoided.

The British Dairy Farmers' Association will probably hold its next conference in Canada, combining business with pleasure, as the Britisher often does.

NEW ZEALAND'S PROGRESS.

A return has just been received from the Registrar-General of New Zealand, giving the progress of the colony for ten years, from 1896 to 1906, writes D. H. Ross, Canadian Commercial Agent in Australasia. The population has increased from 714,162 to 908,726. The land under cultivation rose from 11,550,075 acres to 14,382,787; the number of horses from 249,813 to 342,603; cattle, from 1,138,067 to 1,851,750; sheep, from 19,138,493 to 20,108,471; shipping inwards, from 614,097 tons to 1,243,652 tons; outwards, from 627,659 tons to 1,238,214 tons. The total exports of produce increased from £9,177,366 to £17,841,346; imports, from £7,137,320 to £15,211,403. The development is still going on; for, though the colony is of small extent, there are yet very considerable areas of land to be brought under cultivation.

AUSTRALIA EXPORTING BREEDING SHEEP.

Australia has been shipping considerable numbers of high-grade breeding stock to South Africa since the conclusion of the war. Some little time ago an agent from the State of Uruguay arrived in Australia, and has purchased a number of sheep, paying very high prices for them. In one instance he paid 1,000 guineas for a Merino ram. He paid an average price of £538 each for five, and £126 each for eight ewes. It is believed that the result of this experiment will be to open up a large and profitable market to Australian breeders. The purchaser of the sheep has visited the Merino countries of the world, and asserts that nowhere has he seen anything to compare with Australian Merinos.

APPLE-EVAPORATING PLANTS.

Press despatches last week from St. John, New Brunswick, announced that R. J. Graham, manager of a cold-storage company, which is now erecting a warehouse near the Long Wharf, St. John, has arranged for the establishment of six apple-evaporating plants, to be built along the line of the Dominion Atlantic Railway in Western Nova Scotia. More may be built later on, but the six already decided on are at Bridgeport, Middleton, Kingston, Sheffield's Mills, Cambridge and Auburn, and the intention is to have them in working order by September 1st. The St. John warehouse was expected to be completed by the second week of September. Allusion was also made in the despatches to a proposed retail store which the company was evidently planning to erect.

The judges in the field crop competition, under the Ontario Department of Agriculture, are Andrew Elliott, Galt; Simpson Rennie, Toronto, and T. G. Raynor, Seed Division, Ottawa.

TWO-YEAR-OLD APPLES.

Editor "The Farmer's Advocate":
I am sending you two apples that were grown in our own orchard two years ago; have had no other care or treatment than just being left on a table in the cellar. We have taken "The Farmer's Advocate" for several years, and like it very much. Wishing the paper every success. OSCAR C. B. ARMSTRONG, Peel Co., Ont.

[Note.—The apples above mentioned are sound and in an excellent state of preservation. The name of the variety is not given, but the apples have much the appearance of the Baldwin.—Editor.]

WESTERN CROP OUTLOOK.

Dr. Wm. Saunders, Director of Experimental Farms, returned from a tour of inspection of Manitoba and the West, says the area in which partial failure is expected, owing to drouth, is a restricted one, and, on the whole, after a careful review of the situation, he believes that there will be a three-fourths crop. With wheat at its present price this will mean a larger cash return to the farmer than he received for the crop of last year. Even should some of the late-sown grain become frosted, it will fetch a price almost as high as was obtained for good wheat last season. The agents of the Canadian Northern Railway send quite encouraging reports of crop prospects along that line of railway. On the whole, however, it is probable that Dr. Saunders' estimate is near the mark.

A GRAIN-SLING ACCIDENT.

A Kent County, Ont., farmer was killed last week while driving a team that was working the sling unloading wheat in his barn. The explanation given in the press despatches was that the hook in the barn, holding a pulley, broke, allowing the rope to strike him with great violence. He was found a couple of minutes later lying on the ground in an unconscious condition.

E. Thompstone, B.S.A., formerly Demonstrator of Botany at the Ontario Agricultural College, a graduate in agriculture of Edinburgh University, has been appointed President of an agricultural college at Mandalay, Burmah, India.

At the annual commencement exercises of the Consolidated School at Hillsboro, Prince Edward Island, Dr. Jas. W. Robertson announced that for a while the Macdonald fund would contribute \$1,200 a year towards its maintenance.

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THE IDEAL EVE.

Not one man in five hundred pictures his future wife in the surroundings of the ordinary girl. Where is the Adam who dreams of meeting his Eve, short of skirt and strong of arm, in the hockey field; or striding over the turf with a golf ball, or plunging madly after a tennis ball?

Au contraire, he pictures her clad in "something soft and clinging," a being more angel than woman, who, as a daily companion, would undoubtedly prove the most withering bore a man could be cursed with.

The late Senator Quay used to tell of an Irishman who prided himself upon his delicacy and tact. One day when a boy was killed in the quarry where the Irishman worked, he told the men to leave everything in his hands; he would break the news to the boy's mother as it should be done.

He went home, put on a black suit and tie, and started for the mother's shanty. "Good mornin', ma'am," he said. "Tis the sad accident yer boy's gold watch has met wid."

"Why," said the mother, "Tom never had a gold watch."

"Sure, an' that's lucky," said the diplomat, "for twenty tons uv rock just fell on him."

GOSSIP.

The Eastern Townships Agricultural Association, which runs the Sherbrooke, Quebec, Fair, has made several innovations in connection with the Dominion Exhibition to be held in that ambitious town, Sept. 2nd to 14th, as advertised, some of which are the result of experience in former years, and some of which are experimental. Of the latter class is the new arrangement for trotting races. Instead of giving the race to the best three in five heats, the plan of making each event three heats, every heat a race, and thus avoiding the "laying up" and the consequent dragging out of races to interminable length, has been decided upon. Sherbrooke is the only place in the international circuit where the plan will be tried.

Of the other class is the enlargement of the bureau of information. This year it will occupy a small building of its own, near the railroad station. Competent and courteous men will be in charge, and long before Sept. 2nd, when the Exhibition begins, the bureau will be in service to engage rooms for intending visitors, to furnish any information and help to arranging tours for persons who may desire to come. The Fair is so large this year that more than one day will be really required to see it properly, but the hotels have joined in the general effort to make visitors comfortable. A list of good boarding houses, at all sorts of prices, has been made up, and some of the city's institutions and seminaries will throw open their dormitories for the fortnight. One of these alone will accommodate 600, and with the fourteen hotels in the city, the numerous boarding houses, and the conveniently-near hotels at North Hatley, there should be nobody in danger of having to sleep out of doors. Reduced fares, practically one fare for the return trip, will be given by the railways. The horse and stock classes will be the best ever seen in Eastern Canada, and the Show will be a great treat to all who attend.

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MARKETS.

TORONTO.

LIVE STOCK.

Receipts of live stock at the City and Junction markets last week were larger than the demand. Trade was easy at the Junction, with prices lower on Monday, and, as the week advanced, prices for all classes of fat cattle steadily declined, and on Thursday the market was the worst of the season.

At the Junction on Monday, July 29th, receipts of cattle were 1,833; quality fair; trade fair; prices easier. Exporters, \$4.90 to \$5.65; bulk selling at \$5.25. Prime lots butchers', \$4.80 to \$5; loads of good, \$4.50 to \$4.75; medium, \$4 to \$4.25; common, \$3.50 to \$3.75; cows, \$2.50 to \$3.65. Milch cows, \$3.50 to \$3.60. Calves, \$4 to \$4.50. Export ewes, \$4.50 to \$4.75. Lambs, 7c. to 7½c. per lb. Hogs, \$6.90 for selects, and \$6.85 for lights and fats.

Exporters.—Prices during last week ranged from \$5 to \$5.90; the bulk selling from \$5.25 to \$5.50 for the week. On Thursday, the highest price quoted for exporters was \$5.50 per cwt., or a decline of at least 40c. per cwt. during the week. Export bulls, \$4.25 to \$4.75 per cwt.

Butchers'.—Trade for butchers' cattle was good for the best grades, but very slow for common to medium, the market closing at the lowest quotations of the season. Choice picked lots, \$4.80 to \$5; loads of good, \$4.50 to \$4.75; medium, \$4 to \$4.40; common, \$2.75 to \$3.50; cows, \$2.25 to \$4 per cwt.

Stockers and Feeders.—Trade for stockers and feeders was very dull. One commission firm had a car lot of fair quality, weighing from 700 to 800 lbs. each, consigned them on Tuesday, for which they had not received an offer at the close of the market on Thursday. Prices were quoted as ranging from \$2.75 to \$3.75.

Milch Cows.—Trade in milkers and springers was a little better, at about the same prices as quoted in our last report. Prices ranged from \$25 to \$50, with a few at \$55 each.

Veal Calves.—Market weak, with prices easier in sympathy with the beef market. Quotations ranged from \$3 to \$6 per cwt., with an odd calf, new-milk-fed, at \$6.50 per cwt.

Sheep and Lambs.—Export ewes sold at \$4.50 to \$4.75; rams, \$3.50 to \$4; lambs, 7½c. to 8c. per lb.

Hogs.—At the Junction, on Monday, July 22nd, prices were quoted 10c. per cwt. lower by H. P. Kennedy, but Mr. Harris, of the City Market, quoted the market strong at \$6.90 for selects, and \$6.65 for lights and fats. On Monday this week prices for selects opened at the same figure, but lights and fats sold for \$6.85, as noted above.

Horses.—Few horses were on sale, about 75 during the week, largely from the City, few dealers from the country being on hand. Trade is dull, with prices easy at following quotations: Heavy workers, \$175 to \$225; a very fine pair of drafters sold at \$550; fair to good drivers sold at \$200 to \$230 each; express horses, \$180 to \$200; wagon horses, \$165 to \$185 each.

BREADSTUFFS.

Wheat.—No. 2 white winter, 89c.; No. 2, mixed, 88c.; No. 2 red, 90c.; Manitoba, No. 1 Northern, 97c.
Buckwheat.—60c.
Rye.—Nominal at 70c.
Peas.—78c. to 79c.
Corn.—No. 3 yellow, 61½c.
Barley.—No. 2, 54c. to 55c.; 3X, 53c. to 54c.
Bran.—\$18 to \$20, at city mills.
Shorts.—\$20 to \$21.50.
Flour.—Manitoba patent, \$4.60, on track, at Toronto; Ontario, 90 per cent. patents, \$3.50 bid for export; Manitoba patent, special brands, \$5; second patent, \$4.40; strong bakers', \$4.30.

COUNTRY PRODUCE.

Butter.—Trade about steady; prices unchanged. Creamery, pound rolls, 22c. to 23c.; creamery boxes, 21c. to 22c.; dairy, pound rolls, 20c. to 21c.; tubs, 18c. to 19c.; bakers' tub, 16c. to 17c.
Eggs.—Prices slightly firmer, at 18c.
Cheese.—Market steady, with fair supplies; large, 12c.; twins, 12½c. to 12¾c.
Honey.—Strained 12c.; combs, per doz., \$2.50 to \$2.60.
Evaporated Apples.—8c. to 9c.
Beans.—Car lots, in bags, hand-picked, \$1.25 to \$1.30; primes, \$1.15 to \$1.20; broken lots, \$1.45 to \$1.55; hand picked, \$1.30 to \$1.35, in bags.
Potatoes.—Old potatoes are easier at 80c. to \$1 per bag; new, \$3.25 per barrel, by the car lot, at Toronto; farmers' loads, \$1 to \$1.15 per bushel.
Poultry.—Receipts growing larger; chickens, 15c. to 20c. per lb., dressed; ducks, 15c. per lb., dressed; fowl, 8c. to 11c. per lb., dressed.
Hay.—Baled, car lots, \$14 to \$15 for No. 1 timothy; No. 2, \$12.50 to \$13.
Straw.—Baled, \$7.25 to \$7.50 per ton.

TORONTO FRUIT MARKET.

Receipts of Canadian fruits increase as the season advances. Strawberries, 9c. to 11c.; raspberries, 15c. to 18c.; cherries, eating, 90c. to \$1.10; cherries, cooking, 75c. to \$1 per twelve-quart basket; red currants, 90c. to \$1 per basket; gooseberries, 75c. to \$1; cucumbers, Canadian, 40c. to 60c. per basket; green peas, 30c. to 35c. per basket.

HIDES AND TALLOW.

Prices are quoted as follows by E. T. Carter & Co., 85 East Front St., Toronto: Inspected hides, No. 1 cows and steers, 9½c.; inspected hides, No. 2 cows and steers, 8½c.; country hides, 7½c. to 8c.; calf skins, No. 1, city, 13c.; calf skins, No. 1, country, 11c. to 12c.; horse hides, No. 1, each, \$3.25 to \$3.50; horse hair, 80c.; tallow, 5½c. to 6c.; wool, unwashed, 13c. to 14c.; washed, 23c. to 24c.; rejections, 17c. to 18c.

CHEESE BOARD PRICES.

Woodstock, Ont., 10½c. bid, no sales.
Kingston, Ont., 10½c. to 10 9-16c.
Madoc, Ont., 10½c. to 10½c. Victoriaville, Que., 10½c. Tweed, Ont., 10 5-16c. bid, no sales.
Napanee, Ont., colored, 10½c. to 10 11-16c.; white, 10½c. Ottawa, Ont., 10½c., 10½c. and 10 9-16c.
Listowel, Ont., 10½c. to 10 7-16c.
Huntingdon, Que., white cheese, 10½c.; colored, 10 9-16c.; fresh butter, 21½c.; salted butter, 21c. Kemptville, Ont., 10½c. bid, no sales. London, Ont., 10c. to 10½c. bid, no sales. Watertown, N. Y., 12c. Belleville, Ont., white, 10 9-16c., 10½c. and 11 1-16c.; colored, 10½c. Picton, Ont., cool-cured, 10½c. to 10 13-16c.; ordinary, 10½c. Brockville, Ont., 10½c. St. Hyacinthe, Que., butter, 21½c.; cheese, 10 7-16c. to 10 9-16c.
Winchester, Ont., 10½c. Cornwall, Ont., white, 10 9-16c.; colored, 10 1-16c. Vankleek Hill, Ont., 10½c. Cowansville, Que., butter, 21½c., 21½c., 21½c. and 21c.; cheese, 10½c., 10 7-16c., 9 11-16c., 10½c. and 10½c. Russel, Ont., 10½c.

BUFFALO.

Cattle.—Prime steers, \$6.15 to \$6.85; butchers', \$4.40 to \$5.60; stock heifers, \$2.50 to \$3.
Veals.—\$5 to \$8.75.
Hogs.—Heavy, \$6.25 to \$6.70; mixed, \$6.70 to \$6.75; Yorkers, \$6.75 to \$6.80; pigs, \$6.85 to \$6.90; roughs, \$5.40 to \$5.75; stags, \$4 to \$4.50; dairies, \$6.25 to \$6.65.
Sheep and Lambs.—Lambs, \$5 to \$8; yearlings, \$6 to \$6.50; wethers, \$5.75 to \$6; ewes, \$4.50 to \$5; Sheep, mixed, \$2.50 to \$5.25.

MONTREAL.

Live Stock.—Local markets easier last week. Receipts of cattle, both from Ontario and the Northwest, increasing; this coupled with lower advices from abroad. There was a slow trade; sellers not ready to accept buyers' figures. Exporters took a few choice Ontario steers at 5½c.; ranchers, 5½c. per lb. The local market paid a fraction more than exporters, at 5½c. to 5¾c. for choice, 5¼c. for fine, 4½c. to 5c. for good, 4c. to 4½c. for medium, and 3c. to 3½c. for common. The market for sheep showed an easier tone, owing, it was thought, to increased supplies. Supplies of lambs light; prices firm under a keen local demand. Sheep, 4c. per lb., there being some export lambs at \$4 to \$6 each. Hogs, demand good, at 7½c. to 7¾c. for choice, and lower for others, down to 6½c. Calves, common, \$2 to \$4 each, and choice, \$5 to \$10 each.

Horses.—Receipts continue light, particularly of good horses. Demand good all round; but good horses are wanted everywhere and cannot be had even at the high prices now offering for them. Prices, consequently, hold firm, and the following are not sufficient to bring out all the horses wanted, so that the probabilities are that premiums could be in some cases obtained: Heavy-draft horses, weighing from 1,500 to 1,700 lbs. each, \$275 to \$350 each; light-draft, 1,400 to 1,500 lbs., \$250 to \$300 each; express horses, \$175 to \$250 each; common plugs, \$75 to \$150 each, and choice saddle and carriage horses, \$300 to \$500 each.

Dressed Hogs.—9½c. to 10c. per lb. for choice abattoir fresh-killed stock. Demand for bacon and hams shows no abatement, and the market continues steady at 10½c. to 12½c. per lb. for green bacon, and 13c. to 15c. for smoked, according to quality. Hams, 14c. per lb. for hams weighing 25 lbs. and over, 14½c. to 15c. for those weighing 18 to 25 lbs.; 15c. to 15½c. for 12 to 18 lbs., and 16c. for 8 to 12 lbs., and 17c. for smaller. Lard, 10c. to 11c. for compound, and 12½c. to 13c. for pure. Barrelled pork, \$20.50 to \$24.50 per bbl.

Potatoes.—Market for new firmer; old stock scarce. Merchants quote \$1 to \$1.25 per bag, delivered into store. Farmers would have been able to obtain much higher prices on the local market, for new stock, had it not been for the receipt of a few carloads from United States. This was offering at \$3.50 to \$3.75 per bbl., while Canadian stock was bringing \$3.75 to \$4. The Canadian stock probably weighs somewhat more than the American.

Eggs.—Dealers report that they are still paying 15c. per doz., country points, west of Toronto, and 15½c. east. They are candling this stock, and selling the good eggs at 17c. When selected, the stock brings from 19½c. to 20c. per dozen. Market firm. The loss in candling is large.

Honey.—Very little doing yet. Only a little has been received here from the new crop, and so far as heard, the only transaction has been at 10c. per lb. for white clover strained.

Butter.—Dealers are now looking forward to a better demand from England. During the week ending July 21, only 4,000 packages were exported, making 15,000 to date, against 137,000 for the same period last year. Market firm at present. Dealers could realize 20½c. for choicest saltless, 20½c. to 20¾c. for salted, Townships, while Quebecs are about 20c. to 20½c. Ontarios, practically the same as Quebecs.

Cheese.—Market easy. There is little demand from England, and some complaint in Montreal regarding the quality of the receipts, openness being the prevailing fault. Receipts are large just now, and prices range around 11½c. to 11¾c. for Ontario colored, 10½c. to 11c. for white, and 10½c. to 10¾c. for Townships, and 10½c. to 10¾c., or perhaps a fraction lower, for Quebecs. Shipments for the week ending July 21st amounted to 94,000, against 81,000 for the corresponding week last year, making 710,000 packages shipped to date, against 860,000 a year ago.

Flour and Feed.—Some demand from New York exporters for Manitoba bran. However, prices continued steady at \$19 per ton, in bags, shorts being in good demand at \$23. Flour, \$4.50 per

bbl., in bags, for Manitoba strong bakers', and \$5.10 for patents.

Grain.—Manitoba white oats, 48½c. to 49c., in carloads, No. 2 Ontarios being 48c. to 48½c., No. 3 being 47c. to 47½c., and No. 4 being 46c. to 46½c., store.

Hay.—Cutting is now in progress in the vicinity of Montreal. The crop gives promise of turning out only fair. Some fields are very poor, others being good. Prices, \$16 to \$16.50 per ton for No. 1 timothy, \$15 to \$15.50 for No. 2, and \$13.50 to \$14 for clover-mixed, and \$12.50 to \$13 for clover, ear lots.

Hides and Tallow.—The market for hides has continued steady after the recent succession of declines. Receipts are reported fairly large, and as the demand from tanners is light, there is some accumulation. Prices are steady, dealers paying shippers 7c. per lb. for No. 3 beef hides, Montreal; 8c. for No. 2, and 9c. for No. 1, and selling to tanners at ½c. advance. Calf skins are 8c. for No. 2, and 10c. for No. 1. Lamb skins are still 30c. each, and No. 1 horse hides, \$2.25, No. 2 being \$1.75. Rough tallow, 1c. to 3½c.; rendered, 6c. to 6½c. per lb.

CHICAGO.

Cattle.—Common to prime steers, \$4.75 to \$7.35; cows, \$3.25 to \$5.75; heifers, \$3 to \$5.75; bulls, \$3.15 to \$5.25; calves, \$3 to \$7.25; stockers and feeders, \$3 to \$5.

Hogs.—Good to prime, heavy, \$6.25 to \$6.35; medium to good, heavy, \$6.15 to \$6.25; butchers' weights, \$6.25 to \$6.45; good to prime, mixed, \$6.15 to \$6.30; light, mixed, \$6.25 to \$6.40; packing, \$5.75 to \$6.10; pigs, \$5.75 to \$6.40; selected, \$6.40 to \$6.50; bulk of sales, \$6.15 to \$6.40.

Sheep.—Sheep, \$3.75 to \$6; yearlings, \$5.50 to \$6.40; lambs, \$5 to \$7.25.

BRITISH CATTLE MARKET.

Liverpool and London cables, 12c. to 13c. per lb., dressed weight; refrigerator beef quoted at 9½c. to 10c. per lb.

Vaccination for Blackleg and Anthrax in Cattle.

The disease known as blackleg in cattle, although entirely unknown in many extensive agricultural sections of Canada, and not at all widespread in any district or Province, annually causes quite extensive losses to cattle-raisers. Anthrax, which is quite a different disease, although frequently confused with blackleg in the minds of many cattle-raisers, is also the cause of serious loss of stock. The former disease is almost entirely confined to cattle under three years, and is generally fatal. The latter attacks other classes of farm animals, and the human subject is not exempt from its infection, which generally results seriously.

By the aid of science, cattle-raisers are now enabled to protect their stock against these maladies. As the human family is vaccinated against smallpox, in the same manner cattle are rendered immune from blackleg and anthrax. The Department of Agriculture, at Ottawa, through the Health of Animals Branch, is now in a position to supply preventive vaccine for each of these diseases at the nominal cost of five cents per dose. Until recently, by special arrangement with extensive manufacturers in the United States, these products were secured at a reduced cost, and were placed in the hands of Canadian cattle-raisers at ten cents per dose for blackleg vaccine and fourteen cents per dose for anthrax vaccine. It is due to the fact that these preparations are now being made at the Biological Laboratory in connection with the Health of Animals Branch that they can be supplied at five cents per dose.

The vaccine for blackleg may be administered by any intelligent person by means of an instrument supplied by the Department at fifty cents.

Anthrax vaccine, which is also supplied at five cents per dose, is more difficult to administer, requiring a qualified veterinarian to treat an animal.

Cattle-raisers who have fear of an attack of either blackleg or anthrax would do well to apply to the Veterinary-Director General, at Ottawa, for the proper preventive treatment.



Life, Literature and Education.

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

PEOPLE, BOOKS, AND DOINGS.

A new substance called molybdate of uranium, which contains many of the radio-active properties of radium, has been discovered by a young French student named Andre Lancien. The substance differs very materially from radium in that it is not at all expensive.

The engagement of the author, Sir Conan Doyle, and Miss Jean Leckie, has been announced. Sir Conan is forty-eight years of age, and is one of England's trio of most celebrated old bachelors. The other two are Sir Thomas Lipton, of yachting fame, and Sir Thomas Dewar.

It is said that J. Pierpont Morgan is negotiating for the purchase of two very ancient French convents, the Abbey Fontevrault and the Abbey Solesmes. The former contains the tombs of Henry II. of England and his wife, and of Richard Cœur de Lion and his wife Isabel.

The airship "America," in which the Wellman party will essay to fly from Spitzbergen to the North Pole, is 183 feet in length, and 52.5 feet at its greatest diameter. The steel car beneath it is 115 feet in length, and the height from the bottom of the car to the top of the gas reservoir is 65 feet. The surface of the gas reservoir is 24,000 square feet, and the weight of the envelope of cotton, silk and rubber which surrounds it is two tons. The ship, when going at full speed, in calm weather, will go from 15 to 18 statute miles, or 13 to 16 sea miles, per hour. It will be navigated by four men—a surgeon, an airship-builder, a scientist, and Mr. Wellman himself—and the total distance covered from Spitzbergen to the Pole and back will, if accomplished, be 1,236 sea miles.

Mlle. de la Ramee, the once famous novelist, known as "Ouida," has been placed upon the British civil list as the recipient of a pension of \$750 a year. Financial troubles have come thick and fast upon her during the last few years, and at times she has been in actual want of food. She still, however, indulges her liking for dogs, in so far as to keep three; in Florence, during her palmy days, she kept at least thirty, besides forty horses. Mlle. de la Ramee is now sixty-seven years of age.

THE PRINTING-OFFICE OF TO-DAY AND YESTERDAY.

By an Old-time Printer.

Long, long ago, if reckoned by the intervening mechanical development, yet not so very long as the actual years have passed, a small boy, timidly, and in a fever of nervous dread, climbed the long, dark stairway leading to the composing-room of a morning newspaper office. He had secured a "job," and this was his first night. It was the realiza-

tion of a long-cherished ambition, yet, as he approached his enchanted goal, he was fearful, and his hand trembled as it touched the latch of the door, from behind which there came a buzzing, as of many voices. Having overcome an almost irresistible desire to rush out of the building and back home again, he drew a deep breath and stepped into a long, low room, the ceiling of which was black with smoke from many gaskets and the pipes of more than one generation of smokers. Along one side of the room were racks, or frames, and upon these were placed the cases of type, before which the men sat, or stood, as the mood possessed them. On the other side were arranged the galley-racks and the "dump," where the type was deposited as each man filled his "stick," and there was always a race to see who would have the first stickful dumped. Further down the room were the composing-stones, upon which the different articles were assembled and made up into pages before being sent down to the press-room; at the far end stood the proofreader's desk, and beyond that the editorial room.

opinions on the subject under review. But when the question of typesetting machines was introduced there appeared to ensue an intellectual panic. Sane and sound as the compositors were on all other subjects, on the matter of setting type by machinery they were all at sea. The usual conception of a mechanical typesetter was a huge monstrosity, something after the fashion of a "daddy long-legs," with innumerable arms that would reach out over the "case" and pick up the letters from the different boxes. The thing was unanimously decided to be impossible, and one veteran "hobo" back from the tall timbers just about expressed the general sentiments when he declared that, "If they invent a machine that will read that stuff the 'old man' writes, I'll swallow my shoes, patches and all," the unsanitary condition of said shoes notwithstanding. The old vet.'s frequent and rueful reference to the chirography of the editor-in-chief was provoked by an incident which occurred on his initial night as a "sub." on this particular paper. The old man, as the chief editor was familiarly dubbed in the seclusion of the com-

hours later in a condition that his juvenile satanic majesty described as "perfectly spifficated." Indeed, their overburdened legs refused to assist in their ascension of the stairway, so they wandered into the press-room and tucked themselves cosily up on the mailing tables, one on either side of the room, where, through the treachery of old Morpheus, they fell easy prey to the minions of that nether region, who, with the assistance of unlimited quantities of various-colored poster-ink, decorated their "mugs" with such hieroglyphics as would have caused the ancient Egyptians to sit up and take notice, or fierce old Sitting Bull wither up with envy. They were found there by the comps. in the morning, and then was the climax of absurdity reached, for, as they were shaken into consciousness and began to rub their weary eyes, they each became aware of the other's condition, while entirely ignorant of their own, and while they pointed at one another and laughed in a half-drunken and maudlin way at what each considered a huge joke on the other, they presented such an utterly ridiculous spectacle that the grouchy old pressman almost laughed himself into convulsions.

But now the presiding "devil" (by which designation the latest apprentice was always honored) took charge of the new boy, showed him where to hang his coat, and, waiving the formality of an introduction, commenced his initiation by sending him in to the editor for a "half-round square," and had he gone where the "night man" suggested he should go, it is safe to assume he would not have returned even at this late day. But he did not go, as other things claimed his attention. Somebody called "time," and immediately all was activity. The compositors crowded around the copy file, each man secured his "take" of copy and hurried back to his frame, and presently quiet settled over the busy room, and no sound was heard save the click, click of the type as the letters dropped into the metal composing-sticks. The typesetters of those days were nearly all piece-hands, and woe unto anyone who should make himself too conspicuous during "composition" time, for he was as sure of being crushed, metaphorically, as the unfortunate fly on the wheel of time. The embryo type watched the nimble fingers dexterously manipulate the pliant type, and he smiled as he likened them in his own mind to a flock of hungry chickens picking up corn.

All type is made with nicks on one side, so it can be set up without looking at the face, thus saving much time, as the printer can locate a type character in the case by merely glancing at the nick, pick it up, drop it into the stick, where it is held in position by the thumb of the left hand while another letter is being selected by the right, and so on continuously, without looking at the face of a single letter; after each word a blank type, called a space, being dropped in, and the line "justified" to proper length by substituting thick spaces for thin ones, or vice versa, as required, the whole being accomplished at the rate of something less than a minute for each line. These little details and many others



"Maiwand Saving the Guns."

(From a painting by R. Caton Woodville, R. I., loaned for the Toronto Exhibition, 1906, by the Walker Art Gallery, Liverpool, England.)

Now, this small and awkward boy had long wished to become a printer, for he believed that the man who could arrange the little letters into words, and the words into stories, must be a real magician, in whose brain were stored all the secrets of the universe; and as he listened to the conversation of the men, who were distributing the type, in preparation for the real work of setting up from copy, he saw no reason to change his mind, for they talked of almost every subject under the blue, and he heard familiar mention made of things which he had thought might be known only to kings, bishops or great statesmen. They had an intelligent knowledge of the events of times past and present, and as the type dropped from their fingers into the cases the discussion went on, and each one was listened to attentively as he expounded his

posing-room, was a notoriously bad writer—almost as bad as the famous Horace Greeley himself—and as the first round of copy was being given out, the "tourist" was handed an article that had evidently been penned in a hurry. He looked at it earnestly for a moment, turned it upside down and looked again, then deliberately tore it up and threw it on the floor, while a shrewd smile overspread his frontispiece as he drawled out, "Not for mine, Willie; that brand of chaff don't hold this bird." But, alas, when he was finally persuaded that it was actually copy, and set nearly every day, he was so disgusted that he and another one-time knight of the road "jumped their cases" and went straightway forth, and not only looked upon the wine copiously that they returned some-

became clear by a slow evolutionary process, during which old Father Time, that greatest of all alchemists, gradually transformed the small boy into a big one, until one day the foreman, after much importunity, put him in possession of a frame of his own, and for him that was indeed a happy event. But his joy was not without its alloy, for the proof-reader, with whom he had always been on fairly good terms, now became his most deadly enemy, or so he believed, for do what he would, he could not suit that sour-visaged tyrant who occupied the desk where all matter was read over for corrections before going into print. What he considered the fickleness of that man was to him most exasperating. One day it would be "fungus" and the next "fungous"; yesterday "analysis" and to-day "analyses"; and for the very life of him he could not discriminate between "he progressed" and "his progress," and in a multiplicity of similar words and phrases he could not comprehend the distinctions. He quarreled with the reader, he was narrow, and he would always put himself in the right; until one day, somehow—who can fathom the inner workings of the human mind?—he became conscious that there was more than one point of view; he changed places, mentally, with his opponent; he reasoned with himself, and endeavored to show where he might possibly be in the wrong; he searched the dictionary, and a new light began to dawn; he gradually came to understand the difference between a noun and an adjective, a singular and a plural, and that the form and placing of a word in a sentence governed the inflection, and consequently the division. The intricacies of our language were no longer a vexation, but the solving of each new problem gave him keen satisfaction. His work seemed easier and pleasanter, and he could accomplish much more in a given time; and the proofreader could possibly explain why, when the great day came—yes, the camel had at last passed through the eye of the needle—and the first typesetting machine was installed, he, out of all that large staff, was the one chosen to operate it.

The first machine was crude, and could not meet the requirements of the daily paper; neither did it attempt to read illegible copy; the inventors had skilfully evaded the pitfalls conjured by the old-time compositors. But while the machine fell far short of perfection, it embodied the true principle on which the success of the modern typesetter has been attained—that of a matrix, or mould, in which the face of the letter is cast. These matrices are assembled from a keyboard much like that of a typewriter, and the type is cast in a solid line, the machine being operated at a speed of about five lines a minute. Several styles have come into general use, the one capable of the highest class of work casting the letters separately, similar to hand-set type; but the linotype is preferred for newspaper work, on account of its speed.

Anyone stepping from the electric elevator into the well-lighted composing-room of a certain popular newspaper, would never think of associating the line of peculiar-looking mechanical contrivances with the double row of intelligent humans whom they have displaced, but a glance at the countenances above the keyboards is enough to satisfy the student in physiognomy that the standard of manhood has not deteriorated. And he who is in charge of this well-kept room, as he notes the many different appliances which science has yielded to her masters, and recalls the night when he first hesitated on the rickety staircase, concludes that, while time indeed works wonders, nowhere are his marvels more evident than in the modern printing-office.

The Kid.—Pa, what is a "automobile meat"?

The Dad.—Anybody that gets in the way of one is automobile meat.

MAKE MEN HAPPY.

I would much prefer that people should try to make me happy than that they should try to do me good. They have ninety-nine chances out of a hundred to succeed in the first, for the desire for happiness is the highest common factor in the make-up of humanity, and to a very great extent the same things make us all happy—a word of cheer; praise that has been earned; a gift, large or small, inspired by love. There is no danger of making a mistake in giving these to anyone, no matter what his peculiarities may be. And in making him happy you go a long way toward making him good.

To dispense happiness is to give out sweet bread and pure water. Everyone can take and use what you have to give. But "doing people good" is bestowing upon them certain dishes that suit your own palate and digestion, and expecting them to make a full meal before your very eyes, regardless of the effect it will have on their systems.—Winnipeg "Farmer's Advocate."

"CARMICHAEL": A ROMANCE.

What some of the leading papers are saying about it:

Charlottetown Guardian:

There are certainly novels and novels, some good, some bad, and some indifferent. The second and third classes greatly outnumber the first. And, after all, the sensational

charming story—clean, clever and cultured—which, intended to uphold husbandry and the classes upon it depending, should at least find a first place in every Islander's book-shelf.

The tale is captivatingly, if modestly and unaffectedly, told. It is a tale of the rural life of Ontario, but, for that matter, so true are the descriptions of such life and the characters thrown upon the canvas in them, that we imagine we have known them all our lives; we could go right out here, in Prince Edward Island, and duplicate them in every settlement, almost. The Mallorys and Carmichaels are repeating the family troubles of the Montagues and Capulets; and we are all as much concerned, if not more so, in their outcome as are the numerous generations who hang on Shakespeare's lips, and joy and sorrow with the youthful lovers whose lives foolish parents filled with bitterness unutterable. A misunderstanding between two farmer-neighbors, growing out of unfavorable appearances, nursed into real hate on one side—the guilty one—and excessive if honest indignation on the other, made intercourse impossible between the families, and Dick and Peggie, unnoticed when small, are involved, to their great distress, when boyhood and girlhood is reached, and only have matters adjusted in the end after the serious trial of their true love is over. The narration and culmination of this farmer feud, and the community events with it interwoven so skilfully, presents a stage to us, with actors always upon it who can

operations of the farm, the simple and the complex alike, as vividly and so truly as to be of great use in its direct lessons. We want just such books here, and many of them, and this is why we deem it apropos to call the attention of the community to it, and to urge the reading of it, and its preservation for family use, for its morals, its literature and its agriculture.

THE ELEMENTS OF LOVE.

Love is a compound thing, Paul tells us. It is like light. As you have seen a man of science take a beam of light and pass it through a crystal prism broken up into its component colors—red, and blue, and yellow, and violet, and orange, and all the colors of the rainbow—so Paul passes this thing, Love, through the magnificent prism of his inspired intellect, and it comes out on the other side broken up into its elements. And in these few words we have what one might call the Spectrum of Love, the analysis of Love. Will you observe what its elements are? Will you notice that they have common names; that they are virtues which we hear about every day; that they are things which can be practiced by every man in every place in life; and how by a multitude of small things and ordinary virtues, the supreme thing, the summum bonum, is made up? The Spectrum of Love has nine ingredients: Patience—"Love suffereth long"; Kindness—"And is kind"; Generosity—"Love envieth not"; Humility—"Love vaunteth not itself, is not puffed up"; Courtesy—"Doth not behave itself unseemly"; Unselfishness—"Seeketh not her own"; Good Temper—"Is not easily provoked"; Guilelessness—"Thinketh no evil"; Sincerity—"Rejoiceth not in iniquity, but rejoiceth in the truth." These make up the supreme gift, the stature of the perfect man.—Prof. Drummond.

MILLET'S POVERTY.

It seems almost incredible that Millet, painter of "The Angelus," and other now world-famous pictures, should have suffered from the poverty that forms the basis of the following story, but it is a fact that he did. One day, indeed, he found himself without food in the house for himself and his family. In this extremity Diaz offered to take two of Millet's drawings to Paris and make an effort to sell them. Evening came, the Millet family anxiously awaiting their friend's return. If he came back without the drawings it meant bread; with them, hungry to bed. Night fell, the family sitting in darkness because they felt they could not afford a light.

At last they heard the stamping of Diaz's wooden leg as he crossed the little paved court, and his lusty voice calling out, "Light! Light! Where is the light?" The family hurried to light a candle. But even while the head of the old-fashioned sulphur match still was spluttering, Diaz, who was a Spaniard, and nothing if not temperamental, slapped down two loaves of bread on the table, one after another, in quick succession. When at last the candle was burning, he drew out sixty francs in gold, all save one piece, which he had been obliged to change in buying the bread. He arranged the gold pieces in a circle like a halo around the candle, ending with the change, of which he made a neat pile.

"Ah," sighed Millet, as he regarded the un hoped-for treasure, "if only I could count on a sum like this every week!"

"Would you turn capitalist?" reproachfully asked Diaz.

If to suffer is a spur to genius, is it a wonder that these Barbi'on men were great painters?

There had been a dressmaker in the house and Minnie had listened to long discussions about the very latest fashions. That night when she said her prayers, she added a new petition, uttered with unwonted fervency:

"And, dear Lord, please make us all very stylish."



Peasants of La Vendee—Preparing for Revolt.

(From a painting by Thomas Hovenden. Exhibited at Toronto Exhibition, 1903.)

novel is the most foolish thing in the world. Even the case-hardened have a bad taste in their mouth after staying up nights to devour it. Reflectively, too, there is nothing real about it, when we synthesize; we feel like a buncoed gambler turned loose. The good book, however—the book which is good in its tone, good in its aim, good in the quality of its writing, good in the practical lessons conveyed—that book is a treasure. Most people now have gotten over the appetite for cant, which was but yesterday the expression of worldly virtue. They want their children to be real, honest, conventional even, in these things which ornament the character of a man or woman worthy of the name. They cannot build a jaiyard around them, they know; but, on the other hand, they have prudence enough to safeguard them from the wolves of society, and to place ideals before them which may help them upward and onward when the moment of real trial comes. The new book which Anison North has just issued from the Wm. Weld Co., Ltd., London, Ont., under the title of "Carmichael," will be placed before all with a feeling of well-doing on the part of the man in authority, and who understands what responsibility his authority imposes. It is a

healthfully and effectively entertain us.

Dick Carmichael and Peggie Mallory are the prominent figures on this stage, of course, but we see many others of more or less lovable natures moving across it, and feel that they speak and act as people we have known. There is the foolish if not utterly abandoned Gay Torrence, badly brought up, and enamored of the tinsel and veneer of the city, until sad experience cures her completely; there is frugal and industrious if censorious Mrs. Might, with an itch for matchmaking; there is honest, philosophizing and generally level-headed old Chris, the farm helper at Mallory's; there are the peculiar Dodds, father and son; there is the rascally Dr. Jamieson, and so many others, with whom we are thrown in contact as the tale evolves—all of whom are true to the life in the limning, and linger helpfully and entertainingly with us after the book is long put aside. And the moral is good: Avoid rash judgments, and go through life happy yourself and making others happy.

This "Carmichael," in its direct agricultural teaching, too, is a valuable book for the farm. It not only maintains the dignity of farming splendidly, as compared with other avocations, but it describes the

The Quiet Hour.

THE DUTY OF GLADNESS.

Rejoice in the Lord always: and again I say rejoice.—Phil. iv.: 4.
Rejoice evermore.—1 Thess. v.: 16.

"I would my friends should see
In my glad eyes the beauty of His face;
Should learn that in His presence there
is peace,
Strength and contentment, that can
never cease."

Yesterday someone said to me: "You always look so happy," and I thanked God for His answer to my prayer that "my friends should see in my glad eyes the beauty of His face." I do most earnestly want to "help a little," in my journey through life, and I am more and more convinced that gladness is one of the greatest gifts we can bestow. I know a young girl who is seldom noisily jolly, but whose face is always so glad that the common saying about her is: "Her face is like a benediction." Such gladness is a benediction—a blessing to the world—and it is the outward visible sign of God's benediction; the proof that the soul is walking with God in secret. "I have set the Lord always before me," says the Psalmist, "because He is at my right hand, I shall not be moved." And he goes in to explain the effect of such a cause: "Therefore my heart is glad, and my glory rejoiceth."

The great secret of perpetual gladness is the realization of the presence of God. It must destroy cowardly fear of danger to know that God is close beside us, all-loving and all-mighty to protect and strengthen His forgiven children who are earnestly trying to obey Him in all things. No wonder Elijah dared to confront Ahab with his stern message of a threatened and terrible punishment, when he could calmly say: "The Lord God of Israel liveth, before whom I stand."

What higher place could even the angel Gabriel covet than this: "I am Gabriel, that stand in the presence of God."

Our Lord was strengthened to go forward to voluntarily bend beneath the awful weight of the sins of the whole world, because He could say with confident assurance: "I am not alone, because the Father is with Me." We all want to be happy, but gladness does not always come at our call—and yet the command of the Apostle, "Rejoice in the Lord always," does not stand alone, but is reiterated over and over again in both of the great divisions of the Bible. It is true that life has its times of agony. The soul must pass through the fire before it can be purified as silver or fine gold. There are times when the deep joy of a soul that rests upon its God is pressed down under pain, as the everlasting joy of Christ was hidden under a cloud in Gethsemane and on Calvary. When He felt that even His Father had forsaken Him, the cry of pain was terrible, and yet the "joy" of which He had so often spoken to His disciples on that last evening—"My joy," He called it—was still His precious possession. And if the joy of Christ's felt presence has become the priceless possession of any soul, pain or darkness cannot kill it. The black cloud will surely pass, and the sun—which has never ceased its shining—will be seen again. If you are passing through the fire now, and feel as though life were a burden which could hardly be endured, remember that One who loves you is watching tenderly over the refining process. He is showing His love by purging away the dross. Surely we can be glad, glad in the midst of the pain, because the Great Refiner sees precious gold in our souls and is not willing to lose that gold through the cruelty of a too-indulgent softness in dealing with us. But we cannot be refined if we refuse to submit to God's dealings with us, if we persistently say: "Not Thy will but mine be done." Surely we do not want the lament of Jeremiah over his people to be true of us, when he declares that the refining process is a failure. This failure is not the result of want of skill on the

part of the Refiner, but is the fault of the material He is trying to refine. "The bellows are burned, the lead is consumed of the fire; the founder melteth in vain. . . . reprobate silver shall men call them, because the Lord hath rejected them. Yes, we may rejoice in tribulations, and seek to gain the gift of a beautiful purity, gazing continually into the face of the One whose hand "presseth sore," yet very tenderly; until He can see His own beauty of holiness reflected in us, and can, with great joy, take his beloved as pure gold out of the furnace.

"God never would send you the darkness,

If He thought you could bear the light,

But you would not cling to His guiding hand

If the way were always bright,

And you would not care to walk by faith

Could you always walk by sight,

'Tis true 'He' has many an anguish

For your sorrowful heart to bear,

And many a cruel thorn crown

For your tired head to wear,

'He' knows how few would reach Heaven at all

If pain did not guide them there.

If 'He' sends you the blinding darkness

And the furnace of sevenfold heat,

'Tis the only way, believe me, . . .

To keep you close to His feet.

For 'Tis always so easy to wander

When our lives are glad and sweet.

Then put your hand in your Father's

And sing, if you can, as you go.

Your song may cheer someone behind you

Whose courage is sinking low,

And, well, if your lips do quiver,—

God will love you better so."

Let us try to form the habit of rejoicing

in everything which the Lord our God giveth us. One way of making this a possibility is to realize that the things which come to us—even though they may be the result of our own sin, or of the sin of others—are really offered from our Father's hand to ours. Our Lord forbade St. Peter to make any resistance, telling him to put up his sword into the sheath, and explaining his reason for accepting, willingly, the rough treatment He was receiving: "The cup which My Father hath given Me, shall I not drink it?" He said. It mattered less than nothing to His clear sight that the pain and the shame were caused by the wickedness of men. The cup might be pressed into His hand by cruel enemies, and yet He knew certainly that their attempt to hurt Him would fall back powerless, unless God intended the Captain of our salvation to be made perfect through sufferings. He took the cup from His Father's hand—not from the hand of man—and so can we. And only by keeping our eyes open to see His face and our hearts warm to feel His love can we possibly obey the command: "Rejoice evermore." A short time ago a dear little lady of my acquaintance said to me: "Two years ago, when I came to the city, I thought that there was nothing for me to do but creep into a corner and get out of everybody's way. My relations were dead, I was very deaf, and felt myself a nuisance to anyone who tried to talk to me, and I felt as though nobody cared what became of me. But,

suddenly, an opportunity for congenial work came unsought, then new friends came into my life, my horizon grew wider as my sympathy went out to the young people around me, and I began to understand that God cared for me after all, and was trying to make me happy."

Do we not share her experience, to some extent? Opportunities came unsought, gifts are laid at our feet, paths widen out before us, until we cannot doubt the living continual care of our Heavenly Father. Should we not be as glad as little children, knowing that our Father is caring for us, planning out our future, watching over us in the present, and always willing to forgive the sins of the past, and let us start afresh with no record against us in His book of remembrance, if only we are really sorry for our sins and earnestly set an amendment? How can we fail to be happy if our past sins are blotted out, if our future is in strong and loving hands, and if we walk every hour close beside the One who is altogether lovely? Then we can respect the sweet refrain of the Song of Solomon: "My Beloved is mine, and I am His."

"The busy fingers fly; the eyes may see
Only the glancing needle which they hold:

But all my life is blossoming inwardly,
And every breath is like a litany;
While through each labor, like a thread
of gold,

Is woven the sweet consciousness of
Thee."

HOPE.

Dear Hope.—I have been impressed, week after week, to write and tell you how helpful your addresses are to me, and yet I did not do so, but kept putting it off. But this week, I feel I must write. Why, as far back as last Sep-

address, "To die is gain," for a friend in England, who, a few weeks ago, had a little grandson drowned. He was only six years old. I am writing it all, as I think it will comfort her. She is a good Christian. So, you see, dear Hope, how your work extends. I hope I have not wearied you with my long letter. I do pray God will bless you and that your work may be a joy to you.
(MRS.) H. F. BAYLISS,
Hickson, Ont.

Thank you very much for your kind letter, Mrs. Bayliss, I am glad you use the little morning prayer, and I hope others may be remembering to say it each day. In case any of our readers have forgotten the words, I will repeat it: "I praise my GOD this day, I give myself to GOD this day, I ask GOD to help me this day." Then there is the little Act of Love: "Lord Jesus, I love Thee, and I want to love Thee more."
HOPE.

My dear Hope.—Our workers here wish me to write and thank, through you, the friends among the readers of "The Farmer's Advocate," who helped us by sending money, but by not signing any name gave us no chance of thanking them personally. We appreciate also, of course, those who have taken children, but our secretary has been corresponding with them. This note is particularly thanking those who so generously give, and keep themselves in the background. We will let you know later of the number of homes, etc., that we have received through your columns. The work has gone on very successfully this year; about four hundred children have gone out now. We think the work is nearly over for this year. Wishing you success in your work, and thanking you for your constant interest,

Yours very sincerely,
ESTHER HOW.

AN ELECTRIC HOUSE.

It would be delightful, as Tennyson says, to "fall asleep with all one's friends," and sleep a hundred years, and then awake to enjoy the wonderful inventions and discoveries that will have been made by that time. For one thing, the lucky person who could do that would probably wake to find humanity living in labor-saving electric houses.

There is one of these electric houses already in existence. It is in Troyes, in the Rue Pierre Gautier, and is owned by Monsignor Georgia Knap.

The description of the house sounds rather weird. Had it stood in old-times in Salem, the inhabitants would surely have been hanged for witches. For when, desiring to enter, you press a button, instantly the door flies open, and a mysterious voice bids you welcome—a hidden gramophone. There is an electrically-activated doorman in the hall of this house, and it rubs the visitor's feet clean in the most thoughtful way. Along the wall are dozens of labelled buttons, and the mere pressure of the right button will do almost anything, from setting your tea or dinner before you to taking hot water to your room or closing the window.

When the guests are going in to dinner, the host presses a button, and the doors open; another, and the chairs place themselves. The center of the table is arranged with its flowers and silver and food down in the basement. Electricity lifts it, all adorned, to its proper place, and along with it come the lighted candelabras. From the chandelier above issue the strains of soft music as you eat. At the end of the meal, the host presses a button; the table vanishes, and windows open to air the room.

There are no hot-water bottles in the bedrooms, but they are not needed. There are bottles electrically treated, which keep warm all night. A human massuse is never needed. Massage machines are there, and can be set in motion by a touch, and can be applied to any part of the body.

Of course, the food is all cooked by electricity. There is a human cook employed in the house, also a flesh-and-blood butler, and a lady's maid. But housemaids, footmen and kitchen maids are eliminated by electricity in this marvellous house of the future.



Coming from the Fair.

(From a painting by Rosa Bonheur, 1822-1899.)

tember I wanted a little help with a paper I intended giving, and when "The Farmer's Advocate" came, I turned to the Quiet Hour, not expecting to find what I was looking for, but there it was. "The fire shall try every man's work of what sort it is."

How surprised I was. Then some time ago you told us of a minister you had heard addressing some young people, teaching them a little consecration vow, and said, if all the readers of "The Farmer's Advocate" would repeat it every morning what a chorus of praise would ascend up to God.

So I commenced to say it, and I think I have not missed but one morning. I am sure I have been blessed and really helped through the day.

I think it's so nice to say first thing in the morning: "I praise thee my God this day." It often reminds me of a verse:

"New mercies each returning day,
Hover around us as we pray,
New perils passed, new sins forgiven,
New thoughts of God, new hopes of heaven."

I thought when I wrote to my friends, I would ask them to join me, and I repeated the vow, from "Hope" down five, four in the Old Country. I have only been in Canada two years.

Then, this week I am writing out the

Children's Corner.

THE LITTLE VOYAGER.

Oh, the ways are many to Drowsy Land,
Someone, I know, would try them all,
'Tis hey, to-night, for a big balloon,
Big and round like a silver ball.
Up through the dark it swings along;
Blown by the night wind's rustling song.

Slowly it sways and swings this way,
Poising at last, just overhead,
When down drops a glimmering rope of
light,

And anchors it safe to a tiny bed;
And climbing the ladder of silver beams,
Someone embarks for the land of dreams.

All through the night, in the shining
thing,

Silent they float through the cool,
sweet dark,
Reeds they dip in the foamy clouds,
Where the summer lightnings glint and
spark
And east and west, o'er the wind-swept
sky,
The twinkling, golden bubbles fly.

Do you ask me how Someone comes home
again?

When deep in the west dips the silver
sphere?

Oh, never a thought do I give to that,
Perhaps the sun is the charioteer.

Pillows each morning a golden head,
—Pauline Francis Camp.

WHERE THE WILD BEASTS ARE.

A little girl at Great Totham, Essex,
when asked to write about wild animals
and the countries they inhabit, wrote,
"Wild animals used to abound in Eng-
land, but now they are only to be found
in the theological gardens."

A NARROW ESCAPE.

Little Miss Frog
Went out one day
To call on a friend
In a pond 'cross th' way.

When she started out
The sky was serene;
The flowers smiled,
And the grass was green.

But before she had hopped
'Cross the open space,
She felt something damp
Fall down on her face.

A cloud had gathered,
And raindrops fell
All about Miss Frog,
Coming down pell-mell.

So she hopped along,
With all her might,
To the pond of her friend,
And lept in out of sight.

For she feared the rain
Would spoil her dress,
And that she'd get wet
And take cold. Goodness!

SHOULD HOME-WORK BE DONE AWAY WITH?

Dear Cousin,—I thought that I would
like to write on the debate that was an-
nounced in "The Farmer's Advocate"
of the 13th inst. I think that home-
work should be done away with for
school children up to the age of eleven
years, because, if they are at school from
9 a. m. till four p. m., they will want
from that till bedtime to play. After
they are into the Third Book, they
should do about half an hour's home-
work until about six months before the
Entrance examination, when two and
one-half hours would not be too much.
Hoping to see many letters on this sub-
ject, and wishing "The Farmer's Advo-
cate" every success, I remain,
Vine, Ont. JOHN HUNTER.

There will be no more debates during
the holidays, so that you may all give
your brains a test, and start fresh in
the autumn. C. D.

THE AUTOBIOGRAPHY OF A TABLE

By One of the Cousins.

About four hundred years ago I was a
young sapling, growing in a large
forest in British Columbia. One day, as
a number of men were passing through
the forest, they remarked what a good
piece of timber I would make if I were
only larger. So they pulled me up by
the roots, and put me in a large box
with many others like myself. By and
bye, the box was moved to a high plat-
form and then dumped in a huge car,
where we had a long rough ride of many
miles. At last, I was thrown in the
freight shed, where it was so close that
I thought I would faint. Then a large



A Jolly Young Farmer.

A black man, with sharp eyes, lifted me
into a thing which I heard was a
wagon, where I had another rough ride,
but not nearly as long.

Then I was planted in an Ontario
farmer's forest. There I grew for many
years, and many birds that were flying
by used to rest on my branches. They
sang some songs that were inexpressibly
melodious. Still many more years passed,
and I still kept growing till I was called
"King of the Forest." Then, one day,
two men came along with an ax and a
saw, and began cutting me down, which
was so painful I thought my life had
come to an end. By and Bye, I was



Enjoying the Holidays.

hauled away to a sawmill, where many
huge knives skinned my bark off, and
made me into lumber. After this I was
taken to a carpenter shop, where I was
planed and sawed, and had nails ham-
mered into me, until I began to look
like a table, which made me so glad to
think I was of some use. Then I was
painted and varnished, and taken to a
furniture store, where I was placed in
the window. Many people admired me
as they passed, and, at last, a young
couple came to see some furniture. I
was the first table to be shown. They

asked how much I was worth.
The furniture man said, "Ninety-five
dollars." Then, after a little talk, they
took me, and had me delivered to their
house, where I was placed in the parlor.

There I stood many years, with a large
pile of books on me, till, at last, I be-
gan to get shaky and scratched. I was
then shoved out to the kitchen, where a
Chinaman laundered many clothes upon
me, till, one day, my legs fell off, and
I was thrown out into the wood-box
and cut into firewood. The mistress of
the house put me in the stove, which
was so hot, I thought I would melt, and
so I did melt into ashes, and then was
thrown out into the garden to fertilize
the soil. C. C.

Meadowvale P. O., Ont.
Thank you, "C. C.," for sending this
melancholy little tale. I hope you will
write again. C. D.

THE LETTER BOX.

Dear Cousin Dorothy,—May I write a
few lines for the cozy corner? I am a
little girl of nine. My home is in Bridge-
water, Mass. When at home, I go to
school every day. I go to the Model
school in the building of the State
Normal School. I am in the Fourth
Grade. Mamma, brother and I came to
Grandpa's to spend the summer. My
grandpa lives on a large farm in East
Walton, N. S., on the Minas Basin.
Grandpa has taken "The Farmer's Ad-
vocate" for twelve years, and I enjoy
reading it very much. My brother is
eleven years old, and he wants to be a
farmer. My brother went to sleep in the
hay mow to-day, and my Uncle George
had a hard time waking him up.
E. Walton, N. S. LOIS AMES.

Dear Cousin Dorothy,—I am glad the
summer vacation has come. I read the
Children's Corner first when "The Far-
mer's Advocate" comes in. When I go
to school, I walk about a mile. We have
a pet lamb. I will close with some
riddles. How many wives may a man
have according to the Prayer Book?
Ans.—Sixteen—fo(u)r better, 4 worse, 4
richer, 4 poorer.

What is the smallest bridge in the
world? Ans.—The bridge of the nose.
HATTIE BORROWMAN (age 12).
Auld, Ont.

Dear Cousin Dorothy,—My name is
Theda Walker. I will be seven years old
in August. I am staying at my Grand-

With the Flowers.

UNTHRIFTY GERANIUMS.

Will you please tell me what is the
matter with my geranium plants, and
what I can do for them? The trouble
started about three weeks ago; the leaves
became diseased and yellow and dropped
off. I have dusted them with insect
powder, and sprayed them with three
drops of carbolic acid in about a quart of
water, but it does no good. K. L. J.
Wellington Co., Ont.

We do not think it probable that the
trouble with your geraniums is due to
insects. Probably the drainage is at
fault, or the soil has become sour, or
possibly you have been giving too much
water. Repot your plants very carefully.
Put an inch or more of drainage
material (broken crockery, etc.) in the
bottom of each pot, put in a little good
garden loam, insert your plants, and fill
all about the roots with the soil, press-
ing down gently. Water, and keep in a
slightly-shaded place for a few days.
Geraniums should only be watered when
dry; that is, when the soil seems dry on
top, and the crock gives a ringing sound
when tapped at the side. Give the
plants plenty of sunshine, and do not
keep in too large pots, if you want
plenty of flowers.

PRIMROSE.

"Farmer John's Wife," Oxford Co.,
Ont., writes: "How should I treat a
primrose and primula, which flowered last
winter and which I want to flower
again next winter?"

All primroses and primulas belong to
the same family; primroses are, in fact,
primulas, although there are several
species. In answer to your question, Mr.
Wm. Hunt, of the O. A. C., Guelph,
says:

"The plant mentioned is doubtless
either *Primula sinensis* (Chinese prim-
rose), or *Primula obconica*, both varie-
ties of which are pot primulas for
winter flowering. The summer treatment
for both these varieties is about the
same. Stand the plant in the pot in a
cool, shady place, either in a north
window or out of doors, where the hot
sun does not strike it. Give water
sufficient to keep soil moderately moist.
Repot the plant about the end of August,
removing a small portion, about one-
third, of the outside of the soil carefully.
A size larger pot than the old one should
be used. One part sand and one part of
leaf mould, or black soil from the bush,
and two or three parts of light loamy
soil enriched with about one-fourth part
of dry cow manure makes a good com-
post for primulas.

"Avoid potting the plant too deep in
the soil.

"Good drainage is necessary. Place
nearly an inch of small lumps of char-
coal, broken flower-pot or coarse gravel
in the bottom of the pot for drainage.
The Chinese primrose does not succeed
well, as a rule, the second season. Young
seedling plants of both varieties succeed
best.

EVERYBODY PAY UP.

A negro preacher, whose supply of
hominy and bacon was running low, de-
cided to take radical steps to impress
upon his flock the necessity for con-
tributing liberally to the church ex-
chequer. Accordingly, at the close of
the sermon he made an impressive pause,
and then proceeded as follows:

"I hab found it necessary on account,
ob de astringency ob de hard times an'
de general deficiency ob de circulatin'
mejum in connection wid dis chu'ch, t'
interduce ma new ottermatic c'lection box.
It is so arranged dat a half dollah or
quahtah falls on a red plush cushion
without noise; a nickel will ring a small
bell distinctually heard by de congrega-
tion, an' a suspendah-button, ma fellow
mawtels, will flash off a pistol; so you
will gov'n yo'selves accordingly. Let
de c'lection now p'ceed, wile I takes off
ma hat an' gibs out a hymn."

THEDA WALKER.

The Ingle Nook.

ANTS, AND HOW TO EXTERMINATE THEM.

The other day I had to look up something in regard to ants, and found myself so interested in their history that the thought occurred to me: Why not pass some of all this on to the Chatterers?

As you know, there has been no end of debating in regard to whether ants possess intellect or not. Some naturalists have written enthusiastically in favor of the theory that they do reason and calculate as to the result of their labors; others repudiate this as nonsensical, and hold that instinct—whatever that poorly-defined quantity may be—and not reason, is the motive power at the back of the marvellous workings of these wonderful little creatures. "Among those who hold the latter theory is the great German naturalist, Retbe, who says: "They learn nothing, but act mechanically in whatever they do, their complicated reflexes being set off by simple physiological stimuli."

Perhaps some of you have read Mark Twain's "Tramp Abroad." It is a book which I can recommend you with all my heart; that is, if you like information and good fun mixed up together. But to return, in one part, which he calls his "chapter on natural history," he tells of an ant which he observed in the Black Forest, and sums up his observation of ants in general as follows: "During many summers now I have watched him when I ought to have been in better business, and I have not yet come across a living ant that seemed to have any more sense than a dead one. . . . I admit his industry, of course; he is the hardest-working creature in the world—when anybody is looking—but his leatherheadedness is the point I make against him. He goes out foraging, he makes a capture, and then, what does he do? Go home? No,—he goes anywhere but home. He doesn't know where home is. His home may be only three feet away—no matter, he can't find it. He makes his capture, as I have said; it is generally something which can be of no sort of use to himself or anybody else; it is usually seven times bigger than it ought to be; he hunts out the awkwardest place to take hold of it; he lifts it bodily up into the air by main force, and starts; not toward home, but in the opposite direction; not calmly and wisely, but with a frantic haste, which is wasteful of his strength; he fetches up against a pebble, and instead of going around it, he climbs over it backwards, dragging his booty after him, tumbles down on the other side, jumps up in a passion, kicks the dust off his clothes, moistens his hands, grabs his property viciously, yanks it this way, then that, shoves it ahead of him a moment, turns tail, and lugs it after him a moment, gets madder, then presently hoists it into the air and goes tearing away in an entirely new direction; comes to a weed; it never occurs to him to go around it, he must climb it, dragging his worthless property to the top—which is as bright a thing to do as it would be for me to carry a sack of flour from Heidelberg to Paris by way of Strasburg steeple; when he gets up there he finds that is not the place, takes a cursory glance at the scenery and either climbs down again or tumbles down, and starts off once more—as usual in a new direction. At the end of half an hour he fetches up within six inches of the place he started from and lays his burden down."

Of course, Mark Twain is a humorist, not a naturalist, and so, possibly, has not given the ant the study necessary to a full understanding of it. Probably his observation has been just about equal to that of the most of us, and that is why we can enjoy his description so much. For my own part, I must confess that nearly all the ants I ever observed acted about in this way; yet once, about a year ago, I watched a colony which

seemed to move about with more common sense. It was made up of small black (I think, but would not like to swear to it now) ants, which had fixed upon an old veranda post as a place of residence. Day after day we saw the little fellows running in and out of the small opening near the bottom of the post, which served as a door to the abode, and presently we noticed that hundreds of them were at work, evidently enlarging the premises. One after another would come to the "door," each laden with a bit of wood resembling a grain of sawdust, which was thrown out on to the step beneath, the little workers then hurrying back again with breathless speed for another burden. Once I saw one of them come out with a dead fellow ant in its mandibles, or whatever it is that it carries things with. The body was not, however, deposited on the growing heap of sawdust. The little pallbearer evidently knew what it was about, and, in order to get its gruesome burden far enough from the opening, carried it down not over one but over two of the steps leading from the veranda.

And now for a few things that some of the naturalists have observed. Whether ants be guided by intellect or instinct, it has been universally conceded that while working in colonies they act with an apparently calculated organization simply marvellous in creatures so tiny. There is always a queen, whose duty it is to lay eggs; but neither she nor the males do any of the manual labor of the colony. This falls upon the workers, or "neuters," imperfect females which cannot reproduce, but whose office in life seems to be to act as hewers of wood and drawers of water to the higher powers of the community. The amount of work these neuters do might well put the sluggard to shame. They collect stores, keep the apartments clean, take absolute charge of the eggs as soon as laid, and of the young progeny when hatched. More wonderful still, they convey plant lice, of whose sweet exudations (honey dew) they are very fond, from place to place, to good feeding grounds, and often bring them into the ant habitations and keep them there as veritable milk cows in their service. This last sounds like a fairy tale, but has been proven true so often that even the most skeptical among the naturalists have been convinced.

Then there are other kinds that make war, and take slaves, which are compelled to assist the workers in the manual labor. In Africa, there is a terrible species—army ants—which migrate from place to place devouring everything in their path. When the natives see them approaching, they take refuge in flight, even from the villages, and, although they may return to find all of their provisions eaten by the ants, they have some recompense in knowing that all domestic pests, mice, etc., have also been put out of existence. It is said that among some of the savage African peoples malefactors have been put to death by being strapped to trees directly in the route of these terrible insects.

In Texas and some other parts of the Southern States there are colonies of "agricultural" ants, which build immense underground nests, and are said to cultivate upon the area overhead the species of grasses upon which they feed. Howard also refers to a species which "cultivates mushrooms," but of how the work is done in either case I have been able to find no record.

When ants are first hatched from the eggs, they are in the form of very tiny larvae or grubs. When full-grown, these grubs spin a cocoon about themselves, just as caterpillar larvae do. In these cocoons they are transformed into pupae, which, late in summer, emerge as fully-developed ants, winged males and females, and wingless neuters, the last being the smallest in size.

All ants hibernate in winter, and the males and females are known to live several years, although the life span of the neuters is much shorter. Sir John Lubbock, who kept thirty colonies working in glass cases, where they were supplied with food and material for nest building, observed that some queens lived for seven years, while the neuters died in three or four.

There are probably many thousand species of ants; over one thousand have been classified. Some build mounds, ranging in size all the way from the well-known ant hills of our fields to the

gigantic cones of Africa, which gave so much trouble to some of our soldiers during the Boer war; others burrow in wood; others simply make tunnels underground; and still others erect dwellings of a paste-like substance, which hardens later into substantial walls. One very curious species collects honey as the bees do, but instead of storing it in cells, they literally cram it into some of the members of the clan, which seem to be especially designed for the purpose. The process goes on until the honey holders are bulged out in their posterior parts to the size of currants, and are quite helpless and unable to move about. Thus they remain, clinging to the walls of their domiciles until the tribe is in need of food, when they regurgitate the honey and presently regain their normal size and activity.

All this is but a mere beginning of the wonderful things that are known about ants, but this is quite enough to interest you and me in studying them still further if ever we have a chance.

As for how to exterminate them, for, after all, they are something of a pest and are fond of being in places where they should not be, the following methods are given: For eradicating ants in hills, pour a little carbon bisulphide into the hill and cover to keep the fumes in. As the latter are very inflammable, see that no light or fire is near while you are handling the substance. Pouring coal oil over the hills is also efficacious, as is also plowing up late in the fall, when the insects have become dormant. If, however, the ants are in the house, and you do not know where the nest is, watch to see if you can find any crack through which they emerge, then stuff it up with batting soaked in kerosene. Also moisten a sponge, sprinkle well into the cells with fine sugar, and leave about the places they frequent. As soon as it is full of ants, drop it into hot water, and repeat the process over and over until the whole colony is exterminated.

D. D.

Warts—Pickling Corn Cobs.

Dear Dame Durden,—Can any of the members give a remedy to remove warts from a child's hands that are almost covered, and hence very unsightly? I know caustic, nitric acid, or any of those severe acids would remove them, but will leave a scar, besides being rather hard to apply to a child as they burn so. What I want is just a simple remedy (not a charm) that someone has used with success, and I shall be very grateful indeed.

Last fall someone asked for a recipe for pickling small corn cobs, so I will send mine, as the season will soon be here. Pick the cobs when very small (almost as soon as formed), remove all leaves, etc., and place in a crock in slightly-salted water over night. In the morning, put on your vinegar to heat, with spices, and, when boiling, put in the corn, leaving just long enough to be nicely heated through. Remove, pack in sealers, and pour vinegar over, and seal. I use white-wine vinegar for this, as homemade vinegar is apt to make the cobs somewhat dark in color. I hope I have made this plain, and, if desired, I will send a recipe for corn chowchow, or salad, later. We all appreciate "The Farmer's Advocate" very much, and it is read from cover to cover every week. Hoping I may obtain the information desired, I will close by wishing Dame Durden and all the Chatterers every success.

AMARYLLIS.

Perth Co., Ont.

Scientific American gives the following for the treatment of warts on children: "Apply strong soda and water for a few days and then paint them with ethereal tincture of tannin."

Many thanks for the corn recipe. We shall be pleased to have the others.

Ingrowing Toe Nails.

Mrs. J. L., Perth Co., Ont., writes "I was delighted on receiving our last 'Advocate' to find 'The Nook' had taken up the subject of fashions, and hope it may continue, as it is sure to help many readers who can and will do lots of their own sewing. For ingrowing toenails, I have found hot tallow, as hot as can be borne, pressed on the nail after trimming an excellent remedy."

PRELIMINARY ARRANGEMENTS FOR THE FALL FAIR.

Fair time is drawing on apace. Prospective exhibits are, it is to be presumed, well under way, and there seems little further to be done; yet it is not one whit too soon to be making plans for the fair itself, particularly in regard to how the exhibits may be disposed to show them to better advantage, and so to make the fair more educative, more attractive than ever before.

Our fairs are well worth an effort. They afford the one general opportunity of showing not only what our country is doing in the various lines represented, but—what is more to the point—what it can do when trying its best. From making an extra effort for the fair to making an extra effort all round is no very far cry. Moreover, there is a stimulus in seeing what others have done; there is an education in it, provided the entry lists have been carefully compiled, and everything that borders on the crude or vulgar unsparingly weeded out. We sincerely hope no prize will be given in Canada this year for Berlin-wool wreaths, or any like monstrosity. It seems a pity to waste space in such perpetrations when so much is or should be required for exhibits of the substantial things—good bread, butter, canned fruit, honey, neat plain sewing, etc.—and for those which make for refinement and beauty—dainty white work, fine pencil drawings and flowers. How much better to see a good exhibit of bread and butter than an extensive showing of dauby oil paintings; a fine arrangement of cut flowers than an array of cushions, wondrous of coloring and workmanship, upon which no tired head is ever, by any means, intended to rest; a beautifully-made child's dress than a "quilt" made up of two thousand and five pieces, put together at an absolutely senseless waste of energy and time. The quilt would serve its purpose just as well if it were made up of forty pieces, or twenty, or ten, while the child certainly must be at a disadvantage in a sloppily-made garment.

We set out, however, to emphasize the point that good arrangement counts for much at a fair. . . . And just here may we suggest that the work of arranging in the women's department should be under the direct supervision of women. Women, as a rule, have a finer sense of contrast and harmony than men, and are much more likely to recognize the excellence of fine but unobtrusive work, and to give it the place of prominence which it deserves. . . . See to it that, if possible, things are not huddled together. Provide backgrounds that will throw into clear and pleasing relief the articles disposed thereon. Have fruit and flowers distinctly labelled, and see to it that they, as well as any new fancywork, etc., which it is desirable to propagate in the neighborhood are in charge of someone who understands the exhibit, and is prepared to answer questions in regard to it. May we repeat, our fairs should, as far as possible, be educative, and how can they be unless teachers, as well as object lessons, are provided?

Apropos of flowers, do not greatly favor extensive exhibits of "mixed" bouquets—mixed bouquets are usually things to be handled with tongs. And do not permit too much banking or massing, except where merely decorative effects are to be obtained. For the exhibit proper, place the flowers in separate uniform glasses—pickle bottles will do admirably—each species by itself, and but very few specimens (a single one, if large) in each glass. Across the front of each bottle, or on the table beside it, place a distinctly-written label, and so make it possible for spectators to take note of the kinds they would like to have in their own gardens.

Again, do not place filmy white lace-work, dainty embroideries, etc., in juxtaposition with anything much coarser in texture or bright in color. The effect is sure to be either that the dainty things are overshadowed, or that the others appear distractingly harsh and crude by contrast.

It seems a pity that there is not some systematic way of teaching taste in color, house-furnishing, etc., to the people as a whole. Good taste, of course, comes naturally to some; by others, it is easily acquired, and in this respect perceptible improvement has been made of

on space. to be pre- here seems it is not taking plans in regard disposed to re, and so ve, more

an effort. opportunity country is presented, t—what it from mak- to mak- no very stimulus; there is the entry eiled, and crude or We sia- given in lin- wool sity. It such per- should substan- , canned g, etc.— refinement work, fine w much bread and ring of angement cushions, ranship, ver, by beauti- "quilt" e pieces, senseless the quilt well if it twenty, y must ily-made

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lace- uxta- or in ct is things s ap- by some e people urse. it is pe- e of

late years; but that actual teaching in the matter is still necessary is abundantly evidenced even yet by a trip to some of our fairs. Even yet a good ministering spirit is needed to whisper that working materials in soft olives, bronzes, old blues and Indian reds cost no more than those in harsh and glaring greens, reds, blues and yellows that set one's teeth on edge. Something of such ministrations has, indeed, been done in Quebec and some other parts of the Dominion by the Arts and Crafts Society, but in Ontario practically no such step has as yet been taken. Perhaps, however, before next year someone will have thought out a scheme by which better color effects may be secured, at least in the work submitted to our fairs. We shall be very glad if this suggestion may set some thought abroad in regard to the matter.

Another subject which the fairs might well take up is that of pictures. We were told the other day by the proprietor of an art store, at which framing is also done, that the taste shown in the great majority of pictures brought in to be framed is, as he expressed it, "simply execrable." Why people should choose to have such objects framed at all, much less expensively framed, was more than he could understand. Now, might not our fairs do something towards educating along this line? It would be, of course, impossible to procure very expensive pictures for our country fairs, yet surely two or three fairly-good ones might be got by loan or for rent, for each exhibition. Even a few good prints or engravings tastefully framed and hung in a good light might suffice as an index of what artistic pictures really are, and to set daubs at such a disadvantage that their numbers at our fairs may be speedily decreased.

There are many things that may be done each year by way of reconstruction, introduction of new features and elimination of objectionable ones; but there must be someone to take an interest in these things and see them through. May our agricultural fair committees meet early this year, and set their combined brains and energy to work to bring about such improvement as may make the year 1907 one to be remembered in the annals of the fairs.

HUNTING MOSQUITOES.

Whether you find a thing or not depends largely on whether you know what it is you are looking for. Down in Panama, when there is an increase of malaria in any locality, Colonel Gorgas does not waste any time in "general sanitary measures." He does not put a stop to the digging, on the ground that turning up the soil releases miasmatic gases, nor does he advise the men to stay indoors after dark to avoid exposure to moonshine, to stop smoking and bathe oftener, and be more careful in their diet, and to keep their minds cheerful and free from worry. He knows that there is a puddle in the immediate vicinity that is breeding anopheles, and he just sends a man out to dry it up. Here is an instance: At the forty-mile Camp in the Pedro Miguel, where there is an average population of 723, and about five cases of malaria reported to the hospital every week, the record showed a sudden jump as follows:

Week Ending.	Cases of Malaria.
March 1st	5
March 9th	14
March 16th	20
March 23rd	14
March 31st	13
April 6th	4
April 13th	5

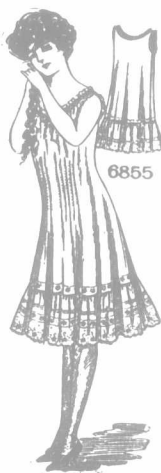
The inspector began his hunt, and on the 10th he found the center of infection in a large old French scow, completely hidden by the overgrown jungle. The larvae in the scow were destroyed, the immediate neighborhood cleared of brush, and the houses containing adult anopheles fumigated. At the end of the usual period of three weeks, during which malaria, developed by a given point of infection, maintains its activity, the number of cases dropped to what at present must be called "normal" for this region. When typhoid broke out in the Empire division, causing twenty deaths a month, different tactics were called for, because

this disease is not injected through the skin by mosquitoes, but enters the system through the mouth. Accordingly the water supply was cleaned up and all food protected from flies, which carry the infection.—[Independent.

"THE FARMER'S ADVOCATE" FASHIONS.



4195.—Misses' Two-piece Costume, in 4 sizes, 14 to 17 years. The above natty little suit will be found very suitable for fall and spring, but is not too heavy for wear during cool summer days or evenings. It may be developed in tweed, basket-cloth, cravenette, serge, chevot, zibeline, etc., and requires no trimming other than stitched bands and buttons.



6855.—Ladies' Tucked Chemise, 6 sizes, 32 to 42 inches bust.



4192.—Little Girls' Dress, 8 sizes, 3 to 10 years. The above represents a very attractive little dress for hot summer weather. For cooler days it may be worn over a guimpe of muslin or chambray, with sleeves coming below the elbow.

The above patterns will be sent to any subscriber at the very low price of ten cents per pattern. Order by number, and be sure to give waist and bust measurement. Allow from one week to ten days in which to fill order.

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

About the House.

HOT-WEATHER COOKERY.

We have had some very hot weather, and are likely to have still more of it before the summer is over. Have you noticed that you do not crave hot meats, or rich, sweet things at these sultry times? This is only an index that your body does not need them. Try, instead, having things that you like—different kinds of breads and buns rather than rich cake, raw fruits with sugar, cooling drinks, ice creams. Apropos of ice cream, do you know that it is a very good food as well as a most palatable addition to the bill-of-fare? It seems rather strange that it is so seldom seen on Canadian tables. The "Americans" have long since found out its possibilities, and serve it almost as regularly as any other article of food, sometimes as dessert, sometimes instead of fruit for "tea."

What is the sense of fussing about a stove during this tiresome weather, making things that you really cannot enjoy? Of course, your "men" who are working hard in the fields will feel that they need strong food; but even they do not require meat more than once a day during hot weather. To serve it more frequently is only to sacrifice comfort—yours and theirs too—to a notion.

The following recipes may contain a few hints which may be suggestive during the next few weeks:

Graham Bread.—Soften $\frac{1}{2}$ yeast cake in $\frac{1}{2}$ cup water. Melt 2 tablespoons shortening in 1 cup scalded milk. Add $\frac{1}{2}$ cup water, 1 teaspoon salt, 3 tablespoons molasses, and when cooled to lukewarm, add the yeast. Stir in 2 $\frac{1}{2}$ cups Graham flour and 1 $\frac{1}{2}$ cups white flour. Mix well, but do not mould. Mix late at night, cover closely, and in morning cut down with a knife, and turn into bread pans. Shape and smooth the top with a knife dipped in hot water, and when again light, bake nearly 1 hour. Use a whole yeast cake when the bread is mixed in the morning.—[Boston Cooking School.

Graham Gems.—Sift together 1 cup each of Graham and white flour, $\frac{3}{4}$ level teaspoons baking powder, $\frac{1}{2}$ teaspoon salt, $\frac{1}{2}$ cup sugar. Beat 1 egg; add 1 $\frac{1}{2}$ cups thick, sour buttermilk, mixed with a scant half teaspoon soda, and stir into dry ingredients with 3 tablespoons melted butter. Bake in hot, buttered muffin rings, or deep patypans, about 25 minutes. If buttermilk be very thick, add a few spoonfuls of sweet milk to make of the right consistency. If it be sweet, omit the soda and use 4 teaspoons baking powder.

Currant Loaf.—Beat $\frac{1}{2}$ cup butter to a cream, then beat in 1 cup sugar, 1 cup currants, and beaten yolks of 3 eggs. Add $\frac{1}{2}$ cup milk and 1 $\frac{1}{2}$ cups flour sifted with 4 level teaspoons baking powder, and, lastly, the whites of the 3 eggs, beaten light. Turn into a shallow pan, sprinkle with sugar, and bake about 40 minutes.

French Bread.—Soften a cake of yeast in $\frac{1}{2}$ cup boiled water, cooled to lukewarm, and stir in $\frac{1}{2}$ cup flour. Knead until the little ball is smooth and elastic. Cut across the top in both directions, and drop into a pint of water boiled and cooled to lukewarm. In about 15 minutes, the ball will float on top in a light, puffy sponge. Into this water and sponge stir a teaspoon salt, and between 5 and 6 cups flour, enough to make a dough. Knead and pound until smooth and elastic—about 15 or 20 minutes. Now cover, and set aside in a temperature of about 70 degrees F., until it has doubled in bulk. This is best baked in long, narrow loaf tins. Roll and stretch the dough on the board until it will fit the pans. Press a round floured stick down on top to make the loaves concave, put in pans, cover, and let stand to become light. Now cut three or four slantwise cuts in the top of the bread, and bake about 40 minutes. When nearly baked, brush over the top with a tablespoon of white of an egg beaten with a tablespoon of cold water.—[Boston Cooking School.

Rusks.—When your bread dough is ready for the pans, take out enough for a small loaf, and work into it a tablespoon of butter, 2 of sugar, and a beaten egg, using flour to prevent sticking, but

keeping the dough as soft as possible. Raisins, currants or caraway seeds may be added. Roll out about 1 $\frac{1}{2}$ inches thick, place in a shallow pan, and when risen to double its height, brush over with melted butter, and bake to a golden brown. When cold, cut into squares.

Twists.—Scald $\frac{1}{2}$ pint milk with 2 tablespoons butter. When lukewarm, stir in 2 beaten eggs, $\frac{1}{2}$ cup sugar, and $\frac{1}{2}$ yeast cake dissolved in a little lukewarm water. Stir in enough flour to make a stiff batter. When light add enough flour to make a soft dough, knead for 10 minutes, roll out an inch thick, cut into strips, and make into rings or braids. Brush over with butter, sprinkle with sugar and cinnamon. Let rise again, and when very light bake for half an hour, glazing with sugar and water when nearly done.

Canning Small Fruits.—The following recipe comes from Boston Cooking School. We cannot recommend it from experience, but it sounds reasonable, and, we think, is well worth a trial, on a small scale at least: "Fill sterilized jars with perfect fruit, and cover with cold boiled water; then seal in tubs of cold boiled water—2 or 3 inches under the water. After waiting for all bubbles to rise, if any are seen in the jar open and reseal, as all of the air must be excluded."

Canning Strong Fruits.—Strongly-flavored fruits, such as plums or cherries, are much more delicate if packed into the sealers, which are then filled with cold water and brought to a boil (set in a wash-boiler of water). Pour the liquid off for jelly, and refill sealers with a rich syrup made of granulated sugar.

Creamed Corn.—Turn back the husks and remove the silk from 8 ears of corn. Replace husks, and boil 20 minutes in salted water. Take off husks, and take kernels off with a sharp knife. For each cup of pulp have ready a scant cup of sauce made of 2 tablespoons each butter and flour, salt and pepper to taste, and a cup of cream. Mix corn with this; let heat again over hot water, and serve.

Canning Young Beets.—Scrub the young beets without bruising the skin, and cut off the leaves to leave about an inch of stem. Cook until nearly tender, drain, and cover with cold water. Rub off the skin, and put in jars. Set jars in a boiler, as usual in canning, and add a teaspoon of salt and $\frac{1}{2}$ tablespoons sugar to each jar. Pour in lukewarm water to fill the jars, also water in boiler to come half way up jars. Put the cover in water beside the jars. Cover the boiler, and cook an hour. Adjust rubbers, and cook 15 minutes.

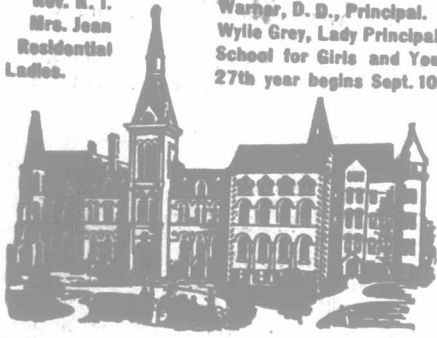
"AN ORDINARY MAN" DISCOVERS THAT TRUE GREATNESS IS POSSIBLE TO HIM.

I am an ordinary man. It is with sorrow I admit it, for I had my aspirations. I meant to achieve greatness. As a boy, I was a hero-worshiper; I had the greatest respect for the fellow who could do things—for the boy who beat me in athletics, for the teacher who could make the dullest pupil understand, for the man who could sway multitudes by his oratory. As I grew older, I had my favorite heroes in literature and history—Robinson Crusoe, Alexander the Great, and an indiscriminate host of others. I was emulous of all this heroism. I, too, would do something worth while. In my boyish vagueness, I did not know whether I should be an explorer, a great soldier, a writer of books, a sculptor, or what; but of one thing I was certain—I would be a great man; the world should hear of me some day.

I started on my college life full of high hopes and purposes. I met with some success, enough to encourage me to press on. I learned many things not in the curriculum. And it was here, I remember, that I caught the first faint glimmer of a truth which I was afterward to learn more thoroughly through tribulation and disaster; namely, that the most important thing in life is not so much what we do as what we are.—From "The Confessions of an Ordinary Man," in Circle.

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Current Events.

A commercial treaty between Russia and Japan is on the verge of completion.

Hundreds of acres of crops have been destroyed by hail in the Lyleton district, Manitoba.

Canadians at the Bisley (England) rifle matches have this year won over £300 in prizes.

A permanent biological station for Eastern Canada is to be established at St. Andrew's, N. B.

The rails are now laid on the Temiskaming & Northern Ontario Railway to a point 208 miles above North Bay.

Nearly 150 people were drowned recently in a collision between the steamer Elder and schooner San Pedro off the coast of California.

The sixty-five Japanese recently arrested on the charge of illegal sealing in Behring Sea, are to be tried in the United States Court at Valdez, Alaska.

Nearly \$400,000 damage has been the result of a fire in the New Edinburgh district of Ottawa. The W. C. Edwards Lumber Co. suffered the greatest loss.

Sir Edward Blake has resigned his seat in the British House of Commons because of ill-health, and may return to Canada. He is now 74 years of age.

It is said that Mr. J. J. Hill's latest decision is to build a low-grade, low-cost, modern freight railroad, with especial equipment for fighting the Western winter, from Winnipeg to the coast.

In order to experiment with new guns and projectiles, the Austrian Government has bought the Bohemian village of Mlada. All the inhabitants have left, in preparation for the bombardment.

Besides establishing courses of agriculture in the High Schools at Galt, Collingwood, Morrisburg, Perth, Essex and Lindsay, the Ontario Government has also decided to open offices at each of these places in charge of the agricultural teachers, at which the farmers of the district may at certain hours meet to confer with the representatives of the Department in regard to agricultural questions. At these offices agricultural reports and bulletins will be kept for distribution.

Collisions have occurred between Japanese and Korean troops in Corea, which has become a hotbed of intrigue and ferment, by no means stayed by the recent abdication, at the request of the Cabinet, of the Emperor. It is stated by Americans recently returned from Corea that the Japanese are rapidly despoiling the Koreans of their lands and industries, and debauching them by selling to them extensive quantities of morphine. [Note.—A later despatch says that, by a new agreement with Japan, signed on July 25th by the Premier of Corea, the Japanese Resident-General has been given almost absolute power; hence it would seem that the Peninsula is now practically in the hands of Japan.]

TWEETER: THE STORY OF AN ORIOLE.

By Ida Kenniston.

Tweeter first opened his eyes in a cozy, snug little home that his father and mother had built about two or three weeks before. It was in a beautiful place, high up among the swaying branches of an elm tree. Tweeter was one of four baby orioles, cuddled up in a warm, soft nest by Mama Oriole. His father, Sir Baltimore Oriole, was a handsome fellow, in a rich suit of orange and black. His mother was dressed in more sober colors—a dull, brownish yellow and a rusty black.

At first the babies did little but eat and sleep. Father and Mother Oriole were bringing them choice things to eat all day—little fat caterpillars and tiny bugs and other insects that were very good. By and bye Tweeter and his brothers grew so big that they began to crowd one another in the nest. They scrambled and climbed over one another, a funny little bunch of sprawling legs and downy bodies with big heads. When Father Oriole came to them with some tasty bug, there were four open beaks waving about, each anxious to get his share.

One day Tweeter, more venturesome than his brothers, climbed up on the edge of the nest. All about him were swaying green leaves, with here and there glimpses of the blue sky, flecked with fleecy clouds. Now and then flickering rays of sunlight danced over him. It was very pleasant, indeed, but a little bewildering, especially when he looked down, away down to the ground below. He was glad to tumble back again into the nest and cuddle up to his brothers and go to sleep there in the swaying nest.

Every morning, at earliest dawn, Tweeter awoke to hear the sweetest of woodland concerts from the feathered folk in neighboring trees. It was a happy chorus, with many and varied bird voices. Tweeter liked best to listen to the clear notes of Sir Baltimore and the other orioles, which called and whistled to one another and sang in friendly rivalry.

Once or twice there was a sudden heavy shower of rain. It was fun at first to hear the rain drops pattering on the green-leaved canopy above the nest. But as it grew darker and darker, and the branches bent and rocked more fiercely in the wind while the rain came lashing down, Tweeter curled himself up more closely, and was very glad his mother was there, sheltering them all with her soft wings and gathering them all close to her breast.

One bright afternoon Tweeter scrambled up again to the edge of the nest and stood there, now and then fluttering his wings a bit. Suddenly a gust of wind shook the little bird-home rudely, and Tweeter, with a frightened little "peep," lost his hold and fell fluttering and frightened to the ground below. He was not hurt, although his little heart beat fast and his breath came and went quickly. Presently he began to move his wings a bit and to hop a step or two, looking about him at this strange new world of grass and warm earth. It was pleasant here, and it was such a big world! There were tiny voices of insects, the rustling of grass-blades as some big cricket or fat grasshopper made his way through.

Then came a man and a child. The child was a little girl, with hair yellow as sunshine. She spied the baby oriole, which hopped away from her as well as his unsteady legs would permit. The man and the child knew the bird must have fallen from the nest, and that he was too young to get back alone. So, as they were kind people and loved all feathered singers, they tried to help Tweeter regain his home. The man brought a ladder and placed it against the tree. The child picked up Tweeter and held him in her warm little hand, caressing him gently, and then gave him to the man, who climbed the ladder and placed the baby bird on a branch near his home.

Madame Oriole, his mother, came flying to Tweeter at once in great excitement, and tried to coax him to fly and scramble along the branches toward his home. He was afraid to venture much, however, and when sunset came he just curled down at the fork of the branch and soon was almost asleep. His mother

went back to the little ones in the nest, and later, when it was nearly dark, his father came and stayed close beside him, keeping him warm and safe all night.

The next day Tweeter had his first lesson in learning to use his wings. Both Father and Mother Oriole spent much time coaxing the little ones to fly. Sir Baltimore would come with a nice, juicy caterpillar in his bill, and alighting just a little way from the baby bird, show him the tempting morsel. Then Tweeter would hop as near as he could and flutter his wings, and try, oh, so hard, to get up courage to trust himself to them, and then would come the short journey through the air, with that strange, new sense of power as he felt himself borne up and carried along. After a few trials he had more confidence, and soon it became a keen, exciting pleasure to launch himself forth and flutter from one branch to another close by. In a few days he and his brothers were taking longer flights; their wings were growing stronger each day, and each day they found the new exercise becoming easier and more familiar.

The little birds learned, too, to catch bugs and other insects; to look for them sharply in the grass or on the bark of trees, and to snap them up quickly. Sir Baltimore and Madame Oriole paid less and less attention to the children. They did not often feed their offspring now, for the youngsters were quite capable of getting their own living. Indeed, it was not long before Madame Oriole was hard at work on a new house, and her heart was filled with happy thoughts of some pretty eggs that were to be in it, and of another little brood of nestlings that she hoped to care for.

There was a certain monster—oh, a terrible creature, ever so much bigger than Tweeter—which sometimes came and looked at him with great green eyes! The monster would sometimes get up in the tree and climb along a big branch slowly and stealthily. Tweeter was not very much afraid of the monster. He knew the monster (it was called a cat) watched him with greedy eyes, and would pounce on him if he could and snap him up as quickly as Tweeter ever snapt at a tiny ant. But Tweeter could fly; the monster couldn't, so Tweeter always gave a flirt of his tail, and was off long before anything so slow as a cat could get him.

It was very pleasant through the long summer days flying about the treetops, swaying on the very end of a slender twig, hunting grubs in the trees or in the big garden near by. Sometimes Tweeter felt so happy that he tried to sing like the grown-up orioles. He could not get a clear, mellow, ringing whistle like theirs, or sing so many wonderful, changing, joyous melodies, but he piped away in his own sweet fashion, imitating the others as well as he could and enjoying his own little song.

So the summer passed, and the colder days of early autumn were with them. There was a restless feeling among the denizens of orchard, grove, and woodland. They took longer flights by day, growing stronger by the exercise, but turning each night to the familiar tree trunks. Tweeter heard much chattering among the bird neighbors; the nights were certainly growing colder; there were fewer insects to be found; it would soon be time to go—that was what they were saying. He wondered what it all meant. Why should they go? Where were they to go? "Southward! Southward! To the warm, tropic country! Southward—away from the fog and the frosty nights and the cold winter! Southward!" Such was the answer to his wondering question. He had waked sometimes at night and heard the soft whir of wings above the tree-tops as some early travellers flitted by on their journey "southward."

And the restless longing grew and swelled in Tweeter's own breast. "Southward" he, too, would go—a long, long flight on his strong young wings, following the course led by the older birds, which had been before, and which knew the way to that fair land of sunshine.

But, alas, Tweeter was not yet to join the vast throng of feathered travellers in their swift winging to the sunny tropics! Fate, in the form of a small boy, interfered. A stone was thrown with cruel aim at the bright golden body of Tweeter as he was flying swiftly, exultingly, in the September sunshine. One wing dropped to his side, and he fluttered

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helplessly to the ground. There he lay, sick and faint with the pain of his broken wing. The boy hunted among the bushes for a while, but, failing to find his victim, went carelessly on his way, whistling cheerfully. Tweeter lay and wondered what was to become of him. If the monster should come now—ah, the young oriole shuddered at the thought!

But it was not the monster that found Tweeter about three hours later. It was the child who had once before come to his rescue when he was a tiny fledgling—the child with the hair like sunshine. She cried out when she saw poor Tweeter, and, kneeling on the ground, picked him up gently, very gently. He made one or two attempts to escape, but the child held him safely and gently in her small hands, and spoke to him in such a soft, coaxing voice that he really was not much frightened.

Tweeter was carried into the big house that he had often seen from his elm tree. There he was placed on a bed of cotton in a wire cage. The man came—the same one who had put him back in the tree when he was a little fellow and had tumbled to the ground before he had learned to fly. The man felt of the injured wing and did something to it that hurt at first, but somehow the pain was not so bad afterward. Then a small dish of water was placed beside him, and he was left in a quiet, dark corner. He went to sleep before very long.

Tweeter stayed in the wire cage for a number of days. He sulked at first and would not eat, but the little girl brought him such good food that at last he could not help trying it. He grew used to his new home, and, being by nature a cheery, happy fellow, began to make the best of it, and to hop cheerfully about the sanded floor of his cage, the broken wing drooping in helpless fashion.

Meanwhile Tweeter's friends and comrades out of doors had started on their long journey, and were winging their way ever farther and farther south.

When the broken bone had knit, and Tweeter found that he could venture to use the wing again, he hopped and flew from one perch to another, and up to a funny little swing at the top of his wire house. He had learned to like the little girl now, and was pleased to have her come and talk to him and offer him dainties, which he would take from her fingers or lips.

Later, Tweeter was allowed the freedom of the room, and used to fly about, alighting on a picture or a window-sill or hopping over the floor. Sometimes he would perch on the child's shoulder and pick gently at that shining yellow hair. Outside, the great world was no longer green and warm as it had been in the golden summer days. The trees had lost all their pretty leaves, and stood with bare brown branches blown by fierce autumn gales. Still later, Tweeter looked from the window on a new world of white—field and garden and tree and shrub all covered with snow. A few hardy little birds—sparrows, wrens, and snow-birds—were seen at times, foraging diligently for the scanty supply of food to be found.

At last came spring, with that fair, sweet miracle of the wondrous change from a snow-clad world to one warm and green and pulsing with new life.

And Tweeter's breast thrilled with the strange, sweet impulse of the spring, and he longed to be out in the fields and woods. The travellers were coming back from the south. Already the clear notes of the robins were heard. Soon the mornings were vocal with the jubilant chorus of bird notes. One morning Tweeter awoke to hear clear and strong the mellow whistle of another oriole!

Then the child with the sunny hair and the heart of love coaxed Tweeter to her shoulder, and laid her soft cheek against his feathers in farewell caress, and together they went into the glad outdoor sunshine, where Tweeter spread his handsome wings and flew away to seek his old haunts.

Now, as always in the spring, the male birds had been the first to arrive in their northern homes. Their wives and sweethearts, less powerful of wing, or perhaps with not quite such strong, restless eagerness as had led their lords and masters, were coming more leisurely. And somewhere among the hundreds and thousands that made up the steady bird stream of north-bound travellers, somewhere was a little Mademoiselle Oriole coming on and on, her small wings leav-

ing behind mile after mile. Somewhere was one coming who was to bring a new joy to Tweeter's life. He had been with his friends for nearly a week, all joyous, eager, filling the hours with jubilant song, now and then quarrelling among themselves, when the lady orioles began to appear. Then came the sweet, exciting joy of love-making, with sometimes a sharp fight to drive away a rival.

Tweeter was a handsome fellow in his gay plumage, and it was not long before Mademoiselle Oriole gave in to his eager wooing, and agreed to be his little sweetheart.

When the time came for the building of their new home, Tweeter found that his wife had most decided opinions of her own on that subject. They chose a place in an old apple tree, very near the house where the child lived. Some strings of the flax of the silkworm were wound around two twigs of the apple tree, and with thick threads, strings, or whatever would serve a similar purpose were woven in and out of the foundation threads until a sort of hanging-basket had been made. Within this was to be the real nest, warm, neat, and soft.

Sir Tweeter tried to help in the work, but he soon found that Mademoiselle Oriole knew better than he how to weave cunningly the sticks and strings in strong, neat fashion, so he spent his time in "skirmishing" around to find the material for her to use. The child helped him. She put some soft cotton strings of different lengths, and bits of pink twine where he could easily find them, and she laid some strands of brightly-colored worsted on an old fence post. Sir Tweeter and his wife were delighted with the pretty worsteds, and helped themselves freely. When Mademoiselle Oriole was ready for the finer material that was to line the little home, she found some soft strands of silken floss ready for her.

One day, when the nest was almost finished (they had spent nearly a week in its construction), Tweeter flew to the child's shoulder as she stood near the old tree, and picked gently at the golden hair as he had used to do. Surely that would be a treasure, too, for this wonderful home that he and his wife were making. The child guessed perhaps what Tweeter was thinking, for she ran into the house, and when the orioles saw her again, one shining lock of hair had been snipped from her tresses and lay loosely over her shoulder. She called to Sir Oriole in a coaxing tone, and presently he came, gathered up the golden hair she had cut for him, and flew with it to the nest. It was the finishing-touch to the dear home. When it was cunningly coiled and interwoven in the very heart of the nest, then the home was declared done, and Mademoiselle Oriole settled down in soft contentment. Surely it was a gay and beautiful thing to look at, with its bright, pretty colors, hanging pendent from the twigs, like a bright, strange fruit.

The next day there was a little egg in the nest, and every day another was added, until Mademoiselle Oriole cuddled five of them beneath her soft breast. They were grayish white, with funny little brownish scratches on them like pen-scrawls. Then came quiet days while Mademoiselle Oriole brooded and dreamed over her treasures. In two weeks a soft baby "tweet" was heard, and Tweeter and his wife felt a new joy that was almost too strange and sweet to be true. Their first little one was calling to them, and they stood on the edge of the nest and twittered to each other, and were very happy. There were soon five baby mouths to feed, and Tweeter had to work as never before to fill them all. How he and Mademoiselle Oriole did work! How eagerly they hunted for every tiny grub and insect, how many, many journeys for food they had to make each day as the babies grew bigger and their appetites increased! Thousands of beetles, caterpillars and other insects fell prey to the voracious appetites of Tweeter and his family through the summer days.

As soon as the little ones had grown large enough to leave the nest, and had learned to shift for themselves, Mademoiselle Oriole began at once to build another home. It might seem that the one built with so much care should serve for a second family of babies if need be, but Mademoiselle Oriole evidently did not think so, although she would have been willing to tear it somewhat apart and use again

some of the material in the construction of a new home. But since a new nest must be built in any case, to suit the feathered pair, the child felt that the old one might well be spared to her. So the man came and cut the twigs that held it, and carried apple branch and gorgeous nest together into the big house, that the child might always treasure it to remind her of her dear Tweeter.

The second brood of young orioles was raised; the summer passed and autumn came. Again began the autumn migration of the birds. This time Tweeter, too, joined the throng. Far they flew, travelling mostly by night, and during the day pausing for rest and to pick up food. On very dark nights they could not see their way, and sometimes camped for a while in some grove, but on clear, moonlight nights they made great progress. They flew high up in the air, because from a greater height they could see far over the landscape spread out below them and could easily trace their way by the valleys or the streams, or by the mountain ranges, or by some familiar landmark. The older birds that had been over the route many times led the way; the younger ones followed their guidance.

After many days they came to the land they sought, the land where it is always summer, where the sun shines, and food is plentiful. From orchards and groves of New England, far, far away to the Central American States, had many of the orioles journeyed.

There they stayed in the sunny tropics, while the fields of the north lay under the icy spell of the winter. The orioles did not forget the land of their birth, the land where they had known the short, sweet joys of courtship, the land where they had built their nests and reared their little ones. When spring approached, the birds yearned to return to their northern home, and again was the long journey taken. Once more the swift rounds of the season passed.

So Tweeter spent several happy years, living out his little life in joy and glad content, singing his sweet songs, waging relentless war on insect and grub, raising families of sweet-throated golden singers. Each year he had found his way back to the same grove where he had first seen the light. Each year the child with the sunny hair watched for her feathered friend.

Then came a year when Tweeter felt that he was growing old, that the strength of his youth had left him, and he found the long journey north almost too much for the wings that had once borne him so proudly, strongly, with never a thought of weariness. This year he lagged somewhat in the procession. Many who had started with him were now days ahead, while he was nearly in the rear, with the youngsters of the flock.

As they neared the end of their long journey, Tweeter and his comrades grew more and more eager to reach the dear home places. Two more nights of travel would bring them to the familiar elms and other favored trees they loved. The night was clear when they started, but in an hour or two the sky began to be overcast. A slow wind hurled a sullen mass of fog around them, surrounding them, muffling them, making them lose sight of the landmarks they depended on to guide their course. They could not distinguish the coast-line they had been following.

The fog grew denser and chillier. It baffled the birds, and they flew around and around calling to one another. It would be necessary to alight somewhere, and wait until clearer weather favored them. But what was that? A light showing dimly through the fog and mist. They turned toward it. Brighter it shone through the haze. Tweeter saw it and steered his course toward its friendly rays. Brighter now it gleamed, beckoning his weary self. Straight toward it he flew. He was very, very tired now.

The light gleamed large and bright. It made Tweeter think of the sunny head of the little child. It was like the glowing orange breast of his father, old Sir Baltimore, as he had seen it hovering above the nest when he was a tiny fledgling. It meant warmth and comfort and sheltering care.

Straight toward the great, gleaming light flew the oriole, weary, wondering, dazed—nearer and nearer, till a great gust of wind came and lifted him up and

CANADIAN PACIFIC
HOMESEEEKERS'
Round Trip Excursions to Canadian
NORTH-WEST
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TUESDAYS
JULY 30 AUGUST 13 and 27 SEPT. 10 and 24
tickets good returning within sixty days.
VERY LOW RATES
for second-class tickets to Winnipeg and all important North-west towns
TOURIST SLEEPING CARS
on each excursion. Berths at small additional cost. Berths must be reserved early; very heavy demand. Apply to local agent at least a week before excursion leaves.
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C. B. FOSTER, Dist. Pass. Agt., C.P.R., Toronto

LADIES
Send for a FREE Sample of ORANGE LILY.
If you suffer from any disease of the organs that make of you a woman, write me at once for ten days' treatment of ORANGE LILY, which I will send to every lady enclosing 3 cent stamps. This wonderful Applied remedy cures tumors, leucorrhoea, lacerations, painful periods, pains in the back, sides and abdomen, falling irregularities, etc., like magic.
You can use it and cure yourself in the privacy of your own home for a trifle, no physician being necessary. Don't fail to write to-day for the FREE TRIAL TREATMENT. This will convince you that you will get well if you continue the treatment a reasonable time. Address
MRS. F. V. CURRAH, Windsor, Ont.

ORANGE LILY
GINSENG
It can be cultivated and the profits are enormous. If interested write us for information.
I. E. YORK & CO., Waterford, Ont.

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, Pot Stock, and miscellaneous advertising.
TERMS—Three cents per word each insertion. Cash 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.

FOR SALE—Farm 170 acres, lot 20, 3rd concession, West Flamboro, County Wentworth, 5 miles from Hamilton, 2 1/2 from Dundas. Two barns (one bank); two houses; orchard; 17 acres timber; well fenced; spring creek and wells; best soil—high state cultivation. One of the best farms in County. Apply to Mr. Morden, on premises, or A. R. Wardell, Dundas, Ont.

FARM FOR SALE—120 acres of excellent loam soil, 1 1/2 miles from Wallaceburg and sugar factory; well fenced and drained; good water; good frame house, barn and other buildings. For particulars apply to Jno. Howard, Box 99, Wallaceburg, Ont.

VETERINARY student desires assistantship with practitioner. Apply: "Vet." Farmer's Advocate, London.

WANTED—A few good subscription agents for The Farmer's Advocate and Home Magazine. Liberal terms. The William Weid Co. Ltd., London, Ont.

WANTED—Ladies in rural districts desirous of engaging in profitable business will do well to write the Robinson Corset & Costume Co., London, Ont.

260 ACRES Good locality. Excellent buildings. Box 67, Uxbridge, Ont.

The world has no room for cowards, wrote Robert Louis Stevenson. We must be all ready somehow to toil, to suffer, to die. And yours is not the less noble because no drum beats before you when you go out into your daily battle-fields, and no crowds shout about your coming when you return from your daily victory or defeat.

WHATEVER THE WEATHER.
"Whatever the weather may be," said he,
"Whatever the weather may be,
It's the song ye sing, an' the smiles ye wear,
That's a-making the sunshine everywhere."
—James Whitcomb Riley.

flung him with cruel force straight at the big glass lantern that sheltered the light set there to warn mariners of the dangers of the coast. The great beacon burned on steadily, casting its rays far out to sea, and heeded not the little life that had been dashed out against it. The light shone on, but Tweeter's golden body had been swept away on the tossing waves. Tweeter would never again sing his golden song, or flit from tree to tree. The child with the sunny hair would watch in vain for her small friend. But Tweeter had had a glad life, a happy life, crowded full with joy and song and love.—(Circle).

NERVOUS CHILDREN.

Intelligent people are beginning to understand the importance of protecting the nervous system in infancy, and the danger of a shock to childish nerves. As a rule, the more quiet a baby is kept during the first year of its life, the better chance it has for a life of health and happiness. The fact that so large a proportion of the human family die in infancy, is due largely to the folly of nurses and the ignorance of mothers. Over-bright babies do not commend themselves to physicians, who know that the first year of the child's life should be spent largely in sleep. All efforts to arouse the dormant mind of a child at this period are attended with danger. The foolish practice of tossing a helpless baby in the air, while it screams both with affright and delight, is a most dangerous one. A physician with a large practice tells the story of a precociously-bright child, which showed evident delight when tossed in this way by a doting grandfather, who was accustomed to play with it, in this way every evening. The child trembled with delight when the night's frolic was over, but one evening from this trembling it passed into a spasm, the first indication of one of those fatal brain diseases against which medical science is helpless.—Sel.

SOMETHING DOING.

Who wants it always an easy one—
The road we travel?
Who wants the problems we've all begun
Soon to unravel?
What boy or girl, while time is flying,
Would be content to give up trying?
No ray of sunshine was ever caught
By frowning faces;
No battle ever was planned or fought
In easy places.
Success is found in brave pursuing,
On battlefields of Something Doing.

"Mother," said a college student who had brought his chum home for the holidays, "permit me to present my friend, Mr. Specknoodle."
His mother, who was a little hard of hearing, placed her hand to her ear.
"I'm sorry, George, but I didn't quite catch your friend's name. You'll have to speak a little louder, I'm afraid."
"I say, mother," shouted George, "I want to present my friend, Mr. Specknoodle."
"I'm sorry, George, but Mr. ————
What was the name again?"
"Mr. Specknoodle!" George fairly yelled.
The old lady shook her head sadly.
"I'm sorry, George, but I'm afraid it's no use. It sounds just like Specknoodle to me."

A Sunday-school teacher persuaded a friend to take his place one Sunday, explaining to the substitute that all he had to do was to read the questions on the leaflet.

The lesson was the parable of putting new wine into old bottles, and, by aid of the questions, the substitute got on excellently, until, in an unguarded moment, he asked:

"Now, boys, what practical lesson may we learn from this parable?"

He hadn't the faintest notion himself, and as each youngster dubiously shook his head, the teacher began to grow nervous. But, to his relief, the last boy's face showed he had an answer.

"Please, sir, I think it means that if you put new religion into an old man, it will bust him."

GOSSIP.

Attention is called to the new advertisement in this paper of the opening of the fall term of the Stratford Business College, which is fixed for September 3rd. This old-established commercial and shorthand school has had a very successful career, and improves in its methods and work as it grows in years.

Baillie Taylor, Pitlivie, at the close of the Highland Show, despatched another shipment of superior stock to Buenos Ayres, consisting of 46 head of Shorthorns, including Rosebud 2nd, the Highland female champion of the breed; 17 Herefords, a number of Shire stallions and mares, Lincoln sheep and Berkshire swine.

Eighty head of Jersey cattle, ranging from one week to ten years old, offered at auction on July 17th by A. P. Walker, at Rushville, Indiana, sold for an average of over \$600, the highest price, \$3,800, being realized for the seven-year-old cow, Interesting Distinction, sired by Imp. Financial King, C. E. Parfet, of Colorado, being the purchaser. The Owl's Golden Pet, a two-year-old heifer, sold for \$2,500; Golden Fern's Red Rose, a nine-year-old cow, for \$2,550; Eminent's Golden Lena for \$3,700, and 30 others at figures ranging from \$500 to \$1,650 each. Jerseys evidently have admirers who are willing to back their favorites with their money.

D. H. Morris, ex-President of the Automobile Club of America, was describing, in New York, the success of a certain wily automobile "cop."

"The man's cleverness is wonderful," Mr. Morris ended. "In some ways it reminds me of the cleverness of old John Jates."

"I thought you said you were going to bring a friend home to dinner with you this evening?" snapped Mrs. Jates, as they seated themselves at a beautifully-appointed table.

"He couldn't come," John answered, calmly.

"And then, with no little enjoyment, the clever fellow fell to upon the first decent meal he had sat down to for some weeks."

Besides several thousand dollars' worth of medals and plate, \$12,669 are given in the horse classes at the Canadian National Exhibition, Toronto.

In every breeding class, medals are given for sweepstakes for best horse and best mare. In the Clydesdale classes, there is a special class for stallions owned by non-importers, the prizes for which amount to \$140. In the Shire classes, the Shire Horse Society, of England, give two £10 gold medals for the best stallion or entire colt and the best mare or filly. In all, it is safe to say that the prizes at the Canadian National Exhibition, August 29th to Sept. 9th, in the horse classes alone reach \$16,000. It might be mentioned that in all the classes, excepting a very few, four prizes are given.

Entries close on Saturday next, August 3rd. The breeding classes of horses will be judged the first week in September.

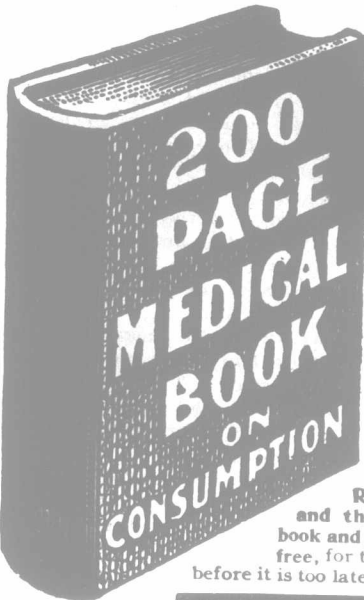
The Live-stock Journal says: "Sheep-droving in West Australia is always a risky business, and good, reliable drovers are well-paid. Six miles is an average day's journey for a flock of sheep, and watering them in that arid, sandy country is a difficult task. In most districts, sheep can only be travelled in the winter, and even then they may come upon a 'dry stretch.' Three days without water is about the limit of the sheep's power of endurance; therefore, eighteen miles of country, or anything over that, without water, forms a barrier practically impassable. Great care is necessary in approaching water after a long thirst, as the sheep, if not prevented, will rush headlong into the water and drown. The experienced drover, when nearing water in such cases, breaks up his flock and sends it forward in batches of three or four hundred at a time, and when one batch has quenched its thirst, which is very quickly done, another is sent on, and so on until all have been watered."

"Be Sure
You are Right - then
Go ahead"
It's always safe
to go ahead on
ELGIN
Time



Every Elgin Watch is fully guaranteed. All jewelers have Elgin Watches. An interesting, illustrated booklet about watches, sent free on request to
**Elgin National Watch Co.,
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Consumption Book FREE



This valuable medical book tells in plain, simple language how Consumption can be cured in your own home. If you know of anyone suffering from Consumption, Catarrh, Bronchitis, Asthma or any throat or lung trouble, or are yourself afflicted, this book will help you to a cure. Even if you are in the advanced stage of the disease and feel there is no hope, this book will show you how others have cured themselves after all remedies they had tried failed, and they believed their case was hopeless.

Write at once to the **Yonkerman Consumption Remedy Co., 217 Rose Street, Kalamazoo, Mich.,** and they will send you from their Canadian Depot the book and a generous supply of the New Treatment, absolutely free, for they want every sufferer to have this wonderful cure before it is too late. Write today. It may mean the saving of your life.

QUESTIONS AND ANSWERS.

- 1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
- 2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
- 3rd.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1 must be enclosed.

the firm received a cheque for \$28,148, an average of \$ 9.66 a head. The cattle were consigned to New York for shipment to England.

A college professor, noted for his concentration of thought, returned home from a scientific meeting one night, still pondering deeply upon the subject that had been discussed. As he entered his room he heard a noise that seemed to come from under the bed.

"Is there someone there?" he asked, absently.

"No, professor," answered the intruder, who knew of his peculiarities.

"That's strange," muttered the professor. "I was almost sure I heard someone under the bed."

Little Elmer, a Chicago boy, who had been listening for some time to the conversation between his mother and a woman caller, finally said:

"Mamma, are all your neighbors wicked?"

"If course not, dear," replied his mother. "But why do you ask such a question?"

"Because you and Mrs. ——— haven't said a single nice thing about any of them to-day," answered the little observer.

"If a child happens to show that he knows any fact about astronomy, or plants, or birds, or rocks, or history, that interests him and you, hush all the classes and encourage him to tell it so that all may hear. Then you have made your school-room like the world. Of course you will insist on modesty in the children, and respect to their teachers, but if the boy stops you in your speech, cries out that you are wrong, and sets you right, hug him."—Emerson, Essay on Education.

Miscellaneous.

INDIGESTION IN CALF.

Heifer calf, six weeks old, had constipation. We purged it, and it became all right to look at, but now it bloats after taking its milk. Has never been able to take more than three pints at a time fresh from the cow, and its hair seems to be falling off now. Will you state what ought to be done, or whether it is worth rearing?

L. A.

Ans.—This is evidently due to indigestion. Purge again with about 4 ounces Epsom salts, with 2 drams ginger in it, given as a drench. Add to the milk about one-quarter of its bulk of lime water, made by slaking a little lime in a pail, then filling the pail with water and thoroughly stirring it. Then allow it to stand, and the clear water on top is lime water.

LARGE CATTLE SHIPMENT.

The largest shipment of export beef cattle ever made from Brampton, in Peel County, Ontario, was made last week by Messrs. James R. Fallis and A. P. Scott, when they delivered to Mr. C. W. Campbell, of Chicago, 350 head. These prime cattle, which were principally purchased on the Toronto market last spring and pastured for about three months, were shipped in 12 cars on the G. T. R. and 7 on the C. P. R., and in exchange

Has your Horse an old Strain or Swelling?

Here's the way to cure it. Rub three teaspoonfuls of Fellows' Leeming's Essence in the sore place, and repeat the rubbing in 24 hours if a sweat or running does not appear.

This running turns to a scurf and forms a firm bandage on the part. So long as it stays over the strain or swelling, the effect of the dressing holds good. In 14 to 16 days, the scurf falls off and the horse is well.

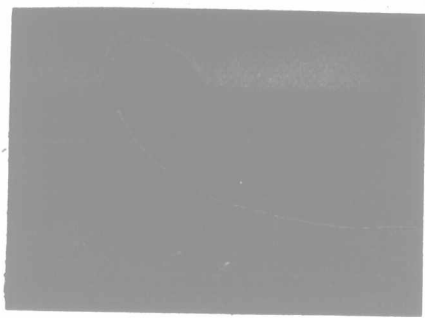
And you can work the horse all the time Fellows' Leeming's Essence is curing it.

Try it on your horse. Get

Fellows' Leeming's Essence

for Lameness in Horses.

50c. a bottle. If your dealer has none, write NATIONAL DRUG & CHEMICAL CO., LIMITED, MONTREAL.



THOS. IRVING

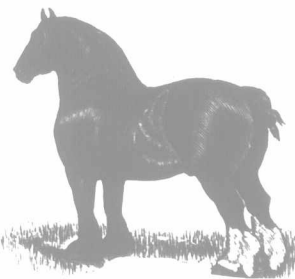
Winchester, Ont.

Established for over 30 years. Importer and exporter of

HACKNEY, CLYDESDALE and SHIRE STALLIONS and MARES.

New importation of winners just arrived. 90 miles west of Montreal on C. P. R.

HODGKINSON & TISDALE, BEAVERTON, ONT.



Importers and Breeders of Clydesdale and Hackney Horses. We have on hand at present the choicest specimens of Clydesdale fillies in Canada, also a few extra fashionably-bred young Clyde stallions. People wanting good ones should see these before buying. Our farm, "Simcoe Lodge," is situated near Beaverton, on James Bay and G. T. Railways. Long-distance 'phone No. 18. Visitors will be met at Beaverton on notification.

CLYDESDALES AND FRENCH COACHERS, IMP.



Scottish and Canadian winners, stallions, mares and fillies. The Clydes represent the blood of such noted sires as Baron's Pride, Up-to-Time, Royal Favorite, Ethiopia and Acme. They combine size, quality and action. The French Coaches are a big, flashy, high-stepping lot, and are winners in both France and Canada. Our prices are right, and our horses as good as the best. Long-distance telephone.

ROBT. NESS & SON, Howick, Quebec.



CRAIGALEE HACKNEYS

In my stables intending purchasers will always find a good selection of high-stepping harness horses, saddlers, etc. Just now I have a number on hand, also a few high-class Hackney mares; some with foal at foot. Noted prize-winners among them, and some rare good youngsters.

H. J. Spencely, Boxgrove P. O. MARKHAM STA. LONG-DISTANCE 'PHONE.



OAK PARK STOCK FARM CO., LTD. BRANTFORD, ONTARIO.

Breeders and Importers of Hackneys, Clydesdales, Shropshire Sheep, Berkshire Pigs and Scotch Collie Dogs.

A number of choice Hackneys of both sexes for sale. A number of choice Shropshires of both sexes, from our imported flock, for sale. Will have a number of show pens, will be ready for sale by the end of July. Some choice Berkshire boars and sows for sale from our imported stock. We are booking orders for Scotch collie puppies from our imported kennel.

W. C. KIDD, LISTOWEL, ONT.

Importer of Clydesdales, Shires, Percherons, Belgians, Hackneys, Standard-breds and Thoroughbreds

of highest possible quality and richest breeding. Have sold as many stallions the last year as any man in the business, with complete satisfaction in every case. I have always a large number of high-class horses on hand. My motto: "None but the best, and a straight deal." Will be pleased to hear from any one wanting a rare good one. Terms to suit. Long distance 'phone. LISTOWEL P.O. AND STATION.

GOSSIP.

In addition to the champion ribbons in the sweepstake classes for Clydesdales at the Canadian National Exhibition, Toronto, the Clydesdale Association has donated a money prize of \$50 to each. A section has also been added for yeld mares.

The long-delayed volume 22 of the Dominion Shorthorn Herdbook has at last been issued, and we have been requested to intimate that this volume will be sent to members entitled to it as fast as they are received from the bindery, as this may prevent a large number of enquiries, which would otherwise be addressed to the Record Office, at Ottawa.

F. W. Taylor, Wellman's Corners, Hastings Co., Ont., breeder of Ayrshire cattle, whose advertisement runs in "The Farmer's Advocate," writes: "I have made a number of good sales this season. Mr. Frank Harris and Mr. John A. Morrison, Mount Elgin, being large purchasers. Sales of young stock have also been made to Mr. Lick, Beachville, Ont.; Mr. Cass & Son, l'Original, Ont., and Wm. Anderson, Whithy, Ont. I have not one heifer calf left. Ayrshires are in active demand in many dairying sections."

Mr. Wm. Smith, Columbus, Ont., writes: "I have now on hand a very fine bunch of Shorthorn bull calves, from five to nine months old. Have also a number of heifers in good condition, and all ages. These belong to such noted families as the Killean Beauty, Strathallan, Wedding Gift, and Crimson Flower. They are nearly all got by that grand sire, Ben Lomond (50468) =45160, and are all low set, very thick, and good handlers. Any person desirous of founding a herd, or of getting more good blood into their already established herd, would do well to visit Glengow Stock Farm, at Columbus, Ont., near Claremont Station, C. P. R., and Oshawa or Brooklin, G. T. R."

An Oregon farmer has solved to his satisfaction the planting of potatoes by hand in a straight furrow. He has taken the rear wheel from his sulky plow, and taking the beam of a shovel from a double plow fastened it in such a manner that the shovel exactly follows the point of his sulky plowshare. He has this arranged so he can raise it at will, but it goes about three inches lower than the sulky when set for making a furrow. This makes a straight narrow furrow that the potatoes naturally drop into, and at the same time mellows the ground in the bottom of the furrow. He then raises the shovel plow, and plows two rounds with it up, again lowers it and makes his potato furrow, thus plowing and marking his ground at the same time, and leaving the rows the proper distance apart.

TRADE TOPIC.

WESTERN FAIR, LONDON. — The Western Fair, London, Ont., promises this year to eclipse all previous records. As this is the 40th exhibition without a break, the management are anxious that it should be a great success. Entries are already coming in quite fast, and considerable space has been allotted in the different buildings. A number of improvements have been made in the grounds and buildings this year for the comfort and convenience of exhibitors and visitors. The prize list has been carefully revised and added to. Knabenshue's airship will make ascensions daily. The Dankmar-Schiller troupe and the Ernesto Sisters will thrill those who see them with their daring acts. White & LeMart and the Les Aribos will instruct and amuse, and with music by the best available bands and the grand display of Fireworks each evening followed by that magnificent Pyrotechnical display "The Siege of Gibraltar," will make one of the best programmes ever presented to the public at any previous Western Fair. Remember the dates, Sept. 6th to 14th. Reduced rates on all railroads.

Write the Secretary, Western Fair office, London, for particulars as to space, prize lists, programmes, etc., and make your entries early.

Horse Owners! Use



GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure. The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Can.



You Can't Cut Out A ROG SPAVIN or THOROUGHPIN, but

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will clean them off, and you work the horse same time. Does not blister or remove the hair. Will tell you more if you write. \$2.00 per bottle, delivered. Book 40 free. ABSORBINE, JR., for mankin, \$1.00 bottle. Cures Varicose Veins, Varicocle, Hydrocele, Ruptured Muscles and Ligaments, Enlarged Glands, Allays Pain. Genuine mfd. only by

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For the cure of Spavins, Ringbones, Curbs, Splints, Windgalls, Capped Hocks, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.



This preparation (unlike others) acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any other ailment, and will not kill the hair. Manufactured by Dr. Friedrich A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents: J. A. JOHNSTON & CO., Druggists, 171 King St. E., Toronto, Ont.

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Have now on hand about a dozen, nearly all imported. A high-class lot and very richly bred. Combines size and quality, and all in foal. Also one-year-old stallion. Write me, or come and see them. Nelson Wagg, Clarendon P.O. Ont.

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Clydesdales, Shorthorns and Cotswolds—For

individuals of above breeds, write me. My new Cotswold and Clydesdale importation will arrive early in the season. J. C. ROSS, Jarvis P.O. & Sta.



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To make room for my new importation, I will sell four cows with heifer calves by side, two yearling heifers, one yearling bull and two bull calves at a 20% reduction if taken in the next 30 days. The best of breeding and individual merit. Herd is headed by a son of the grand champion, Prime Lad. Address: M. H. O'NEIL, Southgate, Ont.

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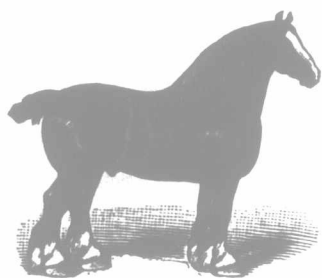
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I have still on hand 19 Clydesdale stallions, 4 Clydesdale fillies, all imported; Scotland and Canadian prizewinners; 8 years old, that will make \$100-lb. horses of choicest quality and richest breeding; 4 black Percheron stallions, 3 years old, big, flashy, quality horses, and 6 Hackney stallions, 1st-prize and championship horses among them. Will sell reasonable and on terms to suit.

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have now on hand only the choice imported colts Dashing King, a 3-year-old, and Baron Columbus, a 2-year-old; also a couple of rattling good Canadians, 7 and 8 years old.

Long-distance Phone, Myrtle Station, C. P. R.
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Our Clydes now on hand are all prizewinners, their breeding is gilt-edged. Our Hackneys, both stallions and mares, are an exceedingly high class lot. We also have a few high-steppers and carriage horses. Young Street cars pass the door every hour. Phone North 4482.

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IMPORTED CLYDESDALES

Just arrived: One 4-year-old mare, two 3-year-old mares, seven 2-year-old fillies and three yearling fillies, two 2-year-old stallions, and one 1-year-old. The 4-year-old mare is due to foal. Six of these fillies are high-class Scotch winners. No richer-bred lot. No more high-class lot was ever imported. They have great size and quality. The stallions will make very large show horses—full of quality. They will be sold privately, worth the money.

CRAWFORD & BOYES, Theford Station, Widde P. O., Jnt.

Subscribe for the Farmer's Advocate.

QUESTIONS AND ANSWERS. Miscellaneous.

CAKED UDDER.

I have had several ewes with caked udders, and they get real hard. What is the cause, and what treatment should I use?

SUBSCRIBER.

Ans.—The cause of caked udder, garget or mammitis, is generally over-secretion of milk, but sometimes it is owing to impure blood. A dessertspoonful of baking soda in a pint of water, given as a drench once a day for three days, often has a good effect. Bathe the udder well with hot water twice or three times daily, and after rubbing dry, apply the following liniment: Fluid extract of belladonna, ½ ounce; tincture of aconite, 4 ounces; tincture of opium, 3 ounces; raw linseed oil to make one quart.

QUITTING WORK.

What would be the law or right in a case like this: I hired a man for a year at so much per month, with free house and garden, and he quits working for me at the end of July.

1. Would he have any right to anything in garden after he quits work?
2. Could he sell the stuff in garden?
3. Could there be any of his wages kept back?

SUBSCRIBER.

Ontario.
Ans.—1. No.
2. Not effectually.
3. We are assuming that he left your employment without good and sufficient cause, and would answer this question in the affirmative. You ought to tender him only what would be a reasonable amount, having regard to all the circumstances.

AILING TURKEYS.

I had a batch of turkeys hatch the first week of May, and have lost none by disease; but now their heads are red, and they make a noise as though sneezing. They eat all right. I feed them wheat, also a mixture of chop with milk. I always enjoy reading "The Farmer's Advocate."

A SUBSCRIBER.

Ans.—It is quite natural for the heads of young turkeys to get red at this age. A slight cold will cause them to make a sneezing noise; so, also, will "gapes," or worms in the windpipe. If the former, they should be watched for swelling under the eye, and if any happen to swell, kill at once and bury, which will help to save the remainder. When swelling commences, the cold has developed into "roup," and I have found killing at once the most profitable plan. Should it prove to be "gapes," I think the strength of the poults at this age will carry them safely through, although this disease proves fatal when the turkeys are only two or three weeks old. I know of no sure cure for the "gapes," and the big trouble is that they are sure to be present the following season.

W. J. BELL.

LICE OR POSSIBLY BLACK-HEAD.

We have a flock of turkeys, six weeks old, hatched under hens. I have been feeding shorts according to Mr. Bell's plan given in "The Farmer's Advocate." They did splendidly (never lost one) until about two weeks ago, one got mopy; would sit in the sun and sleep; did not eat much, and in a few days died. Then another one acted just the same. I gave it a few drops castor oil, but it did not do any good, and it died. Another one I gave salts, and there is another one sick now. The rest of the flock seem to be quite healthy, and are growing nicely.

A CONSTANT READER.

Ans.—In my opinion, the turkeys are troubled with lice, or they may lack grit. I would also ask the correspondent to look carefully at the feathers just below the vent. If there is a greenish-yellow discharge, or if the droppings are this color, the young turkeys have black-head. If the turkeys are only lousy, rub their heads slightly with lard. Too much is very bad and might kill the poults. All that is needed is just a little grease under the wings and on top of the head. If grit is not to be had, draw a load of gravel, and dump where the turkeys can pick it over at will. I know of no cure for black-head. Let your turkeys roam as much as possible, and do not feed on the ground. Lame their dropping or roosting coop.

W. R. G.

BINDING A BARGAIN.

1. If a man buys a horse from me, and pays one dollar down, does that sum bind him to take the horse at the time agreed?

2. Or, is there any certain sum which needs to be paid to make the bargain binding?

J. M. W.

Ontario.

Ans.—1. Yes.

2. In cases where it is necessary to a binding contract that something should be given in earnest to bind the bargain, or in part payment, the amount so given, or paid, is immaterial—any sum will do.

THE SPICE OF LIFE.

Little Tommy had been forbidden to swim in the river, owing to the danger. One day he came home with unmistakable signs of having been in the water. His mother scolded him severely.

"But I was tempted so badly, mother," said Tommy.

"That's all very well. But how'd you come to have your bathing-suit with you?"

Tommy paused, and then said:
"Well, mother, I took my bathing suit with me, thinking I might be tempted."

A man who runs a truck in Virginia tells of the sad predicament in which a negro named Sam Moore, who is in his employ, recently found himself. Sam had had considerable difficulty in evading the onslaughts of a dog from a neighboring farm. Finally the dog got him, as Sam kicked at him.

Sam's wife, hearing a tremendous yell, rushed to the rescue of her husband. When she came up, the dog had fastened his teeth in the calf of Sam's leg and was holding on for dear life. Seizing a stone in the road, Sam's wife was about to hurl it when Sam, with wonderful presence of mind, shouted:

"Mandy! Mandy! Don't frow dat stone at de dawg! Frow it at me, Mandy!"

A recent graduate from Harvard was given a confidential clerkship in the office of the president of a huge railway system.

The young aspirant was not told at what hour he should report; so the first morning he appeared in the office of his chief at nine o'clock. He found the president hard at work. Nothing was said of the clerk's tardiness.

On the second attempt, the clerk presented himself at eight-thirty, only to find that the president was there ahead of him, working hard.

The third day the young man went at eight o'clock with the same result.

That night as he went home, the clerk took counsel with himself, and determined to be ahead of the boss the next morning. Accordingly he arrived at the office at seven-thirty the fourth day, but there was the chief working away as if he had not left the office at all.

As the clerk entered, the president looked at him with a quizzical air. "Young man," said he, "what use do you make of your forenoons?"—[Literary Digest.]

HOW HE MISSED.

Dr. Seward Webb, at a dinner at Shelburne Farms, his great Vermont estate, said to a certain poor marksman:

"Visiting his English brother-in-law, he shot the head keeper in the leg the first morning he tried pheasant shooting.

The man limped away, cursing horribly. Next day he had wretched luck, though the head keeper, without malice, had assigned him to a fairly good place.

Bang, bang, bang went his gun every few seconds, but not a bird fell before it. He was much embarrassed. It seemed, too, that at each one of the misses, the under keepers smiled at one another, oddly.

Finally his cartridges gave out. He hurried to the nearest keeper and demanded more.

"There ain't no more, sir," the man answered.

"No more? Nonsense. Why, you've got at least a thousand in that box."

The keeper flushed and stammered: "Ah, but them ain't for you, sir. They're for another gent. They've got shot in 'em, sir."

SHERBROOKE FAIR,

Sept. 2 to Sept. 14, 1907

\$25,000 in Premiums—Classes for all kinds of stock, farm products and machinery.

Good Racing Programme daily. Air-ship ascensions. Fine vaudeville programme.

Canada's Finest Show this summer; Sherbrooke's biggest fair in history.

Something Doing all the Time.

Entries Close July 31.

Cheap railroad excursions.

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For information, prize lists, entry blanks, etc., apply to

W. M. TOMLINSON, Sec'y,
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Shorthorns & Leicesters

For sale: Young bulls and heifers by Imp. sires, and from grand milking cows. Leicesters—A choice lot of shearing rams and ewes, also ram and ewe lambs of the finest type and breeding. And a few extra good Berkshire boars. All for sale at reasonable prices.

W. A. Douglas,

Caledonia Station, Tuscarora P. O.

JOHN LEE & SONS, Highgate, Ont.



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The champion herd of High Kent and Essex counties. For Sale: 6 choice young bulls 3 reds and 3 roans, of grand type and quality; also good selection of young cows and heifers. Visitors welcome.

Queenston Heights Shorthorns

Two high-class Cruickshank herd bulls. Show animals in bull and heifer calves. Straight Scotch, Canadian and American registration. Easy prices.

HUDSON USHER, Queenston, Ontario.

SHORTHORNS

One beautiful roan bull for sale, sired by Derby, Imp. the great stock bull. This is a grandly bred bull, and will make a good show bull, and also a grand getter. We also have several first class heifers of breeding age, also some cows in calf or calves at foot—imported and home-bred.

W. J. SHEAN & SON,

Box 856, Owen Sound, Ont.

Scotch Shorthorns

Clarets, Stamfords, English Ladys, Mildreds, Nonpareils. Present offerings by Springhurst 4464 and Mildred's Royal. Prices moderate. **F. W. EWING,** Salem P. O., Elora Station.

Blm Park

Shorthorns, Clydesdales & Berkshires

Herd headed by the choicely-bred bull, British Flag (imp.) 80016. Stock of all ages for sale.

JOHN M. BECKTON, Glencoe, Ontario.

G.T.R., C.P.R. & W.A. Farm adjoins town limits.

MAPLE HILL STOCK FARM—High-class Scotch Shorthorns.

Herd headed by Rose Victor = 64835= and Victor of Maple Hill = 64480=, both sons of the Duthie-bred bull, Sittytion Victor (imp.) = 50068=, and from richly-bred imported cows. **W. R. ELLIOTT & Sons Box 428 Guelph.**

Please Mention this Paper

Some Necessary Farm Supplies.

It scarcely merits the term of chemicals or chemical supplies, yet the farmer at the present time should provide himself with some or all of the following list, which I find very necessary.

The salt barrel is always considered, and, in fact, is a necessity, yet in modern farm and stock-yards there are other chemicals almost equally indispensable.

LIME.

The lime barrel should stand with the salt barrel in application almost daily. A few pounds of lime added each week to the watering trough destroys low forms of plant life, which thrive especially in the summer-time, and in the minds of the small boy is associated with frogs. The trough is sweetened and the water purified. As an aid to digestion, and as an antidote for acid conditions of the animal stomach it is beneficial, especially during periods of pasturage, when bloating is liable to occur. How far, if at all, the bones of the animal may be strengthened and supplied with lime from this source is not a determined matter.

IRON SULPHATE.

The average 160-acre farm can utilize 50 lbs. per year. Nearly all stock foods have a portion of this as an ingredient to act as a tonic. Finely pulverized and mixed 1 to 20 with salt for sheep and cattle it is very efficacious. An occasional handful in the swill barrel is of benefit to swine. It is a great cleanser of foul hog troughs, and any foul place associated with moisture. Iron sulphate is a by-product of the manufacture of galvanized iron, and the supply is in excess of demand. It is well to ask your implement dealer to order for you, since buying it of the drug trade is like one buying oil meal of the druggist. An accommodating hardware merchant might be induced to secure a supply.

CRUDE OIL.

Over one-half the oil in lubrication is wasted, yet it is an economical waste. The farmer who uses a gallon jug of oil per season and that merely on the binder and mower, could well afford to use 5 gallons, or more. Have several effective oil cans with spring bottoms; oil the roller doors, the gate hinges, and then go to the hoppen and while the swine are feeding give them a good anointing; it is an effective lice killer, and does not blister like the refined product. During the Boer war, the writer saw a stockade where Western horses were being broken for the English army. Barb-wire cuts, car bruises, and all manner of flesh wounds were being treated with crude oil. Use it on sore teats of cows, use it around the henhouses and chicken roosts; preserve exposed iron and steel parts of machinery. It is well to buy co-operatively in barrel lots, or get your thrasher neighbor to order for you. Machine oil is not retailed on a close margin like the refined oil.

PINE TAR.

Have your grocer order a gallon can or 5 gallons possibly. The pint can is too small for serious consideration. When there is coughing among swine, some tar in the troughs is very effective. Horses are benefited by a "dob" in the feed box. Sheep, subject to gad-fly attacks and catarrhal troubles, demand tar. For use in the scalding barrel, some tar works wonders in farm butchering. As a fly repellent on flesh wounds, tar is unexcelled. There seems to be great merit in the pine-tree products—tar, rosin and turpentine—in connection with live stock. Each of these items should find a place on the stockman's shelves.

CHARCOAL.

May be made at home or purchased. Cobs may be charred, or any wood converted into charcoal. It is well, however, to purchase of some fuel dealer or plumbing establishment since to wait until made at home is often never to have the article. Fifty pounds of charcoal goes a long ways. An experienced lamb feeder told the writer that in different trials of "salvage wheat" from burned elevators he found when there was a great amount of burned grains, the value of the wheat seemed to be equal to clean whole grain, when fed in moderate quantities. The reason he attributed to the aid of the charcoal element in digestion and nutrition.

The various digestive preparations for the human stomach, as a rule, contain charcoal, and it is also found in many of the proprietary stock foods. Animals when fattening on excessively carbonaceous foods take very kindly to charcoal added to salt. Swine will leave corn for charcoal when on full feed. Pulverized charcoal added in small quantities to the ground feed given young calves is recommended.

COAL-TAR PREPARATIONS.

A gallon can or more is desirable. The merits of these goods are unquestioned, provided always they are honestly prepared. The United States Government for years took the stand that it was difficult to determine between goods of merit and those lacking the essential kresols. Established and reliable manufacturers is about the only assurance that the farmer has in this respect. The use of these preparations are manifold, and the directions for their employment specific.

There are other articles which are or approach the medical line and their use depends on the skill of the farmer. If he is not skillful or trained, it is then within the province of the veterinary surgeon. The use of those enumerated require plain common sense, and should be understood as any other element of care in live stock.—J. N. M., in Michigan Farmer.

"I just put two dozen eggs under the speckled hen, mother," said the ten-year-old.

"Why, Teddie!" exclaimed the mother. "You know she can't cover two dozen eggs to save her life. Her wings are too small."

"I know she can't," replied Teddie, convincedly. "I just wanted to see the old thing spread herself!"

Three tired citizens—a lawyer, a doctor, and a newspaper man—sat in a back room recently in the gray light of early dawn. On the table were many empty bottles and a couple of packs of cards. As they sat in silence, a rat scurried across the hearth into the darkness beyond. The three men shifted their feet and looked at each other uneasily. After a long pause, the lawyer spoke: "I know what you fellows are thinking," he said; "you think I thought I saw a rat, but I didn't."

A professor in philosophy was lecturing upon "Identity," and had just argued that parts of a whole might be subtracted, and other matter submitted, yet the whole would remain the same, instancing the fact that, although every part of our bodies is changed in seven years, we remain the same individuals.

"Then," said a student, "if I had a knife, and lost the blade and had a new blade put in it, it would still be the identical knife?"

"Certainly," was the reply.

"Then if I should lose the handle from the new blade and have another handle made to fit it, the knife would still be the same?"

"That is so," said the professor.

"Then, in that case," triumphantly rejoined the student, "if I should find the old blade and the old handle, and have the original parts put together, what knife would that be?"

Of the expensive furs none is better known or more commonly used than Persian lamb, and about none are there more absurd errors current, says World's Work. One of the error almost universally believed is that the curliest and glossiest and blackest Persian lamb is obtained by killing the mother to get the unborn kid. This is sheerest nonsense. The great desideratum in Persian lamb is to avoid the prevailing reddish tinge that can be seen by holding the fur up between you and the light. I asked Revillon Freres, who have large sheep farms at Bokhara, in Persia, to supply their Paris trade: "Do you ever in any circumstances slay the mother to get a good pelt from the unborn kid?" "No, never," was the answer. "The way that false impression has arisen about Persian lamb is this: When the summer heat becomes great, herders drive their sheep from the valleys to the cooler heights of the mountains. On the road sometimes, a ewe dies of exhaustion. Then, of course, the drovers take the pelt of both mother and kid."

Fistula and Poll Evil

Any person, however inexperienced, can readily cure either disease with Fleming's **Fistula and Poll Evil 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 Adviser. Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durably bound, indexed and illustrated. **FLEMING BROS., Chemists, 78 Church Street, Toronto, Ontario**

FERTILIZERS

My "Star Brand" Wood-Ash-Fertilizer is Nature's fertilizer for the Lawn, Garden, Orchard or Farm. They contain plant food in a concentrated form, dry, fine, and guaranteed in first-class condition; no obnoxious odors. Put up in strong bags of 100 lbs. each. We employ no agents, sell at one price to all, direct to customers. Prompt shipment to all points. Prices, in lots of 200 lbs. or more, quoted upon application. Address **CHAS. STEVENS, Napanee, Ont. Drawer 641.**

Glen Gow Shorthorns



Our present offering is 9 bulls, from 6 to 14 months of age, sired by Imp. Ben Loman and Imp. Joy of Morning, and out of Imp. and Canadian-bred cows. Also a number of very choice heifers. No fancy prices asked. Long-distance phone.

W.M. SMITH, Columbus P.O.

Shorthorns, Cotswolds and Berkshires.



For sale: 3 yearling bulls, also 5 bulls ranging from six to nine months; also yearling heifers and young calves. Will book orders for Cotswolds and Berkshires.

CHAS. E. BOWNCASTLE, P. O. and Stn. Campbellford, Ont.



ROCK SALT for horses and cattle, in ton and car lots.

TORONTO SALT WORKS, TORONTO

Maple Grove Shorthorns



Herd headed by the grand show bull, Starry Morning. Present offering: Imported and home-bred cows and heifers, also a few young bulls. Terms and prices to suit the times. **C. D. WAGAR, Enterprise Stn. and P.O. Addington Co.**

MAPLE GROVE SHORTHORNS

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

SHORTHORNS, YORKSHIRES and S.-C. WHITE LEGHORNS.

I have sold all my young bulls advertised, but can offer straight Scotch-bred heifers of the noted 88 000 bull, Joy of Morning (imp.) = 20070=, and young cows bred to him. Also choice Yorkshires, 5 months old, imp. sire and dam. Leghorn eggs supplied at 75c. per 13. **Geo. D. Fletcher, Binkham, Ont., Erin Station, C. P. R.**

SCOTCH SHORTHORNS

For sale: 7 young bulls, also my stock bull, Royal Prince = 31241= (roan), sire of the two noted females, Fair Queen and Queen Ideal, World's Fair champion. **H. K. FAIRBAIN, Thedford, Ont.**

High-class Shorthorns

Royal Chief a son of Mildred's Royal, heifers of show-ring form. Pure Scotch. Terms reasonable. **A. DUNCAN & SONS, Carleton, Ont.**

Young Shorthorn Bulls!

Am now offering 3 grand ones from Scottish Peer (imp.). Will make show animals. A few Berkshire boar pigs 3 months old. Also Leicester sheep. **JAS. SNELL, Clinton, Ont.**

Arlington Shorthorns and Leicesters.

Present offering: A few females of different ages, some from imp. sires. No sheep for sale at present. Stock guaranteed as represented. **John Lishman, Hagererville P. O. & Stn.**

Scotch Shorthorns

A grand pair of yearling bulls, also a few heifers, bred from imp. sire and dams. Pure Scotch and fashionably pedigreed. Will be sold right. **C. RABIN & SONS, Wyebridge P. O., Wyevale Station.**

The Gerhard Heintzman Player Piano

Satisfies

critical musicians, as there is no change in the quality of its tone when you pass from one note to another.

Fitted to an instrument so perfect in every particular as the

"GERHARD HEINTZMAN"

it possesses points of superiority over other Player Pianos sold but not made in Canada.

Plays all the notes on the piano; perfect transposing keyboard; pneumatic fingers jointed like the human wrist; automatic re-wind; absolute control of the tempo.

Mechanism is made as part of the instrument, and does not in any way interfere with the playing of the piano by hand.

Your old instrument taken in part payment. Write for particulars.

Gerhard Heintzman, Limited

Hamilton Salesroom:
127 KING STREET, EAST.

Toronto Warerooms:
97 YONGE STREET.

Pure Scotch Shorthorns

We are offering 10 young bulls, fit for service, all from imported sires and dams, among them some choice herd bulls. Cows and heifers of all ages, including some excellent show heifers. One imported Clydesdale mare, four years old, with an extra good foal at her side. Young Yorkshires of both sexes. Long-distance telephone.

W. G. PETTIT & SONS, Freeman, Ont., Burlington Jot. Stn.

Shorthorns!

BELMAR PARC.

John Douglas,
Manager.

Peter White,
Pembroke, Ont.

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

Nonpareil Archer, Imp. Proud Gift, Imp.
Marigold Sailor. Nonpareil Eclipse.

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

An unsurpassed lot of yearling heifers.

AT "MAPLE SHADE"

Our young bulls are the best that our herd has ever produced. We can furnish Cruickshank bulls of high quality to head the best herds, and some that should produce the best prime steers. We have a bull catalogue. Send for one.

JOHN DRYDEN & SON, Brooklin, Ont.
Stations: Brooklin, G.T.R. Myrtle, C.P.R. Long-distance telephone.



Special Offering of Scotch SHORTHORN BULLS

3 just past two years old; 15 just over one year old; 7 just under one year old.

The best lot we ever had to offer in individuality and breeding, and prices are right. Catalogue.

John Clancy, H. CARGILL & SON, Cargill, Ont.
Manager.

WESTSIDE SHORTHORN HERD AND BORDER LEICESTER FLOCK.

All Registered in the Herd and Flock Books of Great Britain.

We invite all interested to inspect the cattle and sheep on this farm. The Shorthorns are long-traced families, tracing to the pioneer herds of Scotland through channels of repute. The Border Leicester flock is one of the oldest in Scotland, and embraces blood of the highest breeding. Selections for Sale. Visitors from the States and Canada will be cordially welcomed.

A. Cameron & Sons, Westside Farm, Brechin, Scotland.

Glover Lea Stock Farm

SCOTCH SHORTHORNS

Superior breeding and individual excellence. For sale: Bulls and heifers—reds and whites—some from imp. sire and dam. Visitors meet at Ripley station, G. T. R.

R. H. REID, PINE RIVER, ONTARIO.

The Salem Herd of Shorthorns

IS HEADED BY JILT VICTOR (IMP.).

It contains a number of the most noted matrons of the breed. Write for what you want.

R. A. & J. A. Watt, Salem, Ont.
Elora station, G. T. R. and C. P. R.

THE SPICE OF LIFE.

Customer.—What sort of a chicken do you call this?

Waiter.—That, sir, is, I believe, a Plymouth Rock.

Customer.—Ah, I'm glad it has some historic interest. I thought it was just an ordinary cobblestone.

A minstrel, having given out his "notices," was about to read his hymn, when he was reminded of one he had forgotten. Stopping, he made this announcement, apologizing for his forgetfulness. Then, much to the amusement of his audience, he began to read out the hymn as follows: "Lord, what a thoughtless wretch am I!"

The day returns and brings us the petty round of irritating concerns and duties. Help us to play the man, help us to perform them with laughter and kind faces, let cheerfulness abound with industry. Give us to go blithely on our business all this day, bring us to our resting beds weary and content and undishonored, and grant us in the end the gift of sleep.—Robert Louis Stevenson.

Colorado is about to astonish the world with a glass bridge. Across the gorge of the wonderful Grand canyon of the Arkansas River, near Canyon City, a suspension bridge has been built more than 2,600 feet above the surface of the river. Its floor is of plate glass so that tourists may look into the wonderful gorge, the deepest in the Rockies. The floor of the bridge is about a mile and a half above sea level. An electric railway from Canyon City will carry travellers to the edge of the gorge.

One morning a Sunday school was about to be dismissed, and the youngsters were already in anticipation of relaxing their cramped little limbs after the hours of confinement of straight-backed chairs and benches, when the superintendent arose, and, instead of the usual dismissal, announced: "And now, children, let me introduce Mr. Smith, who will give us a short talk."

Mr. Smith smilingly arose, and after gazing impressively around the classroom, began with: "I hardly know what to say," when the whole school was convulsed to hear a small, thin voice in the rear lip:

"They amen and thit down!"

In a small church in one of the mining towns of Pennsylvania was a pulpit both antique and unique. It was about the size and shape of a flour barrel, was elevated from the floor about four feet, and was fastened to the wall. The ascent was by narrow winding steps.

A minister from a neighboring town, a man of great vigor and vehemence, preached there on Sunday. While preaching he bent forward and shouted out with great force the words of his text: "The righteous shall stand, but the wicked shall fall."

Just as these words escaped from his lips, the pulpit broke from its fastening and he fell out and rolled over on the floor before the congregation. In an instant he was on his feet again, and said: "Brethren, I am not hurt, and I don't mind the fall much, but I do hate the connection."

AN HONEST DOCTOR.

Two or three generations ago Dr. Samuel Reed was one of the prominent physicians of Boston. His large practice included many patients outside of the city limits, and these he visited in his buggy.

One day he bought a new horse, with which he was much pleased until he discovered that the animal had an insurmountable objection to bridges of all kinds and could not be made to cross one.

As, at this period, it was necessary to cross some bridges in order to reach any one of the surrounding towns, the doctor decided to sell the horse. He did not think it necessary to mention the animal's peculiarity, but was much too honest to misrepresent him, and, after some thought, produced the following advertisement, which he inserted in a local paper:

For Sale. A bay horse, warranted sound and kind. The only reason for selling is because the owner is obliged to leave Boston.

Standing Offer



Good always, everywhere, \$100 Reward, for any lameness, curb, splint, founder, distemper, etc., (where cure is possible) that is not cured by

TUTTLE'S ELIXIR

Greatest horse remedy in the world. Tuttle's Family Elixir invaluable for human bruises, pains, rheumatism, etc. Send for free 100 page book, "Veterinary Experience." The perfect horseman's guide. Every disease symptom and its treatment.

TUTTLE'S ELIXIR CO.,
66 Beverly Street, Boston, Mass.
Canadian Branch, 22 St. Gabriel St., Montreal, Quebec.

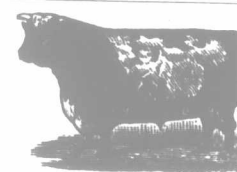
McKILLIP Veterinary College

Chicago—Chartered 1892
AFFORDS UNLIMITED CLINICAL ADVANTAGES
New college building containing every modern equipment. Sessions begin Oct. 1, 1907. The new U. S. Sanitary and Pure Food laws require large and increasing number of Veterinary Inspectors. Write for Catalog and other information.
George B. McKillip, Sec., Dent. N. Wash. Ave., Chicago.

Aberdeen - Angus Cattle

If you want anything in this line, write or come and see them at Elm Park, Guelph.

James Bowman, Guelph, Ont.



1 BULL

16 months old, sired by Royal Bruce, imported; 2 10 months old, sired by Lord Lieutenant, imported; cows and heifers imported and home-bred. All at reasonable prices.

SCOTT BROS., Highgate, Ont.

J. WATT & SON

OFFERS FOR SALE

1 two-year-old show bull from imp. sire and dam.

1 senior show bull calf from imp. dam.

2 senior show yearling heifers, one from imp. sire and one from imp. dam.

The above mentioned are all in show shape, and will be sold worth the money.

SALEM P.O., ELORA STA. G.T.R. AND C.P.R.



J. BRYDONE,

Breeder of pure Scotch Shorthorns. Breeding females imported. Headed by the pure Cruickshank (Duthie-bred) bull, Siltynon Victor (Imp.) = 50093 = (57397). Young stock from imp. dams for sale.

Prices reasonable. Telegraph, Telephone, R. R. Sta. and P. O., Milverton.

Shorthorns, Clydesdales and Shropshires.

In Shorthorns we have 100 head to select from, of both sexes and all ages. No fancy prices asked. Several choice young Clyde mares and fillies. 75 Shrop. lambs of both sexes. Small profits and quick returns is our motto.

EDWARD E. PUGH,
Claremont P. O. and Station,
Telephone connection.

FOR SALE

8 SCOTCH SHORTHORN BULLS

Aged 6 to 14 months. Marr Beautys, Campbell Claretts, Bessies, Claras and Rosebuds, got by the Broadhooks bull, Broadhooks Prince (Imp.) 55092. Also cows and heifers in calf or with calves at foot or being bred to same bull. Prices lowest and terms easy.

DAVID MILNE, Ethel, Ont.

WILLOWBANK SHORTHORN HERD

ESTABLISHED 51 YEARS.

FOR SALE: Young bulls and heifers from imp. sires and dams, of most fashionable breeding and type; exceedingly choice. Prices to suit the times.

JAMES DOUGLAS,
Caledonia P.O. and Sta.

SHORTHORNS AND BERKSHIRES

Three young bulls fit for service; the right sort at reasonable prices and easy terms. Also heifers and cows with calves at foot, by Bando-leer = 40106. In Berkshires: Bows five months old, and pigs soon ready to wean.

F. Martindale & Son,
Caledonia Sta. York P.O.
Heldimand Co.

Maple Leaf Shorthorns

Chancellor's Model now heads the herd, which contains Crimson Flower, Lady Fanny, Miss Ramsden, Rosemary, Matchless, Diamond, and Imp. Bessie Wenlock. Now offering a lot of choice calves, both sexes. Isra-I Goff Alma Ont.

FOR SALE; SCOTCH COLLIE PUPS

Sable and white, at \$5 to \$10, f. o. b.

J. K. HUX, Box 154, RODNEY, ONT.

Advertise in the Advocate

WATCH The Kidneys.

They are the most important secretory organs. Into and through the kidneys flow the waste fluids of the body, containing poisonous matter taken out of the system. If the kidneys do not act properly this matter is retained, the whole system becomes disordered and the following symptoms will follow: Pain in the small of the back and loins, frightful dreams, specks floating before the eyes, puffiness under the eyes, and swelling of the feet and ankles or any urinary trouble.

When any of these symptoms manifest themselves you can quickly rid yourself of them by the use of the best of all medicines for the kidneys,

DOAN'S KIDNEY PILLS.

Mr. John L. Doyle, Sutton West, Ont., writes: "I was troubled with a pain in my back for some time, but after using two boxes of DOAN'S KIDNEY PILLS I was entirely cured and can speak highly in their favor."

Price 50 cents per box, or 3 for \$1.25, at all dealers, or The Doan Kidney Pill Co., Toronto, Ont.

SHORTHORNS

One roan Shorthorn bull, 3 years old, highly bred, quiet to handle; a bargain. Cows and heifers all whites. Also a number of **Chester White** sows that will weigh from 100 to 150 lbs each. No fancy prices.

D. ALLAN BLAOK, Kingston, Ont.

KENWOOD STOCK FARM. SHORTHORNS.

Headed by (Imp.) Jilt Victor =45187=. Offerings are two bull calves, an 11-months Miss Ramsden from imp. sire and dam; a 19-months Missie, by Elythesome Ruler, and other bulls; also heifers of choice breeding. A few choice Berkshire pigs just off the sow.

HAINING BROS., Highgate, Ont. Kent Co.

Valley Home Shorthorns AND BERKSHIRES.

Offering 5 choice bulls, 11 to 14 months old. Young cows and heifers in calf, and yearling heifers. Young sows safe in pig and boars and sows three months old, of prolific strains.

S. J. PEARSON, SON & CO., Meadowvale, Ont.

Stations: Meadowvale, C.P.R.; Brampton, G.T.R.

SHORTHORNS AND LINCOLN SHEEP.

Two bulls, 11 and 12 months old—a Miss Ramsden and a Bessie, both by the good breeding bull, Proud Gift =50777= (imp.), also cows and heifers in calf by him. Inspection solicited. Always have some choice Lincoln sheep for sale at reasonable prices.

J. T. GIBSON, DENFIELD, ONTARIO.

T. DOUGLAS & SONS STRATHROY, ONT.

Breeders of Shorthorns and Clydesdales. 15 bulls, 6 cows and heifers, 1 imp. stallion, imp. and home-bred fillies. Write us what you want or come and see our stock. Farm 3 miles north of town.

Maple Lodge Stock Farm 1854-1907.

Am now offering a grand lot of young **Shorthorn Bulls**, several from choice milking strains. Also a few extra good heifers.

A. W. SMITH, MAPLE LODGE, ONT.

John Gardhouse & Sons
Importers and breeders of Scotch Shorthorn cattle, Shire and Clydesdale horses, and Lincoln sheep. Call and see us.
Highfield P. O., Weston Station 3 1/2 Miles. Telephone.

Spring Valley Shorthorns

Bulls in service are: Bapton Chancellor (imp.) =40359=(78286), Clipper Chief (imp.) =64220=. Stock for sale at all times.

WYLE BROS., Ayr, Ontario.

Brown Lee Shorthorns!
Nonpareil Victor =63307= at head of herd. Young stock for sale at all times. Prices very reasonable. Ayr, C. P. R.; Drumbo, G. T. R.
DOUGLAS BROWN, Ayr, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

MEAL FOR PIGS ON GRASS.

I have a lot of pigs on grass that will weigh about one hundred pounds each. Which would be the cheapest feed to use, corn meal at \$1.25 per 100 lbs., or ground linseed oil cake at \$1.80 per 100 lbs. to bring them to about 175 lbs.?

A SUBSCRIBER.

Ans.—The oil cake would be entirely unsuitable to use in large quantities for feeding pigs. In this particular case, it would be preferable, to my mind, to use the corn. If oil cake is used at all, a little could be mixed with the corn meal. But with pigs on grass I have my doubts whether it would be advisable. The corn meal would be considerably improved if it could be mixed with a little wheat middlings or finely-ground barley.
G. E. DAY.

PRESUMABLY WHITE DIARRHEA.

My Plymouth Rock chickens droop and die, and I cannot tell what is the matter. They were hatched in an incubator, and when nine days old they got damp one cool, wet afternoon, and six or seven died before night. They have been kept warm and dry ever since, but still several die every night. We feed them on coarse corn meal and gravel, and occasionally a little wheat, and they eat well. Several of my chickens, three weeks older than these, have died also.

E. M. S.

Ans.—I suppose this is a common case of bowel trouble, due, I believe, to imperfect incubation. If so, no treatment that I know of would do any good. Your subscriber can tell in a minute by cutting open a chicken that is dead. The two blind bowels will be found filled with a cheesy substance; the yolk probably not absorbed, and the lungs, especially the side next to the ribs, will have one or numerous white or creamy-colored spots on them. You may find all of these symptoms or only one present.

So great mortality should not come from a slight wetting. If the chicks are in a small run, corn meal and gravel is not good feeding. Try wheat or wheat screenings, say one-half the feed; corn meal, or, better, corn, shorts and bran, equal parts, wet with skim milk, or, better, buttermilk. Give plenty of green food. At this season, old grass is not much good. Lettuce is easily grown, and chick weed needs pulling out of the garden. Both are excellent foods, and the chicks relish them.

W. R. GRAHAM.

Veterinary.

BRAIN TROUBLE—SWEENY.

1. Calf fed on 4 quarts new milk and one quart water, twice daily, with grass and a little chop, did well for a week, when it suddenly took a fit, bellowed, ran against a wall, and fell. We lifted it, and it seemed weak in the back. It became dull, worked its jaws, and went blind. Now, it walks to a corner and presses its head against the wall.

2. Two-year-old mare had sweeny over a year ago. My neighbor said he could cure it by filling with air. I allowed him to operate, but it did no good. The muscles have not filled out, and she is sore and stiff.

A. M.

Ans.—1. There is pressure upon the brain, probably a tumor, and treatment is not likely to be successful. Purge with 4 ounces raw linseed oil, and follow up with 8 grains iodide of potassium, three times daily. If it refuses food after a few doses, reduce the dose to 5 grains.

2. The effect of the treatment described is what might be expected from such quackery. I am inclined to the opinion that your mare is lame in the feet, and the apparent sweeny is due to a wasting of the muscles from want of function. If she really has sweeny, blister the hollow parts once monthly with 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off; tie short; rub well with blister daily for two days. Next day wash off, and apply sweet oil. Let loose in box stall now, and oil every day. As soon as the scale comes off blister again, and once monthly afterwards, as long as necessary. If lame in feet, blister coronets as above.

V.

PINK EYE—CONCEPTION.

I notice an article in last week's "Farmer's Advocate," which states that a mare that has had pink eye will seldom conceive. Is this so? I am interested, as I have tried two mares that had the disease some time ago. W. W. M.

Ans.—Mares suffering from that peculiar form of influenza called "pink eye," will, as a rule, not conceive, and if a pregnant mare contracts the disease, there is a tendency to abort; but when a mare has recovered from the disease, and is then bred, she will conceive; that is, the fact that she has had the disease has no effect upon conception after recovery. Very often horses affected with either laryngitis, or ordinary influenza, are said to have "pink eye." I do not think you need be alarmed about your mares. At all events, nothing can be done more than treat the mares if they still have the disease, and breed them after the recovery.

V.

DISCHARGE FROM JOINTS.

1. At the age of a few days, my colt began to discharge matter from the fetlock and stifle. My veterinarian treated mare and foal. The foal is improving slowly. Was this navel ill?

2. Is the trouble liable to occur in next foal?

3. What can I do to prevent it?

4. Mare had sweeny last winter, and I blistered for it. Would this affect the colt?

R. A.

Ans.—1. The symptoms indicate joint or navel ill, although it is seldom that a case which has reached the eruptive stage recovers. Your veterinarian deserves credit for effecting a cure.

2. Navel ill is liable to occur any year.

3. Dress navel with a strong antiseptic, as corrosive sublimate, 30 grains to a pint of water; a five-per-cent. solution of carbolic acid; peroxide of hydrogen, etc., etc., as soon as possible after birth, and several times daily after that, until it dries up.

4. This had no effect upon the colt.

V.

GOSSIP.

A report prepared by the Bureau of Statistics of the U. S. Department of Agriculture indicates that Upton Sinclair's book, "The Jungle," affected the canners of the country more seriously than was first supposed. According to the figures, the total exports of canned beef for the month of April last were only 893,017 pounds, compared with 4,121,000 pounds for the corresponding month last year. Comparing the ten months ending April, 1907, with a like period of 1906, the figures were 13,032,703 pounds, against 56,730,000 pounds. The figures for the fiscal year will probably show a falling off of 75 per cent. in quantity. The total value of the exports of this product for the current year is estimated at one and one-half million, as against six and one-half million dollars for each of the two preceding years, and eight millions of dollars in 1893. The largest falling off has been in the shipments to the United Kingdom. In March last, the total shipments to the ports of Great Britain were but 281,176 pounds, as compared with 3,180,526 pounds for the same month in 1906.—[Shepherds' Bulletin.]

DIDN'T CARE TO BE NUMBERED.

Patrick, lately over, was working in the yards of a railroad. One day he happened to be in the yard office when the force was out. The telephone bell rang vigorously several times, and he at last decided it ought to be answered. He walked over to the instrument, took down the receiver and put his mouth to the transmitter, just as he had seen others do.

"Hello!" he called.

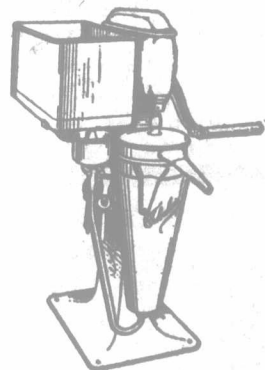
"Hello!" answered the voice at the other end of the line. "Is this eight-six-one-five-six?"

"Aw, g'wan! Phwat d'ye think Oi am—a box car?"

A well-known judge on a Virginia circuit was reminded very forcibly, the other day, of his increasing baldness. One of his rural friends, looking at him rather hard, drawled, "It won't be so very long, judge, fo' you'll hev to tie a string round your head to tell how fer up to wash yer face."

Because You Need The Money

It's your business and if you don't attend to it, who will? You cannot afford to keep cows for fun. That isn't business, and, furthermore, it isn't necessary. There is money in cow keeping if you go at it right, and besides there is more fun in going at it right than there is in staying wrong.



You need a Tubular Cream Separator because it will make money for you; because it saves labor; because it saves time; because it means all the difference between cow profits and cow losses.

Look into this matter; see what a Tubular will do for you and buy one because you need it.

How would you like our book "Business Dairying" and our catalog B. 100 both free. Write for them.

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

A. EDWARD MEYER, Box 378, Guelph, Ont.

Breeds SCOTCH SHORTHORNS of the following families: Cruikshank Bellonas, Mysies, Brawith Buds, Villages, Broadhooks, Campbell Claretts, Minna, Urry, Bessies, Bruce Mayflowers, Augustas, Marr Missies and Lovelaces, and others. Herd bulls: Scottish Hero (imp.) =55042= (90065), Sittytan Lad =67214=. Correspondence solicited. Visitors welcome. Long distance phone in house.

SHORTHORNS

Six superior yearling bulls, some of them out of great rich cows; heifers of all ages. A lot of very big yearlings and a few heifer calves cheap.

CLYDESDALES

Two mares 5 years old, one an extra good one, and a pair of geldings 4 years old.

JAS. McARTHUR, Gobles, Ont.

Pleasant Valley Shorthorns

Herd headed by Imp. Ben Leonard =45160=, assisted by Bud's Emblem, 2nd-prize senior bull at Toronto, 1905, son of Old Lanasser 50063. Correspondence solicited. Inspection invited.

GEO. AMOS & SON, Moffat Sta. & P.O., C.P.R. Farm 11 miles east of City of Guelph.

Shorthorns and Clydesdales

I am now offering 6 young bulls from 8 to 30 months old, all Scotch-bred, two of them from extra good milking families, and a few registered fillies of good quality.

JOHN MILLER, Brougham, Ont.
Claremont Sta., C.P.R.; Pickering, G.T.R.

Glenoro Shorthorns and Lincolns.

Imp. Marr Boon Ladys, Missies, Urrys, and Miss Ramsdens. All bulls of breeding age sold but the grand young bull, Lord Missie Rich roan. Show bull anywhere. Fifteen months old. Will sell at a bargain. Lincolns and Shorthorns all ages for sale. Correspondence invited.

A. D. McGUGAN, Rodney, Ontario.

DOMINION SHORTHORN HERDBOOK WANTED.

The Dominion Shorthorn Breeders' Association will pay \$1 each for the following volumes of their herdbooks: Volumes 8, 9, 12, 13, 14, 15, 16, 17 and 19. Parties having these volumes to part with, write for wrappers and mailing instructions to

W. G. Pettit, Sec.-Treas., Freeman, Ont.

GREENGILL HERD of high-class SHORTHORNS

We offer for sale 8 young bulls, a number of them from imp. sire and dam; also females with calf at foot or bred to our noted herd bull, Imp. Lord Roseberry.

R. MITCHELL & SONS, Nelson P.O., Ont.; Burlington June, Sta.

Ring-Bone

There is no case so old or bad that we will not guarantee Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Sidebone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable, bound, indexed and illustrated. Make a right beginning by sending for this book. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ontario.

HOLSTEINS



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

ANNANDALE FINE STOCK FARM TILLSONBURG, ONT.

Premier sire, Prince Posch Calamity, whose dam and sire's dam average in official test 86 lbs. milk in 1 day and 26 lbs. butter in 7 days.

No stock for sale at present.

GEO. RICE, Tillsonburg, Ont.

Holsteins and Yorkshires

R. HONEY, Brinkley, Ont., offers a very choice lot of young bulls, also boars and sows fit to mate.

Grove Hill Holstein Herd

Offers high-class stock at reasonable prices. Only a few youngsters left. Pairs not akin. F. R. MALLORY, Frankford, Ontario. G. T. B. and C. O. Railway connections.

Imperial Holsteins

Bull calves for sale.

W. H. SIMMONS, New Durham P. O., Ont.

During an electrical storm in the neighborhood of Bowmanville, Ont., on June 20th, lightning struck the farm buildings of Brown Bros., in Clarke Township, burning the buildings and contents. The same press despatch states that Allan Bros., the well-known breeders, lost some nine head of Shorthorn cattle, which had taken shelter under a shade tree in the pasture field. A peculiar fatality occurred near Brockville, David Hough, of Augusta, was blown from a load of hay and instantly killed.

GOSSIP.

"Great snakes!" said the office boy while casually glancing over a stock paper. "ain't them Holst'ine cattle names sum'thin' fierce!" Here are what provoked his surprise: "Azalea Echo Colantha Clothilde 2nd," designating one cow and "Emma Schultz Aaggie Sir De Kol" being that of a bull. The kid cannot be fairly accused of irreverence or illogical suggestion when he said, "Why don't Holst'ine fellers git together an' do with their cattle names what the injun did with his dog's tail—whack it off just behind the ears?"

The long-drawn-out controversy between the Chicago packers and the commission men, over the buying, or rather the attempted buying, of cow and heifer stuff subject to post-mortem inspection, was settled last week. The victory for the selling interests is practically complete. The packers held out for the privilege of buying canners and dairy cows subject to post-mortem inspection, but the commission men refused to grant this, and insisted that when the packers bought an animal, whether canner, dairy cow, or anything else, it must become their property absolutely and without recourse. This is the point that the country has been holding out for and has finally won. The packers for their part say that they will not buy common canners unless they can buy them "subject," to which the commission men say, "All right, if you do not want them let them alone, and we will sell this class of cows to someone else," and they are doing so. The packers are freely buying all classes of butcher stuff, except common canners, which they are letting strictly alone, but salesmen are having no trouble in finding outside cash outlet for such animals.—[Live-stock Report.

HOGS AT THE HIGHLAND SHOW.

The exhibit of Yorkshires at the Highland Society's Show, at Edinburgh, last month, was admittedly the best in many years. In the class for boars, Mr. W. B. Wallace's noted prizewinner, the four-year-old Broomhouse Hercules, a hog of great character and quality, again got into first place, followed by Mr. Geo. B. Shields' Madrali, which was handicapped in point of age, being only two years and 27 days old. He has great length, and is beautifully carried out in his quarters. Sir Gilbert Greenall was third, with Walton William 2nd. There was an extraordinary class of sows, and the first award went to Mr. Knowles' for Colston Lass 14th, which won the gold medal at the Royal, at Lincoln. Second and third went to Mr. Gunn for Craigcrook Perfection and her half-sister of the same herd. For pairs of boars not above eight months, Mr. Wallace's beautifully-matched pair, by Hercules, was a clear first, and Sir Gilbert Greenall's Walton pen, by Walton Paul 2nd, was second. For pairs of gilts under eight months, Mr. Gunn came out on top with a very level pair, by Craigcrook Ring-leader, and the second card went to Mr. Wallace for a pair, by Broomhouse Candidate.

Berkshires made a very creditable showing also. Lord Calthorpe was first in the aged boar class with the four-year-old, Elvetham Champion. The Duchess of Devonshire was second with the eighteen-months-old Polgate Dreadnaught, and Mr. Jefferson was third with Peel Czar, the third Bath & West winner. An excellent class of sows was headed by the Duchess of Devonshire's noted winner, Polgate Dorcas 2nd, which was the champion female at the Royal. She shows lovely Berkshire character, and has been first eight times this year. Mr. Jefferson followed with Barford Rosa, and the third went to the Duchess for Polgate Dovecot. For pairs of young boars, not over eight months, Lord Calthorpe was first with a well-matched pair, by Highmoor Tery. The Duchess was second with a nice pen, by Stratton Clinker. A handsome and typical pair of gilts from the herd of the Duchess of Devonshire were given first place, the second prize going to a pair shown by Mr. Jefferson. The Prince of Wales' gold medal for the best boar in the show went to Mr. Wallace for his Yorkshire boar, Hercules, and the medal for the champion female went to Mr. Knowles for his first-prize sow, Colston Lass 14th.

Shorthand

We teach the "Gregg" System of Shorthand because we know it is the best.

It is written in one straight line and based on the movement required to write ordinary longhand. It requires no shadings, back slants or vertical strokes which are "hard to remember" and require "slackening up" to make correctly.

The Gregg is thus easier to learn, write and read. A speedy, accurate stenographer is the result.

The Principal of our Shorthand School graduated under the author of the "Gregg" system, and her two assistants are graduates of the Business Educators' Association. You are assured of the very best tuition here.

More information in our large, illustrated catalogue, which we would like to mail you free. First lesson on Gregg sent free on application. A greater demand for our graduates than we can supply.

FOREST CITY BUSINESS COLLEGE

Members of Business Educators' Association.

J. W. WESTERVELT, Principal, London.

Fairview Herd Holsteins

Home of Pontiac Rag Apple, the cow that sold a few days ago for \$8,000. Highest price ever paid for an A. R. O. cow. I have her sire, Pontiac Korndyke, the greatest living sire of the breed, and also over 40 of his daughters, sisters to the one that brought the top price, and they are all good ones. Also bull calves by the best sires in the States. Write me, or come and look the herd over. Only seven miles from Prescott, Ont. E. H. DOLLAR, Heuvelton, St. Lawrence County, N. Y.

RECORD OF MERIT HOLSTEINS

Herd 110 strong. Over 40 head now in the Record of Merit. Two of the richest-bred bulls in Canada at head of the herd. For sale: 18 bulls, from 9 months to 1 year of age, all out of Record of Merit cows and sired by the stock bulls. P. D. HDE, Oxford Centre P.O., Woodstock Station.

"THE MAPLES" HOLSTEIN HERD

Is made up of Record of Merit cows and heifers with large records, and headed by Lord Wayne Meethilde Calamity. Bull calves from one to five months old for sale. Walburn Rivers, Folden's, Ont.

Lyndale Holsteins

Two bulls fit for service, sired by a son of De Kol 2nd's Butter Boy 3rd; also a number of bull calves, out of Record of Merit cows.

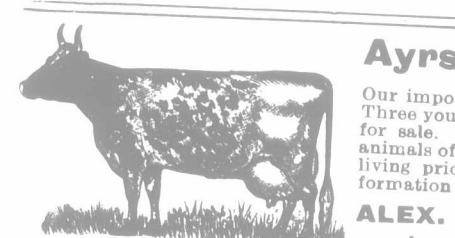
BROWN BROS., LYN, ONTARIO

"GLENARCHY" HOLSTEINS!

43 head of big, deep-flanked, heavy-producing Holsteins, many of them milking from 50 to 60 lbs. a day on grass. Have only bull calves for sale now. A straight smooth lot. G. MAGINTYRE, Renfrow P. O. and Stn.

Greenwood Holsteins & Yorkshires

For sale: Two richly-bred bulls ready for service. No females to offer at present. Choice Yorkshires of either sex. D. Jones, Jr., Caledonia P. O. and Stn.



Ayrshires and Yorkshires

Our imported Ayrshires are now safely in our own stables. Three young bulls, balance females of different ages. Any for sale. We can now offer imported or Canadian-bred animals of any age, of the choicest dairy breeding, at lowest living prices. Write us. A few pigs only on hand. Information cheerfully given.

ALEX. HUME & CO., MENIE, ONT. Long-distance 'Phone Campbellford.

STOCKWOOD AYRSHIRES FOR SALE

All ages, from imp. and Canadian bred stock. Prices and terms to suit purchaser. D. M. WATT, St. Louis Sta., Que.

SPRINGBURN STOCK FARM, North Williamsburg, Ont.

Ayrshires, both sexes and all ages; Berkshires, both sexes and all ages; Oxford Down sheep, a few choice ones left; Buff Orpington fowls, eggs \$1.00 per setting, \$4 per hundred. H. J. Whitteker & Sons, Props.

SHANNON BANK STOCK FARM

FOR AYRSHIRES AND YORKSHIRES. Young stock of both sexes for sale from imported stock. W. H. TRAN, Cedar Grove, Ont.

AYRSHIRES FROM A PRIZEWINNING HERD

Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to WM. STEWART & SON, Campbellford Stn., Menie P.O., Ont.

Hillview Herd of Prizewinning AYRSHIRE CATTLE.

All animals bred and carefully selected for size, constitution, long teats and deep-milking qualities. Select animals of both sexes for sale at reasonable prices. For further information and prices write

A. KENNEDY & SON, Hillview Stock Farm, Vernon, Ont. Winchester Station, C. P. R.

Ayrshires 3 prizewinning bulls fit for service at reasonable prices.

also younger ones for quick buyers. N. DYMENT, Hickory Hill Stock Farm, Dundas Stn. and Tel. Clappison, Ont.

SPRINGBANK OXFORDS.

A number of select yearling rams by Hobbs' Royal winner for flock headers. Lambs of both sexes. Also one aged ram, first at Ottawa, 1906. Prices right.

WM. BARNET, LIVING SPRINGS P. O. Fergus, G. T. R. and C. P. R.

I Will Import for Showing and Breeding SHROPSHIRE, COTSWOLDS, HAMPSHIRE, OXFORDS, SOUTH DOWNS,

or any other of the English breeds of Sheep, Cattle, or Horses, for those wishing to make an importation, large or small, this season. The best of care in selecting and delivering will be exercised, and the commission will be reasonable. Write me at once for what you want.

ROBERT MILLER, STOUFFVILLE, ONTARIO.

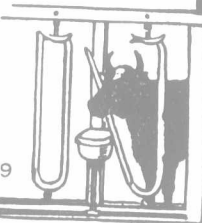
Don't Let Your Cattle Injure Themselves.

OUR STANCHIONS protect horses and cows from kicks, hooks and bruises in the barn. They allow the animals perfect freedom—keep stock clean. They do away with stalls and partitions—save 1/2 the floor space—make barns light, airy and easily cleaned—and a boy can fasten up all the stock in a few minutes.

OUR WATER BOWLS let cows and horses drink when they want to. The bowls work automatically—supply an abundance of fresh water. They are clean, won't rust, and so made that the water can't slop over the edges.

Catalogue of these and other new inventions for farm work, mailed free if you mention this paper. Write to-day.

METAL SHINGLE & SIDING CO. Limited. PRESTON, Ont.



HAMPSHIRE DOWN SHEEP

"Reserve" for Champion in the Short-wool Classes. Smithfield, London, 1904, 1905 and 1906.

SPLENDID MUTTON
GOOD WOOL GREAT WEIGHT

This highly valuable English Breed of Sheep is unrivalled in its

Wonderfully Early Maturity.

Hardiness of constitution, adapted to all climates whilst in the quality of mutton and large proportion of lean meat it is unsurpassed, and for crossing purposes with any other breed unequalled. Full information of

JAMES E. RAWLENCE,
Secretary Hampshire Down Sheep Breeders' Association.
Salisbury, England.



South-downs

ROBT. McEWEN,
Byron, Ont.
Long-distance phone.

SHIP US YOUR WOOL

Or write:
E. T. CARTER & CO., Toronto, Ont.

Farnham Farm Oxford Downs

We are now offering a number of select yearling rams and ram lambs, sired by imported ram, for flock headers; also yearling ewes and ewe lambs. Price reasonable.

Henry Arkell & Sons, Arkell, Ontario.
Arkell, C. P. R.; Guelph, G. T. R.

Sheep Breeders' Associations.

American Shropshire Registry Association, the largest live-stock organization in the world.
G. Howard Davidson, Pres., Millbrook, N. Y.
Address correspondence to MORTIMER LEVY, BRING, Secretary, Lafayette, Indiana.

Fairview Shropshires

Orders now booked for shearlings and lambs of both sexes, fitted for showing or field condition. Don't forget that this flock has produced more winners than any other flock in all America, and stock sold are prize winners. J. & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.

SHROPSHIRE

Can sell about 90 Ram Lambs. Mostly by an Imp. Buttar-bred ram.
GEO. HINDMARSH, Alisa Craig, Ont.

FARMER'S ADVOCATE "Want and For Sale" Ads. bring good results. Send in your ads. and you will soon know all about it. The Wm. Weld Co., Ltd., London, Ont.

GOSSIP.

At Preston, Kansas, where everything is up-to-date, and the people are always planning some new scheme, a shocking thing happened. One of the popular society women announced a "white-elephant party." Every guest was to bring something that she could not find any use for, and yet too good to throw away. The party would have been a great success but for the unlooked-for development which broke it up. Eleven of the nineteen women brought their husbands.

Few acquit themselves nobly in their maiden speech. At a wedding feast recently the bridegroom was called upon to respond to the given toast, in spite of the fact that he had pleaded to be excused. Blushing to the roots of his hair, he rose, intending to say that he was no speechmaker, but, unfortunately, placing his hand upon the bride's shoulder and looking down at her he stammered out his opening (and concluding) words: "This—er—thing has been thrust upon me."

At the annual sale of Shorthorns from the Riby Grove herd of Mr. Henry Dudding, of Lincolnshire, held on July 11th, the 53 head sold brought an average of \$455, the highest price, 370 guineas, being paid for the roan two-year-old heifer, Joyce, for South America. Two hundred and ninety guineas was the next highest price paid for the young bull, Moon King 2nd, also for Argentina; and the same price was paid for the cow, Jessica 4th, for the same destination.

RIBY LINCOLN RAM SALE.

The auction sale, on July 11th, of Lincoln sheep, from the noted Riby flock of Mr. Henry Dudding, at Great Grimby, was a very successful event. Forty-eight rams sold for an average of £94 12s., about \$470 each. The highest price was 900 guineas (\$4,722), for the first-prize shearling at the Royal, Messrs. S. A. Dean & Sons, Dowsby Hall, Lincolnshire, being the purchasers, in competition with Mr. F. Miller, a bidder for Argentina, fifteen others going at prices ranging from 100 to 200 guineas each. Shearling ewes sold as high as 21 guineas each.

The number of horses exported from Great Britain during the six months ended June 30th was 27,587, against 27,144 in the corresponding period last year. Of these, 12,943 were sent to Belgium, 10,046 to the Netherlands, 1,173 to France, and 3,425 to other countries. The value of the horses exported was £464,264, against £468,974 last year. The number of horses imported during the six months was 6,885, against 10,027 last year. The United States sent 406; Canada, 60, and other countries, 6,419. The value of the horses imported this year was £176,209.

Professor W. J. Kennedy, of Iowa Agricultural College, who is at present in Great Britain, and who had the honor of being presented to the King at the Royal Show, at Lincoln, is purchasing breeding stock for the college farm, and is reported as having selected a Shire stallion and four mares of the same breed, all greys, the color so popular in the States. Prof. Kennedy has also purchased seven Southdowns from the Sandringham flock of King Edward. He is also bringing out some Shropshires and a shearling ram and ewe of the Ryedale breed, prizewinners at the Royal Show.

A city man, wishing to take his family into the country for the summer, went to look at a small farm with a view to renting it. Everything was to his liking, and negotiations were about to be completed, when the question of hiring also the farmer's cow came up. It was an excellent cow, the farmer declared, and even after feeding her calf she would give six quarts of milk a day. "Six quarts a day!" exclaimed the city man. "That is more than my whole family could use." Then, suddenly observing the calf following its mother about the pasture, he added: "I'll tell you what I'll do! I'll hire the small cow. She's just about our size."

BORDER LEICESTERS AT THE HIGHLAND.

This popular breed of sheep, as was expected, made a grand display at the late Highland Society Show, at Edinburgh. In aged rams, the first award went to Messrs. Clark, Oldhamstocks, for a ram bred by Mr. Templeton, Sandyknowe. This was a grand-handling sheep, though a little blue in his head, and showing a good deal of blue all round. The ram shown by Messrs. Smith, Galalau, and which got second, was a favorite around the ring, but was a little light in his fleece. Mr. Findlay, Newmill, was third, and Baillie Taylor, fourth. In a large shearling ram class, and after a short lot of 12 was selected, Mr. Hume, Barrelwell, kept his old position, winning easily with a ram of grand style, wool and head. Messrs. Clark came in second with a well-fleeced sheep, and Mr. Wallace, third, with one of the strongest in the class, with a grand fleece, and a nice, shapely, white head. In the ewe class, Mr. Findlay won, hands down, with one he exhibited last year as a gimmer. There was a larger show of gimmers than usual, and Mr. Campbell walked into first place with ease and honor, as his entry showed grand style and breeding, though Hon. Balfour's second was not far behind. The awarding of the championship resulted in Baillie Taylor's great champion ram being the winner. No Border Leicester in recent times has scored so many champion winnings. Mr. Hume's, shearling was a good reserve. The medal for best female went to Mr. Findlay's gimmer.

SPRUCE LODGE SHORTHORNS AND LEICESTERS.

Nowhere in our travels have we seen the crops and grass showing so strong and healthy a growth as on the clay belt south of Hamilton. Situated 14 miles south of Hamilton, 4 miles from Caledonia, and 1 1/2 miles from Middleport Station. In the most fertile part of that great agricultural tract of country lies Spruce Lodge stock farm, the property of Mr. W. A. Douglas, breeder of Shorthorn cattle and Leicester sheep. For over fifty years, this herd, together with that of Mr. Jas. Douglas, a brother, has been in existence, without a single dispersal, and during all that time particular attention has been paid to the breeding of a type that would pay their way at the pail, and raise their calves in a way that would be living proof to the casual visitor that here, at least, was a herd of Shorthorns that were milkers in fact, and not in name only. At present, there are 38 head in the herd, many of them weighing from 1,600 to 1,800 lbs., representing such well-known Scotch beef strains and English milking strains as the Strathallans, Cruickshank Lovelys, Marr Beautys, and others making up the Scotch end of the herd. The others, among which are some very heavy and persistent milkers, are descendants of Beauty (imp.), Adeliza (imp.), Daisy (imp.), Lavinia (imp.), and Princess (imp.), many of them being the get of Imp. Christopher and Imp. Rosicrucian of Dalmeny, sires of a high order, whose get are among the best in the country. So great is the demand on this herd for bulls for stock purposes that not one of serviceable age is left, although between the Douglas Bros. they have sold in the last few months 26 head, and with perfect satisfaction in every case. A number of youngsters are coming on that look like making extra good thick ones. Mr. Douglas is offering for sale, at living prices, a number of one and two-year-old heifers, Scotch and Scotch-topped, and there are certainly some good ones in the bunch that look like the stuff we see in the show-rings, and owing to the splendid growth of pasture in that section, everything is in grand condition. The Leicesters, one of the oldest-established flocks in Canada, have always been kept up to the highest standard by the use of high-class sires. Just now there are about 70 head. This year's crop of lambs are the get of the second-prize Toronto winner. Among them are some now weighing 120 lbs. that will certainly win honors this fall. For sale are this year's lambs of both sexes, six shearling rams, a number of shearling ewes and some two-shears. Write Mr. Douglas, to Tuscarora P. O., Ont.

Was A Total Wreck From Heart Failure

In such cases the action of MILBURN'S HEART AND NERVE PILLS

In quieting the heart, restoring its normal beat and imparting tone to the nerve centres, is, beyond all question, marvellous.

Mr. Darius Carr, Geary, N.B., writes: "It is with the greatest of pleasure I write you a few lines to let you know the great blessing your Milburn's Heart and Nerve Pills have been to me. I was a total wreck from heart failure and my wife advised me to take your pills. After using two boxes I was restored to perfect health. I am now 62 years old and feel almost as well as I did at 20."

Price 50 cents per box or 3 for \$1.25, at all dealers, or mailed direct by The T. Milburn Co., Limited, Toronto, Ont.

250,000,000 Sheep Every Year Dipped in

COOPER DIP

Has no equal. One dipping kills ticks, lice and mites. Increases quantity and quality of wool. Improves appearance and condition of flock. If dealer can't supply you, send \$1.75 for \$2.00 (100 gallons) packet to National Drug and Chemical Co., Limited, Toronto and Montreal.

LARGE ENGLISH YORKSHIRES

Pigs of the most improved type of both sexes, all ages, for sale at all times. We have more imported animals in our herd than all other breeders in Canada combined. We won more first prizes at the large shows this year than all other breeders combined. We won every first but one and all silver medals and Bacon prizes at Toronto and London, and at St. Louis we furnished all the first-prize hogs in the breeding classes except two; also supplied both champion and grand champions. Prices reasonable.

D. O. FLATT & SON, Millgrove, Ont.

NEWCASTLE Herd of Tamworths and Shorthorns. We have for quick sale a choice lot of bears and sows from 2 to 6 months old, the produce of sows sired by Colwill's Choice Ard Newcastle Warrior, both our own breeding, and winners of sweepstakes and silver medals at Toronto, 1901-02-03-05. Several very choice sows bred to our imported boar. Pedigree furnished with every pig. Several choice heifer calves and heifers in calf to our present stock bull. All of high show quality. Prices right. Daily mail at our door. Colwill Bros., Newcastle, Ont.

PINE GROVE BERKSHIRES!

Bred on aristocratic lines and from high-class show stuff, sired by the Toronto winner, Willow Lodge Leader. For sale are young animals of both sexes—4 and 6 months of age; of choice bacon type and showing form. W. W. BROWN-RIDGE, Ashgrove P. O., Milton Sta.

Meadowbrook Yorkshires

Young stock of both sexes. A number of sows old enough to breed, all sired by Imp. Dalmeny Topman. Everything guaranteed as represented.

J. H. SNELL, HAGERSVILLE P. O. & STATION.

Shorthorns and Berkshires Choice pigs from March, April and May litters. Pairs not skin supplied. Some fine calves for fall delivery. All good colors. John Racey, Lennoxville, Que.

CHESTER WHITE SWINE

and SHROPSHIRE SHEEP. Right in quality; right in price. Come and see, or apply by letter to W. E. WRIGHT, Glanworth, Ont.

Large White Yorkshires



Am offering at the present time a number of choice boars and sows of breeding age also some imported sows in pig. Also young pigs of spring farrow direct from imported stock. Pairs and trios supplied not akin. Write for what you want.

H. J. Davis, Woodstock, Ont.
Breeder of Shorthorns & Yorkshires

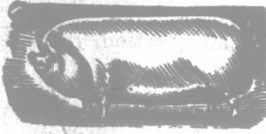


MONKLAND Yorkshires
Imported & Canadian-bred

We keep 35 brood sows, and have constantly on hand between 100 and 200 to choose from. Can supply pairs and trios not akin. Quality and type unsurpassed. Prices right.

JAS. WILSON & SONS, FERGUS, ONT.
G. T. R. and C. P. R. Long-distance 'Phone

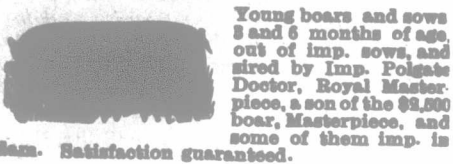
YORKSHIRES of Choicest Type and Breeding.



I have on hand 75 brood sows of Princess Fame, Cinderella, Clara, Minnie, Lady Frost and Queen Bess strains. My stock boars are true to type and richest breeding. For sale are a large number of sows bred and ready to breed, boars fit for service, and younger ones of both sexes. Pairs and trios not akin

J. W. BOYLE, P. O. Box 563, Woodstock, Ont.

Willowdale Berkshires



Young boars and sows 3 and 6 months of age, out of imp. sows, and sired by Imp. Polgate Doctor, Royal Masterpiece, a son of the \$3,500 boar, Masterpiece, and some of them imp. in dam. Satisfaction guaranteed.

J. J. WILSON, Milton P.O. and Sta.

Glenburn Herd of Yorkshires.

Winner of gold medal three years in succession. Young boars and sows of different ages. Also a grand good Shorthorn bull (roan) 7 months old. fit to head any herd.

David Barr, Jr., Box 3, Renfrew, Ont.

Elmhurst Berkshires

Motto: "Goods as Represented."

With our recent importation, personally selected from the best herds in England (some of them prizewinners), we have the most select herd of Berkshires in Canada. A grand group of breeding and show matrons. Our new imported boar, Stall Pitts Middy won 1st under 1 year at Oxford, 1907, also Compton Duke, Imp., and Compton Swell, Imp., head the herd. Mail orders receive careful attention. Brantford shipping station.

H. M. VANDERLIP, Gainsville P. O., Brant Co., Ont.

Fairview Berkshires

Bred from imported and Canadian-bred sires and dams, and bred on prize winning lines. My brood sows are large, choice animals. Young stock of both sexes. Some sows bred to imp. boars

HENRY MASON, SCARBORO P. O.
Street cars pass the door.

Fairview Berkshires

Are second to none. My herd has won high honors wherever shown. Am now offering sows bred and ready to breed, and younger ones of both sexes, the get of Masterpiece and Just This. An exceptionally choice lot.

JOHN S. COWAN, Donagall P. O., Milverton Sta.

Woodstock Herd of Large English Berkshires

For sale: Boars fit for service. Sows ready to breed. March and April pigs supplied in pairs and trios not akin; bred from my imported and home-bred sows. My pigs are all bred on prizewinning lines, and true to type. Come and see, or write for prices.

DOUGLAS THOMSON, Box 1, Woodstock, Ontario. C. P. R. and G. T. R. stations.

Glenhodson Yorkshires

A few choice young sows in farrow; also young pigs from three to six months old. Satisfaction guaranteed. Long-distance 'phone at farm.

GLENHODSON COMPANY, Lorne Foster, Mgr. Myrtle Station, Ont.

SUNNYMOUNT BERKSHIRES.

Sunnymount Berkshires are unsurpassed for ideal bacon type and superior breeding. For immediate sale: A few choice boars from 6 mos up to 15 mos. old.

JOHN McLEOD, Milton P.O. and Sta., C. P. R. & G. T. R.

OAKDALE BERKSHIRES

Largest Berkshire herd in Ontario. Stock boars and several brood sows imported. For sale: Sows bred and ready to breed, boars ready for service, and younger ones, all ages, richly bred on prizewinning lines and true to type. Everything guaranteed as represented. Long distance 'phone.

L. E. MORGAN, Milliken P.O., Co. of York.

Maple Grove Yorkshires

IMPORTED AND CANADIAN-BRED

Boars and sows of the best possible breeding, with lots of size and full of quality, comprise our herd. We are winning at the leading shows in Canada. We have a fine lot of sows and boars ready for service, also both sexes of all ages—younge. We guarantee everything as represented. Prices always reasonable. Write at once.

H. S. McDiarmid, Fingal P. O., Shedden Sta.



Duroc Jerseys.

Sows ready to breed. Young pigs, either sex, ready to ship. Canada Boy (Imp.) 19997 heads our herd

MAC CAMPBELL & SON, Harwich, Ont.

IMPROVED LARGE YORKSHIRES—Herd headed by the famous Summer Hill Gladiator 9th and Dalmeny Topman 2nd (Imp.) and some imported sows of good breeding and quality. Stock for sale at all times.

GEO. M. SMITH, Haysville, Ont. New Hamburg, G. T. R., or Bright on Buffalo & Lake Huron R.R.

ROSEBANK BERKSHIRES

Present offering: Boars fit for service. Sows ready to breed. Choice young stock ready to wean, sired by Maple Lodge Doctor and Sallie's Sambo (Imp.), a Toronto winner.

Lefroy, G. T. R. JOHN BOYES, JR., Churchill, Ont. Long-distance 'phone

Maple Leaf Berkshires.

Large English breed. Now offering King of the Castle sows, and Polgate Doctor sows, bred to British Duke (Imp.). Also young boars and sows for sale, 10 and 12 weeks old.

JOSHUA LAWRENCE, OXFORD CENTRE P. O. BRITISH DUKE (IMP.) WOODSTOCK STATION.

For Sale—Ohio Improved Chester Whites, the largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not akin; express charges prepaid; pedl grees and safe delivery guaranteed. Address **H. D. GEORGE, Putnam, Ont.**

Yorkshires and Tamworths—Either breed any age, both sexes; sows bred and ready to breed. Yorkshires bred from imp. sire and dam. Tamworths from Toronto winners. Pairs not akin. As good as the breeds produce. **CHAS. CURRIE, Schaw Sta., C. P. R. MORRISTON P. O.**

Mount Pleasant Tamworths and Holsteins.

Herd of **For Sale:** Pigs of either sexes, from 6 weeks to 7 months; pairs not akin; also bull and heifer calves under 5 months. 'Phone in residence.

BERTRAM HOSKIN, The Gully P. O.

Elmfield Yorkshires 40 pigs 2 to 6 mos. Boars ready for service. Sows by S. H. Crozier, imp. bred to S. H. Edward 2nd, imp. line about Aug 1st; also sows ready to breed. Pairs not akin. Prices right. **G. B. MUMFORD, Ont.**

QUESTIONS AND ANSWERS. Miscellaneous.

BLACK COLLIE DOGS.

Will you kindly let me know what breed the black collie dog is, also who are the breeders of such? **W. R.**

Ans.—The prevailing colors in Scotch collies are black, with tan and white markings, and sable with white markings. There is also the bearded, or Highland collie, and the blue merled. To the English sheep dog, the word collie is not applied. We do not know of a distinct black breed of collies, and hence cannot name breeders of such.

PENNY CRESS AND BLADDER CAMPION.

You will find enclosed two kinds of weeds which we would like to know what they are, and if very harmful.

Ans.—Both are bad weeds. The one with the oval, flat seed pods is penny cress (*Thlaspi arvense*), called also bastard cress, French weed, wild garlic, and stink weed, a winter annual. It was introduced from Europe, and is very abundant in Manitoba and some parts of Ontario. It is spreading rapidly, as each plant produces enormous quantities of seed. Hoed crops and thorough cultivation are recommended for its eradication. If grain fields are overrun with the pest, a fallowing process, begun right after harvest, with roots or corn next season, is advised.

The other plant is bladder campion (*Silene inflata*), or cow bell, from the shape of the flower, a bad perennial, spreading fast in Ontario. It spreads by rootstalks and from seed. Methods adapted for the creeping perennials, such as Canada thistle, are advised for bladder campion.

INSECT ON HEDGE.

I had 36 rods of hedge put in about eight years ago. It is some kind of a thorn. It is attacked by some kind of an insect, which is killing some of it every year. It attacks it about harvest time. The nearest that I can describe it is that it is like mildew—very white. It is on the limbs and stalk, and saps the wood and kills it. Is there anything I can do to prevent it getting on, or destroying it after it is on? It is spoiling my hedge. **A SUBSCRIBER.**

Ans.—I regret that Subscriber did not send specimens of the insects which have been injuring his hedge. If there are no insects on his hedge now, he could, of course, have saved some from last year. He does not even say the name of the hedge plant that he has. From his description, however, it is probable that the insect is a woolly aphid, and, as these are sucking insects, kerosene emulsion or whale-oil soap would be the proper remedies. Will the enquirer send some specimens as soon as they are to be seen on his hedge, with infected twigs? **JAMES FLETCHER, Entomologist and Botanist.**

GRUB IN HEAD—MILK FEVER.

1. We lost a number of our sheep this spring; all appeared to have the same symptoms. Did not seem to be in much pain, and would fail to thrive, and finally die. Upon examination, we found three and sometimes more large grubs in their heads, resembling somewhat the cattle warbles. The fatality was greater among our yearling sheep. What could we have done for them, and what can we do so as to prevent it again?

2. We also have a valuable cow that had milk fever last time she freshened. She is due to calve in September next, and is now in very high flesh, and giving a small quantity of milk. Is a cow more liable to take the fever after having it once? What should we do as a preventive? **D. G. M.**

Ans.—1. Grub in the head is caused by the sheep gadfly, which lays its eggs in the nostrils of the sheep in summer, which eggs eventually hatch out the grub, and these set up irritation, which in some cases causes death. It is unusual for more than one to three in a flock to die from this cause, and it may be that some other disease caused the death of your sheep. Indeed, it is not unusual to find as many as two to four grubs in the head of a healthy-looking sheep when killed. The best means of prevention of the work of the fly is to give the sheep a darkened shed to lie in during hot weather, and to scrub their noses

with tar a few times during summer. When the disease appears, or is suspected, filling the nostrils with tobacco juice, or with spirits of turpentine, and holding the head well up for half a minute has proved successful, causing the sheep to sneeze violently, thus dislodging the grub.

2. We do not think a cow is more likely to have a second attack of milk fever, so called, than a first. Do not milk her out clean for four days after calving, and have a bicycle pump or a syringe and teat-tube ready to fill her udder full of air if any signs of the disease appear. This treatment is magical. Give no medicine, nothing but common air pumped into all the teats is the sure cure.

GOSSIP.

At the joint sale of Shorthorn cattle, at Winchfield, England, on July 2nd, from the herds of Lord Calthorpe and the Earl of Northbrook, 61 head sold for an average of \$320. The bull calf, Broadhooks Chief, brought \$1,050, and the cow, Broadhooks Belle 7th, \$1,705, the latter for South America.

PLEASANT VALLEY SHORTHORNS.

One of the very best herds of Scotch Shorthorns in Canada is the Pleasant Valley herd, the property of Messrs. Geo. Amos & Son, Moffatt, Ont., a few miles south of Guelph. Founded on straight Scotch blood, every addition made to the herd has been a high-class animal, and perhaps no herd in this country has gained prominence so quickly as this. At present, there are 45 head in the herd all told, representing the Mysie, Fragrance, Orange Blossom, Augusta, Kiblean Beauty, Jilt, Mina, Victoria, Cecelia, Rosebud, Nonpareil, Buckingham and Flora strains, carrying the blood of such noted stock and show bulls as Prince Victor, Scottish Fancy, Vice Chancellor, Star of Morning, Knight of Strathbogie, Sergeant at Arms, Princely Archer, Morning Pride, British Prince, Scottish Prince, Greengill Victor (Imp.), Scottish Knight (Imp.), and Ben Lomand (Imp.). The latter is now at the head of the herd. Individually, few better bulls have been imported into Canada. Strictly up-to-date in type, a grand doer, and an extra handler. He did a wealth of good for Mr. Wm. Smith, and in such a gilt-edged herd as he now heads, his get will surely be of high-class character. Sired by Count St. Clair, dam Beauty 13th, by Lord Marshal, a son of the great Field Marshal, he carries the blood of such notables as Wm. of Orange, Bampton Conqueror, Gravesend, and Star of Underly, and belongs to that excellent Scotch tribe, the Cruickshank Bessies. His Lieutenant in service is Bud's Emblem, a Campbell Rosebud, by the Toronto grand champion, Old Lancaster, dam Betsy Baker, by Golden Prince. This bull, now a yearling, is one of the best of his age in Canada, and the one that beats him at Toronto this fall will be a marvel. All the younger stuff are sired by Old Lancaster, whose death was the hardest blow Canadian Shorthorns has sustained in recent years, as he was proving a peer among sires. There are four young bulls, from seven to eleven months of age, still on hand, sired by him; one out of Imp. Mabel of Knowhead, a Mysie; another out of Augusta Girl (Imp.), an Augusta; another out of Meadow Beauty 3rd (Imp.), a Kiblean Beauty; the other out of Verbena 23rd. Here are a grand quartette of young bulls, and this is the last chance to get a bull sired by Old Lancaster (Imp.). Among the heifers are a number of one and two-year-olds, very hard to duplicate, several of which will be out for honors at Toronto this fall, and will be strong contestants for the breeders' herd prize. Nine of the cows are imported. All are closely topped with imported crosses. The herd is in grand condition, as Mr. Amos, Jr., is an expert in the care of Shorthorns, and one of the best-posted young men in Canada in Shorthorn breeding and history. The Messrs. Amos report the last year as the best they ever experienced in the sale of their surplus stock. Especially true is this in the demand for herd-headers, the get of Old Lancaster, but they have sold out very closely in heifers as well.